# THE ELABORATION AND EMPIRICAL EVALUATION OF A PARTIAL

# TALENT MANAGEMENT COMPETENCY MODEL

University of Stellenbosch

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Thesis presented in partial fulfilment of the requirements of the degree of Master of Commerce in the faculty of Economics and Management Sciences at Stellenbosch University
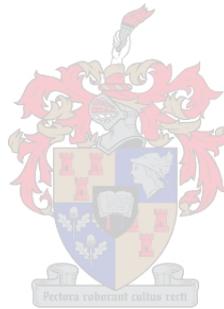


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# DECLARATION

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# ABSTRACT

This study stems from an urgent need to understand which factors contribute to talented employees' intention to quit, and what organisations can do to ensure the retention of such talent. Difficulties regarding the retention of talented employees have become a worldwide challenge. The retention of talented individuals has become a primary source of gaining a competitive advantage. The increased focus on talent management practices has become a wide spread phenomenon worldwide, including South Africa.

History, cultural heritage, politics and the economic environment are but only a few factors that collectively now shape the nature and complexity of the South African labour market. A context, notorious and respected for its diversity and the struggles that have sprouted from it, poses formidable challenges for organisations competing in the global market.

A multitude of factors, controllable and uncontrollable, contribute to increased levels of employee turnover in all sectors and organisations in South Africa. Organisations and top management can position themselves, by implementing action plans and organisational structures, to identify and coordinate such controllable factors.  Strategies and processes can be implemented to address the increasing challenges regarding the retention of valuable talent.

The implementation of structural talent management programmes have proven to address and overcome retention challenges. The crucial role of line management in implementing and fostering a culture of talent retention has also been proven.

The foundation of a talent management competency model, for the purpose of addressing and solving this issue, has been laid down. Additional research has been done in order to re-evaluate and elaborate on the existing knowledge of such a competency model. This study aims to once again re-evaluate the originally proposed model as well as any extensions that may have been developed by other researchers.

The primary objective of the current study consequently was to expand on the existing model as proposed by Oehley (2007) and Smuts (2011). Factors external to the organisational environment were added to the model in order to gain a more comprehensive understanding of the complexity underlying the determinants of intention to quit. Only a subset of the hypothesised intention to quit structural model was then empirically tested. In the initial model only nine of the nineteen paths were empirically corroborated. The initial reduced model was subsequently revised by deleting various paths that were found to be statistically insignificant (p > .05) and by adding various paths suggested by the modification indices. The final model produced exact fit. Seven of the nineteen paths in the final model were not

empirically corroborated.  Suggestions for future research are made by introducing additional variables that could be included into a future model.

# OPSOMMING

Hierdie navorsing vind oorsprong uit die dringende behoefte om die faktore te bepaal wat talentvolle werknemers noop om te bedank en te probeer verstaan wat organisasies kan doen om die dienste van werknemers te behou. Die uitdaging om die dienste van hierdie katagorie van werknemers te behou, blyk 'n internasionale vraagstuk te wees. Die behoud van talentvolle individue in die werksplek het 'n primêre bron van kompeterende voordeel vir organisasies geword. Die toenemende fokus op talentbestuur het 'n wêreldwye fenomeen geword.

Die geskiedenis, kulturele erfenis, politiek en die ekonomiese omgewing is maar net 'n paar van die faktore wat gesamentlik die kompleksiteit van die Suid-Afrikaanse arbeidsmark beïnvloed. 'n Werklikheid wat veelbesproke is, maar gerespekteer word vir sy diversiteit en die meegaande probleme wat daaruit voortspruit, bied buitengewone uitdagings vir organisasies wat moet meeding in die internasionale sakewêreld.

Verskeie faktore waarvan sommige beheer kan word, maar ander nie, dra by tot die toenemende verhoging in die arbeidsomset in alle sektore en organisasies in Suid-Afrika. Organisasies en topbestuur kan hulself bemagtig deur verskeie pro-aktiewe benaderings en organisatoriese strukture in plek te stel om sodoende beheerbare situasies te kan identifiseer en koördineer. Strategieë en prosesse kan geïmplimenteer word om die toenemende hoeveelheid uitdagings met sukses aan te pak en dus die waardevolle talent van werknemers te behou.

Die toepassing van strukturele talentbestuurprogramme het as sulks bewys dat dit met sukses gebruik kan word om die dienste van werknemers te behou. Die belangrike rol wat lynbestuur vervul in die toepassing en implementering van die proses om talentvolle werknemers te behou, is al deeglik bewys.

Die basis van 'n talentbestuur en bevoegdheidsmodel om die probleem aan te spreek en op te los is op sigself al bewys. Addisionele navorsing is alreeds uitgevoer om die huidige model te her-evalueer en daarop uit te brei. Die huidige studie het dit ten doel om die oorspronklike model en teorieë wat vorige navorsers ontwikkel het, te her-evalueer.

The primêre oogmerk van die onderhawige studie was gevolglik om op die bestaande modelle soos voorgestel deur Oehley (2007) en Smuts (2011) uit te brei. Faktore ekstern tot die organisasie is tot die model toegevoeg ten einde 'n meer volledige begrip te ontwikkel van die kompleksiteit wat die determinante van die voorneme om te bedank onderlê. Slegs 'n subversameling van die gehipotiseerde bedankingsvoorneme-strukturele model is

vervolgens empiries getoets. In die aanvanklike model het slegs nege van die negentien bane empiriese steun ontvang. Die aanvanklike gereduseerde model is vervolgens hersien deur verskeie statisties onbeduidende (p > .05) bane te verwyder en deur 'n aantal bane wat deur die modifikasie-indekse voorgestel is tot die model toe te voeg. Die finale model het presiese passing getoon. Sewe van die negentien bane in die finale model kon egter nie empiries bevestig word nie. Voorstelle vir verdere navorsing word gemaak deur addisionele veranderlikes voor te stel wat moontlik in 'n toekomstige model ingesluit sou kon word.

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### 1.1 Introduction

Organisations exist to combine and transform scarce factors of production, into products or services, with economic utility. In order to actualise the primary objective of the organisation, various interdependent organisational activities need to be performed. These activities can be categorised as a system of inter-related organisational functions (Theron, 2009). The Human Resource (HR) function represents one of these organisational functions. The objective of the HR function is to contribute to the development of a market-satisfying product or service whose market value outweighs the investment value required to produce it. The ability of the organisation to produce such a market-satisfying product or service is determined by the level of performance (interpreted behaviourally) of its employees (De Goede, 2007).

Today's global economy has created a more complex and dynamic environment in which organisations must learn to compete effectively to achieve sustainable growth. Workforces around the world have become larger, increasingly diverse, more educated, and more mobile (Tarique & Schuler, 2010). Organisations are faced with increased global competition, shifting markets, and unforeseen events (McCauley & Wakefield, 2006). Superior talent is increasingly recognised as the primary source of a sustainable competitive advantage in high performance organisations (Hiltrop, 1999). A growing awareness of unavoidable demographics[1] is creating a greater urgency for HR professionals to focus more attention and energy on retaining talented employees and keeping them actively engaged in their work. New strategies are emerging that go well beyond traditional solutions, holding much promise in the effort to keep and engage well-performing employees (Frank, Finnegan & Taylor, 2004). The challenge of maximising the competitive advantage of an organisation's human capital has become more significant in the recessionary climate of the latter part of the opening decade of the twenty first century (Collings & Mellahi, 2009).

According to Frank et al., (2004) CEOs of the fastest growing companies in the United States of America overwhelmingly cite retention of key workers as the most critical factor to plan for. Similarly, the number one priority on the HR agenda should be to attract and retain key talent. Among all the factors that could influence the effectiveness of organisations in the future, the foremost driver is talent. The development of employees into dynamic, motivated, long-term participants in the company's processes must be the responsibility of all members

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[1] Unavoidable demographics here refers to changes in family structures, the ageing population and South - Africa's culturally diverse population.

of management from the CEO to the floor supervisor. Talent management, which incorporates the cooperation and communication of managers at all levels, has become imperative in the face of today's business challenges. In addition, talent management processes must be more strategic, connected, and broad-based than ever before (McCauley & Wakefield, 2006).

Collings and Mellahi (2009) define strategic talent management as activities and processes that involve the systematic identification of key positions. These differentially contribute to the organisation's sustainable competitive advantage, the development of a talent pool (of high potential and high performing incumbents to fill these roles), and the development of a differentiated human resource architecture to facilitate filling these positions with competent incumbents and to ensure their continued commitment to the organisation. New technologies and process innovations can easily be replicated by competitors and generate only temporary competitive advantages. Sustained competitive advantage stems from Talent Management practices, including the attracting, developing, motivating, and rewarding of talent (Heinen & O'Neill, 2004).

A recent study of 40 global companies found that virtually all of them identified a lack of a sufficient talent pipeline to fill strategic positions within the organisation, which considerably inhibited their ability to grow their business. It has also been shown that talent management activities occupy a significant amount of organisational resources. In a recent study it was found that chief executive officers (CEOs) are increasingly involved in the talent management process. The majority of those surveyed, spend over 20% of their time on talent issues, while others spent up to 50% (Collings & Mellahi, 2009).

Various forces or drivers, external to the organisation and beyond management's control, have played a significant role in the increased need for the implementation of talent management practices. According to Tarique and Schuler (2010), the three major drivers can be identified as: *Globalisation*, *Demographics* and the *Demand-Supply Gap*.

The 1992 unification of the European market, the US-Canada Trade Agreement, the North American Free Trade Agreement and China's takeover of Hong Kong in 1997 are examples of dynamic shifts in world markets that will create shifts of capital and workforce (Grobler, Warnich, Carell, Elbert & Hatfield, 2005). The ever changing global economy is placing new and increasing demands on human resources in South African organisations. New global economies have brought competitive changes, unequalled in South African history. It is therefore important for organisations in South Africa to match foreign competition if they are to take advantage of the opportunities presented by new markets.

Current trends show that while the size of populations of much of the developed economies are projected to remain relatively stable (but get older), and in some cases even shrink, the populations of the developing economies and those just emerging economies are expanding and getting younger (Tarique & Schuler, 2010). For a population where more than 60% are younger than 30 years of age, it is clear that South Africa has a very young population. What makes matters disturbing is the high unemployment rate of 25.2% for the country as a whole as measured at the end of March 2013 (STATS SA, 2013). Of those unemployed, 70.7% are between the ages of 15 and 34. This could be due to the relatively unskilled South African workforce where 59.4% have not completed secondary education (STATS SA, 2013).

The majority of employers worldwide are having difficulty filling positions due to the lack of suitable talent available in their markets (Tarique & Schuler, 2010). The demand for skilled employees in particular is a matter of concern. Global competition for skilled employees is on the increase as employers are experiencing skills shortages worldwide. A survey of nearly 33000 employers in 23 countries revealed that 40% are struggling to locate qualified candidates (Oehley, 2007).

According to Burger (2012) research regarding the behaviour of working man, and subsequent interventions to positively influence the behaviour of working man in South Africa, is unavoidably influenced by South Africa's socio-political past. The culturally and racioethnically diverse population of South Africa poses formidable challenges for HR in their efforts to hire and retain talented employees. These challenges arise from the fact that South Africa's socio-political past has affected the standing of those who were disadvantaged by the previous political dispensation on many of the competency potential latent variables required to succeed in the world of work.

In order to warrant the effective transformation of scarce factors of production into products and services of economic utility, organisations have to ensure access to competent, high performing employees. Organisations in South Africa are under moral, economic, political and legal pressure to diversify their workforce. The responsibility to serve society through the efficient combination and transformation of scarce factors of production is vital (Oehley & Theron, 2010).

While statutorily based racial discrimination has systematically been eradicated in South Africa since 1980, a number of significant law reform efforts have been initiated over the past two decades. The first attempts to achieve greater social justice and equality and to redress past unfair discrimination came about through the Labour Relations Act of 1995, which took effect in 1996, the Constitution of South Africa of 1996 and the Basic Conditions of Employment Act of 1997. The Employment Equity (EE) Act of 1999 (amended in 2004),

which contained anti-discriminatory provisions, the Skills Development Act of 1998 and the Skills Development Levies Act of 1999 was then introduced. The last two acts shifted the focus away from Affirmative Action (AA) appointments. Recruitment, succession planning and training and development of individuals in the designated groups (Africans, Coloureds and Indians, as well as women and people with disabilities) were focused on. These accentuated the emergent skills gap. These alterations were followed by the establishment of the Broad-Based Black Economic Empowerment (BBBEE) Commission in 1999, and subsequent strategies and policies set by Government and industry alike to increase black ownership of businesses and fast-track black representation in management (Booysen, 2007). All of these are, laudably, geared towards the imperative of the redistribution of economic, social, cultural and political power and resources that constituted the fundamental reason for the struggle against racial capitalism in general and apartheid in particular (Alexander, 2007).

The urgency of the current state of affairs need to be realised and addressed by all levels of management, especially that of HR. This urgency is not only limited to the private sector, the public sector is also in dire need of assistance. According to the annual report of the Commission for Employment Equity for 2008-2009 (Commission for Employment Equity, 2009), very little progress has been made in transforming the upper echelons of organisations in the private sector. Whites constituted 72.6% of top management positions in South Africa in 2012. In contrast, black men occupy only 12.3% of top managerial positions (STATS SA, 2013).

The shortage of black talent together with the demand for organisations to fulfil their requirements according to the current legislation compels organisations to ensure that special attention is paid to recruiting and retaining talented black employees (Oehley, 2007). Despite this urgency many organisations are still looking for cop out solutions to their management of diversity challenge. Such solutions frequently take the form of workshops or interventions which are not incorporated into overall strategic and human resource management processes (Human, 1996). Such "interventions" coupled with the misconstrued view of affirmative action, as it is traditionally interpreted in terms of gender-racioethnic based quotas and preferential hiring, is a superficial, disingenuous solution to the problem of adverse impact[2] and the underrepresentation of previously disadvantaged groups in the private sector of the economy. Such behaviour does not allow for the comprehension of the fundamental cause and urgency of the problem (De Goede, 2007).

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[2] Adverse impact refers to a disparity in selection for hiring or promotion that disadvantages employees of a particular race, ethnicity or sex.

These are not solutions to the problem, but mere strategies of avoiding the urgency of the current state of affairs. Such behaviour is not only ethically immoral but it also devalues the importance of HR practices geared towards addressing the problem of adverse impact while upholding the core responsibilities of the organisation in its efforts to contribute to the triple bottom line. The urgency and critical importance for constructive change and development has to be realised. Meaningful change occurs through challenging existing organisational policies and employment practices. This approach emphasizes the implementation of more suitable recruitment and selection, training and development, promotion rewards and performance management systems which reinforce desired behaviours (Horwitz, Bowmaker-Falconer & Searll, 1996).

Despite the importance of recruiting, developing and retaining of talent, research suggests that talent quality is in need of considerable improvement. In a study done by the Human Capital Institute Africa (HCI) revealed that there is only partial satisfaction with talent quality, as less than one in three respondents stated their department or line managers were very satisfied with the quality of hire for new employees. An even lower percentage (22%) indicated their managers were very satisfied with the contract talent quality (HCI, 2006). Further studies have shown that 80% of survey participants admit that their talent programs need improvement and only one in five (20%) of executives rate their company's program as "world class" (HCI, 2006). Studies have found that only 23% of some 6000 executives surveyed agreed that their organisations attract highly talented people: only 10% said they retain almost all their high performers. Furthermore, only 16% think their organisations know who the high performers are and only 3% said that their organisations develop people effectively and moves low performers out quickly (Hiltrop, 1999).

South African organisations are still struggling to address the issues related to the aforementioned state of the workforce. According to the South African National Talent Management survey (HCI, 2006) 82% of responding organisations felt that they did not have effective strategies in place to attract and retain top black and female talent (Oehley, 2007). According to the World Competitiveness Report (2011-2012), "inadequately educated workforce" was pointed out as the second most influential, problematic factor, hindering organisations in doing business in South Africa. South Africa was ranked 133rd out of 144 countries for the quality of their educational system. Furthermore, South Africa was ranked 97th in the category of, "enrolment in tertiary education". The so called "brain drain" of South Africa has also become an impediment to organisational success, with thousands of highly skilled and talented individuals leaving the country for "greener pastures" (Welby- Cooke, 2010). These statistics cannot be ignored if South Africa wishes to compete in the global market.

It is clear that the limited availability of well educated, skilled individuals within the South African labour market poses an enormous challenge for organisations competing globally. In a competitive economic climate with the drawback of an under skilled labour market it is of utmost importance to ensure that the necessary Talent Management strategies and systems are put in place in order to ensure the attraction, selection, development and retainment of talented employees. Talent Management has become a top priority for organisations across the world. Trends for Talent Management, talent wars, talent raids, talent shortage, talent metrics retention and concerns for talent strategy are expressed in the literature, across various countries like the USA, the UK, Australia, Japan, China, India, and across Asia (Bhatnagar, 2007). Should such responsibility be diffused throughout all the departments of the organisation or should it be left to senior management to ensure that such practices are in place? The question thus being, who should step up and ensure the effective attainment and nurturing of talented employees?

According to Guthridge, Komm and Lawson (2008), a large percentage of CEOs, business unit leaders and HR executives ascribe the inability of Talent Management strategies (of having the needed impact and delivering tangible business value) to the limited collaborated efforts of departments across the organisation. According to the HCI (2006), HR needs to provide key stakeholders with information and tools to address human capital issues in a fact based manner. Business leaders must own and provide leadership related to the people strategy and line managers must take responsibility for the execution of the talent management agenda. HR needs to support line managers, and business leaders, in these roles.

It seems that many line managers are not held accountable for the quality of their staff (Chambers, Foulon, Handfield-Jones, Hankin, & Michaels, 1998). Despite the investment of time and effort in Talent Management programmes, the importance of the role of the line manager is often overlooked. Line managers represent the front line of where talent is identified, coached and retained. It is argued here that organisations must insist that their line managers are held accountable for the organisation's talent. At *First USA Bank*, the ability to recruit talented new employees is understood to be a criterion for promotion. According to a study, 78% of corporate officers agreed that organisations should hold their line managers accountable for the quality of their people. Furthermore only 7% believed that their companies actually do so (Cohn, Khurana & Reeves, 2005)

According to Cohn et al. (2005) many senior executives now hold their line managers directly responsible for talent management activities. These executives believe that it is part of the line manager's job to recognise subordinates' developmental needs, help them

develop new skills, and provide them with opportunities for professional development and personal growth. Line managers are held accountable not only for assisting in the development of individual star managers but also for helping senior executives and HR experts define and create a balanced Talent Management strategy that can be defused throughout the whole organisation.

In summary, the responsibility for the ultimate success of Talent Management strategies falls within the scope of HR practices. The redesign and execution of employee recruitment, development, administration and retention are overseen by HR managers through the competencies of the line managers within the organisation (Dychtwald, Erickson & Morison, 2006). The responsibility for carrying out the obligations associated with the Talent Management strategy therefore, indirectly lies on the shoulders of the line managers. It is the supervisors and middle management who play a pivotal role in the performance and retention of talented employees (Martel, as cited in Oehley, 2007).

Despite this clear emphasis of the important role line managers play in the implementation of strategic Talent Management strategies, limited research has been conducted with regards to distilling such Talent Management strategies down to the level of line management, or the competencies required by line managers to ensure that Talent Management strategies achieve their desired goals.

According to Smuts (2011) Talent Management strategies are developed and diffused throughout the entire structure of organisations in order to achieve specific goals. These goals include the retention of talented employees as well as increasing the level of organisational performance. The critical role of line management in the process of implementing these types of strategies should not be undervalued. The extent to which these strategies are effective are very much dependent on the competency level of line managers within the organisation. It is therefore crucial to ensure that responsibility is given to competent line managers that have the necessary skills and competencies to ensure the effective implementation of Talent Management strategies. Through specific line management behaviours and competencies specific outcomes of Talent Management interventions like *Job Satisfaction* and *Organisational Commitment* can be assured. These outcomes will in turn have a mediating effect on the retention of talented employees and reduced levels of *Intention to Quit*.

One of the key determinants of an effective Talent Management strategy is the extent to which practices ensure the retention of talented employees. The behaviour of working man is not random. The work behaviour of employees is rather systematically, albeit complexly determined, by a nomological network of latent variables characterising the employees and

their perception of their work environment (Smuts, 2011). Talent Management interventions will therefore only be successful if the reasons/factors that determine why employees decide to leave organisations, are accurately understood. Knowledge of the factors influencing an employee's *Intention to Quit* will aid in the purposeful management of employee behaviours.

Even once these factors and the influences they have on each other are known it would still be naïve to believe that it could simply just be altered and a solution to the retention of scarce talented employees will be found. It is therefore important to develop and empirically test a comprehensive explanatory employee retention model that identifies the most influential causal factors and the manner in which they structurally combine to affect an employee's *Intention to Quit.*

The aforementioned suggests the need for the development of a Talent Management Structural Model which will portray how specific behavioural characteristics affect line manager Talent Management competencies. These in turn, have an impact on the desired outcomes such as performance levels and levels of retention, which the Talent Management strategy was instilled to achieve. With such a model HR would be able to determine and develop the necessary Talent Management competencies needed by line managers in order to ensure that the necessary Talent Management outcomes are achieved. Based on the premise  that the behaviour of line managers are not random but in actual fact determined by latent variables, experienced by the line manager, it would be possible for HR and managers to "manipulate" and alter these variables in order to ensure the effective outcome of all Talent Management objectives.

To offer and empirically test such a complex structural model would require a vast body of research done in consecutive studies. The first two phases in the development of such a structural model has been done. The foundation phase of identifying the primary Talent Management outcome latent variables of interest (and the identification of Talent Management competencies that serve these outcome variables) as well as the paths through which the competencies affect the outcome latent variables has been laid down by Oehley (2007). The second phase, the identification of person qualities that determine the level of competence achieved on the Talent Management competencies, as well as how they map onto the competencies has also been researched and empirically tested by Smuts (2011).

The objective of the current study would be to build forth on the already existing Talent Management Structural Model. The objective would be to add to the already existing structural model by identifying additional variables and their influence on the behavioural characteristics of line mangers and how they influence employee *Intention to Quit.* Further

hypothesising will be done to explain the extent to which these additional variables have an impact on the competency potential of line managers and in turn have an impact on the desired outcome latent variables.

The objective of I/O Psychologists is to realise that good learning lies at the root of all problems. Conducting fruitful research is therefore of upmost importance. If I/O Psychologists do not succeed in their mission to contribute to the existing body of knowledge they fail in their attempt to develop the field of I/O Psychology. Failing to understand that learning is a process of problem solving will result in the failure of practitioners both in the academic world and the world of work (Theron, 2010).

I/O Psychology is regarded by most as a science based on the positivistic/natural sciences image of science. It is therefore important to make use of complex methods of explaining the complex behaviour of working man. This implies that valid and credible explanations of the behaviour of working man can best be done by making use of the scientific method. Making use of scientific methods ensures the control of mechanisms which are designed to compensate for the fallibility of human decision making. The scientific method maximises the profitability of a valid verdict on the truth of the hypothesis and in this manner serves the epistemological ideal of science (Theron, 2010).

Knowledge is truthful when there is sufficient reason to believe that it is an accurate representation or explanation of phenomenon in the world. Claims can be accepted to be "truthful" or "valid", if enough evidence and support is provided for such claims. For these reasons the already existing structural model developed by Oehley (2007) will be expanded in this study. The theorising and development of a completely new structural model will defeat the purpose of contributing to the epistemic ideal. Members of the community of I/O Psychology have to assume co - responsibility for the objectives of the discipline. The onus rests on the forthcoming members to build forth on this existing structural model, to ensure that it does not fall to the way side and adds to the already existing heap of "partially" developed and "partially" theorised, research explorations.

Gorden, Kleiman and Hanie (1978) argued the importance of cumulative research studies in which researchers expand and elaborate on the research of their predecessors some thirty years ago:

> The short-lived interest that industrial-organisational psychologists display in their work promotes severe intellectual disarray. Lack of commitment to thorough exploration of a subject is inimical to the creation of viable psychological theory. By continuing to ignore the integrative role of theory, industrial-organisational

*psychologists are likely to share a fate that Ring (1967) forecast for social psychologists: We approach our work with a kind of restless pioneer spirit: a new (or seemingly new) territory is discovered, explored for a while, and then usually abandoned when the going gets rough or uninteresting. We are a field of many frontiersmen, but few settlers. And, to the degree that this remains true, the history of social psychology will be written in terms not of flourishing interlocking communities, but of ghost towns, (pp. 119 - 120).*

This argument therefore suggests, that to modify and elaborate on the already existing model as proposed by Oehley (2007) would be more sensible than, as to completely abandon it.

## 1.2 Research Objective

Oehley (2007) argued that the core talent management competencies she identified would for the most part not affect *Intention to Quit* directly. She modeled *Job Satisfaction* and *Affective Commitment* as two latent variables that mediate the effect of the core talent management competencies on *Intention to Quit*. Smuts (2011) elaborated on the existing Oehley (2007) *Intention to Quit Structural Model*. Through theorising she made alterations to existing structural paths and also added *Psychological Empowerment*, *Perceived Development Opportunities*, *Perceived Job Characteristics* and *a Sense of Mission*. The turnover phenomenon in reality is, however, a lot more complex than this. The effect of the core talent management competencies on *Intention to Quit* is probably mediated by a layer of latent variables characterised by the nature of the work environment as well as the influences of the external environment that in turn affects a layer of attitudinal latent variables that characterise employees' psychological response to the perceived nature of their work environment. It is proposed that line managers can play a significant role in affecting an employee's cognitive process regarding turnover decisions. Line managers can influence, through their actions, the nature of the work environment and thereby the attitudinal latent variables that determine employees turnover intentions.

The objective of the current study is to alter and expand the existing *Talent Management Competency Model*, as proposed by Oehley (2007) and expanded by Smuts (2011)[3]. This will be done by expanding the network of latent variables through which the core competencies have to work to affect the *Intention to Quit* latent variable.

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[3] The expanded model will be referred to as the Oehley – Smuts (2011) model.

**CHAPTER 2: LITERATURE REVIEW: MODIFICATION AND ELABORATION OF THE OEHLEY (2007) – AND SMUTS (2011) MODEL**

**2.1 Introduction**

The objective of the current study is to alter and expand the existing Oehley-Smuts (2011) *Talent Management Competency Model*. In order to contribute to the development of the Oehley-Smuts (2011) model and to empirically test an adaptation, a comprehensive understanding and examination of both the original model (Oehley, 2007) as well as the expanded Oehley – Smuts (2011) model is necessary. A systematic process will be followed in which both Oehley's (2007) as well as Smuts' (2011) models will firstly be described, followed by an explanation of the theoretical arguments underlying the proposed models. A report on the fit of the proposed structural model will then be given and finally, a report will be done on the findings regarding the specific causal relationships that were proposed.

The proposed, Oehley (2007) *Talent Management Competency Model* (TMCM) placed, *Intention to Quit* as the primary outcome variable. It could therefore be said that the TMCM was developed with the intent to explain an employee's *Intention to Quit*/leave an organisation. According to Firth, Mellor, Moore and Loquet (2004), intentions are the most influential determinants of actual behaviour. Intentions are of concrete value from a research perspective, as once employees have actually executed the behaviour to quit, there is little likelihood of gaining access to them in order to understand their preceding situation. The validity of studying intentions in the organisation has also been proven in longitudinal studies done by Sagers (as cited in Firth et al., 2004), in which *Intention to Quit* was found to discriminate effectively between those employees who stay in an organisation from those who leave. While it is sound to reason that intentions are an accurate indicator of subsequent behaviour, we still do not know what determines such behaviour (Firth et al., 2004).

A vast body of research has however found support for the notion that *Intention to Quit* could be viewed as the best single predictor of an employee's turnover behaviour (Arnold & Feldman, 1982; Currivan, 1999; Griffeth, Hom & Gaertner, 2000; Igbaria & Greenhaus, 1992; Tett & Meyer, 1993 in Oehley, 2007, p. 38). Oehley (2007) argued that an employee's *Intention to Quit* is influenced by specific line manager competencies, but that these competencies do not all exert a direct causal influence on *Intention to Quit*. The majority of the line manager competencies are hypothesised to influence turnover intention indirectly through their effect on *Job Satisfaction* and *Organisational Commitment* which function as mediator variables in these relationships.

**2.2 Identification of Talent Management Competencies**

In order to identify the core talent management competencies through which line managers influence their subordinates' *Intention to Quit*, Oehley (2007) had to define the term, talent management competencies, as this formed the foundation of her study. Due to the lack of research available, Oehley (2007) could not find a suitable definition in the literature.

Despite the apparent popularity of Talent Management (TM), a precise definition remains somewhat elusive. It is difficult to identify the precise meaning of "Talent Management" because of the confusion regarding definitions and terms and the many assumptions made by authors who write about Talent Management (Lewis & Heckman, 2006). Some theorists view Talent Management as an administrative process referring to the process of recruitment, training and development of employees. This view of Talent Management has however evolved to incorporate a more strategic focus that drives organisational outcomes (Fegley, as cited in Oehley 2007).

In order to include organisational outcomes in the definition of Talent Management Oehley (2007) decided to make use of the definition, as formulated by the Society for Human Resource Management (SHRM). The SHRM defines Talent Management as "the implementation of integrated strategies or systems designed to increase workplace productivity by developing improved processes for attracting, developing, retaining and utilising people with the required skills and aptitude to meet current and future business needs" (SHRM in Oehley, 2007, p. 13). Oehley (2007) concluded that this definition of Talent Management supported the use of various HR processes and line management responsibilities as being aligned with the strategies of the organisation.

Originally formulated in the field of education (to describe trainee teacher behaviours) the term competency has been redefined by various theorisers and practitioners alike. The term has been used in various fields of research but has never been owned by any particular group. In fact a variety of stakeholders have been using the term, each with their own agendas. It is therefore not surprising to find that there seems to be little agreement in the literature, regarding the definition of the term, competency (Hoffmann, 1999). According to Jubb and Robotham (1997), a precise and universal definition of the term, competence, continues to elude both researchers and practitioners.

Albanese, Mejicano, Mullan, Kokotailo and Gruppen (2008), define a competency as a complex set of behaviours built on the components of knowledge, skills, attitudes and "competence" as an individual's capability. The concept of competence is analytically used as a simple general notion to refer to the relation between person and work when explaining

work performance. It is proposed as an underlying characteristic of an individual that is causally related to effective performance in a job or situation (Ripamonti & Scaratti, 2011). A competency is a collection of interconnected knowledge, skills and attitudes that have a major influence on an individual's job (a role or responsibility), that correlates with performance on the job, that can be measured against well-developed standards, and that can be improved via training and development (Stoof, Martens, van Merriënboer & Bastiaens, 2002).

Oehley's (2007) main focus in her study was directed towards the Talent Management outcome latent variables and how these structurally link to *Intention to Quit*. She stated that specific Talent Management outcome latent variables would characterise the follower and therefore have an influence on their *Intention to Quit*. This assumption postulates that the behaviour of the line manager will influence, to a certain degree, these outcome variables (Oehley, 2007).

The term "competencies", for the purpose of Oehley's (2007) study, therefore referred to the Talent Management behaviours exhibited by line managers. Oehley (2007) decided that the definition of a competency, as formulated by Woodruffe and Cashman (1993), was the most applicable to her study. According to Woodruffe and Cashman (1993), a competency is a set of behavioural patterns that an individual needs to align in order to perform tasks and functions with competence.

With the abundance of literature and definitions available, Oehley (2007) decided to formulate her own definition of a competence that would be most applicable to her study. Oehley (2007) defined a competency as:

> *Sets of behaviour patterns that line managers need to bring to a position in order to attract, select, engage, develop and retain talented employees in order to reach specific desirable business objectives for the organisation* (Oehley, 2007, p.16).

Using this definition of a competency as the basis for her study, Oehley (2007) set forth an in depth analysis of the various processes involved in Talent Management. Her main objective was to determine which of these processes were regarded to be the responsibility of line management. The necessary competencies needed to successfully facilitate such processes, formed the structure of her competency model.

**2.3 Outcomes linked to Talent Management Competencies and Model Formulation**

The goals of Talent Management strategies include excelling at recruiting, identifying and developing talent and retention (McCauley & Wakefield, 2006). Oehley (2007) focused on the latter, the retention of talented employees. In her search for measurable antecedents to turnover she found *Job Satisfaction*, *Organisational Commitment* and *Intention to Quit* as attitudinal latent variables that might have a mediating effect between Talent Management competencies and actual employee turnover. These antecedents were combined and a basic model was proposed.  The basic model, in essence, hypothesises that the various line managers' Talent Management competencies exert their influence on *Intention to Quit* through the talent management outcomes of *Job Satisfaction* and *Affective Commitment*. She further proposed that some of the Talent Management competencies would also exert a direct influence on *Intention to Quit*. The basic model reflecting the fundamental argument underlying the expanded Oehley (2007) structural model (Figure 2.2) is illustrated in Figure 2.1.
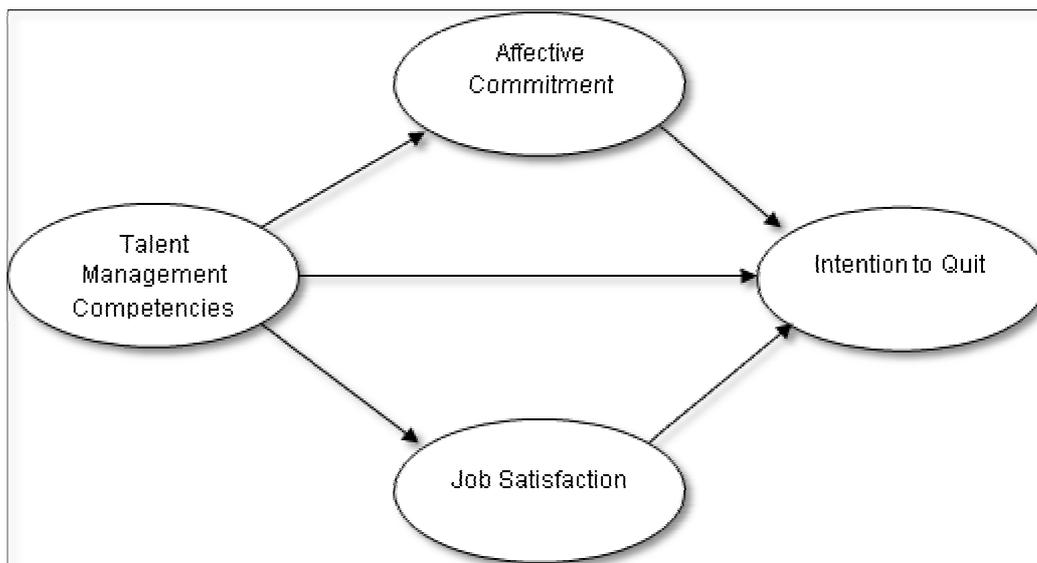


*Figure 2.1.* Fundamental Partial Talent Management Competency Model

(Oehley, 2007, p. 49)

Oehley (2007) developed the model, depicting talent management competencies (*Displays a Talent Management Mindset, Attracts and Recruits Talent, Identifies and Differentiates Talented Employees, Develops Others, Builds and Maintains Relationships, Provides Meaningful and Challenging Work, Remunerates and Rewards Fairly and Manages Work-Life Balance*) as the exogenous latent variables and *Affective Commitment, Job Satisfaction and Intention to Quit* as the endogenous latent variables. She argued that although some

Talent Management competencies will have a direct influence on *Intention to Quit* others will have an influence on the development of *Affective Commitment* and increased *Job Satisfaction*. These two endogenous latent variables will have a mediating effect on *Intention to Quit*. An increase in both *Affective Commitment* and *Job Satisfaction* will lead to reduced *Intention to Quit*.

The extensive body of research available, aided Oehley (2007) in defining each of the Talent Management competencies. Following the clarification of all applicable definitions, the necessary expansions were made. The various individual Talent Management competencies were then included in the model and linked to the different outcomes. The results of exploratory factor analysis found that two factors underlie the *Job Satisfaction* latent variable. The single latent variable, *Job Satisfaction* had to be altered to accommodate for both factors. The two new factors, namely *Organisational Job Satisfaction* and *Supervisory Job Satisfaction* were additionally included in the model. The altered structural model is illustrated in Figure 2.2.
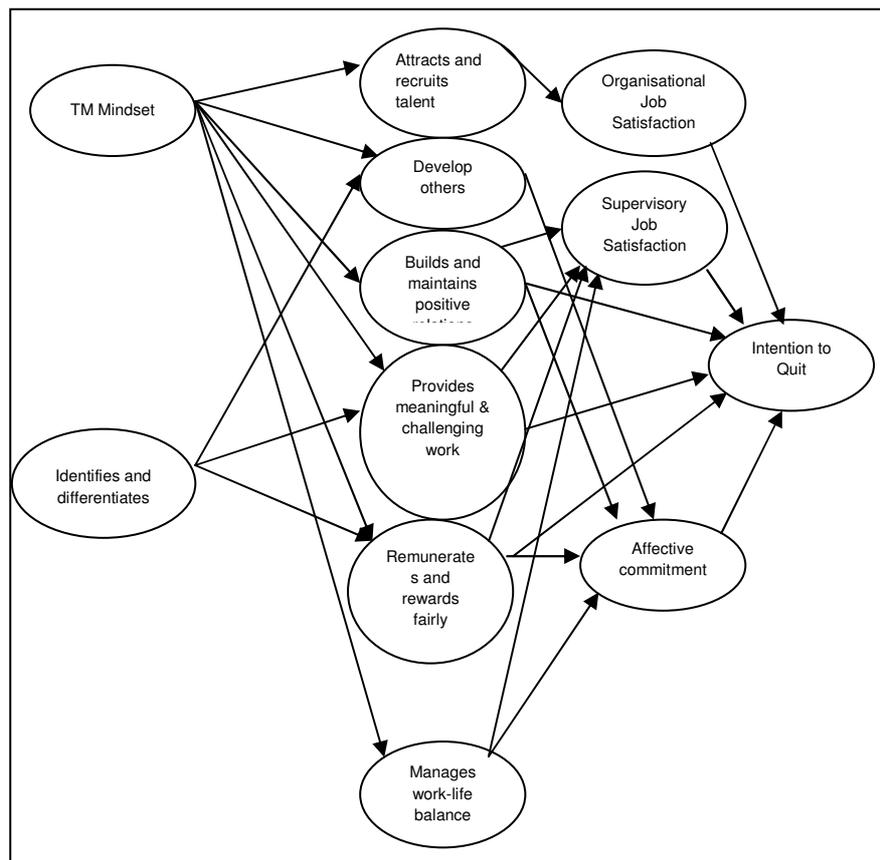


*Figure 2.2.* Expanded Partial Talent Management Competency Model

(Oehley, 2007, p. 55)

Oehley's (2007) definition of each of the eight Talent Management competencies is shown in Table 2.1.

Table 2.1

*Definitions of the core Talent Management Competencies*

| A | **DISPLAYS A TALENT MANAGEMENT MINDSET** |
|---|---|
| | Persistently and continuously displays a belief that having better talent at all levels provides the means to outperform other organisations. Regularly emphasizes this view to others. |
| **B** | **ATTRACTS AND RECRUITS TALENT** |
| | Attract and recruits competent and committed employees. Ensures that employees have the correct technical expertise and are achievement orientated and motivated. |
| **C** | **IDENTIFIES AND DIFFERENTIATES TALENTED EMPLOYEES** |
| | Identifies and differentiates different levels of employees according to performance, with the purpose of adjusting management decisions and actions according to this evaluation. |
| **D** | **DEVELOPS OTHERS** |
| | Accurately assesses people's development needs, provides opportunities and ensures that needs are met in order to fully develop the potential of all employees. |
| **E** | **BUILDS AND MAINTAINS RELATIONSHIPS** |
| | Understands the importance of interpersonal awareness and has the ability to establish and maintain relationships with employees. |
| **F** | **PROVIDES MEANINGFUL AND CHALLENGING WORK** |
| | Ensures that subordinates are able to link their individual contribution to organisational and divisional strategic direction. Actively created opportunities for employees to be engaged in work that is challenging. |
| **G** | **REMUNERATES AND REWARDS FAIRLY** |
| | Recognizes the achievements of employees and provides rewards and recognition accordingly. |
| **H** | **MANAGES WORK-LIFE BALANCE** |
| | Controls work factors which might have a negative impact on the employee's personal or family life. |

(Oehley, 2007, p. 59)

The outcome variables were defined as follows:

**Affective Commitment:**

"An employee's emotional attachment to, identification with, and involvement in the organisation" (Allen & Meyer, as cited in Oehley, 2007, p. 40).

**Job Satisfaction:**

"A pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke cited in Oehley, 2007, p. 44). The Job Descriptive Index (JDI) by Smith, Kendall and Hulin utilised in this study, make provision for five subscales that measure different facets of *Job Satisfaction*, namely pay, satisfaction with the job, satisfaction with promotion opportunities, satisfaction with supervision and satisfaction with co-workers (Ironside, Smith, Brannick, Gibson & Paul, as cited in Oehley, 2007, p. 45).

**Intention to Quit:**

A conscious and deliberate wilfulness to leave the organisation (Tett & Meyer cited in Oehley, 2007, p. 47).

## 2.4 Fitting the Structural Model

The structural model constitutes a specific structural hypothesis on the psychological process that underlies an employee's *Intention to Quit* (Smuts, 2011). The structural model therefore presents an explanation as to why indicator variables are correlated in a specific way, as shown in the observed covariance matrix. The hypothesised structural model can be said to fit the data if the estimates for the freed structural model parameters could be found to, reasonably accurately, reproduce the observed covariance matrix (Hair, Black, Babin, Anderson & Tatham, 2006 in Smuts, 2011). The reason for testing the fit for a structural model is to determine whether the data supports the theoretical relationships suggested in the model. A structural model with a close fit means that the model presents at least one plausible account of the process that underlies, in this case, *Intention to Quit*. It should be noted, that a close model fit does not state that all structural relationships, as suggested by the model, are necessarily correct (Diamantopoulos & Siguaw, 2000).

The fit statistics calculated for the Talent Management Competency Model depicted in Figure 2.2 are shown in Table 2.2. The fit statistics indicate that the null hypothesis of exact fit was rejected, but the null hypothesis of close fit was not rejected (Oehley, 2007). The estimates derived for the freed model parameters thus approximately reproduced the observed covariance matrix, but not perfectly.

Table 2.2

*Goodness of Fit Statistics for Structural Model Fit*

| | |
|---|---|
| Degrees of Freedom | 274 |
| Minimum Fit Function Chi-Square | 443.64 (P = 0.00) |
| Normal Theory Weighted Least Squares Chi-Square | 405.16 (P = 0.00) |
| Satorra-Bentler Scaled Chi-Square | 375.48 (P = 0.00) |
| Estimated Non-centrality Parameter (NCP) | 101.48 |
| 90 Percent Confidence Interval for NCP | (54.67 ; 156.34) |
| Minimum Fit Function Value | 4.19 |
| Population Discrepancy Function Value (F0) | 0.96 |
| 90 Percent Confidence Interval for F0 | (0.52 ; 1.47) |
| Root Mean Square Error of Approximation (RMSEA) | 0.059 |
| 90 Percent Confidence Interval for RMSE | (0.043 ; 0.073) |
| P-Value for Test of Close Fit (RMSEA < 0.05) | 0.16 |
| Expected Cross-Validation Index (ECVI) | 5.00 |
| 90 Percent Confidence Interval for ECVI | (4.55 ; 5.51) |
| ECVI for Saturated Model | 6.62 |
| ECVI for Independence Model | 59.53 |
| Chi-Square for Independence Model with 91 Degrees of Freedom | 6257.86 |
| Independence AIC | 6309.86 |
| Model AIC | 529.48 |
| Saturated AIC | 702.00 |
| Independence CAIC | 6405.36 |
| Model CAIC | 812.28 |
| Saturated CAIC | 1991.16 |
| Normed Fit Index (NFI) | 0.93 |
| Non-Normed Fit Index (NNFI) | 0.97 |
| Parsimony Normed Fit Index (PNFI) | 0.78 |

| | |
|---|---|
| Comparative Fit Index (CFI) | 0.97 |
| Incremental Fit Index (IFI) | 0.97 |
| Relative Fit Index (RFI) | 0.92 |
| Critical N (CN) | 80.18 |
| Root Mean Square Residual (RMR) | 0.58 |
| Standardised RMR | 0.081 |
| Goodness of Fit Index (GFI) | 0.77 |
| Adjusted Goodness of Fit Index (AGFI) | 0.71 |
| Parsimony Goodness of Fit Index (PGFI) | 0.60 |

(Oehley, 2007)

Figure 2.3 summarises the results of the Oehley (2007) study indicating which of the hypothesised structural relationships were supported, and which were not.
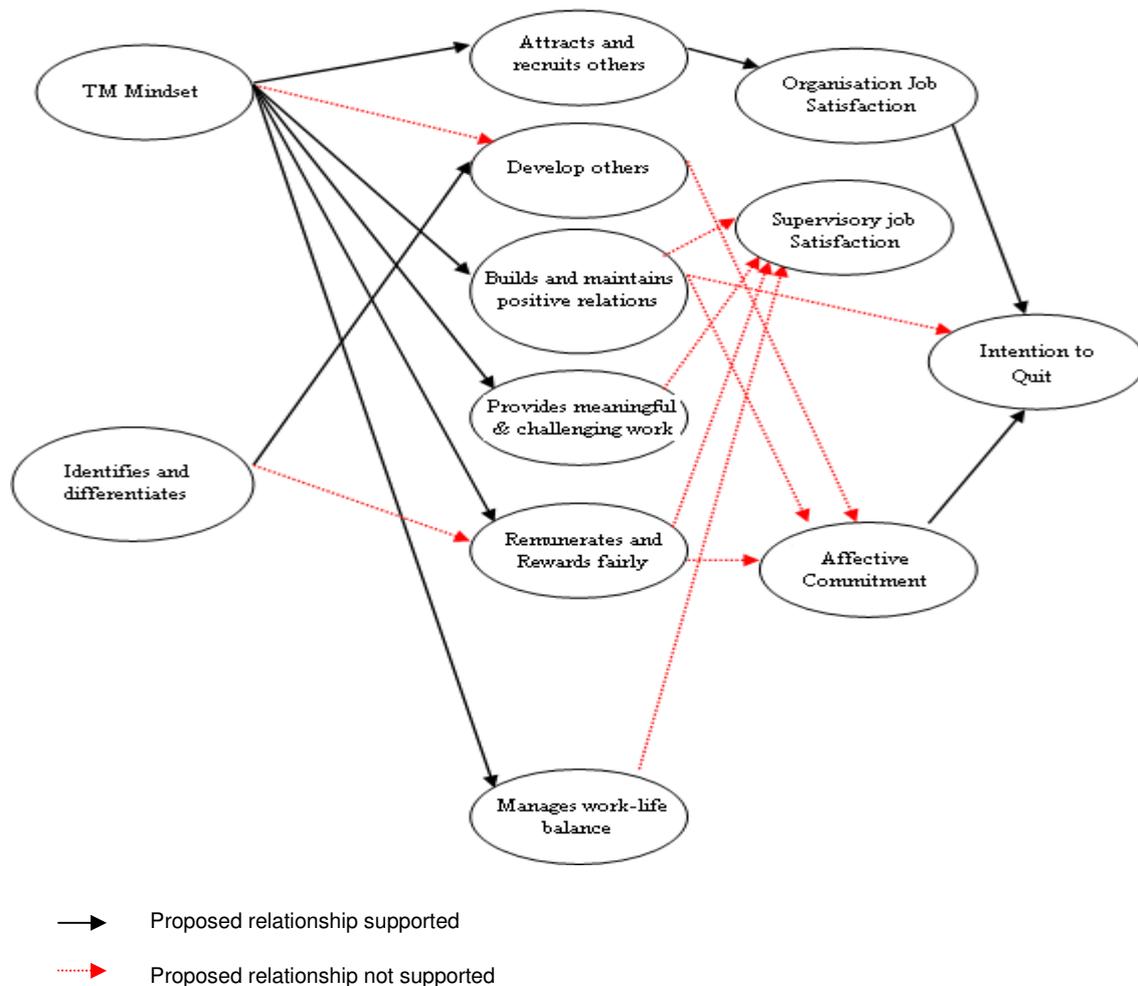
*Figure 2.3*. Expanded Partial Talent Management Competency Model illustrating findings by Oehley.

(Smuts, 2011, p.16)

## 2.5 Model Extensions Proposed by Smuts (2011)

Smuts (2011) included *Psychological Empowerment* as a mediating variable between line managers' Talent Management competencies and employees' *Job Satisfaction*, *Organisational Commitment* and *Intention to Quit*.

Smuts (2011) decided to make use of *Job Satisfaction* as a single factor, as initially proposed by Oehely (2007). Smuts (2011) also thought it best to rather include all three components of the three component model of *Organisational Commitment*, rather than only including *Affective Commitment*. The inclusion of all three components of the three

component model, according to Smuts (2011) would allow for more significant pathways and ultimately a better model fit.

For the purpose of the current study it would be beneficial to elaborate on each of the components of the three component model of *Organisational Commitment*. The significant role of each of these components in the current study will also be explained.

*Organisational Commitment* is a multidimensional construct and therefore there are various dimensions of commitment that interact, that inevitably determine the level of an employee's *Organisational Commitment* (Laka-Mathebula, 2004). The most notable multidimensional model of *Organisational Commitment*, the three component model, was developed by Meyer and Allen (Allen & Meyer, 1990; Meyer & Allen, 1991).

According to Allen and Meyer (1990) the psychological states of *Affective*, *Continuance*, and *Normative* can be viewed as components rather than types of commitment. They recommend this in order to perceive these psychological states as mutually exclusive. Hence, an employee may feel a strong desire to continue employment with an organisation, however, they may feel little or no need or obligation to do so. Thus an employee may experience all three forms of commitment, but to varying degrees. *Organisational Commitment* can therefore be viewed as consisting of three mindsets namely: *Affective Commitment* (AC) (as been defined), *Normative Commitment* (NC), and *Continuance Commitment* (CC).

*Continuous Commitment* refers to the individual's awareness of the costs associated with leaving the organisation and/or lack of employment alternatives (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002)[4]. Employees that have high levels of *Continuous Commitment* maintain their relationship with the organisation as a result of them needing to do so (Meyer & Allen, 1991). The perceived economic advantages that employees accrue at their current organisation, compared to perceived possible alternative employment opportunities contribute to the development of *Continuous Commitment*, and thus determine their wish to remain in the employment of their current organisation. According to Carbery, Garavan, O'Brien, and McDonnell (2003) CC refers to a tendency to engage in consistent behavioural activities based on an individual's recognition of the perceived costs associated with discontinuing the activity (i.e. leaving the organisation).

---

[4] *Continuous Commitment* will play a significant role in the elaboration of the Oehley-Smuts (2011) model. It is therefore advised to take cognisance of the definition of *Continuous Commitment*, as presented here.

*Normative Commitment* reflects a feeling of obligation to remain with an organisation. Individual's whose primarily link to an organisation is the result of *Normative Commitment* will continue their employment as a result of them feeling they ought to (Meyer & Allen, 1991).

According to Smuts (2011) *Psychological Empowerment* can be defined as the psychological state that employees experience as a result of successful managerial empowerment interventions. It is a multifaceted construct which reflects an individual's orientation to his/her work role. According to Spreitzer (as cited in Smuts, 2011), *Psychological Empowerment* is a motivational construct that is manifested in four cognitions, namely *Meaning*, *Competence*, *Self-Determination* and *Impact*. Constitutive definitions of the four cognitions in which this construct is manifested are provided in Table 2.3.

Table 2.3

*Constitutive definition of the four cognitions of Psychological Empowerment*

| Psychological Empowerment cognition | Definition |
| --- | --- |
| **Meaning** | Meaning involves a fit between the requirements of one's work role and one's beliefs, values and behaviours (Spreitzer, De Janasz & Quinn, 1999). |
| **Competence** | Competence refers to feelings of self-efficacy or personal mastery that one is capable of successfully performing a task (Avolio, Zhu, Koh & Bhatia, 2004). |
| **Self-determination** | Self-determination is a sense of choice in initiating and regulating one's actions (Spreitzer et al., 1999). |
| **Impact** | Impact is the degree to which one can influence strategic, administrative, or operating outcomes at work (Spreitzer et al., 1999). |

According to Smuts (2011), this definition of *Psychological Empowerment* necessitates the clarification of certain assumptions:

1. Empowerment is a set of cognitions shaped by an individual's work environment and not by their personality traits (Thomas & Velthouse as cited in Smuts, 2011).
2. Empowerment is a continuous variable, where people can be more or less empowered, rather than being empowered or not empowered (Smuts, 2011).

3. Empowerment relates specifically to the work domain and not to different life situations and roles (Smuts, 2011).

As mentioned, one of the assumptions made is that *Psychological Empowerment* is determined by an individual's environment. It is therefore safe to assume that alterations to an individual's environment will lead to changes in an individual's psychological perceptions. Line managers are in a position where they can directly alter the environment of an employee and therefore indirectly change the employee's psychological perceptions. According to Castro, Perinan and Buegno (as cited in Smuts, 2011) it is fundamentally the psychological interpretation of the work environment, rather than the objective reality itself, that expresses itself in organisation and job attitudes like *Job Satisfaction* and *Organisational Commitment*.

According to Smuts' (2011) reasoning the physical changes made by line management, to the employee's work environment will not have an impact on their behaviour. The changes, as *perceive*d by the employee, are what will have actual influence and determine the specific behaviour chosen. Specific alterations made and influences exerted by line management, through their competencies, needs to be observed by the employee, found relevant and be internalised, in order to have an influence on behaviour.

Smuts (2011) offers a concrete argument for explaining why Oehley (2007) could not find support for the causal paths proposed between specific Talent Management competencies and *Job Satisfaction*, *Organisational Commitment*, and *Intention to Quit*. She argues that the causal leap between managers' competencies and the expected outcomes were too big. According to Smuts (2011) the model had to make provision for the mediating role of psychological interpretation. This argument brought forth the justification for the inclusion of *Psychological Empowerment*, as a latent variable in the original Oehley (2007) model.

*Perceived Development Opportunities* is defined as having a clear perception that personal developmental opportunities are available and accessible in order to develop competence and performance in the workplace (Smuts, 2011). Smuts (2011) included *Perceived Development Opportunities* in the model in order to explain the mediating effect of the talent management competency, *Develops Others* on the exogenous latent variable *Psychological Empowerment*.

*A Sense of Mission* is defined as understanding "the bigger picture" and how work outputs contribute to the achievement of organisational goals. Smuts (2011) included, *A Sense of Mission,* as a latent variable in the model in order to explain the mediating effect of the talent

management competency, *Provides Meaningful and Challenging Work* on the exogenous latent variable, *Psychological Empowerment*.

An employee's work environment is in most part shaped and determined by the nature of the job characteristics. Five core job dimensions provide the key to objectively measuring jobs. It also provides a guideline for how a job can be changed in order to motivate an individual (Hackman, Oldham, Janson & Purdy, 1975). Piccolo and Colquitt (2006) proposes a mechanism for explaining the impact of transformational leaders. This mechanism is one that is not rooted in the perception of the leader or the individual himself, but one that is rooted in the job. One of the most powerful influences a leader can have on followers is through the management of meaning. Leaders define and shape the "reality" in which followers work. Hackman and Oldham's (1975) five core job characteristics, Skill *Variety*, *Task Identity*, *Task Significance*, *Autonomy*, and *Feedback* offer one means of capturing significant facets of such a reality.

Constitutive definitions of the five job characteristics are provided in Table 2.4.

Table 2.4

*Constitutive definition of the five Job Characteristics Dimensions*

| Job Characteristics Dimension | Definition |
| --- | --- |
| **Skill variety** | The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee. |
| **Autonomy** | The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out. |
| **Feedback** | The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance. |
| **Task identity** | The degree to which the job requires completion of a "whole" and identifiable piece of work—that is, doing a job from beginning to end with a visible outcome. |
| **Task significance** | The degree to which the job has a substantial impact on the lives or work of other people—whether in the immediate organisation or in the external environment. |

(Hackman & Oldham, 1975, pp. 161-162)

The vast empirical research in support for the job dimensions, as proposed by Hackman and Oldham (1975), makes the inclusion of *Perceived Job Characteristics* in an explanatory *Intention to Quit Structural Model*, almost mandatory.

Smuts (2011) argued that the manner in which a specific job is perceived to allow for satisfying these five dimensions, as proposed by Hackman and Oldham (1975), does not solely lie in the nature of the job, but also with the nature of the job incumbent. This postulates that the same job, to whatever degree it may satisfy the dimensions, will be perceived differently by different employees. The differences in these perceptions could be ascribed to personal characteristics. This means that *Perceived Job Characteristics* are determined by the line manager's ability to alter the characteristics, as well as the specific characteristics of the employee. It would therefore be fair to argue that *Perceived Job Characteristics* will have an impact (on the behaviour of the employee), irrespective of an individual's personal characteristics. The personal characteristics of an individual will

determine the *degree* of influence on his/her perceptions. For these reasons, Smuts (2011) proposed that *Perceived Job Characteristics* will be positively related to an individual's *Psychological Empowerment.*

Smuts (2011) identified, *Provides Meaningful and Challenging Work,* as the Talent Management competency that could play a significant role in the process of altering the job characteristics of a specified position.

The original structural model, as proposed by Oehley (2007) was consequently adapted to accommodate the above mentioned constructs (*Job Satisfaction, Organisational Commitment, Psychological Empowerment, Perceived Job Characteristics, Perceived Development Opportunities* and *A Sense of Mission).* The adapted structural model, as proposed by Smuts (2011), is illustrated in Figure 2.4.
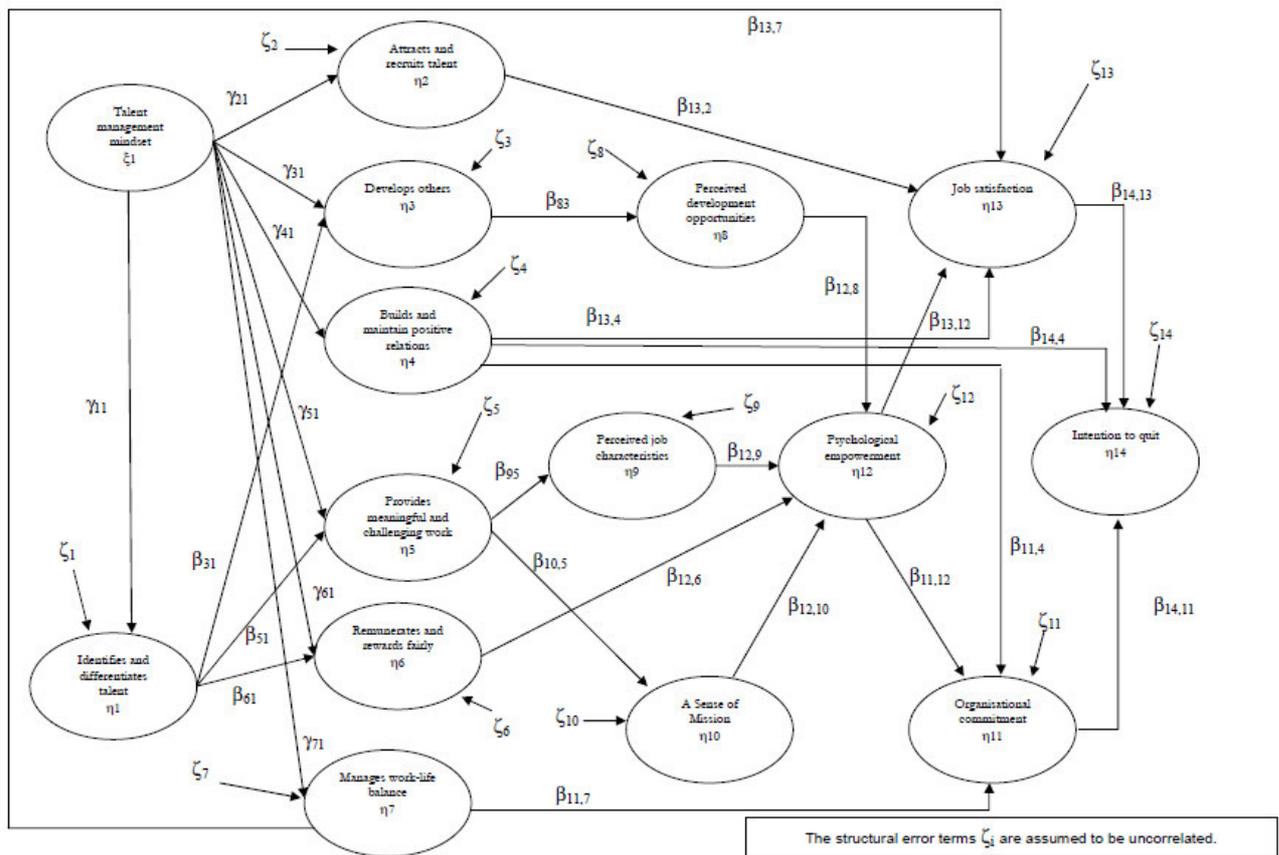


*Figure 2.4.* Proposed Extended Talent Management Competency Model

(Smuts, 2011, p.41)

**2.6 Fitting the Reduced Structural Model (Smuts, 2011)**

The fit statistics calculated for the reduced Talent Management Competency Model depicted in Figure 2.5 are shown in Table 2.5. The fit statistics indicate that the null hypothesis of exact fit was rejected. The close fit null hypothesis was also rejected. It was therefore concluded that the reduced structural model did not show good fit.
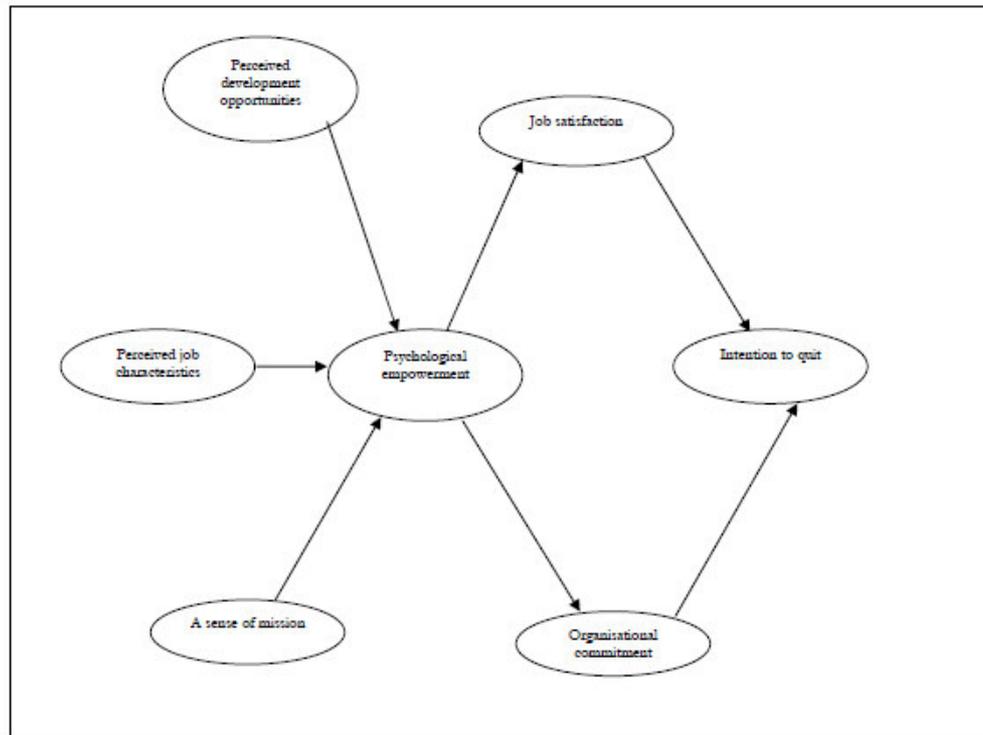


*Figure 2.5.* Proposed Reduced Talent Management Competency Model

(Smuts, 2011, p.124)

Table 2.5

*Goodness of Fit Statistics for the Reduced Structural Model Fit*

| | |
|---|---|
| Degrees of Freedom | 67 |
| Minimum Fit Function Chi-Square | 176.710 (P = 0.00) |
| Normal Theory Weighted Least Squares Chi-Square | 168.672 (P = 0.00) |
| Satorra-Bentler Scaled Chi-Square | 158.738 (P = 0.00) |
| Chi-Square Corrected for Non-Normality | 195.973 (P = 0.00) |
| Estimated Non-centrality Parameter (NCP) | 91.738 |
| 90 Percent Confidence Interval for NCP | (58.715 ; 132.470) |
| Minimum Fit Function Value | 1.402 |
| Population Discrepancy Function Value (F0) | 0.728 |
| 90 Percent Confidence Interval for F0 | (0.466 ; 1.051) |
| Root Mean Square Error of Approximation (RMSEA) | 0.104 |
| 90 Percent Confidence Interval for RMSEA | (0.0834 ; 0.125) |
| P-Value for Test of Close Fit (RMSEA < 0.05) | 0.000 |
| Expected Cross-Validation Index (ECVI) | 1.863 |
| 90 Percent Confidence Interval for ECVI | (1.601 ; 2.186) |
| ECVI for Saturated Model | 1.667 |
| ECVI for Independence Model | 16.524 |
| Chi-Square for Independence Model with 91 Degrees of Freedom | 2054.052 |
| Independence AIC | 2082.052 |
| Model AIC | 234.738 |
| Saturated AIC | 210.000 |
| Independence CAIC | 2135.871 |
| Model CAIC | 380.817 |
| Saturated CAIC | 613.640 |
| Normed Fit Index (NFI) | 0.923 |

| | |
|---|---|
| Non-Normed Fit Index (NNFI) | 0.937 |
| Parsimony Normed Fit Index (PNFI) | 0.679 |
| Comparative Fit Index (CFI) | 0.953 |
| Incremental Fit Index (IFI) | 0.954 |
| Relative Fit Index (RFI) | 0.895 |
| Critical N (CN) | 77.859 |
| Root Mean Square Residual (RMR) | 0.167 |
| Standardised RMR | 0.186 |
| Goodness of Fit Index (GFI) | 0.839 |
| Adjusted Goodness of Fit Index (AGFI) | 0.748 |
| Parsimony Goodness of Fit Index (PGFI) | 0.536 |

(Smuts, 2011, p.125)

Due to the fact that both the exact fit and close fit null hypothesises were found to be rejected, the modification indices calculated by LISREL were inspected to explore possible ways of improving the fit of the model. Model modification indices determine whether the model fit will improve if any of the currently fixed parameters are freed (Smuts, 2011). Jöreskog and Sörbom (as cited in Smuts, 2011) suggests that the modification indices calculated for the various matrices defining the structural model should be examined to identify the parameter with the highest modification index value. The parameter with the largest modification index is then freed if a conclusive theoretical argument can be made in support of the proposed causal linkage. Modification indices were calculated for the various matrices found in the *Reduced Intention to Quit Structural Model*, as proposed by Smuts (2011).

Figure 2.6 shows the parameters that indicated the highest modification index values and therefore summarises the results of the Smuts (2011) study, indicating which of the hypothesised structural relationships were supported, and which were not.
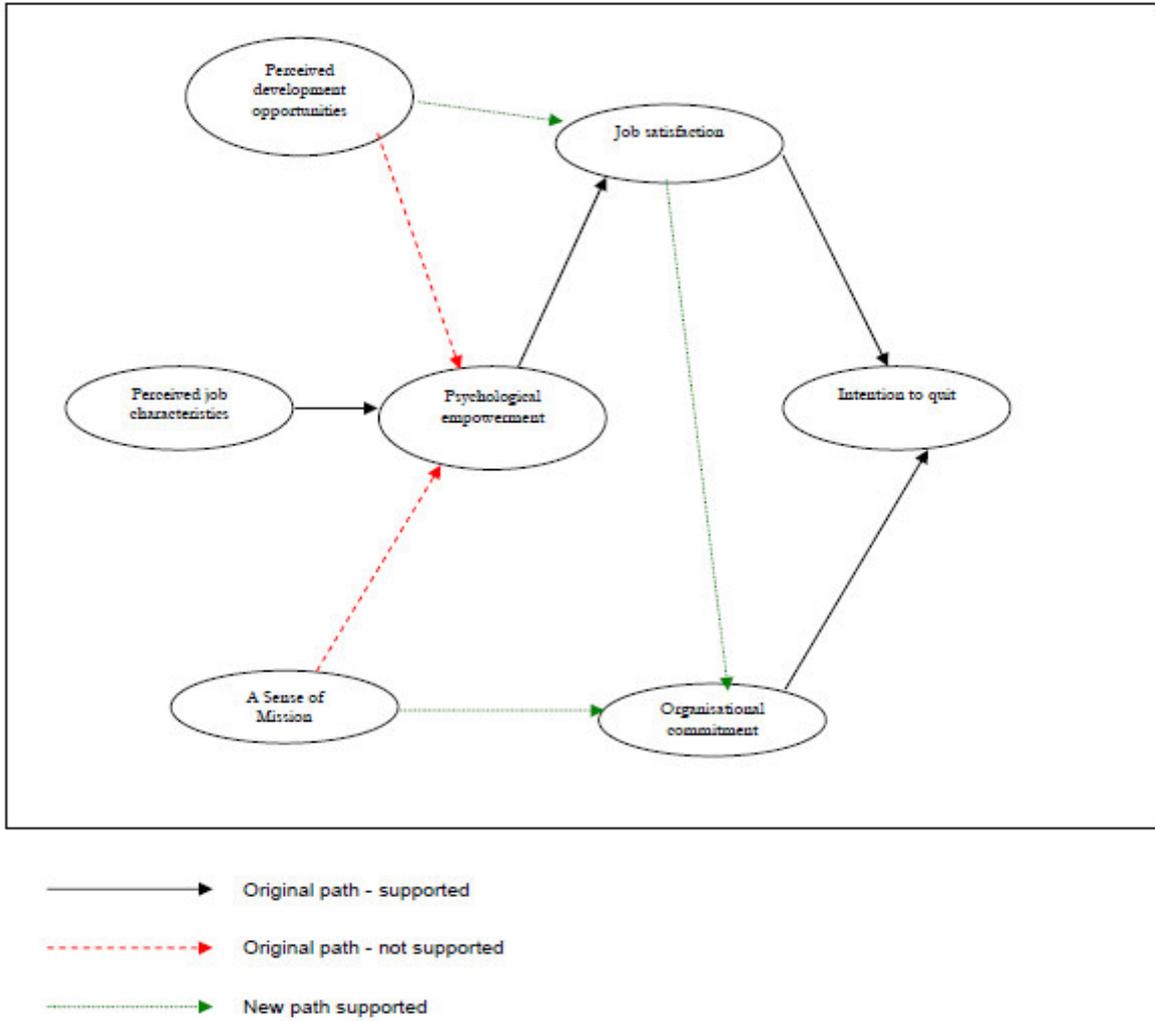
*Figure 2.6.* Modified Reduced Structural Model 3 indicating supported, not supported and new paths

(Smuts, 2011, p.143)

## CHAPTER 3: PROPOSED MODEL ALTERATIONS AND EXTENSIONS

### 3.1 Proposed Model Alterations

The current study aimed to add to the already existing body of research gathered by Oehley (2007) and Smuts (2011). In order to determine whether the structural model, as proposed, had to be altered and to what extent, a thorough analysis was done. First and foremost, the theory underlying as well as the findings of both, Oehley's (2007) and Smuts' (2011) structural models were revisited.

When contemplating ways in which the existing Oehley - Smuts (2011) Structural Model had to be modified and elaborated the soundness of the fundamental argument underlying it, moreover had to be reconsidered. It was evaluated whether the line managers' Talent Management competencies have an influence on *Intention to Quit* directly by having an influence on the Talent Management outcomes of *Job Satisfaction* and *Affective Commitment*. For the purpose of determining the forgoing, the freed gamma and beta estimates of both models were examined.

### 3.2 Gamma Matrix

### 3.2.1 Oehley (2007)

The first series of hypotheses proposed by Oehley (2007) suggested structural links between the exogenous latent variable, a *Talent Management Mindset* and the endogenous latent variables, line management competencies (*Attracts and Recruits Talent, Identifies and Differentiates Talented Employees, Develops Others, Builds and Maintains Relationships, Provides Meaningful and Challenging Work, Remunerates and Rewards Fairly and Manages Work-Life Balance*). For the purpose of her proposal, Oehley (2007) defined *Talent Management Mind*set as, "persistently and continuously displays a belief that having better talent at all levels provides the means to outperform other organisations and regularly emphasises this view to others" (p. 62).

Oehley (2007) based these hypotheses on theory gathered from a vast array of published research. Oehley's research and theorising concluded that, in order to ensure success, Talent Management strategies had to be driven by individuals who had a Talent Management mindset. Five of the six hypotheses proposed, proved significant positive relationships and therefore proves the importance of instilling a Talent Management mindset within line managers. The sizes of the y-coefficients for each of these variables were as

follows: *Attracts and Recruits Talent* (t = 6.99; y = 0.75)*, Identifies and Differentiates Talented Employees, Builds and Maintains Relationships* (t = 7.76; y = 0.84)*, Provides Meaningful and Challenging Work* (t = 5.51; y = 0.95)*, Remunerates and Rewards Fairly* (t = 3.96; y = 0.83) *and Manages Work-Life Balance* (t = 8.91; y = 0.86).

The only endogenous Talent Management latent variable that found a non-significant relationship for this exogenous latent variable was *Develops Others.* According to the research done by Oehley (2007) a positive relationship should have been found. Oehley (2007) proposed one possible explanation for not finding support for such a positive relationship by stating that *Develops Others* could be viewed as a Human Resources Department (HRD) function and not that of line management. This explanation was supported by the policies and practices, as cited in the Chief Human Resources Officer's (2005) annual review report (Issued by the organisation, for the purpose of the Oehley, 2007 study) regarding employee development. This argument was however proved to be flawed when a positive relationship was found between *Talent Management Mindset* (exogenous latent variable) and *Remunerates and Rewards Fairly* (endogenous latent variable) as the latter is also stated as, according to the annual report, to be a function of the HRD. This significant positive relationship led to the inclusion of *Develops Others* as an endogenous latent variable in the current study.

As mentioned previously, a positive relationship was found between *Identifies and Differentiates* and *Develops Others (*t = 2,64; y = 0,56*).* This finding supported the theoretical argument provided by Oehley (2007). However, non-significant relationships were found between *Identifies and Differentiates* and the two endogenous latent variables, *Provides Meaningful and Challenging Work* and *Remunerates and Rewards Fairly.* These findings were contrary to the theoretical argument presented by Oehley (2007).

For the purpose of her study Oehley (2007) defined *Identifies and Differentiates Talented Employees* as: "Identifies and differentiates different levels of employees according to performance, with the purpose of adjusting management decisions and actions according to this evaluation" (p. 123). Oehley (2007) argued that the reason for these findings, within the context of the organisation used in her study, could be ascribed to the fact that specific HR policies and procedures regarding performance appraisal processes and the manner in which poor performance should be addressed, were already in place. It might therefore be possible that employees might have seen the competency, *Identifies and Differentiates Talented Employees,* merely as an expression of HR procedures such as the performance appraisal process. This argument however contradicts the finding of a positive relationship between *Talent Management Mindset* and *Remunerates* and *Rewards Fairly*.

Oehley (2007) never suggested an explanation for the non-significance between *Identifies and Differentiates* and *Provides Meaningful and Challenging Work.* Frankly, her arguments in support of the results found in terms of the relationships between *Identifies and Differentiates* and the three endogenous latent variables (*Develops Others*, *Provides Meaningful and Challenging Work* and *Remunerates and Rewards Fairly*) to which it is linked, is somewhat doubtful.

Due to the uncertainty and lack of concrete arguments for the findings, all three endogenous latent variables, *Develops Others, Provides Meaningful and Challenging Work* and *Remunerates and Rewards Fairly* as well as the exogenous latent variable, *Identifies and Differentiates* were included in the model developed in the current study.

**3.2.2 Smuts (2011)**

In her study Smuts (2011) stated that after inspection of the modification indices a direct path from *Perceived Development Opportunities* to *Psychological Empowerment* was suggested. It is therefore suggested that the level of competence of line managers to *Develop Others* would have a positive linear effect on *Perceived Development Opportunities*. *Perceived Development Opportunities* will have a positive linear effect on *Psychological Empowerment.*

The modification indices further found support for another relationship, not originally proposed by Smuts (2011). As seen in Figure 2.6 a relationship between *Perceived Development Opportunities* and *Job Satisfaction* was proposed and supported.

According to Gardulf et al. (as cited in Smuts, 2011) factors such as opportunities for personal development, perception of career opportunities in one's own profession, and yearly dialogue for performance appraisal with immediate superiors, lead to increased work satisfaction. Theory therefore supports the notion that a possible relationship exists between *Perceived Development Opportunities* and *Job Satisfaction*.

Smuts (2011) proposed a causal linkage between *Perceived Job Characteristics* and *Psychological Empowerment*. The data corroborated the theory, as the causal relationship was found to be significant.

The data did not corroborate the proposed causal relationship between *A Sense of Mission* and *Psychological Empowerment*. Smuts (2011) provided a concrete theoretical argument in support of such a linkage. Smuts (2011) proposed two possible explanations for why this path was not supported. According to her it could be attributed to the manner in which the

latent variable, *A Sense of Mission*, was operationalised. A second explanation provided was that it could be that employees, within a specific unit perceive their mission to be different from that of the organisation as a whole.

No relationship was initially proposed between *A Sense of Mission* and *Organisational Commitment*. The results of the modification indices however found support for such a causal linkage. Smuts (2011) later found theory in support for such a relationship. According to Smuts (2011) employees who internalise organisational goals and values into their own cognitive patterns and habits, tend to show higher levels of commitment. It is therefore important that employees understand the goals and the objectives of the organisation and more importantly how they relate to these goals.

## 3.3 Beta Matrix

### 3.3.1 Oehley (2007)

*Affective Commitment*, which is a component of the Three Component Model of *Organisational Commitment*, was used in Oehley's (2007) study as a measure of an employee's commitment towards their organisation. For the purpose of her study, Oehley (2007) defined *Affective Commitment* as an employee's emotional attachment to, identification with, and involvement in the organisation (Meyer & Allen as cited in Oehley, 2007).

*Affective Commitment* has invariably been reported to be negatively related to turnover and intent to leave (Chang, Chi & Miao, 2007; Powel & Meyer, 2004; Tett & Meyer, 1993). These finding were consistent with the research conducted by Oehley (2007) in support for her hypothesis regarding the negative effect of *Affective Commitment* on *Intention to Quit*. The results of the Oehley (2007) study corroborated those found in the research. According to a meta-analysis conducted by Meyer et al. (2002) all three components of *Organisational Commitment* negatively correlate to *Intention to Quit*, with *Affective Commitment* correlating the strongest.

In her initial proposal Oehley (2007) suggested that the latent variable, *Job Satisfaction*, could be operationalised by the subscale measures of the Job Descriptive Index (JDI). After evaluating the success of her operationalisation she found poor fit for the measurement model in which the JDI dimension scores loaded on a single satisfaction latent variable. By means of exploratory factor analysis it was proven that *Job Satisfaction* consists of two factors, Organisational *Job Satisfaction* and Supervisory *Job Satisfaction*. Oehley (2007) adapted her initial model by splitting up the single latent variable, *Job Satisfaction*, into two

separate latent variables namely, Organisational *Job Satisfaction* and Supervisory *Job Satisfaction* and incorporating both into her structural model.

Oehley (2007) found that *Organisational Job Satisfaction* was negatively related to *Intention to Quit*. Various researchers have found support for the notion that *Job Satisfaction* has a negative impact on an employee's *Intention to Quit* (Shields & Ward, 2001; Tzeng, 2002; Van Dick, Stellmacher et al., 2004). The effect of Organisational *Job Satisfaction* on an employee's *Intention to Quit*, as hypothesised by Oehley (2007), has strong theoretical support. Oehley's (2007) data corroborated the theory available by empirically proving the negative link between these two latent variables.

Despite the vast body of research supporting the existence of a negative relationship between *Supervisory Job Satisfaction* and *Intention to Quit*, Oehley's (2007) data did not support it. She found that *Supervisory Job Satisfaction* did not significantly influence *Intention to Quit,* as the null hypothesis could not be rejected. Oehley (2007) suggested that the reason for this might be due to the omission of moderator and mediator variables. As mentioned earlier, Oehley (2007) proposed to develop a *partial* Talent Management Structural Model. Oehley further noted that the lack of support for this hypothesis could be attributed to the measurement tool used to test this relationship. The JDI measurement model showed reasonable fit, but less than perfect fit. She suggested that the facets of the JDI might not be appropriate for the purpose of such a study.

Due to the vast array of research in support for the negative relationship between *Job Satisfaction* and *Intention to Quit* it has been decided to include *Job Satisfaction* as a latent variable in this revision and elaboration of a *Talent Management Structural Model*.

*Attract and Recruits Talent* was proven to be significantly related to Organisational *Job Satisfaction*. It was also proven in the Oehley (2007) study that the exogenous latent variable, *Talent Management Mindset*, mediated by *Attract and Recruits Talent,* had a significant effect on *Organisational Job Satisfaction.*

The Beta matrix failed to find support for the following hypotheses, as the null hypothesis in each was not rejected:

➢ *Develops Others*

Oehley (2007) proposed a causal linkage between *Develops Others* and *Affective Commitment* as well as an indirect negative causal relationship between *Develops Other* and *Intention to Quit* mediated by *Affective Commitment*.

Oehley (2007) found support for such causal relationships in various published material. According to her research, opportunities for training and development leads to an organisations increased ability to retain employees. Furthermore, she found that when employees experience personal development, as a result of organisational training, they tend to show increased levels of *Organisational Commitment*, retention and *Job Satisfaction*.

According to Benson (2006) an employee's satisfaction with development opportunities in general is related to *Organisational Commitment*. Employee development activities are likely to be seen as benefits provided by the organisation and are positively related with *Organisational Commitment*. Offering good employee development benefits should make current jobs more attractive compared to other organisations. Research shows that employees are less likely to leave an organisation if it means giving up a significant benefit (Benson, 2006). "High Commitment" HRM practices such as training and development has been proven to have a significant positive impact on employee commitment and *Job Satisfaction*. Furthermore, it has been proven that "High Commitment" practices have an inverse relationship with an employee's *Intention to Quit* (Gould – Williams, 2004). Ensuring an organisational learning culture where employees are encouraged to learn and develop has proven to increase *Job Satisfaction* and reduce an employee's intention to leave the organisation (Egan, Yang & Bartlett, 2004). A study conducted by Dysvik and Kuvaas (2008) found support for the notion that perceived training opportunities will lead to enhanced motivation, task performance, discretionary efforts and intentions to stay, with an organisation.

Given the strong theoretical argument presented by Oehley (2007) and the added findings provided, it was proposed to include *Develops Others* in the current revision and elaboration of the *Talent Management Structural Model*.

➢ *Builds and Maintains Positive Relationships*

Oehley (2007) proposed a positive casual linkage between *Builds and Maintains a Positive Relationship* and the endogenous latent variables, *Supervisory Job Satisfaction, Affective Commitment* and *Intention to Quit*.

Oehley (2007) argued that the quality of an employee's relationship with their boss and especially that of line management is one of the strongest predictors of *Intention to Quit*. By developing an effective working relationship with employees, line management can ensure retention of employees.

Organisations implementing employee involvement programmes (these programmes include participative work designs i.e., quality circles, self-directed work teams, joint management—labour taskforces and employee ownership) have reported numerous benefits including increased employee commitment, *Job Satisfaction* and decreases in employee turnover (Scott, Bishop & Chen, 2003). According to Lowe and Schellenberg (2001) the strength of employee relationships has important consequences for individuals. It has been proven that healthy, supportive employee relationships have led to increased employee commitment, *Job Satisfaction* and decreases in employee absenteeism and turnover.

Support for the relationship hypothesised by Oehley (2007) is supported by various researchers. The large body of research in support of such causal relationships led to the decision to include them into the revised and elaborated structural model being developed in the current study.

➢ *Provides Meaningful and Challenging Work*

Oehley (2007) proposed causal relationships between the endogenous latent variable, *Provides Meaningful and Challenging Work* and *Supervisory Job Satisfaction* as well as between *Provides Meaningful and Challenging Work* and *Intention to Quit.*

Providing challenging work is one of the leading factors for engaging and retaining talent (Chambers et al., Garger, Levin & Rosse and Martel, as cited in Oehley, 2007). Talented employees perceive challenging work as an opportunity to make use of their own special sets of skills and are driven by the increased load of responsibility presented to them. An increase in skill variety and the level of complexity of tasks have proven to be antecedents of increased *Job Satisfaction* (Abdel-Halim, Katz, Goldstein & Rockart, Kinicki et al., Cury, Wakefield, Price and Mueller, as cited in Oehley, 2007).

According to Frank et al. (2004) one way to ensure the retention of employees and to get them engaged in their work is to ensure to provide them with opportunities to use their talents. Some of the most popular retention strategies are related to having a challenging work environment and having the freedom to plan one's own work (Horwitz, Heng & Quazi, 2003). In a study by Bhatnagar (2007) (which reported global trends in employee

engagement, *Job Satisfaction*, retention and stress) it was found that exciting and challenging work was the highest factor contributing to employee retention.

Support for the relationships as hypothesised by Oehley (2007) is found in the literature. The large body of research in support of such causal links provided support for the decision to include them into the revised and elaborated structural model being developed in the current study.

➤ *Remunerates and Rewards Fairly*

Oehley (2007) hypothesised a positive causal linkage between *Remunerates and Rewards Fairly* and the endogenous latent variables, *Organisational Job Satisfaction, Supervisory Job Satisfaction* and *Intention to Quit.*

According to the research of Oehley (2007), in support of these relationships, ensuring that talented, high performing, employees get paid more than average performing employees will lead to increased satisfaction and intent to stay (Chambers, Foulon et al., as cited in Oehley, 2007). Organisations are increasingly determining an employee's bonuses and salary on the basis of their individual performance and skills. This, according to Griffeth et al., Kaye & Jordan-Evans, Marquez, Martel, Sutherland, Torricelli & Karg, Sutherland and Jordan (as cited in Oehley, 2007) ensures retaining of top performers. Non-monetary rewards in the form of acknowledgements from peers are also very important. Immediate informal rewards strengthen the relationship of employees with those of co-workers and managers (Martel as cited in Oehley, 2007).

Compensation systems have traditionally been designed to attract, retain and motivate employees in order to increase their efforts towards achieving organisational goals (Jones, Scarpello & Bergmann, 1999). Employee services, comprehensive benefits and competitive salaries are important when attracting and retaining talented employees (Johari, Yahya & Ahmad, 2012). A study by Seston, Hassell, Ferguson and Hann (2009), regarding the relationship between Pharmacists' *Job Satisfaction*, *Intention to Quit* and actually quitting, revealed that remuneration was ranked as the aspect of their work that contributed most to decreased levels of *Job Satisfaction*. They found high correlations between remuneration and satisfaction as well as between financial rewards and *Intention to Quit*.

The term, *compensation*, does not only refer to financial rewards (salary and remuneration) but to non-financial rewards as well. These include non-salary benefits such as retirement-, accident- and health schemes. Regardless whether it's financial or non-financial, these are well known strategies used to ensure that organisations attract and retain talented

employees (Amuedo-Dorantes & Mach, 2003). Johari et al. (2012) claims that effective performance appraisals influences an employee's perception of fairness and therefore influences their decision to stay with an organisation.

Support for the links as hypothesised by Oehley (2007) has been provided by various researchers. The large body of research in support of such causal links provided sufficient support for the inclusion thereof in the current model.

> *Manages Work-Life Balance*

Oehley (2007) proposed causal relationships between *Manages Work-Life Balance* and the exogenous latent variables, *Supervisory Job Satisfaction* and *Affective Commitment.*

Oehley (2007) stated that giving employees the freedom to manage their work, in order to maintain a healthy work-life balance, would lead to increased *Organisational Commitment*. She further mentioned various methods to ensure a flexible working schedule, these include telecommunicating, compressed work weeks, fitness centres etc. Accordingly to Oehley (2007), the introduction of these types of methods will reduce stress in employees and accordingly reduce employee turnover.

Organisations offering a better work-life balance and supportive working environments are more likely to gain leverage in hiring and retaining valuable employees. The reason for this is that job characteristics and work environment positively relate to an employee's *Organisational Commitment* and reduces *Intention to Quit* (Huang, Lawler & Lei, 2007). According to Landauer (1997), a high performing employee's decision regarding whether or not to stay with an organisation depends, amongst other factors, on their ability to balance work and personal responsibilities.

The large body of research in support of such causal links led to the decision to include them into the revised and elaborated structural model.

**3.3.2 Smuts (2011)**

The following relationships, as proposed by Smuts (2011), were supported. *Psychological Empowerment* had a positive linear effect on the outcome of *Job Satisfaction.* An employee's level of *Job Satisfaction* had a negative linear effect on the outcome of *Intention to Quit.* An employee's level of *Organisational Commitment* had a negative linear effect on the outcome of *Intention to Quit.*

The proposed relationship between *Psychological Empowerment* and *Organisational Commitment* was not supported. Smuts (2011) argued that the reason for this might be

related to the nature of the relationship between an employee and their direct supervisor. A healthy relationship between an employee and a supervisor will strengthen the employee's feelings of empowerment and also lead to increased commitment to the organisation.

An additional path between *Job Satisfaction* and *Organisational Commitment* was suggested by the modification indices. According to Smuts (2011) such a relationship is perfectly understandable as various sources of research have found support for it. This suggested path was included in the current study and will be discussed further in the following section.

## 3.4 Proposed Model Extensions

The behaviour of working man is complex. Various environmental as well as humanistic factors play a pivotal role in determining possible behavioural outcomes. The formulation of a *Talent Management Competency Model*, as initially proposed by Oehley (2007), has placed focus on the internal antecedents related to the employee's current organisation to *Intention to Quit*. According to Thatcher, Stepina and Boyle (2002), in order to understand the turnover phenomenon, research in organisational behaviour suggests linking internal and external factors to employee beliefs and behaviours.

Oehley (2007) and Smuts (2011) have both focused on the effects of social context on perceptions of the work environment, attitudes and employee needs, and the linkage between perceptions and attitudes. The aim of the current study is to shift the focus towards the possible influences of external environmental factors and how they influence perceptions and attitudes. Research by Hulin, Rozonowski and Hachiya (1985) articulated a growing awareness that studies attempting to link employee turnover to perceptual measures of employment opportunity, acceptable alternatives and the ease of movement, have consistently met with limited success. Most existing turnover models have emphasised the role of cognitive processes and affective events influencing an employee's turnover decisions. According to Steel and Griffeth (1989) a cornerstone of this conceptual literature has been the central role played by perceived alternatives in shaping intentions to stay or leave.

According to Griffeth and Hom (1988), perceived employment opportunities has been presented as a central construct in most contemporary turnover models. Despite the existing theoretical support for this construct, the bulk of empirical research has found its role in the turnover process to be weak and inconsistent. Lack of empirical support for the theory underlying this construct could be attributed to the different conceptualisations and

inconsistency of the facets emphasised. Little, if any, empirical research examining the different conceptualisations of this construct exists.

This study aimed to re-evaluate the impact of external factors, such as perceived alternative employment on the perceptions of working man. The inclusion of such constructs will help explain the underlying cognitive and affective processes related to withdrawal decisions. The inclusion of such constructs into a *Talent Management Competency Model* is of crucial importance.

The various conceptualisations, as formulated in past research (Mobley, 1977; Price & Mueller, 1981) have led to the re-identification of three distinct, separate constructs. All three these constructs play a pivotal role in the withdrawal process related to an individual's perception of alternative opportunities.

The construct, *Perceived Alternative Opportunities* will be redefined for the purpose of this study. Various alternative definitions of this construct, as theorised by previous researchers, will be altered in order to distinguish between two additional variables, namely *Perceived Utility of Movement* and *Perceived Human Capital*.

### 3.4.1 Perceived alternative opportunities (PAO)

An individual's perception of alternative job opportunities has been proven to be a strong predictor of turnover intentions. *Perceived Alternative Opportunities* can be defined as an individual's perception of the availability of alternative employment. It is not necessary for a job alternative to have a definite subjective probability to prompt action, instead it need only be perceived as highly likely (Khatri, Fern & Budhwar, 2001). An employee's perception of alternative opportunities is to a large degree an uncontrollable factor. *Perceived Alternative Opportunities* are to a large extent determined by the state of the economy and the labour market and there is not much that an organisation can do to influence either one (Khatri et al., 2001).

The act of job searching is not a random phenomenon as it is the reality of market and organisational processes that filter job movers toward alternative opportunities. Employees are not ignorant of available alternative positions and they will act rational when considering the movement to "greener pastures". Employees are constantly aware of alternative opportunities, whether they opt to act on these opportunities is dependent on various factors and perceptions. Although the availability of alternative opportunities is to a large degree uncontrollable, the way in which these opportunities are perceived and the thought processes underlying decisions related to them are controllable.

The process of making a career change can be seen as being systematic. Various models have been formulated to explain the underlying psychological processes related to career transfer decisions (Blau, 1993; Griffeth & Hom, 1988; Steel & Griffeth, 1989; Mobley, 1977). Various stages, perceptions and psychological processes have been identified and defined. Individuals progress through a series of decision stages that occur, over time, in a more or less predictable way (Steel, 2002). This study aimed to redefine some of the existing literature with the hope of finding data that corroborates the existing body of theory.

The inclusion of *Perceived Alternative Opportunities* is important as it can be seen as a gateway for behaviours and intentions related to turnover. According to De Cuyper, Mauno, Kinnunen and Mäkikangas (2011) *Perceived Alternative Opportunities* motivate employees to consider other options, which is the first step towards thinking about leaving the organisation and ultimately quitting. It is important for line management to be aware of the influence of such alternative opportunities and how such perceptions are evaluated and acted upon. A thorough understanding of the antecedents as well as the outcomes of such perceptions is needed in order to ensure that systems and strategies are put in place so as to limit or prevent the loss of talented individuals.

### 3.4.1.1 Antecedents of PAO

Over the last two decades, extensive research has been done regarding the changes in the relationship between employees and organisations. The ever changing competitive global market has led to several problems for organisations. In a climate where organisations are not in a position to reasonably offer job security, the focus has turned to making sure that employees are more employable (De Cuyper et al., 2011).

By making employees more employable, organisations can reduce the uncertainty of finding alternative jobs, if the need arises. According to Benson (2006), employability is the promise that employees will have the necessary skills to find new jobs quickly, if their jobs had to end unexpectedly. The notion therefore is that employers offer employees the opportunity to develop skills that make them broadly employable, as a substitute for job security.

HR theorists have been investing extensive effort in examining individual as well as situational factors that contribute to higher levels of motivation and increased performance. However, in order to prevent turnover, they have neglected the employee's need for self-advancement and development, which are in turn linked to their work related opportunities. Such opportunities exist inside and outside departments, organisations, occupations and geographic locations (Mano-Negrin & Tzafrir, 2004).

The need for self-development has changed the mindset of the modern day employee. Employees are constantly on the lookout for new opportunities, even of in other organisations, to expand their knowledge and develop skills. Trends like, "job hopping" has become very popular amongst employees. Job hopping is the act of moving from one organisation to the next in order to gain as much experience and acquire a wide variety of skills and competencies. Employees, therefore, never stay at the same organisation for very long (De Cuyper et al., 2011).

Employees have also become more susceptible to strategies, like "Talent Raiding". Talent Raiding is an organisational strategy whereby an organisation will offer more attractive pay and incentives than their competitiors, in order to poach highly talented employees (Khatri et al., 2001). The emergence of boundaryless careers and job hopping has resulted in employees that are less committed to the organisation and ultimately fosters turnover intentions (De Cuyper et al., 2011).

The increased need to be more employable, increased awareness of occurrences such as talent raiding and job hopping and the need for self-advancement has made employees more aware of alternative opportunities. The manner in which these opportunities are perceived, however, are determined by a wide range of organisational behavioural outcomes, which reflect attitudes towards work and the work environment (McElroy, Morrow & Mullen, 1996).

Various uncontrollable factors (unemployment rate, labour market tendencies etc.) determine the amount of alternative opportunities available to an employee. The way in which these alternatives are perceived, however, can be influenced. The manner in which line management can influence the work environment of an employee can influence how alternative employment is perceived. It could be argued that only when an employee is dissatisfied with his current employment state, his perceptions of alternative opportunities become more prevalent. According to Mano-Negrin and Tzafrir (2004) the interplay between organisational or structural characteristics and present work experiences shape the way alternative opportunities are perceived. Mobley (1977) refers to this occurrence as an employee's search for "greener pastures".

It is therefore proposed that any line management competency influencing the way an employee perceives his current employment state and level of *Job Satisfaction*, will have an influence on the amount of *Perceived Alternative Opportunities.* A low level of *Perceived Alternative Opportunities* will result in a lower *Intention to Quit.*

Furthermore it is proposed that various line management competencies may play a significant role in the perception of alternative opportunities. It is proposed that *Develops Others* (mediated by *Perceived Development Opportunities* and *Psychological Empowerment*), *Builds and Maintains Positive Relationships, Provides Meaningful and Challenging Work* (mediated by *Perceived Job Characteristics* and *Psychological Empowerment*), *Remunerates and Rewards Fairly* (mediated by *Psychological Empowerment*) and *Manages Work-Life Balance* will have causal relationships with *Perceived Alternative Opportunities.*

### 3.4.1.2 Outcomes of PAO

> *Organisational Commitment*

According to Thatcher et al. (2002) when employees perceive abundant external opportunities, they tend to report lower levels of *Organisational Commitment*. However when opportunities are perceived to be scarce, workers will be less willing to leave and be more committed to their current organisation. It is therefore safe to reason that the amount of *Perceived Alternative Opportunities* in the external market will determine the level of commitment towards the organisation.

Theory suggests that *Perceived Alternative Opportunities* should have a direct impact on *Organisational Commitment* and a mediated effect on *Intention to Quit*. When employees perceive many employment alternatives, they will express lower levels of *Organisational Commitment* and higher level of *Intention to Quit* (Thau, Bennett, Stahlberg & Werner, 2004).

A negative causal realtionship between *Perceived Alternative Opportunities* and *Organisational Commitment* was proposed.

> *Perceived Utility of Movement*

According to Rahman, Naqvi and Ramay (2008), there exists a strong positive relationship between *Perceived Alternative Opportunities* and turnover intention. Research has found that perceived job alternatives has a direct effect on turnover intention (Thatcher et al., 2002).

A direct linkage between *Perceived Alternative Opportunities*, as suggested by other researchers, is highly doubtful. It is argued here, however, the mere perception of alternative employment is not sufficient enough to make a final decision about whether to leave an organisation. Although an increase in the amount of alternative opportunities presented to an

employee may increase his willingness to act on it, the final decision will still be made, rationally.

According to Mano-Negrin and Tzafrir (2004) actual moves are more likely to occur when an employee's market skills match the requirements of an available opportunity. The availability of vacancies outside an employee's current work create opportunity destination paths from which they can choose.

It was suggested that before employees act on any of the alternative opportunities presented to them, a rational thought process will be put into motion. The attractiveness (the possible gain of moving) of the opportunity is compared to the status quo. Only when it is perceived that the outcomes of moving would create a greater gain than staying, a decision is made. An increase in the amount of available opportunities will make the possibility of finding a more attractive job, compared to the current one, more likely.

It was proposed that *Perceived Alternative Opportunities* will have a direct positive effect on *Perceived Utility of Movement*[5]. *Perceived Utility of Movement*, for the purpose of this study, can be defined as an employee's perception of the level of attractiveness of an alternative opportunity as well as the willingness of the employee to consider acting on such an opportunity.
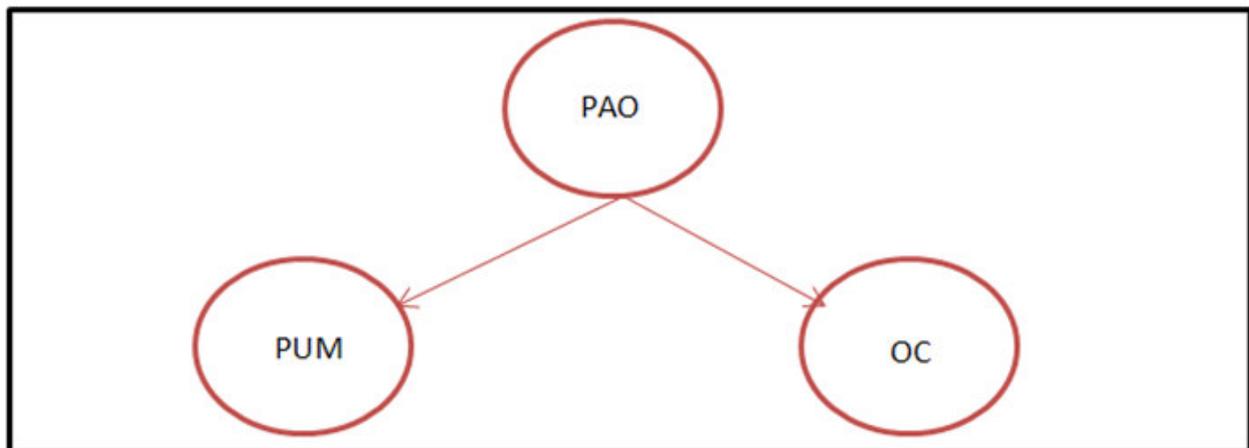


### 3.4.2 Perceived human capital (PHC)

According to Mano-Negrin and Tzafrir (2004) an employee's level of attention to alternative opportunities has been proven to determine how actively the employee engages in job search and also his/her level of turnover intention. Actual movement of an employee from the current position to a more desirable alternative is more likely to occur when the employee possesses the market skills needed for a specified available opportunity. For this

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[5] The construct, *Perceived Utility of Movement*, will be discussed in more depth in section 3.4.3.

exact reason, most employees are continuously concerned with the need to evaluate their worth and level of capability in their current organisation. This notion is supported by Direnzo and Greenhaus (2011) who state that factors such as economic turbulence places a premium on an employee's on-going efforts to assess and enhance their employability. The understanding of possible labour market prospects of individuals already employed is enhanced by the consideration of their subjective accounts of their employability (Berntson, Sverke & Marklund, 2006).

*Perceived Human Capital* can be defined as an employee's perception of his/her employability within a specific market. An individual's level of employability is determined by his/her level of education, cognitive ability, and occupation-specific training (Direnzo & Greenhaus, 2011). The employment security and control inherent in employability is based on the individual's ability to leverage personal resources in order to gain and maintain employment, realise potential through sustained employment, continuously fulfil, acquire, and create work or identify and realise career opportunities. Employability can therefore be defined as the capacity to control one's employment options through the creation, identification, and realisation of career opportunities (Direnzo & Greenhaus, 2011). It also concerns the employee's belief about how easy it would be to find new employment (De Cuyper et al., 2011). Employees can therefore be seen as agents of their career destinies.

Human Capital Theory suggests that developing general skills that are useful across a wide range of organisations, increases external job opportunities and the likelihood that employees will market their skills outside their current organisations. In order for employees to make use of new skills and competencies acquired, they are often forced to resort to alternative employment (Benson, 2006). Rational reasoning suggests that an increase in skill level and diversity will lead to increased perceived employability and therefore also increased *Perceived Human Capital*. The concept of perceived employability and human capital has obvious parallels with the concepts of perceived ease of movement and perceived alternatives (Forrier, Sels, & Stynen, 2009).

Line management competencies and interventions can aid in the successful application of valuable employee skills. The acknowledgment and acceptance of skilled, highly employable employees can have a significant positive impact on retention. Knowledge of the antecedents and outcomes of *Perceived Human Capital* is crucial if line management wishes to retain highly skilled employees.

### 3.4.2.1 Antecedents of PHC

The labour market has changed significantly in recent years as the economic and social context in which organisations and employees function have led to the increased need for adaptation. As a result the traditional employment relationship in which employees exchange commitment and loyalty to an organisation for a credible promise of long-term employment has changed drastically (Benson, 2006). In order to keep up with the ever changing needs of the environment, organisations are forced to rely on the short term usage of individuals possessing unique skills and competencies.

Organisations can no longer ensure job security as the need for a specific skill or competency rapidly becomes redundant. To substitute for the lack of security offered, organisations have implemented company-financed employee development programs. In this way organisations can guarantee that an employee's skills are up to date and therefore will reduce the uncertainty of finding alternative work, if needed (Benson, 2006). Strategies to increase the employability of employees have undermined the effect it would have on the commitment of employees. These interventions are aimed at increasing *Organisational Commitment*, by ensuring *Development Opportunities*. Although it has led to the development of highly qualified employees it has also led to the creation of "boundary-less careers". Employees with boundary-less careers are more prone to change jobs and careers.

The decline of job security has caused individuals to shift the focus away from the organisation toward personal career development, causing employability to replace job security. Employees are therefore highly focused on increasing their employability by acquiring transferable skills and competencies. The need for cognizance of personal value has also become more prominent as employees constantly want to be informed about their level of employability and the value of their skills. Employability and skills are both determinents of an indivudal's value in the market as well as potential career avenues available to them (Direnzo & Greenhaus, 2011).

It was proposed that once an employee perceives his skills and competencies as highly valuable, his awareness of alternative opportunities, where these skills can be put to work, will increase. According to Mano-Negrin and Tzafrir (2004) once perceived availability of alternative opportunities increases, employees are more likely to leave.

The line management competency, *Develops Others*, is defined as accurately assessing an individual's developmental needs, providing opportunities and ensuring the needs are met in order to fully develop the potential of an employee (Smuts, 2011). Oehley (2007) initially

proposed a causal linkage between *Develops Others* and *Affective Commitment*. The data however failed to corroborate this causal linkage. Oehley argued that it could be due to the fact that she omitted to include all three factors, as proposed by the Three Component Model of *Organisational Commitment*.

Smuts (2011) (after including all three components of the Three Component Model of *Organisational Commitment*) proposed that *Develops Others* would have a positive linear effect on *Perceived Development Opportunities*. In the current study, the following was proposed.

The level of competence of line managers to *Develop Others* has a positive linear effect on *Perceived Development Opportunities*. *Perceived Development Opportunities* will have a positive linear effect on *Psychological Empowerment*. The influence of the competency, Develops Others onto *Psychological Empowerment* is therefore mediated by *Perceived Development Opportunities*.

Smuts (2011) stated that *Psychological Empowerment* is a construct manifested in four cognitions, of which competence is one. She defined competence as a construct related to self-efficacy and that it refers to an individual's belief in his/her capacity to perform activities with required skill. It would therefore be fair to reason that abundant developmental opportunities would lead to an increase in an employee's competence.

Becker, Murphy and Tamura (1994) emphasize that training and education are the most important investments to be made to an individual's human capital. Judge, Cable, Boudreau and Bretz (1995) suggest that an individual's human capital may increase as a result of work experience as well as formal education and competence development. It appears that training, experience and competence development may result in increased human capital.

It is with this reasoning in mind that a causal linkage between Develops Others and *Perceived Human Capital*, mediated by both, *Perceived Development Opportunities* and *Psychological Empowerment* was proposed.

### 3.4.2.2 Outcomes of PHC

> *Organisational Commitment*

*Perceived Human Capital* influences an employee's perception of his self-worth. If an employee perceives himself to be rich in human capital he would be expected to be treated as a highly desired asset to an organisation. As stated earlier, individuals that acquire a wide variety of skills and competencies, whether it may be organisation specific or market

specific, experience increased perceived employability. These individuals crave the need to make use of their newly earned skills. It is argued that if the current organisation is not able to satisfy this need or acknowledge it, it will lead to a decrease in commitment. A cause of concern is that interventions that lead to the creation and development of an employee's employability and human capital may result in unintended consequences, in the form of increased turnover intention (De Cuyper et al., 2011).

Organisations constantly have new employees that undergo various forms of training and development. Once employees have acquired new competencies, the need for advancement and progression becomes more desirable. Organisations are not always able to satisfy such needs and therefore employee commitment reduces.

The focus of organisations to make employees more employable instead of ensuring job security may have a very negative impact on the commitment of employees to a specific organisation. The decline in job security has resulted in employees shifting their focus away from the organisation toward personal career development (Direnzo & Greenhaus, 2011).

With this argument in mind it was therefore proposed that the level of an employee's *Perceived Human Capital* will have a negative linear effect on *Organisational Commitment*.

It should well be noted that the competency *Develops Others* should not be seen as a unwanted quality in a line manager. Investment in employability is worth a lot when it can be tied to opportunities to enhance job control. Investments in human capital may boost performance among employees, and when given sufficient control, they are not inclined to quit (De Cuyper et al., 2011).

> ➤ *Job Satisfaction*

According to Direnzo and Greenhaus (2011) high levels of *Perceived Human Capital* reinforces the effect of *Job Satisfaction* on turnover. Human capital and employability affect the extent to which job dissatisfaction can influence turnover decisions.

Employees who perceive themselves as highly employable and rich in human capital may perceive their current positions as not challenging enough. The lack of challenging work and neglect of valuable skills and competencies will lead to employee dissatisfaction.

It was therefore proposed that the level of *Perceived Human Capital* of an employee will have a negative linear effect on *Job Satisfaction*.

> *Perceived Alternative Opportunities*

Vast amounts of research in job search and turnover have concluded that individual attributes, such as an employee's talents and expertise, determine the availability of alternative employment opportunities (Direnzo & Greenhaus, 2011). Aspects of human capital signal employee value to the labour market and can entice competition for individuals' services from competing organisations (Trevor, 2001).  According to DeFillippi and Arthur (1994) an increase in the amount of transferable skills and competencies owned by an employee will lead to an increase in an employee's value in the market and also raise the demand for the services of that employee. An increase in possible alternative employment can in turn provide even more opportunities for the further development of an individual's employability as well as the amount of information (regarding other possible employment opportunities) available to him (Tso, Yau & Cheung, 2010).

Not only will an increase in an employee's human capital lead to an increase in the amount of *Perceieved Alternative Opportunities* it will also lead, as previously stated, to an increase in an employee's perception of his human capital. The more an employee is aware of the value of his/her skills and competencies the more they will be aware of its value in the market. Tso et al. (2010) suggest that individuals that are more marketable than others, based on differences in acquired human capital, will have more employment opportunities. It would therefore be fair to reason that the employee will also experience increased perceptions of possible alternatives.

With the argument as laid out above it was proposed that the level of *Perceived Human Capital* of an employee will have a positive linear effect on *Perceived Alternative Opportunities*.

> *Perceived Utility of Movement*

Thus far it has been argued that an increase in and individual's perception of human capital will lead to increased dissatisfaction, an increased perception of alternative opportunities as well as a decreased commitment. All these factors individually and especially collectively will have a drastic impact on an individual's perception of the utility of leaving the current organisation for a more attractive alternative.

If an employee perceives that the skills and competencies he/she possesses are of high value, marketable and will be more beneficial for them to use in another organisation, their perception of the utility of moving will increase. Individuals high in human capital can

leverage the demand for their skills as a source of power and influence over prospective employers (Boswell, Boudreau & Dunford, 2004).

An employee rich in *Perceived Human Capital* will therefore be in a much better position to find more attractive opportunities in other organisations as well as to negotiate, with them, conditions that would be most favourable to them.

It was therefore proposed that a positive causal linkage exists between *Perceived Human Capital* and *Perceived Utility of Movement*.
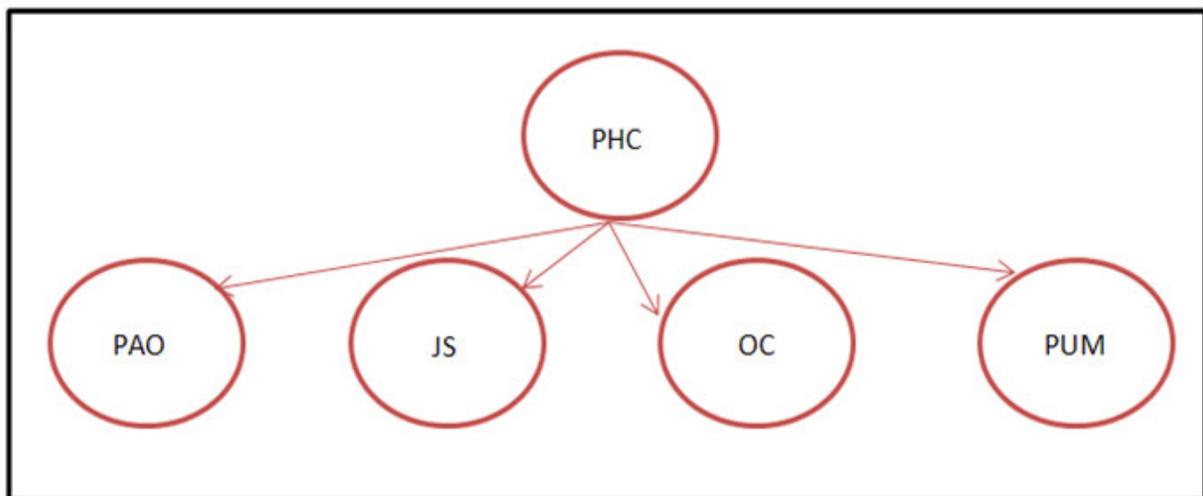


### 3.4.3 Perceived utility of movement (PUM)

Employees don't just terminate their employment; rather, they make a change from their current position in favour of a specific alternative occupational destination. An individual's perceptions of their current workplace along with their perception of possible alternative opportunities are two of the determining factors of the final outcome of a turnover decision (Mano-Negrin, 2001). The relevance of occupational preferences on turnover decision as well as the impact of both individual and organisational influences is crucial to the understanding of turnover decisions.

Mano-Negrin (2001) suggests that occupational preferences tap the "rationalised" outcome of an individual's decision-making process. Perceptions of such decisions are shaped by individual as well as organisational level characteristics. The comparison of two possible opportunities is therefore done by assessing to what extent each opportunity satisfies both these levels. The outcome of such a comparison will ultimately determine the choice of preference.

Well-developed employee retaining policies have an effect on an employee's attachment to an organisation. Such policies have a direct effect (by means of higher salaries or better

benefits) and indirect (by how the employee perceives the organisation and job related factors) on turnover intentions. The absence of alternative choices to employment leads to increased organisational attachment, thus the absence of such alternative choices would likely induce an employee's need to investigate alternative opportunities (Mano-Negrin, 2001). According to De Cuyper et al. (2011) besides aspects related to the ability to move, aspects related to the *desirability* to move should also be included in turnover models.

*Perceived Utility of Movement*, for the purpose of this study, can be defined as an employee's perception of the level of attractiveness of an alternative opportunity as well as the willingness of the employee to consider acting on such an opportunity.

If line managers can influence the perceived employment relationship (factors determining an individual's willingness to leave) as well as the organisational factors (perceived job characteristics) they can limit the possibility of an individual finding a more fruitful, in terms of perceived utility, organisational opportunity.

There is an obvious overlap between the definitions of *Perceived Utility of Movement* and *Continuous Commitment* (CC). With closer inspection it would however be apparent that the one is merely the outcome of the other. *Perceived Utility of Movement* is the employee's perception of the possible advantage of a specific opportunity over that of another. *Continuous Commitment* on the other hand is the actual, realised consequences, albeit advantageous or not, of the choice made. It is therefore suggested that *Perceived Utility of Movement* has an influence on *Organisational Commitment* of which *Continuous Commitment* is a component.

The inclusion of all three of these latent variables (*Perceived Alternative Opportunities*, *Perceived Human Capital* and *Perceived Utility of Movement*) is crucial in understanding the influence of external opportunities on an employee's *Intention to Quit*. These variables, individually, have the potential to result in increased *Intention to Quit*, may it be direct or mediated. As mentioned previously, the thought process underlying an employee's evaluation of alternative opportunities might be complex, but it can be viewed as systematic and predictable.

Employees are constantly aware of alternative opportunities, but the decision to act on such opportunities is done rationally. Therefore rational reasoning and evaluation of the status quo is done before making a decision to act on such opportunities. It was proposed that an individual's *Perceived Human Capital* not only determines the amount of possible alternatives available, but also the perceived ease of actually acquiring an alternative job. *Perceived Utility of Movement* is the final phase in the reasoning process. The level of

desirability (determined by a combination of attractiveness and willingness) of shifting employment is determined by the perceived possible gain of a new opportunity compared to the current. If the perceived gain of movement outweighs the perceived gain of staying with the current organisation, *Intention to Quit* is inevitable.

### 3.4.3.1 Antecedents of PUM

*Perceived Utility of Movement* can be seen as the final phase in an employee's turnover thought process. During this phase the employee has to compare all the possibilities, as perceived by him/her, as well as the possible outcomes of those possibilities. Once it has been found that the outcome of a turnover decision is more fruitful than the outcome of maintaining the status quo, a decision is made. According to Mobely (1977) the evaluation of the expected utility of a career change would include an estimate of the possibility of finding an alternative job, an evaluation of the desirability of a possible alternative, and the possible financial or emotional loss that would be accrued. Individual perceptions of the present workplace environment along with alternative opportunities in the labour market are important factors in shaping the decision outcome (Mano-Negrin, 2001). Occupational preferences are affected by an occupation's attractiveness and an employee's willingness to leave a given organisation.

Interplay between organisational or structural characteristics and present work experience shape an individual's preferences. It is the characteristics of the work environment and actual job of an employee that will determine the level of attractiveness of a specific organisation. If it is perceived that the work environment and job characteristics of an alternative opportunity is more attractive than the current one, it will lead to an increased intention to leave.

It was hypothesised that line management competencies that can influence how an employee perceives his current job will influence the level of desirability of maintaining the status quo. It is proposed that *Develops Others* (mediated by *Perceived Development Opportunities*), *Builds and Maintains Positive Relationships*, *Provides Meaningful and Challenging Work* (mediated by *Perceived Job Characteristics*), *Remunerates and Rewards Fairly* and *Manages Work-Life Balance* will have causal relationships with *Perceived Utility of Movement*.

Not only will the environmental factors play a role in an employee's preference for one opportunity over another, but also his "*Sense of Belonging*". When an employee experiences feelings of belonging, acceptance and appreciation, it will have a significant influence on their willingness to stay in their current occupation.

Smuts (2011) defined *Psychological Empowerment* as a multifaceted construct which reflects an individual's orientation to his work role. All four of the cognitions manifested in this single construct shapes an employee's *Sense of Belonging* and brings meaning to their existence and contribution to a specific role in an organisation.

It is therefore suggested that *Psychological Empowerment* and line management competencies related to the construct will influence and employee's *Perceived Utility of Movement* and are therefore structurally linked. It was hypothesised that a negative causal linkage exists between *Psychological Empowerment* and *Perceived Utility of Movement*.

### 3.4.3.2 Outcomes of PUM

> *Organisational Commitment*

Once an employee has compared the perceived available opportunities with his/her *Perceived Human Capital*, their perception of the utility of moving is formalised. If this *Perceived Utility of Movement* is positive, meaning an alternative opportunity is perceived to be more attractive, the employee will be inclined to make the transition. As a result the employee's level of *Continious Commitment* to the current organisation will decrease. The level of attractiveness and possible gains to come from acting on an alternative opportunity lowers the level of dependence of an employee on his/her current organisation and therefore also their level of commitment (Thau et al., 2004).

It was hypothesised that a negative structural link exists between *Perceived Utility of Movement* and *Organisational Commitment*.

> *Intention to Quit*

With the argument as laid out above, it would also mean that once an employee perceives an alternative opportunity as more attractive, it will lead to an increased intention to leave the current organisation. As mentioned, *Perceived Utility of Movement* can be seen as the last phase in the turnover thought process of an individual and therefore results in the ultimate decision between staying or leaving.

It was proposed that a positive structural link exists between *Perceived Utility of Movement* and *Intention to Quit*.
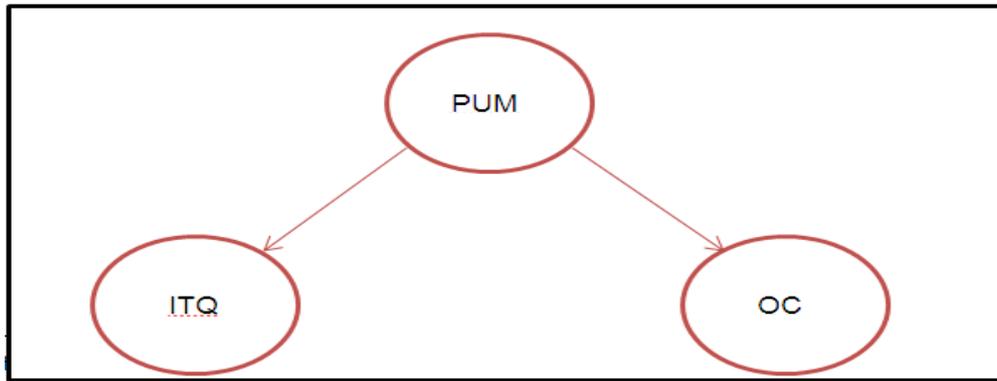
Two additional paths were hypothesised to exist. As aforementioned, through the analysis of the modification indices, Smuts (2011) found that a path was suggested to exist between *Job Satisfaction* and *Organisational Commitment*. According to the information, as gathered from the modification indices, it is suggested that *Job Satisfaction* will have an influence on *Organisational Commitment*. This notion was supported, on the premise that this relationship be seen as a two way relationship. It is proposed that *Job Satisfaction* and *Organisational Commitment* are positively related to one another. According to Lopes Morrison (2005), such a two way correlation has been supported by various researchers and practitioners alike (Cohen, 1993, 1996; Fisher, 2002; Hackett & Lapierre, 2001; Kaldenberg, Becker & Zvonkovic, 1995; Meyer, Stanley, Herscovitch & Topolnytsky, 2002 as cited in Lopes Morrison, 2005).

According to Tett and Meyer (1993) three main theoretical perspectives with regards to such a two-way relationship can be identified, each having distinct conceptual and research implications.[6]

1. An employees' commitment to the organisation develops from *Job Satisfaction* such that commitment mediates the effects of *Job Satisfaction* on *Intention to Quit*.

This so called satisfaction-to-commitment mediation model supports Porter, Steers, Mowday and Boulian's (as cited in Tett & Meyer, 1993) belief that commitment takes longer to develop and is more stable than satisfaction (Marsh & Manari, 1977; Mowday, Porter & Steers, 1982; Price & Mueller, 1986; Williams & Hazer, 1986 as cited in Tett & Meyer, 1993). According to Ingersoll, Olsan, Drew-Cates, DeVinney and Davies (2002) various studies have found that higher levels of satisfaction has led to increased affective commitment. It

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[6] For the purpose of this paper, only two of the perspectives will be focussed on.

was therefore hypothesised that there is a positive causal relationship between *Job Satisfaction* and *Organisational Commitment* (Donavan, Brown & Mowen, 2004).

2.  The second theoretical perspective holds the view that the direction of influence between *Job Satisfaction* and commitment is in fact the exact opposite of that of the first perspective (Tett & Meyer, 1993).

The commitment-to-satisfaction mediation model proposes that commitment to the organisation brings about a positive attitude towards the job. According to Taing, Granger, Groff, Jackson and Johnson (2011) *Organisational Commitment* predicts many workplace behaviours and attitudes including *Job Satisfaction* as well as turnover intentions. It was therefore hypothesised that a positive causal relationship exists between *Organisational Commitment* and *Job Satisfaction*.
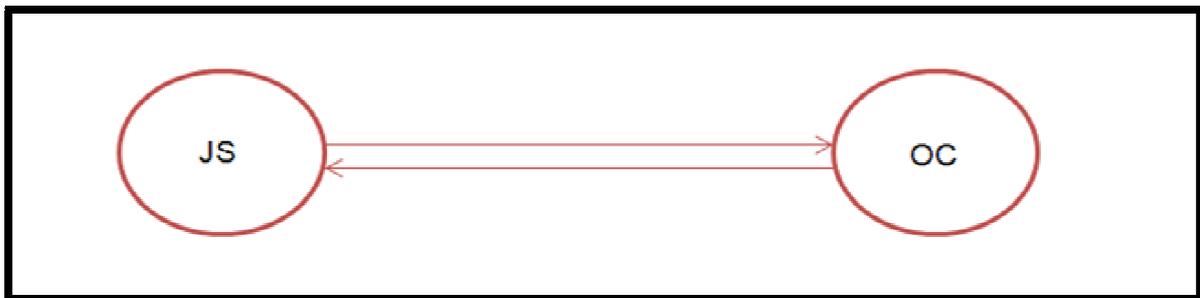


The proposed model extensions are illustrated in Figure 3.1

Three different colours have been used to indicate which structural links were proposed by which researcher. This ensures a better understanding of the model as a whole as well as how the inclusion of specific latent variables have led to the inclusion of others. Colours were matched to a corresponding researcher as follows:

- Blue (solid lines): Initial structural links as proposed by Oehley (2007)
- Green (round dot): Elaborated structural links as proposed by Smuts (2011)
- Red (long dash): Elaborated structural links as theorized by Bezuidenhout (2013)
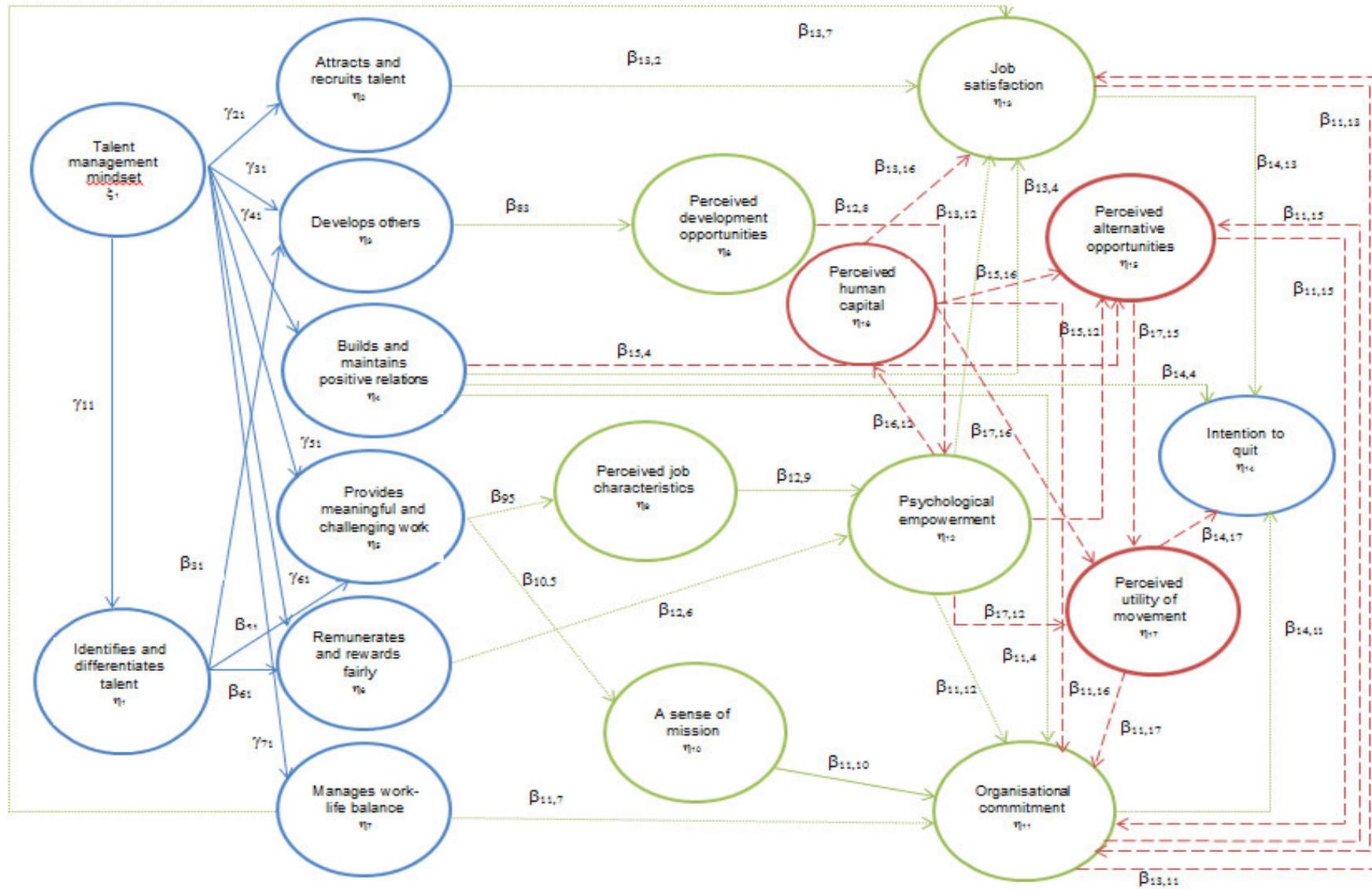
*Figure 3.1.* Proposed Oehley – Smuts – Bezuidenhout Talent Management Competency Model

## CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

### 4.1 Introduction

A review of the literature suggested that in order to understand and explain the turnover phenomenon, research in organisational behaviour should focus on linking both the relevant internal as well as external factors influencing employee beliefs and behaviours. It is for this reason that the Oehley – Smuts (2011) talent management competency model has been revised and expanded by adding additional latent variables that take into account the influence of cognitive processing related to external latent variables. The present study intended to test the explanatory Oehley – Smuts – Bezuidenhout talent management competency model model as depicted in Figure 3.1. The methodology used for the purpose of testing the fit of the structural model inevitably determined the validity and credibility of the final verdict that was reached on the validity of the overarching substantive research hypothesis as well as the path-specific substantive research hypotheses.

According to Babbie and Mouton (2001) research methodology serves the epistemic ideal of science. Science is committed to an "epistemic imperative" to search for valid explanations. Whether science arrives at a valid verdict on the validity of the hypotheses it investigates depends on the methodology that was used to investigate the hypotheses. Explanations can be regarded as permissible to the extent to which the explanation closely fits the available data. Scientific methodology serves the epistemic ideal through two characteristics of the scientific method, namely objectivity and rationality. Scientific objectivity refers to a conscious, explicit focus by the researcher on the reduction of error. Scientific rationality in contrast refers to science's insistence that the methodological choices made by the researcher should be critically examined by knowledgeable peers. The probability of valid findings increases when knowledgeable peers critically evaluate the validity of the research findings by assessing the methodological rigour of the processes used to arrive at the conclusions.  It therefore follows that to the extent that the methodology that was used in a study is only partially explained, it would not be possible to thoroughly evaluate the merits of the conclusions arrived at. To ensure that the research methodology serves the epistemic ideal of science an accurate description and a comprehensive motivation of the methodological choices made, during stages in which the epistemic ideal was threatened, need to be provided. Such descriptions and motivation for the choices made would make it possible for other researchers to identify possible methodological flaws and to determine to what extent a given flaw will influence the validity of the conclusions arrived at (Babbie & Mouton, 2001). The methodology, including the research design, the statistical analysis, the

sampling method and the measurement instruments that were used to operationalise the latent variables in the current study, will be discussed in the following sections.

## 4.2 Reduced Talent Management Competency Model

The objective of this study was to elaborate and empirically evaluate a partial talent management competency model. Empirically testing the elaborated Oehley – Smuts – Bezuidenhout talent management model presented in Figure 3.1, which resulted from the theorising in Chapter 3, would be quite ambitious. Testing a structural model of such a magnitude would present a researcher with a number of challenges, of which time could certainly be viewed as one. Other significant challenges would be the sample size needed in order to empirically test such a complex structural model with sufficient statistical power and the memory and processing capacity of the computer that would be required to analyse such a large covariance matrix.

Due to these logistical challenges the explanatory Oehley – Smuts – Bezuidenhout competency model was reduced. For the purpose of this study, only a subset of the talent management competency model, as proposed in Figure 3.1 was subjected to empirical testing. Emphasis was placed on the structural linkages that were introduced through theorising to the Smuts (2011) model. Figure 4.1 shows the reduced Smuts – Bezuidenhout talent management competency model.
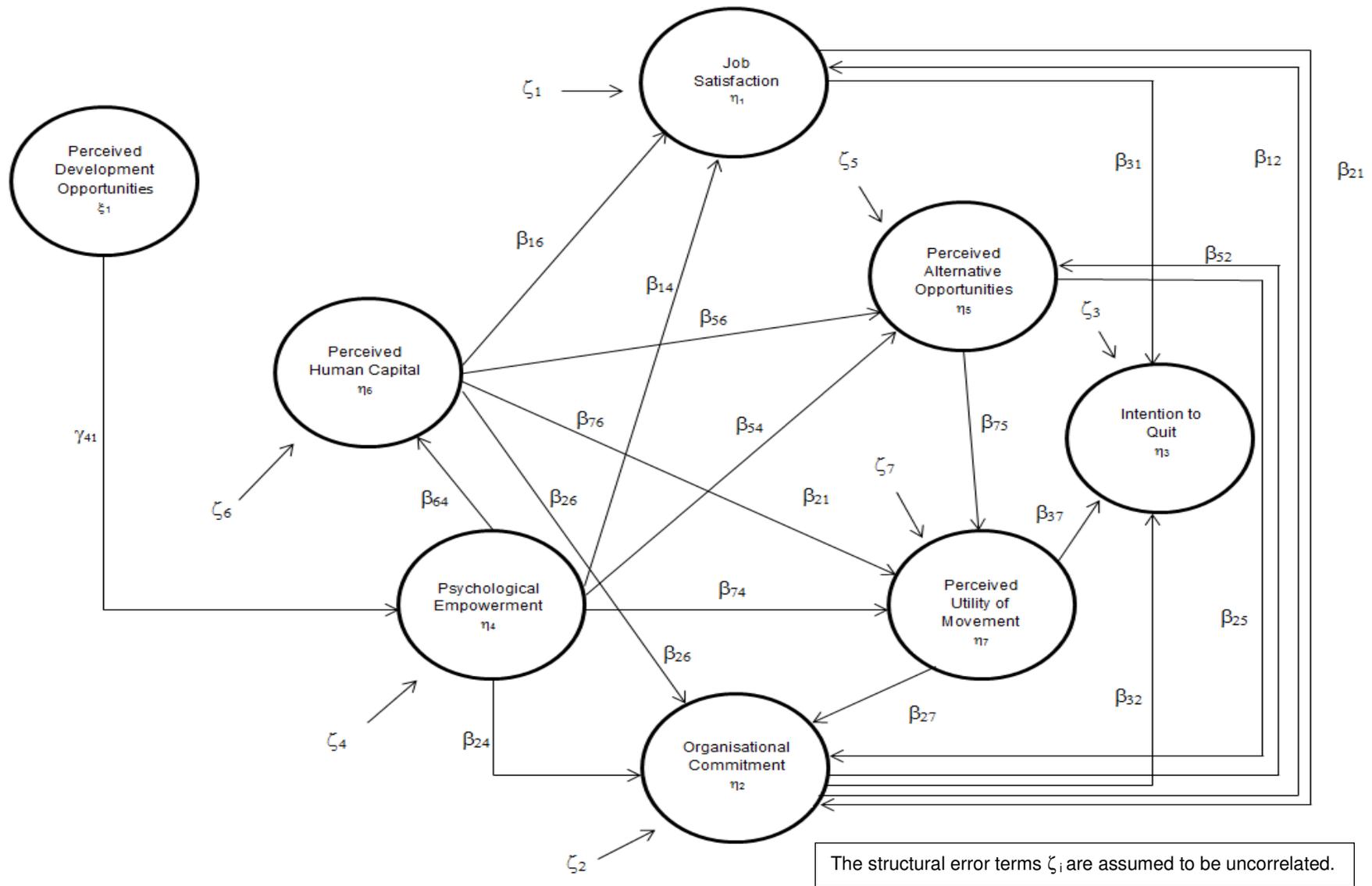
*Figure 4.1.* Proposed Reduced Smuts – Bezuidenhout Talent Management Competency Model

**4.3 Substantive Research Hypotheses**

The objective of the current study was to elaborate the Oehley - Smuts (2011) talent management competency model. Theoretical arguments, as presented in the literature study, resulted in the inclusion of three additional latent variables (*Perceived Alternative Opportunities*, *Perceived Human Capital* and *Perceived Utility of Movement*) to the original model and the modification of the causal paths. Figure 3.1 shows the resultant elaborated structural model that was proposed as a response to the research initiating question of why employees vary in their intention to leave the employment of their current employer. Due to the logistical challenges associated with the expanded structural model, it was reduced. Figure 4.1 shows the proposed, reduced Smuts – Bezuidenhout talent management competency model.

The overarching substantive hypothesis (Hypothesis 1) of this study was that the structural model depicted in Figure 4.1 provides a valid account of the psychological process that determines the level of employees' *Intention to Quit*.

The overarching substantive research hypothesis was dissected into the following nineteen more detailed, path-specific substantive research hypotheses.

Hypothesis 2: In the proposed reduced talent management competency model it is hypothesised that *Perceived Development Opportunities* has a positive linear effect on *Psychological Empowerment* ($\gamma_{41}$).

Hypothesis 3: In the proposed reduced talent management competency model it is hypothesised that *Perceived Human Capital* has a negative linear effect on *Job Satisfaction* ($\beta_{16}$).

Hypothesis 4: In the proposed reduced talent management competency model it is hypothesised that *Perceived Human Capital* has a positive linear effect on *Perceived Alternative Opportunities* ($\beta_{56}$).

Hypothesis 5: In the proposed reduced talent management competency model it is hypothesised that *Perceived Human Capital* has a positive linear effect on *Perceived Utility of Movement* ($\beta_{76}$).

Hypothesis 6: In the proposed reduced talent management competency model it is hypothesised that *Perceived Human Capital* has a negative linear effect on *Organisational Commitment* ($\beta_{26}$).

Hypothesis 7: In the proposed reduced talent management competency model it is hypothesised that *Psychological Empowerment* has a positive linear effect on *Perceived Human Capital* ($\beta_{64}$).

Hypothesis 8: In the proposed reduced talent management competency model it is hypothesised that *Psychological Empowerment* has a positive linear effect on *Job Satisfaction* ($\beta_{14}$).

Hypothesis 9: In the proposed reduced talent management competency model it is hypothesised that *Psychological Empowerment* has a positive linear effect on *Perceived Alternative Opportunities* ($\beta_{54}$).

Hypothesis 10: In the proposed reduced talent management competency model it is hypothesised that *Psychological Empowerment* has a negative linear effect on *Perceived Utility of Movement* ($\beta_{74}$).

Hypothesis 11: In the proposed reduced talent management competency model it is hypothesised that *Psychological Empowerment* has a positive linear effect on *Organisational Commitment* ($\beta_{24}$).

Hypothesis 12: In the proposed reduced talent management competency model it is hypothesised that *Organisational Commitment* has a positive linear effect on *Job Satisfaction* ($\beta_{12}$).

Hypothesis 13: In the proposed reduced talent management competency model it is hypothesised that *Organisational Commitment* has a negative linear effect on *Perceived Alternative Opportunities* ($\beta_{52}$).

Hypothesis 14: In the proposed reduced talent management competency model it is hypothesised that *Organisational Commitment* has a negative linear effect on *Intention to Quit* ($\beta_{32}$).

Hypothesis 15: In the proposed reduced talent management competency model it is hypothesised that *Job Satisfaction* has a positive linear effect on *Organisational Commitment* ($\beta_{21}$).

Hypothesis 16: In the proposed reduced talent management competency model it is hypothesised that *Job Satisfaction* has a negative linear effect on *Intention to Quit* ($\beta_{31}$).

Hypothesis 17: In the proposed reduced talent management competency model it is hypothesised that *Perceived Alternative Opportunities* has a negative linear effect on *Organisational Commitment* ($\beta_{25}$).

Hypothesis 18: In the proposed reduced talent management competency model it is hypothesised that *Perceived Alternative Opportunities* has a positive linear effect on *Perceived Utility of Movement* ($\beta_{75}$).

Hypothesis 19: In the proposed reduced talent management competency model it is hypothesised that *Perceived Utility of Movement* has a negative linear effect on *Organisational Commitment* ($\beta_{27}$).

Hypothesis 20: In the proposed reduced talent management competency model it is hypothesised that *Perceived Utility of Movement* has a positive linear effect on *Intention to Quit* ($\beta_{37}$).

## 4.4 Research Design

In order to empirically test the merit of the structural relations, as hypothesised by the proposed reduced talent management competency model, a well formulated strategy was required. A comprehensive strategy would make it possible to gather the relevant empirical evidence for testing the overarching substantive research hypothesis, as well as the path-specific substantive research hypotheses formulated above. The research design constitutes such a strategy.

In order to obtain an unambiguous answer to the research initiating question the research design needs to control variance. The extent to which the empirical evidence that was generated unambiguously testified for or against the substantive research hypotheses was determined by the extent to which the research design was capable of maximising systematic variance, minimise error variance and control extraneous variance (Burger, 2012).

The research question and relevant evidence required to address the question in the current study was best achieved by making use of an *ex post facto* correlational research design. *Ex post facto* research is a systematic empirical enquiry in which the independent variables cannot be manipulated and their manifestations have already occurred. This allows the researcher to investigate variables that would be impossible or unethical to study through experimental manipulation (Kerlinger & Lee, 2000).

The aim was therefore to observe what would happen to the levels of specific endogenous latent variables when the levels of those exogenous and endogenous latent variables that are, in terms of the path-specific substantive hypotheses, structurally linked to the endogenous latent variables would change. Inferences related to the hypothesised relations existing between the exogenous and endogenous latent variables were made from the covariance observed in the indicator variables representing these latent variables (Kerlinger & Lee as cited in Burger, 2012).

The *ex post facto* correlational design makes it possible for the researcher to obtain measures on the observed variables and to calculate the observed covariance matrix. Estimates for the freed structural and measurement model parameters were obtained in an iterative fashion with the objective of reproducing the observed covariance matrix as closely as possible (Diamantopoulos & Siguaw, 2000). If the fitted model does not accurately reproduce the observed covariance matrix, one would have to conclude that the reduced talent management competency model does not provide an acceptable explanation for the observed covariance matrix (Smuts, 2011).

If this was the case, it would mean that structural relationships, as hypothesised by the model, did not provide an accurate portrayal of the psychological process influencing an employee's *Intention to Quit*. If however the covariance matrix derived from the estimated structural and measurement model parameters closely agreed with the observed covariance matrix it would not imply that the psychological dynamics postulated by the structural model necessarily produced the observed covariance matrix. It would therefore not be fair to conclude that the psychological process depicted in the model necessarily must have produced the levels of *Intention to Quit* occurring in the employees sampled in the study (Smuts, 2011).

A high degree of fit between the observed and estimated covariance matrices would only imply that the psychological processes portrayed in the structural model provide one plausible explanation for the observed covariance matrix.

## 4.5 Statistical hypotheses

The format in which the statistical hypotheses were formulated depended on the logic underlying the proposed research design as well as the nature of the envisaged statistical

analyses. The argument presented in section 4.4 already assumed the utilisation of structural equation modeling to evaluate the stated substantive research hypothesis. The notational system used in the formulation of the hypotheses followed the structural equation modeling convention associated with LISREL (Du Toit, Du Toit & Hawkins, 2000).

The overarching substantive research hypothesis states that the structural model depicted in Figure 4.1 provides a valid account of the psychological process that determines the level of employees' *Intention to Quit*. If the overarching substantive research hypothesis would be interpreted to mean that the structural model provides a perfect account of the psychological dynamics underlying *Intention to Quit*, the substantive research hypothesis would translate into the following exact fit null hypothesis:

$$H_{01}: \text{RMSEA} = 0$$

$$H_{a2}: \text{RMSEA} > 0$$

The possibility of exact fit is highly unlikely in that structural models are only approximations of reality and, therefore, seldom exactly fit in the population. The close fit null hypothesis takes the error of approximation into account and is therefore more realistic (Diamantopoulos & Siguaw, 2000). If the error, due to approximation in the population, is equal to or less than .05 the model is said to have a close fit (Diamantopoulos & Siguaw, 2000). If the overarching substantive research hypothesis would be interpreted to mean that the structural model provides an approximate account of the psychological dynamics underlying *Intention to Quit*, the substantive research hypothesis would translate into the following close fit null hypothesis:

$$H_{02}: \text{RMSEA} \leq .05$$

$$H_{a2}: \text{RMSEA} > .05$$

The overarching substantive research hypothesis was dissected into nineteen more detailed, path-specific substantive research hypotheses. These nineteen path-specific substantive research hypotheses translate into the path coefficient statistical hypotheses depicted in Table 4.1.

Table 4.1

*Path Coefficient Statistical Hypotheses*

| Hypothesis 2 | Hypothesis 6 | Hypothesis 10 | Hypothesis 14 | Hypothesis 18 |
|---|---|---|---|---|
| $H_{03}{:}\gamma_{41} = 0$ | $H_{07}{:}\beta_{26} = 0$ | $H_{011}{:}\beta_{74} = 0$ | $H_{015}{:}\beta_{32} = 0$ | $H_{019}{:}\beta_{75} = 0$ |
| $H_{a3}{:}\gamma_{41} > 0$ | $H_{a7}{:}\beta_{26} > 0$ | $H_{a11}{:}\beta_{74} > 0$ | $H_{a15}{:}\beta_{32} > 0$ | $H_{a19}{:}\beta_{75} < 0$ |
| Hypothesis 3 | Hypothesis 7 | Hypothesis 11 | Hypothesis 15 | Hypothesis 19 |
| $H_{04}{:}\beta_{16} = 0$ | $H_{08}{:}\beta_{64} = 0$ | $H_{012}{:}\beta_{24} = 0$ | $H_{016}{:}\beta_{21} = 0$ | $H_{020}{:}\beta_{27} = 0$ |
| $H_{a4}{:}\beta_{16} > 0$ | $H_{a8}{:}\beta_{64} > 0$ | $H_{a12}{:}\beta_{24} > 0$ | $H_{a16}{:}\beta_{21} > 0$ | $H_{a20}{:}\beta_{27} < 0$ |
| Hypothesis 4 | Hypothesis 8 | Hypothesis 12 | Hypothesis 16 | Hypothesis 20 |
| $H_{05}{:}\beta_{56} = 0$ | $H_{09}{:}\beta_{14} = 0$ | $H_{013}{:}\beta_{12} = 0$ | $H_{017}{:}\beta_{31} = 0$ | $H_{021}{:}\beta_{37} = 0$ |
| $H_{a5}{:}\beta_{56} > 0$ | $H_{a9}{:}\beta_{14} > 0$ | $H_{a13}{:}\beta_{12} > 0$ | $H_{a17}{:}\beta_{31} > 0$ | $H_{a21}{:}\beta_{37} < 0$ |
| Hypothesis 5 | Hypothesis 9 | Hypothesis 13 | Hypothesis 17 | |
| $H_{06}{:}\beta_{76} = 0$ | $H_{010}{:}\beta_{54} = 0$ | $H_{014}{:}\beta_{52} = 0$ | $H_{018}{:}\beta_{25} = 0$ | |
| $H_{a6}{:}\beta_{76} > 0$ | $H_{a10}{:}\beta_{54} > 0$ | $H_{a14}{:}\beta_{52} = 0$ | $H_{a18}{:}\beta_{25} > 0$ | |

## 4.6 Sample

The aim of this research study was to contribute to the understanding of the dynamics of the factors that may influence the retention of employees within the South African context. The initial focus of this research specifically fell on talented employees from the previously disadvantaged group. It was however proposed that the variables influencing the *Intention to Quit* of employees from the disadvantaged group will have the same influence on individuals not from the designated group. It was therefore argued that the psychological process underpinning employees' *Intention to Quit* is the same irrespective of whether the employee belongs to a constitutionally protected group or not. It should, however, be noted that it is thereby not implied that the levels of the latent variables in the structural model are the same across previously disadvantaged and non-disadvantaged group employees. Most likely there will be significant differences in the latent means of specific latent variables across previously disadvantaged and non-disadvantaged group employees. This line of reasoning warranted the empirical evaluation

of the structural model on a sample of non-previously disadvantaged employees as well as previously disadvantaged employees.

Sample sizes of 200 observations or more appears to be satisfactory for most SEM applications (Kelloway, 1998). Three issues are relevant when deciding on the appropriate sample size for a study that intends using SEM:

1. The ratio of sample size to the number of parameters to be estimated. A situation in which more freed model parameters have to be estimated than there are observations in the sample would not be regarded as acceptable. Elaborate measurement and structural models which contain more variables and have more freed parameters that have to be estimated, require larger sample sizes. Bentler and Chou (as cited in Kelloway, 1998, p. 20) recommend that the ratio of sample size to number of parameters estimated should fall between 5:1 and 10:1. The proposed structural model (Figure 4.1) and the proposed procedure for operationalising the latent variables would in terms of the Bentler and Chou (as cited in Kelloway's, 1998) guideline require a sample of 285 - 570 research participants to provide a convincing test for the proposed learning potential structural model (57 freed parameters).

2. The statistical power associated with the test of the hypothesis of close fit ($H_0$: RMSEA ≤ .05) against the alternative hypothesis of mediocre fit ($H_a$: RMSEA > .05) is the second consideration to be taken into account. Statistical power in the context of SEM refers to the probability of rejecting the null hypothesis of close fit ($H_0$: RMSEA ≤ .05) when in fact it should be rejected (i.e., the model fit actually is mediocre, $H_a$: RMSEA > .05). Excessively high statistical power would mean that any attempt to formally empirically corroborate the validity of the model would be futile. Even a small deviation from close fit would result in a rejection of the close fit null hypothesis. Excessively low power on the other hand would mean that even if the model fails to fit closely, the close fit null hypothesis would still not be rejected. Not rejecting the close fit under conditions of low power will therefore not provide very convincing evidence on the validity of the model. Power tables were compiled by MacCallum et al. (1996). These tables were used to derive sample size estimates for the test of close fit, given the effect sizes assumed above, a significance level (α) of .05, a power level of .80 and degrees of freedom (ν) of ($\frac{1}{2}$[(p+q][p+q+1]-t)=190-57=133. The MacCallum et al. (1996) table indicates that a sample of 209 observations would be required to ensure statistical power of .80 in testing the null hypothesis of close fit for the *Intention to Quit Structural Model*.

3. The third aspect that was taken into account is practical and logistical considerations like cost, availability of suitable respondents and the willingness of the employer to commit large numbers of employees to the research.

Taking all three the above considerations into account it was decided that a sample of 200 – 250 research participants had to be selected for the purpose of testing the proposed reduced talent management competency model[7].

In total, 205 employees participated in the current study. Two organisations took part in the study. Out of the 205 participants 167 are employed by a construction company in the Western Cape. All of these participants are higher level employees including managers. The other 28 participants are employed by a large retail company based in Durbanville. All of these employees were also higher level employees. Information on the demographic composition of the sample is not available. The lack of demographic information on the composition of the sample is regrettable specifically because of the argument presented above.

## 4.7 Measurement Instruments

In order to effectively evaluate the fit of the reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* the necessary measurement instruments were needed to operationalise the latent variables included in the structural model. In order to generate empirical evidence that the relationships suggested by the proposed reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* offered a credible explanation for the variance observed in employees' *Intention to Quit*, the necessary measures were needed to measure the relevant endogenous and exogenous latent variables comprising the model. In order to come to a valid conclusion on the ability of the proposed reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* to explain variance in *Intention to Quit*, evidence was needed to prove that the manifest indicators were valid and reliable measures of the latent variables they were supposed to measure. A comprehensive LISREL model was fitted to the data. The comprehensive LISREL model comprises (a) a measurement model describing the relations that are hypothesised to exist between the indicator variables used to operationalise specific latent variables and the latent variable they were earmarked to represent and (b) a structural model describing the structural

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[7] The proposed reduced talent management competency model will hence forth be referred to as the "reduced Smuts – Bezuidenhout *Intention to Quit Structural Model*". The reason for this is that the reduced model places a higher focus on *Intention to Quit* than it does on the line management competencies.

relations existing between the latent variables. When testing the substantive research hypotheses the primary interest is on the structural model. Unless evidence exists that the operationalisation was successful evidence of good or poor comprehensive LISREL model fit cannot be unambiguously interpreted for or against the structural model.

The reliability and validity of the selected measuring instruments will be presented in order to justify the choice of the existing instruments. Exploratory factor analysis (EFA), item analysis and confirmatory factor analysis (CFA) was in addition used to determine how effective the indicator variables represented the latent variables comprising the reduced *Intention to Quit* structural model in this specific study.

Item analysis was performed in order to determine how effective the items all reflected a common underlying latent variable and all sensitively discriminated between different states of the relevant latent variable. Poor items were considered for deletion, or revised. EFA was used to examine the uni-dimensionality assumption where it was applicable. CFA was used to evaluate the degree to which the design intention underlying the operationalisation of the latent variables contained in the reduced structural model succeeded.

### 4.7.1 Psychological empowerment

*Psychological Empowerment* was measured by a questionnaire developed by Gretchen Spreitzer (Spreitzer, 1995). It is a 12-item questionnaire which measures the four cognitions (meaning, competence, self-determination and impact) of *Psychological Empowerment*. It is answered using a six point Liker type response format that ranges from "Very Strongly Agree" to "Very Strongly Disagree". The Cronbach alpha reliability coefficient for the overall empowerment scale ranges between .62 and .72 (Smuts, 2011).

According to Avolio et al. (2004) all the scales comprising the questionnaire have been used in previous research and have produced adequate estimates of reliability. Reasonable measurement model fit was obtained in previous research studies that utilsed the Spreitzer *Psychological Empowerment* scale (Spreitzer, 1995).

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the *Psychological Empowerment* scale to form two composite indicator variables for the *Psychological Empowerment* latent variable in the structural model.

### 4.7.2 Job satisfaction

For the purpose of measuring the construct, *Job Satisfaction*, it was decided to make use of the Job Descriptive Index (JDI) and the Job in General (JIG), both of which are self-report measures of *Job Satisfaction*. The JDI scale measures satisfaction with regards to different *facets* of the job situation: work on present job, pay, opportunities for promotion, supervision, and people on your present job. The JIG scale on the other hand measures *overall* satisfaction with the job.

Both the JDI and JIG consist of short lists of phrases and adjectives that describe different facets of the job or the job overall. People select "Yes," "No," or "?" in response to each word or short phrase. A "Yes" response means that the adjective or phrase describes the job situation, "No" means that the adjective or phrase does *not* describe the job situation, and "?" means that the respondent cannot decide.

Due to confidentiality agreements undertaken with Bowling Green State University, the correlations among the JDI facets and the JIG were not allowed to be released in the public domain. It can however be noted that no facet of the JDI correlates above .50 with any other facet. The JIG is most highly correlated with the work itself facet of the JDI but that this correlation is well below .80. These statistics suggest that the JDI facets are distinct from each other and from the JIG.

Six item parcels were calculated by taking the mean of the even and uneven numbered items of each of the dimensions of the JDI and JIG scales to form six composite indicator variables for the *Job Satisfaction* latent variable in the structural model.

### 4.7.3 Organisational commitment

*Organisational Commitment* was measured using the three component model (TCM) Employee Commitment Survey. According to Meyer and Allen (2004) the TCM Employee Commitment Survey measures three forms of employee commitment to the organisation.

1.　　　Desire based (affective commitment)

2.　　　Obligation based (normative commitment)

3.      Cost-based (Continuance commitment)

The survey makes use of three validated scales namely, the Affective Commitment Scale (ACS), the Normative Commitment Scale (NCS) and the Continuance Commitment Scale (CCS). Each is scored separately and can be used to identify the "commitment profile" of an employee within an organisation. Employees are asked to respond to various statements which relate to their relationship with the organisation and their reason for staying.

According to Peart (2006) the internal consistency reliability of the ACS, CCS, and NCS has been estimated using coefficient alpha. Median reliabilities for the ACS, CCS, and NCS are .85, .79 and .73 respectively. According to Smuts (2011) factor analysis with Varimax rotation provided support for the hypothesised three factor structure and showed that the ACS accounted for 58.8% of the variance, the CCS for 25.8 %, and the NCS for 15.4 %.

Three item parcels were calculated by taking the mean of the even and uneven numbered items of each dimensions of the *Organisational Commitment* scale to form three composite indicator variables for the *Organisational Commitment* latent variable in the structural model.

### 4.7.4 Intention to quit

A modified version of Arnold and Feldman's (1982) *Intention to Quit* scale adapted by Oehley (2007) was used. It consists of 4 items, where responses can range from never (1) to always (5). The items are as follows:

1.      Wanting to leave the organisation

2.      Searching for another position

3.      Planning to leave the organisation, and

4.      Actually leaving the organisation within the next year (Oehley, 2007)

Two item parcels were calculated by taking the mean of the even and uneven numbered items to form two composite indicator variables for the *Intention to Quit* latent variable in the structural model. Item analysis executed by Oehley revealed an alpha coefficient of .85.

### 4.7.5 Perceived development opportunities

*Perceived Development Opportunities* was measured by a set of questions, developed by Smuts (2011). These questions were based on the constitutive definition of the latent variable. Item analysis was performed to determine to what extent the items all reflect a common underlying latent variable and all sensitively differentiate between different states of the latent variable. Poor items were considered for deletion.

Results of principle axis factoring (oblique rotation) performed on the scale confirmed uni-dimensionality as well as factor loadings ranging from .85 to .71. The Cronbach alpha reliability coefficient of .85 exceeded the critical cut-off of .80 (Smuts, 2011).

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the *Perceived Development Opportunities* scale to form two composite indicator variables for the *Perceived Development Opportunities* latent variable in the structural model.

### 4.7.6 Perceived alternative opportunities

For the purpose of measuring an employee's perception of alternative opportunities the Perceived Alternative Employment Scale (PAEO) was used. The scale contains six items and was adapted from scales developed by several other researchers (Khatri et al., 2001).

The scale has demonstrated a satisfactory reliability coefficient of .76 and the uni-dimensionality of the scale was supported in an exploratory factor analytic study in that a single factor was required in the factor analysis to satisfactorily account for the observed correlation matrix (Khatri et al., 2001).

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the *PAEO* scale to form two composite indicator variables for the *Perceived Alternative Opportunities* latent variable in the structural model.

### 4.7.7 Perceived human capital

De Cuyper et al. (2011) developed a scale for the purpose of measuring the construct, *perceived employability*. This scale was used as a measure of *Perceived Human Capital*. It is a

4-item scale, where respondents have to indicate their level of agreement on a 7-point Likert-type scale ranging from 1 (totally disagree) to 7 (totally agree). The items are as follows:

1.    "Given my qualifications and experience, getting a new job would not be very hard at all",

2.    "I can think of a number of organisations that would probably offer me a job if I was looking",

3.    "My experience is in demand on the labour market", and

4.    "It would not be very difficult for me to get an equivalent job in a different organisation"

Items one and two were taken from the measure developed by Griffeth et al. (2005) and items three and four from the measure developed by Berntson et al., (2006). These items were selected for two reasons: first, they highlight the interaction between the individual's profile and the labour market. Second, they are similar to other measures in the field. Reliability statistics (Cronbach's alpha) calculated for the instrument has shown internal consistency coefficient values ranging between .80 and .85 (Bernston et al., 2006).

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the *perceived employability* scale to form two composite indicator variables for the *Perceived Human Capital* latent variable in the structural model.

### 4.7.8 Perceived utility of movement

To measure this latent variable, a set of questions was developed based on the constitutive definition of the latent variable. Item analysis and dimensionality analysis was performed on the scale as part of the study to determine to what extent the items all reflect a common underlying latent variable and successfully differentiate between different states of the latent variable. Poor items were considered for deletion.

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the *Perceived Utility of Movement* scale to form two composite indicator variables for the *Perceived Utility of Movement* latent variable in the structural model.

**4.8 Missing Values**

Before calculating the composite indicator variables and analysing the data, the possible problem of missing values had to be addressed first. Failure to address the issue of missing values could lead to the development of deficient indicator variables.

The Stellenbosch University web-based electronic survey platform, SUrveys was used in the current study for the purpose of distributing the composite survey questionnaire to the sample population. A pre-requisite for a questionnaire to be submitted via SUrveys is that all items have to be answered. None of the subscales in the composite survey questionnaire made provision for a response option "unable to rate". The issue of missing values was therefore not a problem in the current study.

**4.9 Data Analysis**

For the purpose of analysing the questionnaire data and to test the proposed reduced Smuts – Bezuidenhout *Intention to Quit* structural model, item analysis, exploratory factor analysis (EFA) and structural equation modelling (SEM) was used.

**4.9.1 Item analysis**

The various scales used to operationalise the latent variables comprising the structural model depicted in Figure 4.1 were developed to measure a specific construct or dimension of a construct carrying a specific constitutive definition.  Items were developed to reflect the standing of test takers on these specific latent variables. Each item was designed to function as a stimulus to which test takers react with behaviour that is primarily an expression of the specific underlying latent variable it was earmarked to reflect. Item statistics should indicate the extent to which these design intentions were successful.

Smuts (2011) argues that for the purpose of determining the level of internal consistency of the items of the measuring instruments used to test the proposed reduced *Intention to Quit* structural model, item analysis has to be conducted. The purpose of item analysis was to identify any items that did not successfully reflect the intended latent variables. Items that fail to discriminate between different levels of the latent variable that they were meant to reflect, were labeled as, "poor items". In addition items were considered to be poor items if they failed to respond in unison with their subscale counterparts to reflect test takers standing on a common

latent variable. Items that fail to contribute to an internally consistent description of the latent variable that the subscale is measuring were considered for deletion. The decision to delete items from the composite survey questionnaire prior to the calculation of item parcels was, however, not based on any specific individual item statistic in isolation. Rather the decision on whether items should be deleted was based on a basket of evidence obtained from an array of item statistics.

The basket of evidence included, amongst others, included the following classical measurement theory item statistics:

- the item-total correlation,

- the squared multiple correlation,

- the change in subscale reliability when the item would be deleted,

- the change in subscale variance if the item would be deleted,

- the inter-item correlations,

- item mean and the item standard deviation.

PASW version 19 (SPSS, 2011) was used to perform the item analyses.

## 4.9.2 Exploratory factor analysis

The design of each of the subscales used to operationalise the latent variables comprising the reduced *Intention to Quit* structural model reflects the intention to construct essentially one-dimensional sets of items. *Intention to Quit*, *Perceived Development Opportunities*, *Perceived Alternative Opportunities*, *Perceived Human Capital* and *Perceived Utility of Movement* were conceptualised as uni-dimensional latent variables in the reduced Smuts – Bezuidenhout *Intention to Quit* Structural Model. *Organisational Commitment*, *Psychological Empowerment* and *Job Satisfaction* in contrast were conceptualised as multidimensional latent variables in the model. The instruments that were selected to operationalise these latent variables comprise of subscales that were designed to measure these latent dimensions. In the case of these three latent variables the unidimensionality assumption therefore applies to the subscales. These items were developed for the purpose of acting as stimulus sets to which the respondents should react with behaviour that can be viewed as an expression of a specific unidimensional

underlying latent variable. It should however be noted, that a specific response to an item is not only influenced by the latent variable of interest, but also by various other non-relevant latent variables and random error influences (Burger, 2012)

The assumption, however, is that only the relevant latent variable is a common source of variance across all the items comprising a subscale. This suggests that, if one statistically controlled a specific latent variable, the partial correlation between items would approach zero. The reason for doing this is for the purpose of generating relatively uncontaminated measures of the specific underlying latent variable via items comprising the scale (Smuts, 2011).

EFA was performed on each of the subscales referred to in section 4.6 for the purpose of examining the unidimensionality assumption as well as the assumption that the target latent variable explains a considerable proportion of the variance observed in each item.

Principle axis factor analysis (PAF) was used as extraction technique. In the unanticipated case of factor fission, the extracted solution was subjected to oblique rotation (Tabachnick & Fidell, 2001). The reason for making use of PAF instead of principal component factor analysis (PCA) is because PAF only measures the common variance shared between the items comprising a subscale compared to PCA, which analyses all the variance. The reason for choosing an oblique rotation over an orthogonal rotation was because the former makes better provision for the possibility that, in the case of factor fission, the extracted factors could be correlated (Tabachnick & Fidell, 2001).

A factor loading was considered acceptable if $\lambda_{ij} > .50$. According to Hair, Anderson and Tantham, 2006 (as cited in Burger, 2012) in the context of confirmatory factor analysis that factor loadings should be considered satisfactory if $\lambda_{ij} > .71$. The latter critical cut-off value is regarded as a bit stringent in the case of individual items but was utilised when interpreting the factor loadings of the item parcels in the measurement model fitted prior to the evaluation of the fit of the structural model.

SPSS version 19 (SPSS, 2011) was used to perform the dimensionality analyses.

### 4.9.3 Structural equation modeling
#### 4.9.3.1 Variable type

The measurement level on which the indicator variables are measured determines the suitable moment matrix to analyse as well as the suitable estimation technique to use to estimate the

freed model parameters. In section 4.7 it was explained that two or more linear composites of individual items were formed to represent each of the latent variables, for the purpose of evaluating the fit of the reduced Smuts – Bezuidenhout *Intention to Quit* Structural Model. The creation of linear composite indicator variables for each latent variable has three advantages:

- it reduces the number of freed model parameters that have to be estimated,

- it leads to a reduction in the sample size required, and

- it creates more reliable indicator variables (Nunnally, 1978)

Cognisance should be taken of the possible consequences related to the decision to reduce the number of indicator variables. According to Marsh, Hau, Balla and Grayson (1998) solutions in confirmatory factor analysis have the tendency to be better when larger numbers of indicator variables are used to represent latent variables. If individual items would have been used as indicator variables to operationalise the structural model depicted in Figure 4.1 it would have resulted in an extremely complex comprehensive LISREL model. This in turn would have required an extremely large sample to ensure credible parameter estimates. For the purpose of the current study it was therefore decided to make use of composite indicator variables. The assumption was made that the indicator variables are continuous variables, measured on an interval level (Burger, 2012). The covariance matrix was therefore analysed using maximum likelihood estimation provided that the multivariate normality assumption would be met (Smuts, 2007).

### 4.9.3.2 Multivariable normality

For the purpose of obtaining estimates for the freed model parameters, LISREL makes use of the maximum likelihood estimation technique when fitting the model to continuous data. Maximum likelihood estimation makes the assumption that the indicator variables follow a multivariate normal distribution. The null hypothesis that this assumption is indeed satisfied was formally tested. In the case of the null hypothesis of multivariate normality being rejected, an attempt was made to normalise the indicator variable distribution (Burger, 2012). In an attempt to test the success of the data normalisation, the null hypothesis that the normalised indicator variable distribution follows a multivariate normal distribution, was also tested. If the multivariate

normality null hypothesis was still rejected, robust maximum likelihood estimation was used (Mels, 2003).

### 4.9.3.3 Confirmatory factor analysis

The fit indices obtained for the comprehensive reduced *Intention to Quit* LISREL model can only be interpreted unambiguously for or against the fitted structural model if it can be shown that the indicator variables used to operationalise the latent variables successfully reflected the latent variables they were intended to represent. The fit of the reduced *Intention to Quit* measurement model used to operationalise the structural model therefore had to be evaluated prior to fitting the structural model. In order for the operationalisation to be labeled as successful the measurement model had to fit closely, the estimated factor loadings all had to be statistically significant (p < .05), the completely standardised factor loadings had to be large ($\lambda_{ij} > .71$) and the measurement error variances had to be statistically significant (p < .05) but small.

For the purpose of fitting the measurement model, the covariance matrix was analysed. In the case that the multivariate normality assumption was met, prior or after normalisation, maximum likelihood estimation was used. If normalisation failed to achieve multivariate normality in the indicator variable distribution, robust maximum likelihood estimation had to be used to estimate the freed measurement model parameters. LISREL 8.8 was used for the purpose of performing the CFA.

The measurement hypothesis being evaluated was that the measurement model provides a valid account of the process that produced the observed covariance matrix (Smuts, 2011). If the measurement hypothesis is interpreted to mean that the measurement model provides a perfect account of the manner in which the latent variables manifest themselves in the indicator variables, the measurement hypothesis translates into the following exact fit null hypothesis:

$$H_{022}: RMSEA = 0$$

$$H_{a22}: RMSEA > 0$$

If the measurement hypothesis is interpreted to mean that the measurement model only provides an approximate description of the process that produced the observed covariance matrix, the measurement hypothesis translates into the following close fit null hypothesis:

$H_{023}$: RMSEA ≤ .05

$H_{a23}$: RMSEA > .05

### 4.9.3.4 Interpretation of measurement model fit and parameter estimates

Measurement model fit refers to the ability of the fitted model to reproduce the observed covariance matrix. The model can be said to fit well if the reproduced covariance matrix approximates the observed covariance matrix. Measurement model fit was interpreted by inspecting the full spectrum of goodness of fit indices provided by LISREL (Diamantopoulos & Siguaw, 2000). The magnitude and distribution of the standardised residuals and the magnitude of model modification indices calculated for $\Lambda_X$, and $\Theta_\delta$ were also examined to assess the quality of the model fit. Large modification index values indicate measurement model parameters that, if set free, would improve the fit of the model. Large numbers of large and significant modification index values comment negatively on the fit of the model in as far as it suggests that numerous possibilities exist to improve the fit of the model proposed by the researcher. Inspection of the model modification indices for the aforementioned matrices in this study served the sole purpose of commenting on the model fit.

If close measurement model fit were to be obtained (i.e., $H_{023}$ failed to be rejected), or if at least reasonable measurement model fit were to be obtained, the significance of the estimated factor loadings to be tested would be $H_{024p}$: $\lambda_{ij}$= 0; p = 1, 2, …,21[8]; i = 1, 2, …, 21; j = 1, 2, …, 8 against $H_{a24p}$: $\lambda_{ij} > 0$; p = 1, 2, …, 21; i = 1, 2, …, 21; j = 1, 2, …, 8. The magnitude of the factor loading estimates was considered acceptable if the completely standardised factor loading estimates were equal to, or greater than .71 (Hair et al. 2006). Satisfaction of this criterion would imply that at least 50% of the variance in the indicator variables would be explained by the latent variables they were intended to represent.

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[8] There are 21 factor loadings freed in the 21x8 $\Lambda_X$ factor loading matrix.

### *4.9.3.5 Fitting of the structural model*

If close measurement model fit were to be obtained (i.e., $H_{023}$ failed to be rejected), or if at least reasonable measurement model fit were to be obtained, if $H_{024} - H_{024}$ were to be rejected and if the magnitude of completely standardised factor loading estimates were satisfactory, $H_{01}$ and $H_{02}$ would be tested. This was done by fitting the comprehensive LISREL model (comprising the structural model and the measurement model). The comprehensive LISREL model was fitted by analysing the covariance matrix. Maximum likelihood estimation was used if the multivariate normality assumption was to be satisfied (before or after normalisation). If normalisation failed to achieve multivariate normality in the indicator variable distribution then robust maximum likelihood estimation was used to obtain estimates for the freed model parameters. LISREL 8.8 (Du Toit et al., 2001) was used to perform the structural equation analysis.

### *4.9.3.6 Interpretation of structural model fit and parameter estimates*

The comprehensive LISREL model fit was interpreted by inspecting the full spectrum of indices provided by LISREL (Diamantopoulos & Siguaw, 2000). Further consideration was also given to the magnitude and distribution of the standardised residuals and the magnitude of model modification indices calculated for $\mathbf{\Gamma}$, $\mathbf{B}$ and $\mathbf{\Psi}$. Large modification index values indicate structural model parameters that, if set free, would improve the fit of the model. Large numbers of large and significant modification index values would comment negatively on the fit of the model in as far as it suggests that numerous possibilities exist to improve the fit of the model proposed by the researcher. The inspection of the model modification indices for the aforementioned matrices here primarily serves the purpose of commenting on the model fit. Inspection of the model modification indices calculated for the $\mathbf{\Gamma}$ and $\mathbf{B}$ matrices, however, was also used to explore possible modifications to the current structural model if such modifications were to make substantive theoretical sense.

If the comprehensive LISREL model were to achieve close fit (i.e. $H_{02}$ fails to be rejected) or if at least reasonable fit were obtained for the comprehensive model, $H_{03} - H_{021}$ were tested and the magnitude of the completely standardised path coefficients was interpreted for all significant (direct effect) path coefficients. The significance and magnitude of the indirect and total effects

was also examined for each hypothesised influence[9] in the model.[10]The proportion of variance explained in each of the endogenous latent variables by the model was also interpreted.

In the final analysis the psychological explanation of *Intention to Quit* as it is captured in the reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* was considered to be satisfactory if:

- the comprehensive model fitted the data well,
- the measurement model fitted the data well,
- the path coefficients for the hypothesised structural relations were statistically significant and,
- the model would be found to explain a substantial proportion of the variance in each of the endogenous latent variables (especially *Intention to Quit*).

### 4.9.3.7 Considering possible structural model modification

The modification indices and completely standardsed expected change values calculated for the $\Gamma$ matrices and **B** matrices were inspected to determine whether any meaningful possibilities exist to improve the fit of the comprehensive model through the addition of any additional paths (Diamantopoulos & Siguaw, 2000). Modification of the model was however only taken into consideration if the proposed structural alterations could be theoretically supported (Diamantopoulos & Siguaw, 2000). Allowing for correlated structural error terms and for correlated measurement model error terms was consequently not considered.

### 4.10 Summary

In this section the hypotheses relevant to the study were stated. The methodological choices that were made to test the hypotheses were explained and motivated. An overview of the research design, sampling technique, the measuring instruments and statistical analysis techniques was provided

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[9] The term influence here refers to either the effect of $\xi_j$ on $\eta_i$ or the effect of $\eta_j$ on $\eta_i$
[10] Strictly speaking formal statistical hypotheses should have been explicitly stated for the indirect and total effects in the model

# CHAPTER 5: RESEARCH RESULTS

## 5.1 Introduction

The objective of Chapter 5 is to present, as well as to critically discuss the statistical results obtained from the various analyses performed. This chapter will firstly discuss the item analysis that was performed with the purpose of determining the psychometric integrity of each of the subscales of the comprehensive survey questionnaire that was used to operationalise the various latent variables in the reduced Smuts – Bezuidenhout *Intention to Quit Structural Model*. The extent to which each of the subscales satisfied the assumption of unidimensionality will be discussed next. Following the discussion of the item and dimensionality analyses will be a comprehensive inspection of the extent to which the data satisfied the multivariate normality assumption made by structural equation modeling when analysing continuous data via maximum likelihood estimation. The measurement model fit will subsequently be evaluated. If indeed the measurement model shows acceptable fit, the fit of the structural model will be discussed and the path-specific null hypotheses will be tested.

## 5.2 Missing Values

As indicated in section 4.8, the use of SUrveys prevented the possibility of any missing values on any of the items comprising the various subscales of the composite research questionnaire.

## 5.3 Item Analysis

Item analysis was performed on the items of each of the different subscales of the composite research questionnaire in order to identify and eliminate any possible poor items. The rationale for performing the item analysis therefore is to determine whether a specific scale is unreliable or fails to show expected levels of validity. Furthermore, it indicates *why* a specific scale is reliable or unreliable. By identifying and removing poor items[11] from a scale it would be possible to improve the reliability and validity of the scale.

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[11] Poor items are items that do not reflect the intended latent dimension, that are not sensitive to relative small differences on the latent dimension and/or that do not respond in unison with other items assigned to a specific subscale.

Item analysis was conducted on each of the latent variable subscales used to measure the latent variables included in the *Intention to Quit* Structural Model. Item analysis was performed using SPSS 19 (SPSS, 2011).

### 5.3.1 Item analysis findings

Table 5.1 represents a summary of the item analysis results for each of the latent variable subscales. The Cronbach alpha values obtained for seven of the subscales were found to be satisfactory ($\alpha_i$ >.80), three of the subscales returned coefficients of internal consistency that only marginally fell below the critical .80 cut-off value and one subscale returned an unsatisfactory low Cronbach alpha value that fell below .70.

Table 5.1

*Reliability results of the Intention to Quit Structural Model latent variable subscales*

| Scale | Sample Size | Number of Items | Mean | Standard Deviation | Cronbach's Alpha |
|-------|-------------|-----------------|------|--------------------|------------------|
| AC | 205 | 6 | 82.9268 | 17.2123 | .858848 |
| CC | 205 | 3 | 14.5121 | 4.1226 | .674985 |
| NC | 205 | 4 | 18.0926 | 6.0192 | .837564 |
| JS1 | 205 | 6 | 13.8488 | 4.89012 | .799529 |
| JS2 | 205 | 8 | 18.7610 | 5.56481 | .784856 |
| JS3 | 205 | 6 | 13.3073 | 5.22139 | .820858 |
| JS4 | 205 | 6 | 9.41951 | 6.42983 | .870919 |
| JS5 | 205 | 6 | 7.02439 | 5.99218 | .860700 |
| JS6 | 205 | 6 | 13.3220 | 5.01603 | .763485 |
| ITQ | 205 | 4 | 9.03902 | 4.26780 | .918432 |
| PE | 205 | 12 | 70.0244 | 9.58575 | .877934 |
| PDO | 205 | 4 | 15.1561 | 3.22293 | .845631 |
| PAO | 205 | 6 | 19.2000 | 5.05208 | .888068 |
| PHC | 205 | 4 | 18.9561 | 5.29826 | .858373 |
| PUM | 205 | 10 | 29.0878 | 8.28784 | .923360 |

AC = Affective Commitment, CC = Continuance Commitment, NC = Normative Commitment, JS1 = Job Satisfaction (Work), JS2 = Job Satisfaction (Pay), JS3 = Job Satisfaction (Promotion), JS4 = Job Satisfaction (Supervision), JS5 = Job Satisfaction (Co-workers), JS6 = Job Satisfaction (Job in General), ITQ = Intention to Quit, PE = Psychological Empowerment, PDO = Perceived Development Opportunities, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement

### 5.3.3.1 Organizational commitment

*Organisational Commitment* was measured using the three component model (TCM) Employee Commitment Survey. The survey consists of three validated subscales namely, the Affective Commitment Scale (ACS), the Normative Commitment Scale (NCS) and the Continuance Commitment Scale (CCS). Each subscale contains six items designed to reflect a particular component of *Organisational Commitment*. Each subscale is scored separately and therefore item analysis was done on each of the subscales individually.

The item analysis results for the *Affective Commitment* subscale are shown in Table 5.2.

Table 5.2

*Item analysis results for the Affective Commitment subscale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .851 | .852 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| OC1 | 5.0049 | 1.76151 | 205 |
| OC2 | 4.9805 | 1.70052 | 205 |
| OC3 | 5.1610 | 1.66817 | 205 |
| OC4 | 5.0488 | 1.69126 | 205 |
| OC5 | 5.2049 | 1.65001 | 205 |
| OC6 | 5.3805 | 1.40084 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| OC1 | 25.7756 | 39.077 | .630 | .463 | .827 |
| OC2 | 25.8000 | 40.573 | .581 | .340 | .836 |
| OC3 | 25.6195 | 40.619 | .595 | .429 | .833 |
| OC4 | 25.7317 | 38.687 | .689 | .503 | .815 |
| OC5 | 25.5756 | 39.108 | .689 | .484 | .815 |
| OC6 | 25.4000 | 42.437 | .638 | .461 | .827 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 5.130 | 4.980 | 5.380 | .400 | 1.080 | .023 | 6 |
| Item Variances | 2.720 | 1.962 | 3.103 | 1.141 | 1.581 | .155 | 6 |
| Inter-Item Covariances | 1.324 | .845 | 1.688 | .843 | 1.997 | .051 | 6 |

The *Affective Commitment* scale obtained a highly satisfactory Cronbach's alpha of .851. The item statistics showed the mean ranging from 4.980 to 5.380 (on a 7-point scale) and the standard deviation ranging from 1.40084 to 1.76151. None of the items obtained extreme means or small standard deviations. None of the items therefore seem to be insensitive to small differences in the latent commitment dimension. All of the items obtained satisfactory squared multiple correlations (SMC) when each item was regressed on the remaining items in the subscale. None of the items would result in an increase in the subscale's Cronbach alpha if the item would be deleted. All items in the *Affective Commitment sub*scale were therefore retained*.

The item analysis results for the *Continuous Commitment* subscale are shown in Table 5.3.

Table 5.3

*Item analysis results for the Continuous Commitment subscale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .636 | .633 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| OC7 | 5.1366 | 1.51815 | 205 |
| OC8 | 4.8927 | 1.81178 | 205 |
| OC9 | 4.4829 | 1.93926 | 205 |
| OC10 | 3.8390 | 1.84403 | 205 |
| OC11 | 3.4878 | 1.82201 | 205 |
| OC12 | 3.9366 | 1.83401 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| OC7 | 20.6390 | 33.781 | .299 | .188 | .616 |
| OC8 | 20.8829 | 29.810 | .418 | .311 | .573 |
| OC9 | 21.2927 | 26.708 | .544 | .348 | .517 |
| OC10 | 21.9366 | 28.903 | .457 | .309 | .557 |
| OC11 | 22.2878 | 34.030 | .189 | .051 | .658 |
| OC12 | 21.8390 | 31.685 | .306 | .242 | .616 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 4.296 | 3.488 | 5.137 | 1.649 | 1.473 | .418 | 6 |
| Item Variances | 3.239 | 2.305 | 3.761 | 1.456 | 1.632 | .239 | 6 |
| Inter-Item Covariances | .731 | .019 | 1.738 | 1.720 | 93.925 | .269 | 6 |

The Cronbach coefficient of internal consistency for the original scale (.636) fell substantially below the critical cut-off value of .80. This is not all too surprising as Smuts (2011) also reported a Cronbach alpha of below .80 when she tested the complete subscale. Item OC11 showed all the characteristics of a poor item with a low item-total correlation (.189), low squared multiple correlation (.051) and a predicted increase in Cronbach's alpha to .658 if the item would be deleted. Although some of the other items also portrayed similar poor qualities, OC11 was the only one that projected an increase in the scale's Cronbach alpha, if deleted. This basket of evidence was considered sufficient to justify the removal of this item.

The item analysis was subsequently repeated on the remaining items and resulted in an increase in the scale's Cronbach alpha to .658. The statistics further suggested that the deletion of item OC12 would lead to a further increase in the scales Cronbach alpha. Further inspection of the statistics seemed to support the deletion of item OC12. Item OC12 was therefore also removed from the scale and the analysis was re-run.

After a re-run of the analysis, following the deletion of item OC12, the scale obtained a Cronbach alpha of .665. The statistics further suggested the removal of item OC10 as an increase in the scale's Cronbach alpha was projected. Item OC10 was subsequently removed from the scale and the analysis re-run.

Following the final re-run of the reduced scale after the identification and deletion of the three poor items, the scale's Cronbach alpha was .675. The value of .675 still fell below the cut-off value of .80, but no other items if deleted projected an increase in the scale's Cronbach alpha.

The item analysis results for the *Normative Commitment* subscale are shown in Table 5.4.

Table 5.4

*Item analysis results for the Normative Commitment subscale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .823 | .823 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| OC13 | 4.5171 | 1.76456 | 205 |
| OC14 | 3.7610 | 1.90109 | 205 |
| OC15 | 3.9610 | 1.97743 | 205 |
| OC16 | 4.9756 | 1.71338 | 205 |
| OC17 | 4.5512 | 1.82670 | 205 |
| OC18 | 4.6049 | 1.81361 | 205 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 4.395 | 3.761 | 4.976 | 1.215 | 1.323 | .202 | 6 |
| Item Variances | 3.367 | 2.936 | 3.910 | .975 | 1.332 | .123 | 6 |
| Inter-Item Covariances | 1.468 | .758 | 2.428 | 1.670 | 3.204 | .214 | 6 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| OC13 | 21.8537 | 50.586 | .420 | .180 | .828 |
| OC14 | 22.6098 | 48.112 | .474 | .296 | .819 |
| OC15 | 22.4098 | 42.704 | .682 | .519 | .773 |
| OC16 | 21.3951 | 45.936 | .661 | .478 | .780 |
| OC17 | 21.8195 | 43.178 | .738 | .576 | .762 |
| OC18 | 21.7659 | 46.621 | .578 | .443 | .797 |

The *Normative Commitment sub*scale obtained a satisfactory Cronbach alpha value of .823. The item statistics showed the means ranging from 3.761 to 4.976 (on a 7-point scale) and the standard deviations ranging from 1.71338 to 1.97743. Item OC13 was flagged as a poor item with a low SMC (.180) and a predicted increase in Cronbach alpha to .828 if the item were to be deleted. This basket of evidence was considered sufficient to justify the removal of this item.

The item analysis was subsequently repeated on the remaining items and resulted in an increase in the scale's Cronbach alpha to .828. The statistics further suggested that the deletion of item OC14 would lead to a further increase in the scale's Cronbach alpha. Item OC14 was

subsequently removed and a re-run of the analysis showed a further increase in the scale's Cronbach alpha to .838. No other items were removed from the subscale.

### 5.3.3.2 Item analysis of the JDI and JIG scales

The short version of the Job Descriptive Index (JDI) and the Job in General (JIG), both of which are self-report measures of *Job Satisfaction*, were used to measure the construct, *Job Satisfaction*. The JDI scale measures satisfaction with different *facets* of the job situation: work on present job, pay, opportunities for promotion, supervision, and people on your present job. The JIG scale on the other hand measures overall satisfaction with the job. Separate item analyses were performed on the items comprising each facet of the JDI and JIG. Table 5.5, on the next page, presents the item statistics for the first facet of the JDI (work on present job).

Table 5.5 indicates a highly satisfactory value for the Cronbach alpha coefficient of internal consistency (.80). The values of the item statistics did not warrant the deletion of any items. All items were therefore retained.

Table 5.5

*Item analysis results for Facet 1 (work on present job) of the JDI scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .800 | .803 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS1-1 | 2.5805 | .99489 | 205 |
| JS1-2 | 2.3415 | 1.20883 | 205 |
| JS1-3 | 2.4098 | 1.14955 | 205 |
| JS1-4 | 2.4976 | 1.01761 | 205 |
| JS1-5 | 2.4537 | 1.07286 | 205 |
| JS1-6 | 1.5659 | 1.42175 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS1-1 | 11.2683 | 19.266 | .419 | .200 | .796 |
| JS1-2 | 11.5073 | 16.045 | .662 | .476 | .742 |
| JS1-3 | 11.4390 | 16.747 | .621 | .431 | .753 |
| JS1-4 | 11.3512 | 18.327 | .522 | .335 | .776 |
| JS1-5 | 11.3951 | 17.152 | .631 | .444 | .752 |
| JS1-6 | 12.2829 | 16.096 | .508 | .299 | .787 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.308 | 1.566 | 2.580 | 1.015 | 1.648 | .139 | 6 |
| Item Variances | 1.330 | .990 | 2.021 | 1.032 | 2.042 | .146 | 6 |
| Inter-Item Correlations | .404 | .252 | .602 | .350 | 2.392 | .012 | 6 |

Table 5.6 presents the item statistics for the second facet of the JDI (pay).

Table 5.6

*Item analysis results for Facet 2 (pay) of the JDI scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .785 | .797 | 8 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS2-1 | 2.7268 | .80654 | 205 |
| JS2-2 | 2.5171 | 1.00779 | 205 |
| JS2-3 | 2.4146 | 1.11530 | 205 |
| JS2-4 | 2.3024 | 1.11858 | 205 |
| JS2-5 | 2.1073 | 1.26344 | 205 |
| JS2-6 | 1.7512 | 1.36179 | 205 |
| JS2-7 | 2.3707 | 1.12421 | 205 |
| JS2-8 | 2.5707 | .90809 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS2-1 | 16.0341 | 25.425 | .601 | .424 | .751 |
| JS2-2 | 16.2439 | 25.891 | .396 | .318 | .775 |
| JS2-3 | 16.3463 | 24.580 | .465 | .310 | .765 |
| JS2-4 | 16.4585 | 23.406 | .583 | .391 | .746 |
| JS2-5 | 16.6537 | 24.973 | .348 | .209 | .788 |
| JS2-6 | 17.0098 | 22.559 | .507 | .336 | .761 |
| JS2-7 | 16.3902 | 23.553 | .564 | .388 | .749 |
| JS2-8 | 16.1902 | 25.116 | .552 | .373 | .754 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.345 | 1.751 | 2.727 | .976 | 1.557 | .092 | 8 |
| Item Variances | 1.213 | .651 | 1.854 | 1.204 | 2.851 | .153 | 8 |
| Inter-Item Correlations | .329 | .087 | .488 | .402 | 5.641 | .012 | 8 |

The Cronbach coefficient of internal consistency for the original scale (.785) fell slightly below the critical cut-off value of .80. The squared multiple correlation indicated the multiple correlation when regressing each item on a weighted linear composite of the remaining variables. As can be seen in Table 5.6 item JS2-5 was the only item with a SMC smaller than .30. Furthermore the item statistics indicated that the Cronbach's alpha would increase to .788 if item JS2-5 were to be deleted. Furthermore, it was indicated that the scale's Cronbach alpha would not show any improvements in the case of any other items being deleted. Item JS2-5 was therefore removed and the analysis was re-run.

After deletion of item JS2-5 and a re-run of the analysis the item statistics showed an improved Cronbach alpha of .788. None of the other items projected an increase in the scale's Cronbach alpha if deleted and were therefore all retained.

Table 5.7 presents the item statistics for the third facet of the JDI (opportunities for promotion).

Table 5.7

*Item analysis results for Facet 3 (opportunities for promotion) of the JDI scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .821 | .826 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS3-1 | 1.7073 | 1.40105 | 205 |
| JS3-2 | 2.3707 | 1.16279 | 205 |
| JS3-3 | 2.7902 | .73425 | 205 |
| JS3-4 | 1.9805 | 1.34660 | 205 |
| JS3-5 | 1.9707 | 1.33546 | 205 |
| JS3-6 | 2.4878 | 1.07835 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS3-1 | 11.6000 | 18.584 | .556 | .379 | .803 |
| JS3-2 | 10.9366 | 19.079 | .673 | .485 | .774 |
| JS3-3 | 10.5171 | 23.506 | .452 | .243 | .821 |
| JS3-4 | 11.3268 | 17.721 | .682 | .491 | .770 |
| JS3-5 | 11.3366 | 18.842 | .573 | .344 | .797 |
| JS3-6 | 10.8195 | 19.933 | .640 | .459 | .783 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.218 | 1.707 | 2.790 | 1.083 | 1.634 | .160 | 6 |
| Item Variances | 1.436 | .539 | 1.963 | 1.424 | 3.641 | .285 | 6 |
| Inter-Item Correlations | .441 | .245 | .606 | .361 | 2.472 | .010 | 6 |

Table 5.7 indicates a highly satisfactory value for the Cronbach coefficient of internal consistency (.821). All the corrected item total correlations were sufficiently large indicating that the correlation between each item and the total score calculated from the remaining items was satisfactorily and that the items were reflecting the same underlying factor. In addition, the

squared multiple correlation values, except for JS3-3, were all larger than .30. None of the items, if deleted, would contribute to an increase in the scale's Cronbach alpha with JS3-3 having no impact whether removed or not. The values of the item statistics did not warrant the deletion of any items. All items were therefore retained.

Table 5.8 presents the item statistics for the fourth facet of the JDI (supervision).

Table 5.8

*Item analysis results for Facet 4 (supervision) of the JDI scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .871 | .871 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS4-1 | 1.7317 | 1.42155 | 205 |
| JS4-2 | 2.1415 | 1.27360 | 205 |
| JS4-3 | .9122 | 1.28036 | 205 |
| JS4-4 | 1.4439 | 1.40483 | 205 |
| JS4-5 | 1.4098 | 1.43756 | 205 |
| JS4-6 | 1.7805 | 1.41961 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS4-1 | 7.6878 | 27.814 | .768 | .617 | .831 |
| JS4-2 | 7.2780 | 30.496 | .656 | .475 | .852 |
| JS4-3 | 8.5073 | 31.183 | .596 | .378 | .861 |
| JS4-4 | 7.9756 | 29.387 | .655 | .476 | .852 |
| JS4-5 | 8.0098 | 28.510 | .701 | .509 | .844 |
| JS4-6 | 7.6390 | 29.320 | .651 | .490 | .853 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 1.570 | .912 | 2.141 | 1.229 | 2.348 | .174 | 6 |
| Item Variances | 1.890 | 1.622 | 2.067 | .445 | 1.274 | .041 | 6 |
| Inter-Item Correlations | .529 | .415 | .665 | .250 | 1.602 | .006 | 6 |

Table 5.8 indicates a highly satisfactory value for the Cronbach coefficient of internal consistency (.871). The values of the item statistics did not suggest the deletion of any of the items.

Table 5.9 presents the item statistics for the fifth facet of the JDI (people on your present job).

Table 5.9

*Item analysis results for Facet 5 (people on your present job) of the JDI scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .861 | .861 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS5-1 | 1.0732 | 1.34292 | 205 |
| JS5-2 | .8098 | 1.27491 | 205 |
| JS5-3 | 2.0244 | 1.31894 | 205 |
| JS5-4 | .9707 | 1.28304 | 205 |
| JS5-5 | 1.4390 | 1.40811 | 205 |
| JS5-6 | .7073 | 1.16408 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS5-1 | 5.9512 | 23.762 | .790 | .693 | .811 |
| JS5-2 | 6.2146 | 25.954 | .641 | .544 | .839 |
| JS5-3 | 5.0000 | 26.882 | .533 | .329 | .859 |
| JS5-4 | 6.0537 | 24.669 | .753 | .601 | .819 |
| JS5-5 | 5.5854 | 25.205 | .617 | .467 | .845 |
| JS5-6 | 6.3171 | 27.306 | .596 | .412 | .847 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 1.171 | .707 | 2.024 | 1.317 | 2.862 | .239 | 6 |
| Item Variances | 1.692 | 1.355 | 1.983 | .628 | 1.463 | .044 | 6 |
| Inter-Item Correlations | .508 | .346 | .721 | .375 | 2.082 | .014 | 6 |

Table 5.9 indicates a highly satisfactory value for the Cronbach coefficient of internal consistency (.861). All the corrected item-total correlations were satisfactorily large with the lowest being .533. In addition, the squared multiple correlations were all adequately large with JS3 (.329) being the lowest. None of the items, if deleted, would contribute to an increase in the scale's Cronbach alpha. No items were considered for deletion.

Table 5.10 presents the item statistics for the JIG scale

Table 5.10

*Item analysis results for the JIG scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .763 | .763 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS6-1 | 2.0878 | 1.32180 | 205 |
| JS6-2 | 2.1366 | 1.29512 | 205 |
| JS6-3 | 2.2683 | 1.20912 | 205 |
| JS6-4 | 2.2000 | 1.24617 | 205 |
| JS6-5 | 2.0780 | 1.31125 | 205 |
| JS6-6 | 2.5512 | .99684 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS6-1 | 11.2341 | 17.347 | .551 | .319 | .716 |
| JS6-2 | 11.1854 | 17.407 | .562 | .366 | .713 |
| JS6-3 | 11.0537 | 18.384 | .513 | .288 | .727 |
| JS6-4 | 11.1220 | 18.686 | .457 | .265 | .742 |
| JS6-5 | 11.2439 | 17.607 | .530 | .323 | .722 |
| JS6-6 | 10.7707 | 20.364 | .423 | .218 | .749 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.220 | 2.078 | 2.551 | .473 | 1.228 | .031 | 6 |
| Item Variances | 1.525 | .994 | 1.747 | .753 | 1.758 | .079 | 6 |
| Inter-Item Correlations | .349 | .241 | .487 | .247 | 2.025 | .006 | 6 |

The item statistics for the JIG scale revealed a Cronbach alpha of (.763). All the corrected item-total correlations were satisfactory large. The squared multiple correlations for all items except for JS3 and JS6 were all larger than .30. Further inspection of the item statistics however did not suggest that deletion of any of these items would result in an increase in the scale's Cronbach alpha. All items in the JIG scale were consequently retained.

### *5.3.3.3 Intention to quit*

The *Intention to Quit* scale comprised 4 items (see Appendix A). The results for the item analysis for this scale are depicted in Table 5.11.

Table 5.11

*Item analysis results for the Intention to Quit scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .918 | .920 | 4 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| ITQ1 | 2.4732 | 1.12263 | 205 |
| ITQ2 | 2.3220 | 1.22224 | 205 |
| ITQ3 | 2.2146 | 1.14737 | 205 |
| ITQ4 | 2.0293 | 1.26380 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| ITQ1 | 6.5659 | 10.884 | .819 | .676 | .893 |
| ITQ2 | 6.7171 | 10.429 | .797 | .643 | .900 |
| ITQ3 | 6.8244 | 10.567 | .849 | .721 | .882 |
| ITQ4 | 7.0098 | 10.216 | .792 | .640 | .902 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.260 | 2.029 | 2.473 | .444 | 1.219 | .035 | 4 |
| Item Variances | 1.417 | 1.260 | 1.597 | .337 | 1.267 | .024 | 4 |
| Inter-Item Correlations | .741 | .692 | .773 | .081 | 1.117 | .001 | 4 |

Inspection of the means and standard deviations revealed the absence of extreme means and small standard deviations and therefore the absence of poor items. The mean ranged from 2.029 to 2.473 (on a 5-point scale) and the standard deviation ranged from 1.12263 to 1.26380. The inter-item correlation matrix (not shown) revealed that all the items correlated above .50 with the lowest correlation being .692. All the corrected item-total correlations were larger than .792. In addition, the squared multiple correlations were all larger than .640 and the results

revealed that none of the items, if deleted, would increase the current Cronbach alpha. None of the items were therefore considered for deletion.

### 5.3.3.4 Psychological empowerment

The *Psychological Empowerment* scale developed by Spreitzer (Spreitzer, 1995) comprised 12 items (see Appendix A). The scale measures four different dimensions of *Psychological Empowerment* with three items dedicated to each dimension. Item analysis was performed on each of the dimensions individually. The results for the item analysis for this scale are depicted below in Table 5.12 – Table 5.15.

Table 5.12

*Item analysis results for the Meaning dimension of the Psychological Empowerment scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .845 | .855 | 3 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PE2 | 6.3073 | .93316 | 205 |
| PE5 | 5.7415 | 1.33449 | 205 |
| PE10 | 6.0049 | 1.11802 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PE2 | 11.7463 | 5.210 | .670 | .493 | .836 |
| PE5 | 12.3122 | 3.579 | .708 | .538 | .815 |
| PE10 | 12.0488 | 4.047 | .809 | .655 | .689 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 6.018 | 5.741 | 6.307 | .566 | 1.099 | .080 | 3 |
| Item Variances | 1.301 | .871 | 1.781 | .910 | 2.045 | .209 | 3 |
| Inter-Item Covariances | .839 | .697 | 1.090 | .392 | 1.562 | .038 | 3 |
| Inter-Item Correlations | .663 | .560 | .730 | .170 | 1.304 | .007 | 3 |

The reliability statistics indicated a Cronbach's alpha of .845. All the corrected item-total and squared multiple correlations were larger than .60. None of the items, if deleted would improve the scale's Cronbach alpha. None of the items were therefore considered for deletion.

Table 5.13

*Item analysis results for the Competence dimension of the Psychological Empowerment scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .712 | .739 | 3 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PE3 | 6.3610 | .78991 | 205 |
| PE7 | 5.7366 | 1.24809 | 205 |
| PE8 | 6.1756 | .85083 | 205 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 6.091 | 5.737 | 6.361 | .624 | 1.109 | .103 | 3 |
| Item Variances | .969 | .624 | 1.558 | .934 | 2.497 | .263 | 3 |
| Inter-Item Covariances | .438 | .348 | .556 | .208 | 1.598 | .009 | 3 |
| Inter-Item Correlations | .486 | .415 | .524 | .109 | 1.262 | .003 | 3 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PE3 | 11.9122 | 3.394 | .520 | .297 | .656 |
| PE7 | 12.5366 | 2.044 | .541 | .303 | .681 |
| PE8 | 12.0976 | 3.000 | .614 | .383 | .546 |

The reliability statistics indicated a Cronbach's alpha of .712 which is below the cut-off value of .80 but still reasonably acceptable. In the inter-item correlation matrix (not shown) most of the items correlated below .50 with one or more of the other items in the scale. All the corrected item-total and squared multiple correlations were larger than .50. None of the items, if deleted would improve the scale's Cronbach alpha. All the items were therefore retained.

Table 5.14

*Item analysis results for the Self-Determination dimension of the Psychological Empowerment scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .826 | .825 | 3 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PE3 | 5.8634 | 1.15931 | 205 |
| PE7 | 5.6585 | 1.35780 | 205 |
| PE8 | 5.4780 | 1.42999 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PE3 | 11.1366 | 6.844 | .570 | .327 | .864 |
| PE7 | 11.3415 | 5.118 | .763 | .611 | .676 |
| PE8 | 11.5220 | 4.917 | .739 | .595 | .704 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 5.667 | 5.478 | 5.863 | .385 | 1.070 | .037 | 3 |
| Item Variances | 1.744 | 1.344 | 2.045 | .701 | 1.521 | .130 | 3 |
| Inter-Item Covariances | 1.069 | .865 | 1.478 | .613 | 1.709 | .100 | 3 |
| Inter-Item Correlations | .611 | .522 | .761 | .240 | 1.459 | .014 | 3 |

The reliability statistics indicated a Cronbach's alpha of .826. The item statistics showed the item means ranged from 5.478 to 5.863 (on a 7-point scale). All the corrected item-total and squared multiple correlations were larger than .50. It was projected that if item PE3 were to be deleted the scale's Cronbach alpha would increase to .864. Item PE3 did not seem to show an abnormally high or abnormally low mean or standard deviation value. The squared multiple correlation value was above .30. Taking the above into consideration and the fact that this subscale only has three items measuring the *self-determination* dimension of *Psychological Empowerment*, it was decided to retain item PE3.

Table 5.15

*Item analysis results for the Impact dimension of the Psychological Empowerment scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .758 | .758 | 3 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PE4 | 5.9659 | 1.14780 | 205 |
| PE6 | 5.4000 | 1.50033 | 205 |
| PE11 | 5.3317 | 1.52663 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PE4 | 10.7317 | 7.462 | .502 | .257 | .772 |
| PE6 | 11.2976 | 5.347 | .624 | .413 | .636 |
| PE11 | 11.3659 | 5.017 | .670 | .454 | .578 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 5.566 | 5.332 | 5.966 | .634 | 1.119 | .121 | 3 |
| Item Variances | 1.966 | 1.317 | 2.331 | 1.013 | 1.769 | .317 | 3 |
| Inter-Item Covariances | 1.005 | .725 | 1.440 | .716 | 1.988 | .117 | 3 |
| Inter-Item Correlations | .511 | .421 | .629 | .208 | 1.495 | .009 | 3 |

The reliability statistics indicated a Cronbach's alpha of .758 that fell below the cut-off value of .80. All the corrected item-total and squared multiple correlations were larger than .30 except for item PE4. Table 5.15 furthermore showed that the scale's Cronbach alpha would increase if item PE4 were to be deleted. PE4 was consequently removed from the scale.

### 5.3.3.5 Perceived development opportunities

The *Perceived Development Opportunities* scale comprised four items (see Appendix A). The results for the item analysis for the *Perceived Development Opportunities* scale are depicted in Table 5.16.

Table 5.16

*Item analysis results for the Perceived Development Opportunities scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .846 | .851 | 4 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PDO1 | 3.7268 | 1.02111 | 205 |
| PDO2 | 3.9756 | .90985 | 205 |
| PDO3 | 3.8244 | .91201 | 205 |
| PDO4 | 3.6293 | 1.04746 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PDO1 | 11.4293 | 5.883 | .699 | .507 | .797 |
| PDO2 | 11.1805 | 6.139 | .759 | .665 | .774 |
| PDO3 | 11.3317 | 6.135 | .757 | .645 | .774 |
| PDO4 | 11.5268 | 6.417 | .541 | .301 | .868 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 3.789 | 3.629 | 3.976 | .346 | 1.095 | .022 | 4 |
| Item Variances | .950 | .828 | 1.097 | .269 | 1.325 | .020 | 4 |
| Inter-Item Correlations | .588 | .459 | .781 | .322 | 1.702 | .015 | 4 |

Inter-item correlations (not shown) of PDO4 with two of the other items were below .50, which raised concern. As shown in Table 5.13 PDO4 has the lowest squared multiple correlation of .301. Furthermore the item statistics indicated that the Cronbach's alpha would increase to .868 if PDO4 was to be deleted. It was further indicated that the *Perceived Development*

*Opportunities* scale's Cronbach alpha of .846 would, in the case of the deletion of any of the other indicated items, not increase. Based on this basket of evidence it was decided to remove PDO4.

After item PDO4 was deleted the analysis was re-run and a Cronbach's alpha of .868 was obtained. The inter-item correlation matrix (not shown) further indicated no items with correlations lower that .50 with the lowest being .627. Moreover, the item-total statistics indicated that none of the items, if deleted, would further increase the Cronbach alpha and item PDO4 was therefore the only item deleted from the *Perceived Development Opportunities* scale.

### 5.3.3.6 Perceived alternative opportunities

The *Perceived Alternative Opportunities* scale comprised 6 items (see Appendix A). The results for the item analysis for this scale are depicted in Table 5.17.

Table 5.17

*Item analysis results for the Perceived Alternative Opportunities scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .888 | .888 | 6 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PAO1 | 3.1756 | 1.07484 | 205 |
| PAO2 | 2.8098 | 1.06085 | 205 |
| PAO3 | 3.2780 | 1.08725 | 205 |
| PAO4 | 3.4293 | 1.07152 | 205 |
| PAO5 | 3.4000 | .95281 | 205 |
| PAO6 | 3.1073 | 1.05635 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PAO1 | 16.0244 | 17.710 | .736 | .584 | .863 |
| PAO2 | 16.3902 | 18.504 | .646 | .467 | .878 |
| PAO3 | 15.9220 | 17.670 | .730 | .558 | .864 |
| PAO4 | 15.7707 | 17.864 | .719 | .559 | .866 |
| PAO5 | 15.8000 | 18.808 | .703 | .542 | .869 |
| PAO6 | 16.0927 | 18.173 | .692 | .517 | .870 |

The reliability statistics indicated a highly satisfactory Cronbach's alpha of .888. The item statistics showed the absence of extreme means or small standard deviations. All the corrected item-total and squared multiple correlations were sufficiently large. None of the items, if deleted would improve the scale's Cronbach alpha.  All the items were therefore retained.

### 5.3.3.7 Perceived human capital

The *Perceived Human Capital* scale comprised 4 items (see Appendix A). The results for the item analysis for this scale are depicted in Table 5.18.

Table 5.18

*Item analysis results for the Perceived Human Capital scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .858 | .859 | 4 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PHC1 | 4.7415 | 1.59856 | 205 |
| PHC2 | 4.6000 | 1.57679 | 205 |
| PHC3 | 4.9317 | 1.54514 | 205 |
| PHC4 | 4.6829 | 1.60329 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PHC1 | 14.2146 | 16.013 | .743 | .571 | .803 |
| PHC2 | 14.3561 | 15.789 | .782 | .647 | .786 |
| PHC3 | 14.0244 | 16.779 | .704 | .540 | .819 |
| PHC4 | 14.2732 | 17.562 | .591 | .356 | .865 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 4.739 | 4.600 | 4.932 | .332 | 1.072 | .020 | 4 |
| Item Variances | 2.500 | 2.387 | 2.571 | .183 | 1.077 | .007 | 4 |
| Inter-Item Correlations | .603 | .484 | .719 | .235 | 1.486 | .009 | 4 |

The reliability statistics indicated a satisfactory Cronbach's alpha of .858. The item statistics showed the item means to range from 4.600 to 4.932 (on a 7-point scale) and the standard deviation to range from 1.54514 to 1.60329. Item PHC4 showed a somewhat lower squared multiple correlation of .356 which was just above .30. It was in addition found that the Cronbach alpha of the *Perceived Human Capital* scale would increase from .858 to .865 if item PHC4 was to be deleted. It was therefore decided to remove item PHC4 and to re-run the analysis.

A re-run of the analysis, following the deletion of item PHC 4, confirmed the projected increase in the scale's Cronbach alpha. No additional items were flagged as problematic.

### 5.3.3.8 Perceived utility of movement

The self-developed *Perceived Utility of Movement* scale comprised 10 items (see Appendix A). The results for the item analysis for this scale are depicted in Table 5.19.

Table 5.19

*Item analysis results for the Perceived Utility of Movement scale*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .923 | .924 | 10 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PUM1 | 2.7122 | 1.17578 | 205 |
| PUM2 | 2.7171 | 1.10167 | 205 |
| PUM3 | 2.9024 | .98032 | 205 |
| PUM4 | 2.8390 | 1.07029 | 205 |
| PUM5 | 3.2000 | 1.11320 | 205 |
| PUM6 | 2.6488 | 1.09525 | 205 |
| PUM7 | 2.7463 | 1.01172 | 205 |
| PUM8 | 3.5122 | 1.05538 | 205 |
| PUM9 | 2.9366 | 1.01018 | 205 |
| PUM10 | 2.8732 | 1.14340 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| PUM1 | 26.3756 | 54.647 | .728 | .580 | .915 |
| PUM2 | 26.3707 | 55.283 | .744 | .625 | .914 |
| PUM3 | 26.1854 | 56.083 | .793 | .661 | .911 |
| PUM4 | 26.2488 | 55.276 | .771 | .665 | .912 |
| PUM5 | 25.8878 | 54.257 | .804 | .688 | .910 |
| PUM6 | 26.4390 | 54.718 | .788 | .665 | .911 |
| PUM7 | 26.3415 | 56.451 | .738 | .571 | .914 |
| PUM8 | 25.5756 | 60.138 | .454 | .328 | .929 |
| PUM9 | 26.1512 | 56.276 | .752 | .630 | .913 |
| PUM10 | 26.2146 | 57.983 | .540 | .401 | .925 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.909 | 2.649 | 3.512 | .863 | 1.326 | .069 | 10 |
| Item Variances | 1.161 | .961 | 1.382 | .421 | 1.439 | .018 | 10 |
| Inter-Item Correlations | .550 | .233 | .737 | .504 | 3.166 | .017 | 10 |

The *Perceived Utility of Movement* scale obtained a highly satisfactory Cronbach's alpha of .923 and has therefore obtained the highest Cronbach alpha of all scales used in the current study. The item statistics showed the means ranging from 2.649 to 3.512 (on a 5-point scale) and the standard deviations ranging from .98032 to 1.17578. The corrected item-total correlations did not flag any poor items with correlations ranging between .454 and .804. The squared multiple correlations corroborated the absence of poor items with all correlations above .30 and the lowest being PUM8 (.328). The data however suggested that if items PUM8 and PUM10 were to be deleted the scale's Cronbach alpha would increase to .929 and .925 irrespectively.

It was therefore decided to remove both items PUM8 and PUM10 and to re-run the analysis. After deletion of the above mentioned items and a re-run of the analysis the scale's Cronbach alpha coefficient increased to .933. The scale's item means following the deletion ranged from 2.649 to 3.200 and the standard deviation ranged from .98032 to 1.17578. No other items were considered for deletion.

### 5.3.3.9 Summary of all items deleted

Table 5.20 provides a summary of the items that were identified as poor items and that were therefore removed before continuing with the dimensionality analyses.

Table 5.20

*Items deleted after inspection of the item analyses*

| Scale | Items removed |
| --- | --- |
| Continuance Commitment | 10,11,12 |
| Normative Commitment | 13, 14 |
| JDI – 2 | 5 |
| Perceived Development Opportunities | 4 |
| Perceived Human Capital | 4 |
| Perceived Utility of Movement | 8,10 |
| Psychological Empowerment (Impact) | 4 |

## 5.4 Dimensionality Analyses

The construction of each of the subscales used for operationalising the latent variables in the structural model, depicted in Figure 4.1, being tested in the current study, were guided by a specific design. Items comprising each scale and subscale were designed to act as sets of stimuli to which research participants should respond with behaviour that is a primary expression of the specific underlying latent variable. The architecture of all the latent variable scales reflected the conceptualisation of all latent variables as unidimensional constructs, except for *Job Satisfaction* (6) *Organisational Commitment* (3) and *Psychological Empowerment* (4) which were conceptualised as multidimensional constructs.

Unrestricted principal axis factor analyses with oblique rotation were performed on the various scales and subscales. The objective of the analyses was to evaluate this assumption and to evaluate the success with which each item, along with the rest of the items in the particular subscale, measured the specific latent variable it was designed to reflect. The items that were deleted in the preceding item analyses were not included in the factor analyses. The decision on how many factors are required to adequately explain the observed correlation matrix was based on the eigenvalue-greater-than-one rule and on the scree test (Smuts, 2011). Factor loadings[12] of items on the factor they were designated to reflect were considered satisfactory if they were greater than .50. The adequacy of the extracted solution as an explanation of the observed

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[12] Factor loading is described as the slope of the regression of an observed variable on the underlying factor that it represents.

inter-item correlation matrix was evaluated by calculating the percentage large (> .05) residual correlations.

### 5.4.1 Organizational commitment

*Organisational Commitment* was measured using three validated scales namely, the Affective Commitment scale (ACS), the Normative Commitment scale (NCS) and the Continuance Commitment scale (CCS) each containing six items designed to reflect a component of *Organisational Commitment*. The dimensionality analysis of each scale was therefore done individually. Items OC10, OC11 and OC12 found in the *Continuance Commitment* scale and items OC13 and OC14 in the *Normative Commitment* scale were found to be poor items in the item analyses and were therefore deleted and not included in the proceeding dimensionality analyses.

The Kaiser-Meyer-Olkin (KMO) is a measure of sampling adequacy (MSA) and reflects the ratio of the sum of the squared inter-item correlations to the sum of the squared inter-item correlations plus the sum of the squared partial inter-item correlations, summed across all correlations. When the KMO approaches unity, or at least achieves a value greater than .60, the correlation matrix is deemed factor analysable (Tabachnick & Fidell, 2007). A KMO value of .858 was obtained providing sufficient evidence that the *Affective Commitment* scale was factor analysable (> .60). The Bartlett test of sphericity tests the null hypothesis that the correlation matrix is an identity matrix in the population (i.e., the diagonal contains 1's and all off-diagonal elements are zero's) (Tabachnick & Fidell, 2007). The Bartlett test of sphericity indicated that $H_0$ could be rejected (p < .05) providing further support that the matrix was factor analysable. Furthermore, 33% of the reproduced correlations were larger than .05 suggesting that the factor solution provided a credible explanation for the observed inter-item correlation matrix. The unidimensionality assumption for this scale was thus supported. The dimensionality analysis seemed to corroborate what was hypothesised in the design of the subscale, with one factor being extracted. Table 5.21 shows the resultant factor structure.

Table 5.21

*Factor matrix for the Affective Commitment subscale*

|  | Factor |
| --- | --- |
|  | 1 |
| OC1 | .700 |
| OC2 | .633 |
| OC3 | .650 |
| OC4 | .759 |
| OC5 | .760 |
| OC6 | .699 |

The results for the dimensionality analysis of the *Continuance Commitment* scale indicated that the correlation matrix was factor analysable as all the obtained correlations exceeded the cut-off of .30 and all were significant ($p < .05$). Furthermore, the KMO was .644 and Bartlett's test of sphericity indicated that $H_0$ could be rejected. One factor was extracted since only one factor obtained an eigenvalue greater than 1. As expected, the factor matrix indicated that all the items loaded satisfactorily onto the one factor (Table 5.22). All the obtained factor loadings were larger than .50. Furthermore, 0% of the reproduced correlations were larger than .05, suggesting that the factor solution provided a credible explanation for the observed inter-item correlation matrix. The unidimensionality assumption for this scale was thus supported.

Table 5.22

*Factor matrix for the Continuance Commitment scale*

|  | Factor |
| --- | --- |
|  | 1 |
| OC7 | .521 |
| OC8 | .761 |
| OC9 | .649 |

The item analysis for the *Normative Commitment* scale indicated that items OC13 and OC14 were poor and they were subsequently deleted from the scale. The dimensionality analysis performed on the *Normative Commitment* scale was, therefore, performed without these items. All the items in the correlation matrix obtained correlations exceeding the .30 cut-off value and

were significant (p < .05). The *Normative Commitment* scale obtained a KMO of .782 and it was deduced from the results that the identity matrix $H_0$ could be rejected, meaning that the correlation matrix was factor analysable. In-line with what was hypothesised; the results revealed that only one factor should be extracted since only one factor obtained an eigenvalue greater than 1. The resultant factor structure is shown in Table 5.23. The scree plot, in-line with the above, also suggested that one factor should be extracted. In addition, all the items could be considered satisfactory in terms of the proportion of item variance that could be explained by the first factor in that all were larger than .50. The extracted factor solution provided an acceptable, albeit tenuous explanation for the observed inter-item correlation matrix in as far as 33% of the residual correlations were found to be large. The unidimensionality assumption was thus corroborated.

Table 5.23

*Factor matrix for the Normative Commitment scale*

|      | Factor |
| --- | --- |
|      | 1 |
| OC15 | .726 |
| OC16 | .738 |
| OC17 | .839 |
| OC18 | .707 |

## 5.4.2 Job satisfaction

*Job Satisfaction* was measured by the JDI scale, which measures six distinct facets of *Job Satisfaction,* as well as the JIG scale. Dimensionality analyses were done for each facet of the JDI scale and the JIG scale, separately. Only item 5 of the JDI facet 2 (pay) scale proved to be a poor item and was therefore removed. All the items in the rest of the subscales measuring *Job Satisfaction* were retained.

### 5.4.2.1 JDI-1 (work on present job)

The correlation matrix for the JDI-1 subscale indicated that the matrix was factor analysable as most of the correlations were larger than .30 and all were significant (p < .05). The scale obtained a KMO of .826 and the Bartlett test of sphericity allowed for the identity matrix null

hypothesis to be rejected. Thus there was strong evidence that the correlation matrix was factor analysable.

One factor was extracted, since only one factor obtained an eigenvalue greater than 1. The scree plot also suggested that a single factor should be extracted. The extracted factor solution provided an acceptable explanation for the observed inter-item correlation matrix in as far as 26% of the residual correlations were found to be large. The unidimensionality assumption was therefore corroborated. The factor matrix, however, indicated that all the items except JS1-1 (.446) loaded satisfactorily on the one extracted factor. The resultant factor structure is shown in Table 5.24. JS1-1 was therefore deleted from the work on present job subscale.

Table 5.24

Factor matrix for the JDI scale facet 1

|  | Factor |
| --- | --- |
|  | 1 |
| JS1-1 | .446 |
| JS1-2 | .769 |
| JS1-3 | .720 |
| JS1-4 | .604 |
| JS1-5 | .727 |
| JS1-6 | .558 |

After item JS1-1 was removed from the JDI1 subscale the item analysis was re-run. The results of the item analysis of the reduced *Job Satisfaction* JDI1 subscale are shown in Table 5.25 on the next page.

Table 5.25

*Item analysis results for the reduced JDI scale facet 1*

| Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|
| .796 | .805 | 5 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS1-2 | 2.3415 | 1.20883 | 205 |
| JS1-3 | 2.4098 | 1.14955 | 205 |
| JS1-4 | 2.4976 | 1.01761 | 205 |
| JS1-5 | 2.4537 | 1.07286 | 205 |
| JS1-6 | 1.5659 | 1.42175 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS1-2 | 8.9268 | 12.147 | .672 | .473 | .726 |
| JS1-3 | 8.8585 | 12.799 | .626 | .427 | .743 |
| JS1-4 | 8.7707 | 14.246 | .519 | .326 | .776 |
| JS1-5 | 8.8146 | 13.054 | .653 | .443 | .737 |
| JS1-6 | 9.7024 | 12.543 | .467 | .242 | .805 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.254 | 1.566 | 2.498 | .932 | 1.595 | .151 | 5 |
| Item Variances | 1.398 | 1.036 | 2.021 | .986 | 1.952 | .148 | 5 |
| Inter-Item Covariances | .614 | .364 | .781 | .416 | 2.144 | .017 | 5 |

### 5.4.2.2 JDI-2 (pay)

The item analysis of facet 2 of the JDI scale provided enough support for the deletion of item 5. The dimensionality analysis of the JDI-2 subscale was therefore done excluding item JS2-5. The resultant factor structure is shown in Table 5.26.

Table 5.26

*Rotated factor matrix for the JDI scale facet 2*

|  | Factor | |
|---|---|---|
|  | 1 | 2 |
| JS2-1 | .691 | -.169 |
| JS2-3 | .569 | .111 |
| JS2-4 | .649 | -.109 |
| JS2-6 | .543 | .388 |
| JS2-7 | .636 | .280 |
| JS2-8 | .651 | .006 |
| JS2-2 | .555 | -.484 |

The KMO for the reduced JDI2 subscale was .807 and Bartlett's test of sphericity indicated that the identity matrix $H_0$ could be rejected, indicating that the correlation matrix was factor analysable. Facet 2 of the JDI was hypothesised to be one-dimensional, however 2 factors were extracted in terms of the correlation matrix, since 2 factors obtained eigen values greater than 1, as shown in the pattern matrix in Table 5.26. The scree plot also clearly indicated that more than one factor should be extracted. On further examination of the items that loaded onto the second factor, no meaningful identity for the factor could be established. None of the items loaded predominantly on factor two. Three of the items identified themselves as complex items. Especially JS2-2 showed moderate loadings on both factors. Deletion of JS2-2 possibly would have solved the problem. It was, however, decided to rather interpret facet 2 as a higher-order construct and to force the facet 2 items to load on a single factor.

Table 5.27

*Factor matrix when forcing the extraction of a single factor (JDI scale facet 2)*

|  | Factor |
|---|---|
|  | 1 |
| JS2-1 | .689 |
| JS2-3 | .578 |
| JS2-4 | .657 |
| JS2-6 | .515 |
| JS2-7 | .621 |
| JS2-8 | .663 |
| JS2-2 | .504 |

The results as seen in Table 5.27 indicated that all the items loaded satisfactorily onto one factor. The 1-factor solution, however, provided a somewhat tenuous although not altogether implausible explanation for the observed correlation matrix in that 38% of the residual correlations were greater than .05.

### 5.4.2.3 JDI-3 (opportunities for promotion)

For facet three of the JDI scale the correlation matrix showed that most of the correlations were larger than .30 and that all were significant ($p < .05$). The subscale obtained a KMO of .842 and the Bartlett test of sphericity allowed for the identity matrix null hypothesis to be rejected. Thus there was strong evidence that the correlation matrix was factor analysable. One factor was extracted, since only one factor obtained an eigenvalue greater than 1. The scree plot also suggested that a single factor should be extracted. The factor matrix indicated that all the items satisfactorily loaded on one factor as all factor loadings were larger than .50. The resultant factor structure is shown in Table 5.28. Furthermore, only 26.0% of the reproduced correlations were larger than .05 suggesting that the factor solution provided a credible explanation for the observed inter-item correlation matrix. The unidimensionality assumption was thus corroborated.

Table 5.28

*Factor matrix for the JDI scale facet 3*

|  | Factor |
| --- | --- |
|  | 1 |
| JS3-1 | .605 |
| JS3-2 | .765 |
| JS3-3 | .510 |
| JS3-4 | .745 |
| JS3-5 | .638 |
| JS3-6 | .732 |

### 5.4.2.4 JDI-4 (supervision)

The results for this dimensionality analysis indicated that the correlation matrix was factor analysable as all the obtained correlations exceeded .30 and all were significant (p < .05). Furthermore, the KMO was .866 and Bartlett's test of sphericity indicated that the identity matrix $H_0$ could be rejected. One factor was extracted in terms of the observed correlation matrix, since only one factor obtained an eigenvalue greater than 1. As expected, the factor matrix indicated that all the items loaded satisfactorily onto one factor. All the obtained factor loadings were larger than .60 and only 33.0% of the reproduced correlations were larger than .05, suggesting that the rotated factor solution provided a reasonably credible explanation for the observed inter-item correlation matrix. The resultant factor structure is shown in Table 5.29. The unidimensionality assumption for this scale was thus corroborated.

Table 5.29

*Factor matrix for the JDI scale facet 4*

|  | Factor |
| --- | --- |
|  | 1 |
| JS4-1 | .841 |
| JS4-2 | .710 |
| JS4-3 | .639 |
| JS4-4 | .708 |
| JS4-5 | .759 |
| JS4-6 | .708 |

### 5.4.2.5 JDI-5 (people on your present job)

The results for this facet of the JDI dimensionality analysis indicated that the correlation matrix was factor analysable as all the obtained correlations exceeded .30 and all were significant (p < .05). The factor analysability assumption was furthermore supported with a satisfactory KMO value of .829 and the rejection of the $H_0$ in Bartlett's test of sphericity. Only one factor obtained an eigenvalue greater than 1 and therefore only a single factor was extracted. As expected, the factor matrix indicated that all the items loaded satisfactorily onto one factor. All the obtained factor loadings exceeded .50. The 1-factor solution, however, provided a somewhat tenuous although not altogether implausible explanation for the observed correlation matrix in that 40%

of the residual correlations were greater than .05. The resultant factor structure is shown in Table 5.30. The unidimensionality assumption for this scale was thus corroborated.

Table 5.30

*Factor matrix for the JDI scale facet 5*

|  | Factor |
| --- | --- |
|  | 1 |
| JS5-1 | .881 |
| JS5-2 | .710 |
| JS5-3 | .559 |
| JS5-4 | .828 |
| JS5-5 | .656 |
| JS5-6 | .653 |

### 5.4.2.6 JIG

The unidimensionality assumption that the 6 items included in the JIG subscale all reflect a single underlying *Job Satisfaction* factor, was confirmed. Only one factor was extracted with an eigenvalue greater than one. The scree plot also indicated the extraction of a single factor. The 1-factor solution, however, provided a somewhat tenuous explanation for the observed correlation matrix in that 46% of the residual correlations were greater than .05. This raises the question whether a second factor is not required to adequately account for the observed correlation matrix. This possibility was, however, not examined. All items, except for JS6-6, in this subscale showed strong loadings on the singe extracted factor (>.50). The resultant factor matrix is shown in Table 5.31.

Table 5.31

*Factor matrix for the JIG scale*

|  | Factor |
| --- | --- |
|  | 1 |
| JS6-1 | .651 |
| JS6-2 | .668 |
| JS6-3 | .596 |
| JS6-4 | .525 |
| JS6-5 | .624 |
| JS6-6 | .480 |

Item JS6-6 was subsequently removed from the JIG scale and the item analysis was re-run. The results of the item analysis on the reduced *Job Satisfaction* JIG scale is shown in Table 5.32.

Table 5.32

*Item analysis of the reduced JIG scale*

| | Cronbach's Alpha | Cronbach's Alpha Based on Standardised Items | N of Items |
|---|---|---|---|
| | .749 | .749 | 5 |

| | Mean | Std. Deviation | N |
|---|---|---|---|
| JS6-1 | 2.0878 | 1.32180 | 205 |
| JS6-2 | 2.1366 | 1.29512 | 205 |
| JS6-3 | 2.2683 | 1.20912 | 205 |
| JS6-4 | 2.2000 | 1.24617 | 205 |
| JS6-5 | 2.0780 | 1.31125 | 205 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| JS6-1 | 8.6829 | 13.394 | .540 | .302 | .695 |
| JS6-2 | 8.6341 | 13.302 | .570 | .362 | .684 |
| JS6-3 | 8.5024 | 14.222 | .513 | .287 | .705 |
| JS6-4 | 8.5707 | 14.893 | .407 | .190 | .742 |
| JS6-5 | 8.6927 | 13.439 | .541 | .323 | .694 |

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 2.154 | 2.078 | 2.268 | .190 | 1.092 | .006 | 5 |
| Item Variances | 1.632 | 1.462 | 1.747 | .285 | 1.195 | .015 | 5 |
| Inter-Item Covariances | .610 | .409 | .828 | .419 | 2.024 | .020 | 5 |

## 5.4.3 Intention to quit

The *Intention to Quit* latent variable was conceptualised as a unidimensional construct. The dimensionality analysis results indicated that a single underlying factor explained the observed

correlations between the items of the subscale. Only one factor obtained an eigenvalue greater than unity. The scree plot also suggested the extraction of a single factor. The extracted factor structure is shown in Table 5.33. The items comprising the *Intention to Quit* subscale all loaded satisfactory on the single underlying factor with the lowest being .835 and 0.0% of the reproduced correlations being larger than .05, suggesting that the factor solution provided a highly credible explanation for the observed inter-item correlation matrix.

Table 5.33

*Factor matrix for the Intention to Quit scale*

|      | Factor |
|------|--------|
|      | 1      |
| ITQ1 | .867   |
| ITQ2 | .841   |
| ITQ3 | .902   |
| ITQ4 | .835   |

## 5.4.4 Psychological empowerment

The *Psychological Empowerment* latent variable was conceptualised as a construct comprising four correlated latent dimensions: *Meaning*, *Competence*, *Self-Determination* and *Impact* (Spreitzer, 1995). The structural model developed in response to the research initiating question utilised *Psychological Empowerment* as a composite construct and did not distinguish the specific latent dimensions of the construct. It was however decided to execute EFA on each of the dimensions individually.

Table 5.34

*Factor structure for the Meaning dimension of the Psychological Empowerment scale*

|      | Factor |
|------|--------|
|      | 1      |
| PE2  | .733   |
| PE5  | .766   |
| PE10 | .953   |

The subscale obtained a KMO of .690 and it was deduced from the results obtained for Bartlett's test of sphericity that the identity matrix $H_0$ could be rejected, meaning that the

correlation matrix was factor analysable. In-line with what was hypothesised, the results revealed that only one factor should be extracted since only one factor obtained an eigenvalue greater than 1. The resultant factor structure is shown in Table 5.35.

Table 5.35

*Factor structure for the Competence dimension of the Psychological Empowerment scale*

|  | Factor |
|---|---|
|  | 1 |
| PE1 | .641 |
| PE9 | .649 |
| PE12 | .807 |

The items comprising the *Competence* dimension all loaded satisfactory on the single underlying factor with the lowest being .641 and 0.0% of the reproduced correlations being larger than .05, suggesting that the factor solution provided a credible explanation for the observed inter-item correlation matrix. The unidimensionality assumption was thus corroborated.

Table 5.36

*Factor structure for the Self-Determination dimension of the Psychological Empowerment scale*

|  | Factor |
|---|---|
|  | 1 |
| PE3 | .614 |
| PE7 | .893 |
| PE8 | .852 |

For the *Self-Determination* subscale only one factor obtained an eigenvalue greater than unity. The scree plot also suggested the extraction of a single factor. The extracted factor structure is shown in Table 5.36. The items comprising the *Self-Determination* dimension all loaded satisfactory on the single underlying factor with the lowest being .614 and 0.0% of the reproduced correlations being larger than .05, suggesting that the factor solution provided a credible explanation for the observed inter-item correlation matrix.

Table 5.37

*Factor structure for the Impact dimension of the Psychological Empowerment scale*

| | Factor 1 |
|---|---|
| PE6 | .792 |
| PE11 | .792 |

Item analysis of the impact subscale resulted in the deletion of item PE4. The dimensionality analysis for this dimension was therefore executed without the inclusion of this item. Both items in the correlation matrix obtained correlations exceeding the .30 cut-off value and were both significant. The results revealed that only one factor could be extracted since only one factor obtained an eigenvalue greater than 1. The resultant factor structure is shown in Table 5.37. All the items could be considered satisfactory in terms of the proportion of item variance that could be explained by the first factor, as they were all larger than .50. The unidimensionality assumption was thus corroborated.

## 5.4.5 Perceived development opportunities

The item analysis indicated that item PDO4 was a poor item and it was subsequently deleted from the subscale. The dimensionality analysis performed on the *Perceived Development Opportunities sub*scale was, therefore, performed without item PDO4. All the items in the correlation matrix obtained correlations exceeding the .30 cut-off value with the lowest being .627 and were significant. The scale obtained a KMO of .716 and it was deduced from the results that the identity matrix $H_0$ could be rejected, meaning that the correlation matrix was factor analysable.

In-line with what was hypothesised, the results revealed that only one factor should be extracted since only one factor obtained an eigenvalue greater than 1. The resultant factor structure is shown in Table 5.32. All the items could be considered satisfactory in terms of the proportion of item variance that could be explained by the first factor as they were all larger than .50. The 1-factor solution provided a plausible explanation for the observed correlation matrix in that 0.0% of the residual correlations were greater than .05. The unidimensionality assumption was thus corroborated.

Table 5.38

*Factor matrix for the Perceived Development Opportunities scale*

|  | Factor |
| --- | --- |
|  | 1 |
| PDO1 | .736 |
| PDO2 | .914 |
| PDO3 | .853 |

## 5.4.6 Perceived alternative opportunities

In evaluating the unidimensionality assumption that the 6 items comprising the *Perceived Development Opportunities* subscale all reflect a single underlying factor, the SPSS exploratory factor analysis suggested that one would need two factors to explain the observed inter-item correlations for this subscale. Two factors with eigenvalues greater than one were extracted. Items PAO1, PAO2 and PAO3 loaded on factor two (>.5). The remaining items loaded on factor one (>.5). Factor 1 seemed to refer to the probability of finding another employment opportunity whereas factor 2 seemed to emphasise the comparative worth of alternative employment opportunities. The two-factor factor structure provided a credible explanation for the observed correlation matrix in that 33% of the residual correlations were large.

Table 5.39

*Rotated factor structure for the Perceived Alternative Opportunities scale*

|  | Factor | |
| --- | --- | --- |
|  | 1 | 2 |
| PAO1 | .372 | .768 |
| PAO2 | .322 | .661 |
| PAO3 | .433 | .675 |
| PAO4 | .712 | .392 |
| PAO5 | .745 | .341 |
| PAO6 | .666 | .385 |

SPSS was subsequently forced to extract a single factor to determine how well the items represent a single underlying factor. The resultant single-factor factor structure is shown in Table 5.40. All items had satisfactorily high loadings on the single factor (>.5).

Table 5.40

*Factor matrix when forcing the extraction of a single factor for the Perceived Alternative Opportunities scale*

|  | Factor |
| --- | --- |
|  | 1 |
| PAO1 | .788 |
| PAO2 | .687 |
| PAO3 | .783 |
| PAO4 | .776 |
| PAO5 | .755 |
| PAO6 | .743 |

There were, however, 7 (46.0%) non-redundant residuals with absolute values greater than .05, suggesting that the forced factor solution provided a rather tenuous explanation for the observed inter-item correlation matrix.  This necessarily follows from the fact that a two-factor solution has originally been indicated.

### 5.4.7 Perceived human capital

The *Perceived Human Capital* scale was run without the identified poor item, item PHC4. The *Perceived Human Capital* latent variable was conceptualised as a unidimensional construct. The exploratory factor analysis results indicated that a single underlying factor explained the observed correlations between the items of the subscale with only one factor obtaining an eigenvalue greater than unity. The extracted factor structure is shown in Table 5.41. The items comprising the *Perceived Human Capital* scale all loaded satisfactory on the single underlying factor with the lowest being .781 with 0.0% of the reproduced correlations being larger than .05, suggesting that the factor solution provides a credible explanation for the observed inter-item correlation matrix.

Table 5.41

*Factor matrix for the Perceived Human Capital scale*

|  | Factor |
| --- | --- |
|  | 1 |
| PHC1 | .783 |
| PHC2 | .918 |
| PHC3 | .781 |

### 5.4.8 Perceived utility of movement

The item analysis indicated that items PUM8 and PUM10 were poor items and were subsequently deleted from the subscale. The dimensionality analysis performed on the *Perceived Utility of Movement* subscale was, therefore, performed without these items. All the items in the correlation matrix obtained correlations exceeding the .30 cut-off value and were all significant. The scale obtained a KMO of .938 and it was inferred from the results of the Bartlett test that the identity matrix $H_0$ hypothesis could be rejected, meaning that the correlation matrix was factor analysable.

In-line with what was hypothesised, the results revealed that only one factor should be extracted, since only one factor obtained an eigenvalue greater than 1. The resultant factor structure is shown in Table 5.42. All the items could be considered satisfactory in terms of the proportion of item variance that could be explained by the first factor. In all cases factor 1 explained more than 50% of the variance in each item. The 1-factor solution provided a plausible explanation for the observed correlation matrix in that 11% of the residual correlations were greater than .05.The unidimensionality assumption was thus corroborated.

Table 5.42

*Factor matrix for the Perceived Utility of Movement scale*

|  | Factor |
| --- | --- |
|  | 1 |
| PUM1 | .770 |
| PUM2 | .797 |
| PUM3 | .829 |
| PUM4 | .824 |

| | |
|------|------|
| PUM5 | .853 |
| PUM6 | .834 |
| PUM7 | .747 |
| PUM9 | .729 |

## 5.5 A Summary of the findings for the Item and Dimensionality Analyses

The objective of the foregoing item - and dimensionality analyses was to offer insight into the functioning of the scales and subscales used to measure the latent variables included in the reduced *Intention to Quit* Structural Model as depicted in Figure 4.1. Furthermore, the analyses allowed for an in depth evaluation of the psychometric integrity of the indicator variables that were tasked to represent each latent variable. The results for both sets of analyses provided extensive support for the formulation of item parcels. The item analyses for all the scales except for *Affective Commitment* (.675), *Job Satisfaction (JDI facet 2)* (.788) and *Job Satisfaction (JDI facet 6)* (.763) revealed sufficient internal consistency in that all of them showed alpha values exceeding the cut-off of .80. Following an evaluation of the item statistics, sufficient evidence was found for the deletion of eleven items across the range of scales. With regards to the dimensionality analyses, all the scales, except for *Affective Commitment* and *Perceived Alternative Opportunities* passed the unidimensionality assumption as was originally hypothesised. In all three instances the items were unsuccessfully forced onto a single factor solution.

## 5.6 Confirmatory Factor Analysis of the Multi-Dimensional Scales

*Job Satisfaction*, *Organisational Commitment* and *Psychological Empowerment* were conceptualised as multidimensional latent variables. All these latent variables were operationalised via multidimensional multi-indicator measures. Item and dimensionality analyses were performed on the subscales of each of the three measures. The claim that these three multidimensional multi-indicator instruments provide valid and reliable measures of the three multidimensional latent variables can, however, be strengthened by showing that the measurements models that reflect the constitutive definitions of the three latent variables and the design intention of the instrument developers fit data obtained on the three instruments. Three confirmatory factor analyses were consequently performed on the three instruments in which the individual items served as indicator variables.

When performing structural equation modelling and working with multivariate statistics, various assumptions are made. It is of crucial importance to assess to what extent the data complies with these assumptions before performing the analysis as it determines the quality of the solutions that are obtained. Non-normality is one such an assumption that needs to be critically assessed. Maximum likelihood estimation, which is the default method of estimation with regards to the fitting of measurement and structural models to continuous data, is based on the assumption that the distribution of indicator variables follows a multivariate normal distribution (Mels, 2003). According to Du Toit and Du Toit (2001) failure to satisfy this assumption will ultimately lead to incorrect standard errors and chi-square estimations[13].

Before performing CFA on the three measures of the three multi-dimensional constructs, *Job Satisfaction*, *Organisational Commitment* and *Psychological Empowerment* the null hypothesis that the three indicator variable distributions follow a multivariate normal distribution was first tested. The results of these three tests are shown in Table 5.43, Table 5.44 and Table 5.45.

Table 5.43

*Test of multivariate normality for Job Satisfaction before normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 70.609 | 20.346 | 0.000 | 446.099 | 12.271 | 0.000 | 564.518 | 0.000 |

Table 5.44

*Test of multivariate normality for Organisational Commitment before normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 435.499 | 30.841 | 0.000 | 1689.639 | 13.091 | 0.000 | 1122.547 | 0.000 |

Table 5.45

*Test of multivariate normality for Psychological Empowerment before normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 85.759 | 42.069 | 0.000 | 301.150 | 17.726 | 0.000 | 2084.035 | 0.000 |

---

[13] Theory regarding the test for normality as well as the evaluation of model fit will be discussed in more depth in section 5.8.

From the statistics presented in Tables 5.43, 5.44 and 5.45 it is evident that the null hypothesis of multivariate normality for all three scales had to be rejected (p < .05). The item distributions were subsequently normalised using PRELIS. The extent to which this solved the problem was determined by again testing the null hypothesis of multivariate normality with regards to the three normalised distributions. The results are shown in Table 5.46, Table 5.47 and Table 5.48.

Table 5.46

*Test of multivariate normality for Job Satisfaction after normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 80.579 | 24.484 | 0.000 | 487.163 | 14.855 | 0.000 | 820.147 | 0.000 |

Table 5.47

*Test of multivariate normality for Organisational Commitment after normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 440.130 | 31.695 | 0.000 | 1702.260 | 13.592 | 0.000 | 1189.319 | 0.000 |

Table 5.48

*Test of multivariate normality for Psychological Empowerment after normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 25.825 | 16.378 | 0.000 | 191.533 | 10.758 | 0.000 | 383.976 | 0.000 |

Tables 5.46, 5.47 and 5.48 show that the normalisation procedure failed in its attempt to rectify the multivariate normality problem (p < .05). Table 5.48, however, shows that the attempt at normalising the *Psychological Empowermen* indicator variables did at least improve the symmetry and kurtosis of the multivariate distributiion. In the case of *Organisational Commitment* and *Job Satisfaction* the attempt at normalisation had the unintended consequence of increasing the deviation of the observed distribution from the multivariate normal distribution.

Since the normalisation had less than the desired effect, the use of an alternative method of estimation more suited to data not following a multivariate normal distribution was rather

considered. Weighted least squares (WLS), diagonally weighted least squares (DWLS) and robust maximum likelihood (RML) are estimation methods which are appropriate to use in order to fit structural equation models to non-normal data (Mels, 2003). In accordance with the recommendation by Mels (2003) RML estimation was used in this study. This necessitated the computation of an asymptotic covariance matrix via PRELIS to enable the calculation of more appropriate fit indices in LISREL. For this purpose the original non-normalised data set was utilised due to the detrimental effect that the attempt at normalising the data had on the item distribution.

### 5.6.1 Test of fit for the measurement models for the multi-dimensional construct measures

The overall statistics for the fitted *Job Satisfaction, Organisational Commitment* and *Psychological Empowerment* measurement models are presented in Tables 5.49, 5.50 and 5.51 respectively.

Table 5.49

*Goodness of Fit Statistics for Organisational Commitment*

| Goodness of Fit Statistics |
|---|
| Degrees of Freedom = 62 |
| Minimum Fit Function Chi-Square = 160.07 (P = 0.00) |
| Normal Theory Weighted Least Squares Chi-Square = 184.46 (P = 0.00) |
| Satorra-Bentler Scaled Chi-Square = 118.82 (P = 0.00) |
| Chi-Square Corrected for Non-Normality = 188.39 (P = 0.00) |
| Estimated Non-centrality Parameter (NCP) = 56.82 |
| 90 Percent Confidence Interval for NCP = (29.82 ; 91.62) |
| Minimum Fit Function Value = 0.78 |
| Population Discrepancy Function Value (F0) = 0.28 |
| 90 Percent Confidence Interval for F0 = (0.15 ; 0.45) |
| Root Mean Square Error of Approximation (RMSEA) = 0.067 |
| 90 Percent Confidence Interval for RMSEA = (0.049 ; 0.085) |
| P-Value for Test of Close Fit (RMSEA < 0.05) = 0.063 |
| Expected Cross-Validation Index (ECVI) = 0.87 |
| 90 Percent Confidence Interval for ECVI = (0.73 ; 1.04) |
| ECVI for Saturated Model = 0.89 |
| ECVI for Independence Model = 12.88 |
| Chi-Square for Independence Model with 78 Degrees of Freedom = 2601.79 |
| Independence AIC = 2627.79 |
| Model AIC = 176.82 |
| Saturated AIC = 182.00 |
| Independence CAIC = 2683.99 |
| Model CAIC = 302.19 |
| Saturated CAIC = 575.39 |
| Normed Fit Index (NFI) = 0.95 |

Non-Normed Fit Index (NNFI) = 0.97
Parsimony Normed Fit Index (PNFI) = 0.76
Comparative Fit Index (CFI) = 0.98
Incremental Fit Index (IFI) = 0.98
Relative Fit Index (RFI) = 0.94
Critical N (CN) = 156.90
Root Mean Square Residual (RMR) = 0.19
Standardised RMR = 0.064
Goodness of Fit Index (GFI) = 0.88
Adjusted Goodness of Fit Index (AGFI) = 0.82
Parsimony Goodness of Fit Index (PGFI) = 0.60

The Satorra-Bentler scaled chi-square calculated for the *Organisational Commitment* measurement model showed a value of 118.82 (p = 0.00). The null hypothesis of exact model fit ($H_{01}$: RMSEA = 0) was consequently rejected. This implies that the model failed to reproduce the observed co-variance matrix to a degree of accuracy explainable in terms of sampling error only.

The root mean square error of approximation (RMSEA) estimates the discrepancy between the observed population co-variance matrix and the estimated population co-variance matrix implied by the model per degree of freedom. A value below .05 is generally regarded as indicative of good model fit, a value above .05 but less than .08 as indicative of reasonable fit; a value greater than or equal to .08 but less than .10 indicative of mediocre fit and a value exceeding .10 is generally regarded as indicative of poor fit. The RMSEA value of .067 indicated that the measurement model showed reasonable model fit in the sample. The p-value for the test of close fit ($H_{02}$: RMSEA < .05) was .063. The close fit null hypothesis therefore was not rejected (p > .05).  The position that the *Organisational Commitment* measurement model showed close fit in the population was therefore a tenable position.

Furthermore, the $R^2$ values all exceeded .25 with the lowest being .35 for item 7 and the highest being .66 for items 16 and 17. All the factor loadings in the completely standardised solution for lambda X fell between .59 and .81.

Table 5.50

*Goodness of Fit Statistics for Job Satisfaction (JDI)*

| Goodness of Fit Statistics |
|---|
| Degrees of Freedom = 545 |
| Minimum Fit Function Chi-Square = 1019.43 (P = 0.0) |
| Normal Theory Weighted Least Squares Chi-Square = 1016.23 (P = 0.0) |
| Satorra-Bentler Scaled Chi-Square = 901.82 (P = 0.0) |
| Estimated Non-centrality Parameter (NCP) = 356.82 |
| 90 Percent Confidence Interval for NCP = (278.21 ; 443.32) |
| Minimum Fit Function Value = 5.00 |
| Population Discrepancy Function Value (F0) = 1.75 |
| 90 Percent Confidence Interval for F0 = (1.36 ; 2.17) |
| Root Mean Square Error of Approximation (RMSEA) = 0.057 |
| 90 Percent Confidence Interval for RMSEA = (0.050 ; 0.063) |
| P-Value for Test of Close Fit (RMSEA < 0.05) = 0.049 |
| Expected Cross-Validation Index (ECVI) = 5.25 |
| 90 Percent Confidence Interval for ECVI = (4.87 ; 5.68) |
| ECVI for Saturated Model = 6.18 |
| ECVI for Independence Model = 40.25 |
| Chi-Square for Independence Model with 595 Degrees of Freedom = 8141.12 |
| Independence AIC = 8211.12 |
| Model AIC = 1071.82 |
| Saturated AIC = 1260.00 |
| Independence CAIC = 8362.42 |
| Model CAIC = 1439.28 |
| Saturated CAIC = 3983.50 |
| Normed Fit Index (NFI) = 0.89 |
| Non-Normed Fit Index (NNFI) = 0.95 |
| Parsimony Normed Fit Index (PNFI) = 0.81 |
| Comparative Fit Index (CFI) = 0.95 |
| Incremental Fit Index (IFI) = 0.95 |
| Relative Fit Index (RFI) = 0.88 |
| Critical N (CN) = 142.32 |
| Root Mean Square Residual (RMR) = 0.12 |
| Standardised RMR = 0.077 |
| Goodness of Fit Index (GFI) = 0.78 |
| Adjusted Goodness of Fit Index (AGFI) = 0.74 |
| Parsimony Goodness of Fit Index (PGFI) = 0.67 |

The Satorra-Bentler scaled chi-square calculated for the *Job Satisfaction* (JDI) measurement model showed a value of 901.82 (p = 0.0). The null hypothesis of the exact model fit ($H_{01}$: RMSEA = 0) was consequently rejected. This implies that the model does not have the ability to reproduce the observed co-variance matrix to a degree of accuracy explainable in terms of sampling error only.

The RMSEA value of .057 indicated that the measurement model showed reasonable good model fit. The p-value for test of close fit ($H_{02}$: RMSEA < .05) was .049. The close fit null hypothesis therefore was rejected (p < .05). Technically therefore the position that the *Job*

*Satisfaction* (JDI) measurement model shows close fit in the parameter was not a tenable one. The sample RMSEA value, however, only marginally exceeded the critical cut-off value of .05. In addition the exceedence probability associated with the close fit null hypothesis only marginally fell below the .05 cut-off.

The $R^2$ values all exceeded .25 except for item JS2-2 that returned a squared multiple correlation of .20. The factor loading values in the completely standardised solution all exceeded .50 except for JS2-2 that returned a factor loading of .45. For the rest of the items the completely standardised factor loadings fell between .50 and .90.

Table 5.51

*Goodness of Fit Statistics for Psychological Empowerment*

| Goodness of Fit Statistics |
| --- |
| Degrees of Freedom = 38 |
| Minimum Fit Function Chi-Square = 88.852 (P = 0.0) |
| Normal Theory Weighted Least Squares Chi-Square = 88.601 (P = 0.0) |
| Satorra-Bentler Scaled Chi-Square = 63.794 (P = 0.00548) |
| Chi-Square Corrected for Non-Normality = 85.093 (P = 0.00) |
| Estimated Non-centrality Parameter (NCP) = 25.794 |
| 90 Percent Confidence Interval for NCP = (7.621 ; 51.845) |
| Minimum Fit Function Value = 0.436 |
| Population Discrepancy Function Value (F0) = 0.126 |
| 90 Percent Confidence Interval for F0 = (0.0374 ; 0.254) |
| Root Mean Square Error of Approximation (RMSEA) = 0.0577 |
| 90 Percent Confidence Interval for RMSEA = (0.0314 ; 0.0818) |
| P-Value for Test of Close Fit (RMSEA < 0.05) = 0.285 |
| Expected Cross-Validation Index (ECVI) = 0.587 |
| 90 Percent Confidence Interval for ECVI = (0.498 ; 0.715) |
| ECVI for Saturated Model = 0.647 |
| ECVI for Independence Model = 11.467 |
| Chi-Square for Independence Model with 55 Degrees of Freedom = 2317.194 |
| Independence AIC = 2339.194 |
| Model AIC = 119.794 |
| Saturated AIC = 132.000 |
| Independence CAIC = 2386.747 |
| Model CAIC = 240.839 |
| Saturated CAIC = 417.319 |
| Normed Fit Index (NFI) = 0.972 |
| Non-Normed Fit Index (NNFI) = 0.983 |
| Parsimony Normed Fit Index (PNFI) = 0.672 |
| Comparative Fit Index (CFI) = 0.989 |
| Incremental Fit Index (IFI) = 0.989 |
| Relative Fit Index (RFI) = 0.960 |
| Critical N (CN) = 196.585 |
| Root Mean Square Residual (RMR) = 0.0806 |
| Standardised RMR = 0.0596 |
| Goodness of Fit Index (GFI) = 0.928 |
| Adjusted Goodness of Fit Index (AGFI) = 0.876 |
| Parsimony Goodness of Fit Index (PGFI) = 0.535 |

The Satorra-Bentler scaled chi-square calculated for the *Psychological Empowerment* measurement model showed a value of 63.794 (P = 0.00548). The null hypothesis of the exact model fit was consequently rejected (p < 0.05).

The RMSEA value of .0577 indicated that the measurement model showed reasonable model fit. The p-value for test of close fit ($H_{02}$: RMSEA < .05) was .285. The close fit null hypothesis therefore was not rejected (p > .05).  The position that the *Organisational Commitment* measurement model showed close fit in the population was therefore a tenable position.

Furthermore, the $R^2$ values all exceeded .25 with the lowest being .37 for item 3 and the highest being .795 for item 10. All the factor loadings in the completely standardised solution for lambda X fell between .66 and .89.

## 5.7 Confirmatory Factors Analysis of the Intention to Quit Measurement Model

Section 4.7 described the manner in which the multi-indicator measures of the latent variables in the reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* were combined into item parcels.  An examination of the results obtained from the item – and exploratory factor analyses justified the formation of item parcels (composite variables) for each of the latent variables comprising the measurement model. Item parcels were created by pairing up even and uneven numbered items and calculating the means of these sets of items using SPSS. Two parcels of indicator variables from the items of each scale were used to operationalise the latent variables in the structural model. The two multidimensional constructs (*Job Satisfaction* and *Organisational Commitment)* were treated differently. For these constructs, parcels were formed for each dimension underlying the specific construct. All the items comprising each dimension formed a single parcel[14]. The reason for such a parcel formation was decided on after evaluation of the data following the initial fit of the model currently being tested. The initial fit of the model showed negative $R^2$ values for the two constructs, *Job Satisfaction* and *Organisational Commitment*[15]. Further investigation revealed the existence of multicollinearity between the measures of these two constructs. The parcel formation for these two constructs

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[14] Three parcels of indicator variables for the items of *Organisational Commitment* were used for operationalisation and six parcels for *Job Satisfaction*.
[15] The issue of multicollinearity and the evidence thereof as well as an in depth explanation of the parcel formation for *Job Satisfaction* and *Organizational Commitment* will be discussed in section 5.10.3.

was executed as an attempt to rectify the problem. The output generated following this rectification process is presented below.

The confirmatory factor analysis of the *Intention to Quit* measurement model was aimed at determining the success with which the item parcels operationalised the latent variables in the structural model.

## 5.7.1 Test for multivariate normality prior to CFA on the measurement model

Testing the null hypothesis that the multivariate distribution of the indicator variables follows a multivariate normal distribution is of crucial importance since a different indicator distribution is involved in the fitting of this measurement model. This assumption once again had to be tested prior to testing the fit of the *Intention to Quit* measurement model.

The test of multivariate normality of the composite item parcel distribution was evaluated using PRELIS. The results of the tests of multivariate normality for the multivariate *Intention to Quit* indicator variable distribution before and after normalisation are depicted in Tables 5.52 and 5.53.

Table 5.52

*Test of multivariate normality for the Intention to Quit variables before normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 87.211 | 16.91 | 0.000 | 550.317 | 10.063 | 0.000 | 387.456 | 0.000 |

From the statistics presented in Table 5.46 it is evident that the null hypothesis of multivariate normality had to be rejected (p<0.05). The indicator variable distribution was therefore subsequently normalised using PRELIS.

Table 5.53

*Test of multivariate normality for the Intention to Quit variables after normalisation*

| Skewness | | | Kurtosis | | | Skewness and | Kurtosis |
|---|---|---|---|---|---|---|---|
| Value | Z-score | P-Value | Value | Z-score | P-Value | Chi-Square | P-Value |
| 75.723 | 12.034 | 0.000 | 536.660 | 8.788 | 0.000 | 222.034 | 0.000 |

Table 5.53 shows that although the normalisation procedure succeeded in marginally improving the multivariate symmetry and kurtosis of the indicator variable distribution, it failed in its attempt to rectify the multivariate normality problem (p < .05).

Since the normalisation option had less than the desired effect RML, estimation was used. This once again necessitated the computation of an asymptotic covariance matrix via PRELIS to enable the calculation of more appropriate fit indices in LISREL. For this purpose the original data set was utilised due to the marginally positive effect that the attempt at normalising the data had on the multivariate indicator variable distribution.

## 5.8 Evaluating the fit of the Measurement Model via Confirmatory Factor Analysis in Lisrel

The measurement model presents a representation of the relationships between the *Intention to Quit* latent variables and its manifest indicators. These relationships can be expressed with the following matrix equation:

$$\mathbf{X} = \mathbf{\Lambda_x}\mathbf{\xi} + \mathbf{\delta}$$

$\mathbf{\Lambda_x}$ denotes the matrix of factor loading coefficients ($\lambda$), which indicate the loading of the indicator variables on their designated latent variables. $\mathbf{\xi}$ signifies the vector of the latent variables, $\mathbf{\delta}$ represents a vector of measurement error terms and $\mathbf{X}$ represents a vector of composite indicator variables (Diamantopoulos & Siguaw, 2000). The measurement error variance terms were assumed to be uncorrelated. $\mathbf{\Theta_\delta}$ was therefore defined as a diagonal matrix. The latent variables contained in $\mathbf{\xi}$ were allowed to correlate. The variance of all elements in $\mathbf{\xi}$ were fixed to unity.  All off-diagonal elements in $\mathbf{\Phi}$ were therefore freed to be estimated and the elements in the main diagonal fixed to 1.

The objective of the confirmatory factor analysis was to determine the level of success with which the latent variables comprising the structural model were operationalised in terms of the item parcels. Operationalisation was deemed successful if the measurement model, as depicted in the above equation, can successfully reproduce the observed covariance matrix and if the measurement model parameter estimates indicate that the majority of the variance in the indicator variables can be explained in terms of the latent variables they were designed to reflect (Burger, 2012).

**5.8.1 Measurement model fit indices**

The overall fit statistics for the fitted intention to quit measurement model are presented in Table 5.54.

Table 5.54

*Goodness of Fit Statistics for the Intention to Quit Measurement Model*

Goodness of Fit Statistics
Degrees of Freedom = 161
Minimum Fit Function Chi-Square = 216.377 (P = 0.00236)
Normal Theory Weighted Least Squares Chi-Square = 216.618 (P = 0.00228)
Satorra-Bentler Scaled Chi-Square = 190.459 (P = 0.0562)
Chi-Square Corrected for Non-Normality = 1096.988 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 29.459
90 Percent Confidence Interval for NCP = (0.0 ; 68.118)
Minimum Fit Function Value = 1.061
Population Discrepancy Function Value (F0) = 0.144
90 Percent Confidence Interval for F0 = (0.0 ; 0.334)
Root Mean Square Error of Approximation (RMSEA) = 0.0299
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0455)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.986
Expected Cross-Validation Index (ECVI) = 1.620
90 Percent Confidence Interval for ECVI = (1.475 ; 1.809)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 330.459
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 633.069
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.967
Non-Normed Fit Index (NNFI) = 0.993
Parsimony Normed Fit Index (PNFI) = 0.742
Comparative Fit Index (CFI) = 0.995
Incremental Fit Index (IFI) = 0.995
Relative Fit Index (RFI) = 0.958
Critical N (CN) = 221.290
Root Mean Square Residual (RMR) = 0.0506
Standardised RMR = 0.0458
Goodness of Fit Index (GFI) = 0.908
Adjusted Goodness of Fit Index (AGFI) = 0.868
Parsimony Goodness of Fit Index (PGFI) = 0.633

The following exact fit null hypothesis was tested:

$$H_{022}: RMSEA = 0$$

$$H_{a22}: RMSEA > 0$$

The following close fit null hypothesis was also tested:

$$H_{023}: RMSEA .05$$

$$H_{a23}: RMSEA > .05$$

The Satorra-Bentler scaled chi-square showed a value of 190.459 (p = 0.0562). The null hypothesis of the exact model fit ($H_{01}: RMSEA = 0$) was consequently not rejected. This implies that the position that the measurement model shows exact model fit in the parameter is a permissible position.

The RMSEA estimates the discrepancy between the observed population co-variance matrix and the estimated population co-variance matrix implied by the model per degree of freedom. The RMSEA value of .0299 indicated that the measurement model shows very good model fit. The fact that the upper bound of the confidence interval fell below the critical cut off value of .05 moreover indicated that the null hypothesis of close fit would not be rejected. The p-value for the test of close fit ($H_{02}: RMSEA < .05$) was .986. The close fit null hypothesis therefore was not rejected (p > .05) and thus it is concluded that the measurement model showed very good fit.

**5.8.2 Examination of measurement model residuals**

Jöreskog and Sörbom (1993) define residuals as the differences between corresponding cells in the observed and fitted covariance matrices. Furthermore, they state that a standardised residual is one that is divided by its estimated standard error and provides valuable information pertaining to sources of lack of fit in the model. Such standardised residuals are considered to be large if they are above +2.58 or below -2.58. Positive residuals indicate underestimation and thus imply the need for additional explanatory paths whereas negative residuals indicate overestimation and thus suggest the need to remove paths (Burger, 2012). Table 5.55 provides a summary of the standardised residuals obtained for this confirmatory factor analysis performed on the *Intention to Quit* measurement model.

Table 5.55

*Summary statistics for the Intention to Quit Measurement Model Standardised Residuals*

| Description | Value |
|---|---|
| Smallest Standardised Residual | -5.893 |
| Median Standardised Residual | 0.00 |
| Largest Standardised Residual | 3.824 |
| | |
| Residual for PHC1 and ITQ1 | -3.135 |
| Residual for JS1 and PHC2 | -2.710 |
| Residual for JS3 and PDO1 | -5.893 |
| Residual for JS4 and PUM1 | -2.992 |
| Residual for JS4 and JS3 | -3.503 |
| Residual for JS5 and JS2 | -4.962 |
| | |
| Residual for PAO1 and ITQ2 | 2.651 |
| Residual for JS5 and PDO1 | 3.824 |
| Residual for JS5 and PDO2 | 2.918 |
| Residual for JS6 and ITQ2 | 3.329 |

Table 5.55 shows 10 large residuals which meant that only 4.33% of the 231 observed variance-covariance terms were poorly estimated by the fitted model. Such a small percentage of large residuals provide support for the conclusion of good model fit.  One possible explanation for the large positive residuals could be ascribed to the fact that the measurement model fails to model the structural relationships that exist between the identified latent variables.

Another method for the inspection of standardised residuals is to examine them collectively using a stem-and-leaf plot and a Q-plot. A stem and leaf plot in which the residuals are distributed approximately symmetrical around zero, would be labeled as a good model. The presence of over or underestimated covariance terms would be highlighted with residuals being either on the positive or negative side of the stem and leaf plot. Figure 5.1 shows the stem and leaf plot for the *Intention to Quit* measurement model.

```
 - 5|9
 - 5|0
 - 4|
 - 4|
 - 3|5
 - 3|10
 - 2|75
 - 2|32210
 - 1|9998776666555
```

```
 - 1|4433322222111000
 - 0|99988888777776666666655
0|4444433222211110000000000000000000000000000000000000000000000000000+13
0|11111111111122223333333444
0|5555566666666677778888999999
1|00011223333344
1|568899
2|14
2|5679
3|3
3|8
```

*Figure 5.1.* Stem-and-leaf plot of the Intention to Quit Measurement Model Standardised Residuals

The stem-and-leaf plot illustrated in Figure 5.1 seemed to indicate that the distribution of standardised residual tended to be slightly negatively skewed with a slight domination of large negative standardised residuals. This implied good model fit.

As aforementioned, the Q-plot is another method used for the inspection of standardised residuals. Inspection of the Q-plot places focus on the extent to which the data points fall on the 45 degree line. Data points falling along the 45 degree reference line is a good indication of a good model fit (Jöreskog & Sörbom, 1993). Figure 5.2 depicts the *Intention to Quit* measurement model Q-plot.

*Figure 5.2.* Q-plot of *Intention to Quit* Measurement Model Standardised Residuals

The Q-plot displayed above shows that the data points fell on, or relatively close, to the 45-degree reference line. This once again provided support for good model fit.

### 5.8.3 Intention to quit measurement model modification indices

Model modification indices are examined for the purpose of determining whether any of the currently fixed parameters, if freed in the model, would lead to a significant improvement in the fit of the model. Modification indices show the extent to which the fit statistic will decrease if a currently fixed parameter in the model is freed and the model re-estimated. Modification index values exceeding 6.6349 show parameters that would lead to a significant improvement in the fit of the measurement model ($p < .01$) if it had to be set free (Diamantopoulos & Siguaw, 2000).

It should be noted that during the evaluation of the modification indices calculated for lambda X as well as theta-delta, the focus is placed on determining the extent to which the model fits the

data, and not for possible ways of altering the model. The extent to which the model has good fit is determined by the number of ways that exist that would lead to the improvement of the fit of the model. The modification index values calculated for the lambda X matrix are shown in Table 5.56.

Table 5.56

*Modification Indices of the Intention to Quit Measurement Model for Lambda-X*

|  | PDO | OC | ITQ | PE | PAO | JS | PHC | PUM |
|---|---|---|---|---|---|---|---|---|
| PDO1 | - | 2.401 | 6.254 | 0.003 | 0.400 | - | 0.528 | - |
| PDO2 | - | 3.101 | 4.196 | 0.003 | 0.402 | - | 0.527 | 14.470 |
| OC1 | 0.550 | - | 0.878 | 2.321 | 0.334 | 10.595 | 0.218 | 3.024 |
| OC2 | 1.738 | - | 1.303 | 1.504 | 1.028 | 4.592 | 0.003 | 0.797 |
| OC3 | 0.090 | - | 0.047 | 0.266 | 0.002 | 0.941 | 0.320 | 2.920 |
| ITQ1 | 0.011 | 0.004 | - | 0.422 | 2.850 | 1.162 | 1.701 | 0.110 |
| ITQ2 | 0.011 | 0.004 | - | 0.435 | 2.545 | 0.904 | 1.554 | 0.110 |
| PE1 | 1.675 | 0.019 | 0.353 | - | 0.054 | 0.001 | 0.005 | 0.027 |
| PE2 | 1.566 | 0.021 | 0.353 | - | 0.052 | 0.001 | 0.005 | 0.025 |
| PAO1 | 6.400 | 5.079 | 2.783 | 1.130 | - | 1.623 | 15.816 | 3.688 |
| PAO2 | 8.003 | 7.225 | 3.389 | 1.263 | - | 1.939 | 5.560 | 4.498 |
| PHC1 | 0.012 | 0.360 | 0.910 | 0.031 | - | 1.209 | - | 0.575 |
| PHC2 | 0.012 | 0.293 | 0.898 | 0.027 | 0.003 | 1.188 | - | 0.490 |
| PUM1 | 1.242 | 1.354 | 1.095 | 0.001 | 2.154 | 2.913 | 1.158 | - |
| PUM2 | 1.263 | 1.236 | 1.023 | 0.001 | 2.275 | 1.916 | 1.160 | - |
| JS1 | 0.317 | 0.077 | 0.039 | 1.638 | 3.557 | - | 6.287 | 0.007 |
| JS2 | 2.805 | 0.068 | 0.002 | 1.040 | 0.254 | - | 1.519 | 1.657 |
| JS3 | 2.846 | 0.001 | 0.678 | 0.688 | 3.989 | - | 7.026 | 0.192 |
| JS4 | 1.303 | 0.085 | 0.037 | 2.275 | 1.811 | - | 1.522 | 3.302 |
| JS5 | 15.144 | 0.727 | 0.142 | 0.467 | 0.818 | - | 0.815 | 1.200 |
| JS6 | 2.506 | 0.001 | 0.845 | 0.303 | 0.069 | - | 1.537 | 0.057 |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

PDO1 and PDO2 = Perceived Development Opportunities; OC1 OC2 and OC3 = Organizational Commitment; ITQ1 and ITQ2 = Intention to Quit; PE1 and PE2 = Psychological Empowerment; PAO1 and PAO2 = Perceived Alternative Opportunities; PHC1 and PHC2 = Perceived Human Capital; PUM1 and PUM2 = Perceived Utility of Movement; JS1, JS2, JS3, JS4, JS5 and JS6 = Job Satisfaction

Closer inspection of the modification indices of the lambda X matrix suggested that the second *Perceived Alternative Opportunities* item parcel (PAO2) and the fifth *Job Satisfaction* composite indicator (JS5) also loaded on *Perceived Development Opportunities.* Furthermore Table 5.56 showed that the second *Perceived Alternative Opportunities* item parcel (PAO2) also loaded on *Organisational Commitment.* Table 5.56 also suggested that the *Affective Commitment* measure (OC1) could serve as an indicator of *Job Satisfaction* and that the first *Perceived Alternative Opportunities* item parcel (PAO1) and the third *Job Satisfaction* indicator (JS3) also could reflect *Perceived Human Capital.* Lastly it was shown that the second *Perceived Development Opportunities item parcel* (PDO2) could also represent the latent variable *Perceived Utility of Movement.*

In conclusion, only 7 out of a possible 147 (4.76%) factor loading pattern modifications were predicted to result in a significant improvement in model fit. Such a small percentage commented positively on the fit of the model.

Table 5.57

*Modification index values calculated for the theta-delta matrix*

|      | PDO1 | PDO2 | OC1 | OC2 | OC3 | ITQ1 | ITQ2 | PE1 | PE2 | PAO1 | PAO2 |
|------|-------|-------|------|------|------|-------|-------|------|------|-------|-------|
| PDO1 | - |  |  |  |  |  |  |  |  |  |  |
| PDO2 | - | - |  |  |  |  |  |  |  |  |  |
| OC1 | 1.018 | 0.602 | - |  |  |  |  |  |  |  |  |
| OC2 | 0.877 | 0.486 | 0.888 | - |  |  |  |  |  |  |  |
| OC3 | 0.830 | 0.215 | - | 5.296 | - |  |  |  |  |  |  |
| ITQ1 | 0.361 | 0.746 | 0.061 | 0.014 | 0.246 | - |  |  |  |  |  |
| ITQ2 | 0.456 | 0.123 | 0.675 | 3.120 | 0.034 | - | - |  |  |  |  |
| PE1 | 0.847 | 0.037 | 0.057 | 0.610 | 0.202 | 1.168 | 0.449 | - |  |  |  |
| PE2 | 1.711 | 0.019 | 0.131 | 0.075 | 0.776 | 1.113 | 0.406 | - | - |  |  |
| PAO1 | 0.024 | 1.709 | 0.019 | 0.017 | 2.419 | 0.439 | 1.169 | 0.754 | 0.936 | - |  |
| PAO2 | 0.298 | 0.564 | 1.310 | 1.198 | 0.349 | 0.016 | 0.037 | 0.758 | 0.910 | - | - |
| PHC1 | 0.113 | 0.181 | 0.792 | 2.175 | 0.070 | 0.698 | 0.507 | 0.027 | 0.043 | 2.307 | 1.302 |
| PHC2 | 0.134 | 1.593 | 0.136 | 0.288 | 0.514 | 0.909 | 0.674 | 0.168 | 0.001 | 5.028 | 3.540 |
| PUM1 | 0.002 | 0.010 | 0.274 | 0.877 | 1.943 | 1.739 | 0.021 | 1.212 | 0.095 | 2.285 | 4.559 |
| PUM2 | 0.145 | 0.178 | 2.941 | 0.000 | 0.172 | 3.276 | 0.065 | 1.102 | 0.063 | 3.813 | 6.534 |
| JS1 | 0.595 | 0.221 | 0.012 | 0.204 | 1.015 | 0.770 | 0.793 | 0.471 | 1.408 | 0.303 | 0.282 |
| JS2 | 3.813 | 0.369 | 2.566 | 0.132 | 2.492 | 0.700 | 0.311 | 3.927 | 3.377 | 1.756 | 4.062 |
| JS3 | 0.544 | 0.725 | 0.554 | 0.058 | 0.285 | 3.557 | 1.207 | 5.112 | 5.594 | 1.587 | 0.882 |
| JS4 | 0.001 | 0.527 | 0.016 | 3.360 | 0.018 | 3.947 | 1.794 | 0.000 | 0.392 | 1.552 | 0.443 |
| JS5 | 5.933 | 0.332 | 2.441 | 0.358 | 0.068 | 0.526 | 0.752 | 3.714 | 3.214 | 0.587 | 1.087 |
| JS6 | 1.127 | 0.195 | 0.487 | 1.857 | 1.778 | 0.401 | 1.867 | 0.027 | 0.271 | 0.414 | 0.263 |

| | PHC1 | PHC2 | PUM1 | PUM2 | JS1 | JS2 | JS3 | JS4 | JS5 | JS6 |
|---|---|---|---|---|---|---|---|---|---|---|
| **PUM1** | 0.128 | 0.085 | - | | | | | | | |
| **PUM2** | 0.080 | 0.040 | - | - | | | | | | |
| **JS1** | 0.080 | 1.268 | 0.960 | 0.157 | - | | | | | |
| **JS2** | 6.592 | 2.973 | 3.171 | 0.510 | 3.507 | - | | | | |
| **JS3** | 0.527 | 0.785 | 0.134 | 0.268 | 1.970 | 9.989 | - | | | |
| **JS4** | 0.849 | 1.791 | 3.227 | 0.026 | 0.816 | 0.001 | 4.167 | - | | |
| **JS5** | 1.451 | 2.811 | 0.624 | 0.012 | 0.321 | 14.622 | 1.203 | 0.419 | - | |
| **JS6** | 3.088 | 0.012 | 0.524 | 1.665 | 0.010 | 0.843 | 1.820 | 0.007 | 3.707 | - |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Table 5.57 shows the modification index values calculated for the theta-delta matrix. Only two of the modification index values estimated for the measurement error variance-covariance matrix exceeded 6.6349. This means that only two of the parameters, if set free, would improve the model fit significantly (p<0.1).

The evidence presented above seems to indicate good model fit. Only a limited number of large positive residuals were found. Furthermore a limited amount of large modification index values were found in both matrices, as displayed above. The basket of evidence seemed to suggest that the measurement model parameter estimates, to a reasonable degree, accurately reproduce the observed covariance matrix and could therefore be regarded as permissible estimates.

### 5.9 Evaluation of the Intention to Quit Measurement Model Parameter Estimates

Through the inspection of the magnitude and statistical significance of the slope of the regression of observed variables on their intended latent variables one is able to establish the validity of a measure. Diamantopoulos and Siguaw (2000) postulate that the slope of the regression of $X_i$ on $\xi_j$ in the fitted measurement model has to be substantial and significant in order for a measure to provide a valid reflection of a specific latent variable. The unstandardised $\Lambda_x$ matrix (Table 5.58) contains the unstandardised regression coefficients of the regression of the manifest variables on the latent variables they were linked to. The regression coefficients of the manifest variables on the latent variables are significant (p < .05) if the t-values, as indicated in the matrix, exceed |1,96|. Significant indicator loadings provide validity evidence in favour of the indicators (Diamantopoulos & Siguaw, 2000).

Table 5.58

*Intention to Quit Measurement Model Unstandardised Lambda-X Matrix*

|  | PDO | OC | ITQ | PE | PAO | JS | PHC | PUM |
|---|---|---|---|---|---|---|---|---|
| **PDO1** | 0.767<br>(0.054)<br>14.210 | | | | | | | |
| **PDO2** | 0.755<br>(0.051)<br>14.816 | | | | | | | |
| **OC1** | | 1.037<br>(0.080)<br>12.968 | | | | | | |
| **OC2** | | 0.718<br>(0.093)<br>7.756 | | | | | | |
| **OC3** | | 1.036<br>(0.103)<br>10.034 | | | | | | |
| **ITQ1** | | | 1.000<br>(0.051)<br>19.754 | | | | | |
| **ITQ2** | | | 1.037<br>(0.053)<br>19.677 | | | | | |
| **PE1** | | | | 0.785<br>(0.049)<br>16.163 | | | | |
| **PE2** | | | | 0.762<br>(0.050)<br>15.229 | | | | |
| **PAO1** | | | | | 0.766<br>(0.052)<br>14.880 | | | |
| **PAO2** | | | | | 0.820<br>(0.050)<br>16.276 | | | |
| **JS1** | | | | | | 0.548<br>(0.044)<br>12.473 | | |
| **JS2** | | | | | | 0.563<br>(0.037)<br>15.134 | | |
| **JS3** | | | | | | 0.584<br>(0.050)<br>11.705 | | |
| **JS4** | | | | | | 0.548<br>(0.068)<br>8.031 | | |
| **JS5** | | | | | | 0.396<br>(0.070)<br>5.640 | | |
| **JS6** | | | | | | 0.622<br>(0.054) | | |

| | 11.474 | |
|---|---|---|
| **PHC1** | 1.345 | |
| | (0.072) | |
| | 18.592 | |
| **PHC2** | 1.327 | |
| | (0.089) | |
| | 14.904 | |
| **PUM1** | | 0.823 |
| | | (0.046) |
| | | 17.778 |
| **PUM2** | | 0.897 |
| | | (0.048) |
| | | 18.688 |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

PDO1 and PDO2 = Perceived Development Opportunities; OC1 OC2 and OC3 = Organizational Commitment; ITQ1 and ITQ2 = Intention to Quit; PE1 and PE2 = Psychological Empowerment; PAO1 and PAO2 = Perceived Alternative Opportunities; PHC1 and PHC2 = Perceived Human Capital; PUM1 and PUM2 = Perceived Utility of Movement; JS1, JS2, JS3, JS4, JS5 and JS6 = Job Satisfaction

As is evident from Table 5.58, all the factor loadings, indicated in the lambda-X matrix, are significant with $t > |1,96|$. $H_{024p}$: $\lambda_{ij}= 0$; p = 1, 2, …,21[16]; i = 1, 2, …, 21; j = 1, 2, …, 8 were therefore rejected for all p in favour of $H_{a24p}$: $\lambda_{ij} > 0$; p = 1, 2, …, 21; i = 1, 2, …, 21; j = 1, 2, …, 8.

However, Diamantopoulos and Siguaw (2000) warn that there is indeed a problem with solely relying on the unstandardised loadings and their associated t-values. The problem is that it might be hard to compare the validity of different indicators measuring a particular construct. Diamantopoulos and Siguaw (2000) recommend that the magnitudes of the completely standardised loadings should also be investigated. This is done by examining the completely standardised solution, also available in the LISREL output, in which both latent and manifest variables have been standardised. The completely standardised factor loading matrix is presented in Table 5.59. The values shown in Table 5.59 could be interpreted as the regression slopes of the regression of the standardised indicator variables on the standardised latent variables. The completely standardised factor loadings therefore indicate the average change expressed in standard deviation units in the indicator variable associated with one standard deviation change in the latent variable. The square of the completely standardised factor loadings indicates the proportion of indicator variance explained in terms of the latent variable it is meant to express (Diamantopoulos & Siguaw, 2000).

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[16] There are 21 factor loadings freed in the 21x8 $\mathbf{\Lambda_x}$ factor loading matrix.

Table 5.59

*Intention to Quit Measurement Model Completely Standardised Solution Lambda-X*

|  | PDO | OC | ITQ | PE | PAO | PHC | PUM | JS |
|---|---|---|---|---|---|---|---|---|
| **PDO1** | 0.880 | | | | | | | |
| **PDO2** | 0.903 | | | | | | | |
| **OC1** | | 0.831 | | | | | | |
| **OC2** | | 0.523 | | | | | | |
| **OC3** | | 0.689 | | | | | | |
| **ITQ1** | | | 0.936 | | | | | |
| **ITQ2** | | | 0.907 | | | | | |
| **PE1** | | | | 0.937 | | | | |
| **PE2** | | | | 0.907 | | | | |
| **PAO1** | | | | | 0.861 | | | |
| **PAO2** | | | | | 0.929 | | | |
| **PHC1** | | | | | | 0.954 | | |
| **PHC2** | | | | | | 0.841 | | |
| **PUM1** | | | | | | | 0.932 | |
| **PUM2** | | | | | | | 0.929 | |
| **JS1** | | | | | | | | 0.672 |
| **JS2** | | | | | | | | 0.788 |
| **JS3** | | | | | | | | 0.671 |
| **JS4** | | | | | | | | 0.511 |
| **JS5** | | | | | | | | 0.397 |
| **JS6** | | | | | | | | 0.690 |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

PDO1 and PDO2 = Perceived Development Opportunities; OC1 OC2 and OC3 = Organizational Commitment; ITQ1 and ITQ2 = Intention to Quit; PE1 and PE2 = Psychological Empowerment; PAO1 and PAO2 = Perceived Alternative Opportunities; PHC1 and PHC2 = Perceived Human Capital; PUM1 and PUM2 = Perceived Utility of Movement; JS1, JS2, JS3, JS4, JS5 and JS6 = Job Satisfaction

Fifteen of the completely standardised factor loadings of the item parcels on their designated latent variables exceeded the critical .71 cut-off value. Six factor loadings failed to meet the standard set by Hair et al. (2006). Especially the *Job Satisfaction* indicator variables raised some reason for concern.

Since each indicator only loads on a single latent variable the squared completely standardised loadings equal the $R^2$ values shown below in Table 5.60. The squared multiple correlations ($R^2$) of the indicators depicted in Table 5.60 show the proportion of variance in an indicator that is explained by its underlying latent variable. A high $R^2$ value would indicate that variance in the indicator in question, to a large degree, reflects variance in the latent variable to which it has

been linked. The rest of the variance, not explained by the latent variable, can be ascribed to systematic and random measurement error (Diamantopoulos & Siguaw, 2000).

Table 5.60

*Intention to Quit Measurement Model Squared Multiple Correlations for X-Variables*

| PDO1 | PDO2 | OC1 | OC2 | OC3 | ITQ1 | ITQ2 | PE1 | PE2 | PAO1 | PAO2 | PHC1 | PHC2 | PUM1 | PUM2 |
|------|------|-----|-----|-----|------|------|-----|-----|------|------|------|------|------|------|
| 0.774 | 0.815 | 0.691 | **0.273** | 0.474 | 0.876 | 0.823 | 0.879 | 0.823 | 0.742 | 0.862 | 0.910 | 0.708 | 0.868 | 0.864 |

| JS1 | JS2 | JS3 | JS4 | JS5 | JS6 |
|-----|-----|-----|-----|-----|-----|
| 0.452 | 0.621 | 0.450 | **0.261** | **0.158** | 0.476 |

PDO1 and PDO2 = Perceived Development Opportunities; OC1 OC2 and OC3 = Organizational Commitment; ITQ1 and ITQ2 = Intention to Quit; PE1 and PE2 = Psychological Empowerment; PAO1 and PAO2 = Perceived Alternative Opportunities; PHC1 and PHC2 = Perceived Human Capital; PUM1 and PUM2 = Perceived Utility of Movement; JS1, JS2, JS3, JS4, JS5 and JS6 = Job Satisfaction

Table 5.60 showed that all the indicators except for OC2, OC3, JS1, JS3, JS4, JS5 and JS6 seemed to reflect their intended latent variable. Especially JS4 and JS5 raised serious reason for concern.

### 5.9.1 Decision on the success of the operationalisation

The measurement model showed very good fit. All the indicator variables loaded statistically significantly ($p < .05$) on the latent variables they were tasked to reflect. In the case of most of the composite indicator variables, in excess of 50% of the variance in the item parcels was explained by the latent variables they were designed to represent. Exceptions did, however, occur. Especially the operationalisation of the *Job Satisfaction* latent variable gave reason for concern. It is therefore concluded that generally the operationalisation of the latent variables comprising the structural model was successful but that the measurement of the job satisfaction latent variable was somewhat unsuccessful. It therefore will be possible to derive a reasonably unambiguous verdict on the fit of the structural model from the fit of the comprehensive LISREL model. Should the comprehensive LISREL model fit poorly the cause would most likely have to be sought in problems existing in the structural model. The problems associated with the operationalisation of the *Job Satisfaction* latent variable could, however, cause ambiguity in the interpretation of insignificant paths in which the satisfaction latent variable is involved.

**5.10 Evaluating the fit of the Structural Model**

In this section the results of the structural relationships between the latent variables that were hypothesised in the model depicted in Figure 4.1 and were tested using SEM, is reported. The structural part of the model is expressed by the following matrix equation:

$$\eta = B\eta + \Gamma\xi + \zeta$$

In the equation **B** represents a matrix containing the beta ($\beta$) parameters, which describe the slope of the regression of $\eta_i$ on $\eta_j$. **$\Gamma$** represents a matrix containing the gamma ($\gamma$) parameters which describe the slope of the regression of $\eta_i$ on $\xi_1$. Psi (**$\zeta$**) represents a vector of structural error terms linked to the endogenous latent variables. The structural error terms were assumed to be uncorrelated. **$\Psi$** was therefore defined as an identity matrix. The reduced Smuts – Bezuidenhout *Intention to Quit Structural Model* only contains a single exogenous latent variable. **$\Phi$** therefore contained a single variance term that was fixed to unity.

LISREL 8.80 (Jöreskog & Sörbom, 1996b) was used to evaluate the fit of the *Intention to Quit* structural model shown in Figure 4.1. The covariance matrix was analysed due to the continuous nature of the indicator variables. Robust maximum likelihood estimation was used due to the lack of multivariate normality in the data, as previously discussed.

**5.10.1  Structural model goodness of fit statistics**

The structural model converged in 52 iterations. The full spectrum of fit statistics is shown in Table 5.61 on the next page.

Table 5.61

*Goodness of Fit Statistics for the Intention to Quit Structural Model*

Degrees of Freedom = 170
Minimum Fit Function Chi-Square = 310.883 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square = 290.680 (P = 0.000)
Satorra-Bentler Scaled Chi-Square = 255.505 (P = 0.000)
Chi-Square Corrected for Non-Normality = 2071.655 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 85.505
90 Percent Confidence Interval for NCP = (46.489 ; 132.493)
Minimum Fit Function Value = 1.524
Population Discrepancy Function Value (F0) = 0.419
90 Percent Confidence Interval for F0 = (0.228 ; 0.649)
Root Mean Square Error of Approximation (RMSEA) = 0.0497
90 Percent Confidence Interval for RMSEA = (0.0366 ; 0.0618)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.505
Expected Cross-Validation Index (ECVI) = 1.851
90 Percent Confidence Interval for ECVI = (1.659 ; 2.081)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 377.505
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 641.209
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.956
Non-Normed Fit Index (NNFI) = 0.981
Parsimony Normed Fit Index (PNFI) = 0.774
Comparative Fit Index (CFI) = 0.985
Incremental Fit Index (IFI) = 0.985
Relative Fit Index (RFI) = 0.946
Critical N (CN) = 173.308
Root Mean Square Residual (RMR) = 0.110
Standardised RMR = 0.120
Goodness of Fit Index (GFI) = 0.881
Adjusted Goodness of Fit Index (AGFI) = 0.838
Parsimony Goodness of Fit Index (PGFI) = 0.648

Diamantopoulos and Siguaw (2000) state that the chi-square statistic is utilized for evaluating the overall model fit in covariance structural models. The chi-square also serves as a test of exact fit whereby the null hypothesis indicates that the model fits the population data perfectly. The null hypothesis should be rejected if the chi-square is statistically significant (p < .05). This would imply possible rejection of the model due to imperfect model fit, the ideal however is to not reject the null hypothesis (p > .05).

From the LISREL output above the Satorra Bentler Scaled Chi-square value was equal to 255.505 with a p-value equal to 0.000. The p-value therefore clearly indicates a significant

statistic. A non-significant value indicates model fit in that the model can reproduce the observed covariance matrix to a degree of accuracy that can be explained in terms of sampling error only (Kelloway, 1998). In this case, the model is not able to reproduce the observed covariance matrix sufficiently accurately to allow the discrepancy to be attributed to sampling error only.

The root mean square error of approximation (RMSEA) provides an indication of how well the model would fit the population covariance matrix should it be available (Diamantopoulos & Siguaw, 2000). The RMSEA indicates the difference between the observed and covariance matrixes. The RMSEA reported for the structural model at hand was equal to .0497 and thereby indicated a good fit in the sample. Evaluating the null hypothesis of close fit indicated that $H_0$: RMSEA≤.05 needed not be rejected at a 5% level of significance (p = .505 > .05). The probability of observing an RMSEA value of .0497 in the sample if the model fitted closely in the population was therefore sufficiently large. The position that the structural model fits closely in the parameter was therefore a permissible position.

The expected cross-validation index (ECVI) expresses the difference between the reproduced sample covariance matrix derived from fitting the model on the sample at hand and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000). Since the model ECVI (1.856) is smaller than the value obtained for the independence model (28.873), and smaller than the ECVI value associated with the saturated model (2.265), a model resembling the fitted model seems to have a better chance of being replicated in a cross-validation sample than the independence model or the saturated model. These results therefore suggest that the proposed structural model therefore does not seem to be overly elaborate in how it conceptualises the causal processes amongst the latent variables, nor does the proposed model seem to under-represent the causal processes.

The parsimonious normed fit index (PNFI = .774) and the parsimonious goodness-of-fit index (PGFI = .648) approach model fit from this perspective. These two values should range from 0 to 1.0, with higher values indicating a more parsimonious fit, as is evident in this case (Kelloway, 1998).

Table 5.61 shows that the model AIC (377.505) suggested that the fitted structural model provided a more parsimonious fit than the independent model (5980.900) and the saturated

model (462.000). Similarly, the CAIC (641.209) also achieved a value lower than both the independence model (5980.900) and the saturated model (1460.615).

The fit indices presented in Table 5.61 contain the normed fit index (NFI = .956) the non-normed fit index (NNFI = .981), the comparative fit index (CFI = .985), the incremental fit index (IFI = .985), and relative fit index (RFI = .946). The results reflected in Table 5.61, shows that all these values fall comfortably above the .90 level. This shows that a satisfactory comparative fit relative to the independent model, exists. The root mean square residual (RMR) of .110 which represents the average value of the residual matrix (S-Sˆ) and the standardised RMR, which represents the fitted residual divided by their estimated standard errors .120 did not indicate good fit as values below .05 are considered as acceptable. These findings are somewhat surprising given the favourable RMSEA values obtained. These values should improve with the inclusion of additional paths and the estimation of more paramaters until perfect model fit is obtained.

Determining and evaluating the fit of the structural model indicates to what extent the model can reproduce the observed covariance matrix (Diamantopoulos & Siguaw, 2000). The evidence presented up to this point showed that the proposed structural model was able to reproduce the observed covariance matrix to a degree of accuracy that warranted sufficient faith in the structural model and the derived parameter estimates to warrant the interpretation of these estimates. Consequently, the parameter estimates for $\Gamma$ and $\mathbf{B}$ was interpreted. It is thereby not denied that the very real possibility exists that the fit of the model can be improved by freeing specific elements in $\Gamma$ and $\mathbf{B}$ that were currently fixed to zero.

### 5.10.2 Evaluation of standardised residuals

The standardised residuals for the tested *Intention to Quit* structural model was inspected. The smallest standardised residual was -8.216, the median standardised residual was 0 and the largest standardised residual is 6.922. Only 30 (13%) of the standardised residuals were large.

The stem-and-leaf plot and the Q-plot are depicted in Figures 5.3 and 5.4. A good fitting model would be characterized by a stem-and-leaf plot in which the residuals are distributed approximately symmetrical around zero and with minimal spread.

```
 - 8|2
 - 7|
 - 6|632
 - 5|932
 - 4|976
 - 3|91
 - 2|7554211
 - 1|99988777666555543333221110000
 - 0|99999888777776666666544443333322111111000000000000000000000000000000000000+27
   0|111111222222223334444555555566666778889
   1|000000111233445578999
   2|0034444
   3|0
   4|1222355778
   5|34689
   6|9
```
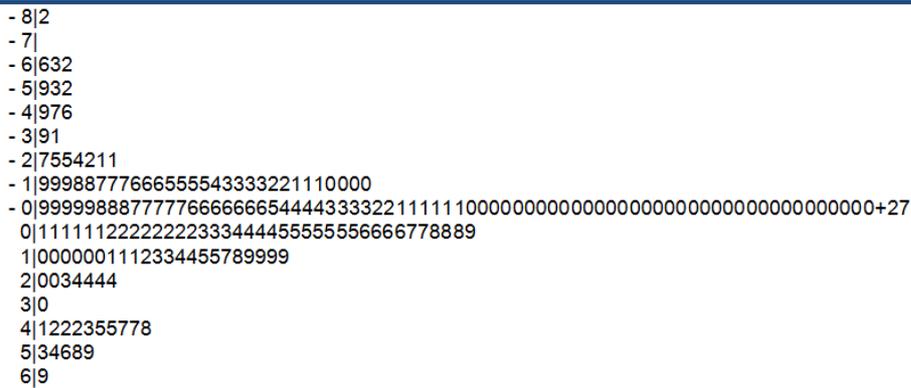
*Figure 5.3. Intention to Quit* Structural Model stem-and-leaf plot of Standardised Residuals

From the stem-and-leaf plot depicted in Figure 5.3, the distribution of the standardised residuals appears to be distributed approximately symmetrical around zero, which is indicative of good model fit.
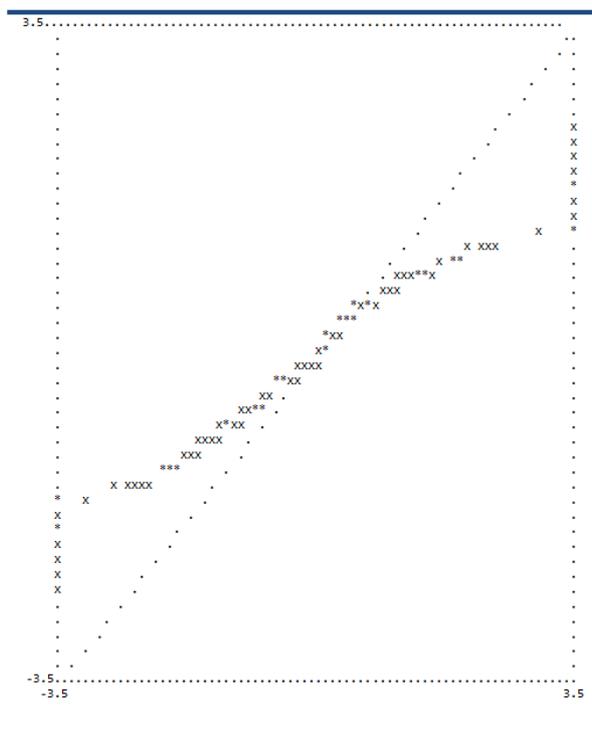


*Figure 5.4. Intention to Quit* Structural Model q-plot of Standardised Residuals

As can be seen from Figure 5.4 the model fit appeared to be very satisfactory as the data points only swiveled away from the 45-degree reference line at ends of the reference line.

### 5.10.3 Interpretation of structural model parameter estimates

The unstandardised **B** matrix, shown in Table 5.62, was used to assess the significance of the estimated path coefficients $\beta_{ij}$, expressing the strength of the influence of $\eta_j$ on $\eta_i$. Unstandardised $\beta_{ij}$ estimates are also significant (p < .05) if t >⏐1,96⏐(Diamantopoulos & Siguaw, 2000). A significant β estimate would imply that the corresponding $H_0$-hypothesis should be rejected in favour of the relevant $H_a$-hypothesis.

Table 5.62

Intention to Quit Structural Model Unstandardised Beta Matrix

| | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | 1.176<br>(0.210)<br>5.605 | - | -0.181<br>(0.142)<br>-1.269 | - | 0.141<br>(0.096)<br>1.467 | - |
| **OC** | -2.303<br>(1.757)<br>-1.310 | - | - | 0.858<br>(0.453)<br>1.892 | 1.011<br>(0.832)<br>1.215 | -0.733<br>(0.558)<br>-1.314 | -2.588<br>(1.448)<br>-1.787 |
| **ITQ** | -0.154<br>(0.111)<br>-1.382 | -0.213<br>(0.100)<br>-2.123 | - | - | - | - | 0.537<br>(0.109)<br>4.942 |
| **PE** | - | - | - | - | - | - | - |
| **PAO** | - | -0.433<br>(0.197)<br>-2.198 | - | 0.098<br>(0.116)<br>0.846 | - | 0.697<br>(0.083)<br>8.425 | |
| **PHC** | - | - | - | 0.241<br>(0.079)<br>3.059 | - | - | |
| **PUM** | - | - | - | -0.353<br>(0.091)<br>-3.888 | 0.044<br>(0.371)<br>0.119 | 0.189<br>(0.307)<br>0.617 | |

From Table 5.62, it was evident that more than one of the hypothesised paths were not supported, as the t-values obtained, fell below the critical cut-off point of 1.96. Such estimates are not statistically significant and the corresponding null hypothesis should therefore not be rejected. Besides investigating the t-value, it is of upmost importance to investigate whether the *nature* of the relationships between the variables, as hypothesised, were in actual fact corroborated.

*Job Satisfaction* was hypothesised to have a positive influence on an employee's level of *Organisational Commitment.* Table 5.62 however showed that not only was such a relationship not significant, but the nature of the relationship was indeed negative. Since the $\beta_{21}$ estimate was statistically insignificant it would, however, be inappropriate to attach any meaning to the sign of the estimate. *Job Satisfaction* was hypothesised to have a negative influence on an employee's *Intention to Quit.* Table 5.62 however showed that $H_{20}$: $\beta_{31}=0$ could not be rejected.

All the hypothesised paths stemming from *Organisational Commitment* were corroborated. Hypotheses $H_{012}$: $\beta_{12}=0$, $H_{013}$: $\beta_{52}=0$, and $H_{014}$: $\beta_{32}=0$ were therefore rejected. This supported the hypotheses that employees experiencing high levels of *Organisational Commitment* will also experience high levels of *Job Satisfaction*, will have a low a level of *Intention to Quit* and will not be very aware of alternative opportunities.

*Psychological Empowerment* was hypothesised to have a positive influence on *Job Satisfaction*. Table 5.62 however did not corroborate such a relationship. Table 5.62 showed that such a relationship was not only insignificant but that the nature of this relationship was negative. The null hypothesis, $H_{08}$: $\beta_{14}=0$ was therefore not rejected. Table 5.62 furthermore showed that *Psychological Empowerment* had an insignificant effect on *Organisational Commitment* and *Perceived Alternative Opportunities.* The results did, however, provide support for the arguments that, employees experiencing high levels of *Psychological Empowerment* will also experience high levels of *Perceived Human Capital* and low levels of *Perceived Utility of Movement*.

Neither of the two structural relationships stemming from *Perceived Alternative Opportunities* were found to be significant. *Perceived Alternative Opportunities*, according to Table 5.62, will therefore have no impact on an employee's level of *Organisational Commitment* or the perceived utility of moving to another organisation.

*Perceived Human Capital* was hypothesised to negatively influence *Job Satisfaction* ($H_{03}$: $\beta_{16}=0$) and *Organisational Commitment* ($H_{06}$: $\beta_{26}=0$). It was furthermore hypothesised that *Perceived Human Capital* would positively determine an employee's perception of alternative opportunities ($H_{04}$: $\beta_{56}=0$) as well as an employee's perception of the possible utility of leaving an organisation ($H_{05}$: $\beta_{76}=0$). An evaluation of the results shown in Table 5.62 resulted in the rejection of $H_{04}$: $\beta_{56}=0$ in favour of $H_{04}$: $\beta_{56}=0$. Although $H_{06}$: $\beta_{26}=0$ could not be rejected, the nature of the relationship was supported. The t-values for the remaining two paths were 1.467 ($\beta_{56}$) and 0.617 ($\beta_{76}$) which fell below the critical cut-off of 1.96. These estimates were therefore not statistically significant ($p < .05$). It was consequently decided that the theory in favor of such causal relationships were not substantial enough to justify the inclusion thereof in the model.

It was originally hypothesised that an employee's perception of the possible utility of movement would negatively influence his level of commitment to the organisation. Furthermore, an employee's perception of the possible utility of leaving the current organisation would ultimately lead to an increased *Intention to Quit*. The latter hypothesis was supported by the statistics presented in Table 5.62 and was therefore rejected. Hypothesis $H_{19}$: $\beta_{27}=0$ was not proven to be significant and could not be rejected. The t-value associated with this hypothesis was 1.787, which fell just below the cut-off of 1.96.

Table 5.63

*Intention to Quit Structural Model Unstandardised Gamma Matrix*

|  | PDO |
| --- | --- |
| **JS** | - |
| **OC** | - |
| **ITQ** | - |
| **PE** | 0.325 |
|  | (0.090) |
|  | 3.621 |
| **PAO** | - |
| **PHC** | - |
| **PUM** | - |

The unstandardised gamma matrix presented in Table 5.63 clearly showed that $H_{02}$: $\gamma_{41}=0$ was found to be significant and was therefore rejected in favour of $H_{a2}$: $\gamma_{41}=0$. An employee's perception of development opportunities would therefore positively influence his level of *Psychological Empowerment*.

An initial model fit, before the current fit analyses, was run. The initial fit analyses generated structural coefficient statistics that exceeded unity and were negative (not shown). According to Mels (2000) completely standardised and structural coefficients cannot exceed unity. Structural coefficients are regression coefficients. In a simple linear regression model, in which both the dependent and independent variables have been standardised to have a mean of zero and a standard deviation of one, the regression slope is equal to the correlation between the dependent and independent variable. In-line with this argument, the correlation cannot exceed unity. However, in most structural models the structural relations have to be expressed as multiple regression equations. Jöreskog and Sörbom (1999) argue that in the case were endogenous latent variables, having multiple determinants in the model, structural coefficients can exceed unity. However, in cases where structural coefficients do exceed unity it might suggest that there is a high degree of multicollinearity (independent variables that are highly correlated with each other) in the data.

Inspection of the $R^2$ values, in the initial analysis, for the seven endogenous latent variables revealed that multicollinearity was present between the two variables, *Job Satisfaction* and *Organisational Commitment* as both their values exceeded unity. It was consequently decided to recalculate the item parcels for these two variables. As briefly discussed in section 5.7.1, two item parcels were initially created by combining the items comprising the subscale that measured each dimension of the specific latent variable. Both dimension parcels consisted of the mean of half of the items measuring the specific dimension. *Organisational Commitment* initially was represented by six item parcels and *Job Satisfaction* by twelve. The recalculated item parcels combined the items of the *Organisational Commitment* scale into a single parcel for each of the three dimensions of *Organisational Commitment* and one item parcel was formed for each of the six dimensions of the *Job Satisfaction* scale. *Organisational Commitment* consequently was represented by three item parcels and *Job Satisfaction* by six. This however did not remedy the issue of multicollinearity, but did result in a significant improvement in the structural coefficient values as seen in Table 5.64.

Table 5.64

*R² Values for the seven endogenous latent variables included in the Final Intention to Quit Structural Model*

| JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|
| 0.439 | 1.912 | 0.707 | 0.106 | 0.666 | 0.058 | 0.162 |

Table 5.64 clearly shows that the R² value for *Organisational Commitment* still exceeded unity. This inadmissible value is a clear indication of the presence of multicollinearity. The presence of multicollinearity does have a negative influence on the legitimacy of the findings of the study at hand. Steps have been taken in an attempt to rectify this problem. The formation of alternative item parcels did not succeed in fully rectifying the problem. In the initial analysis, prior to parcel re-formation, *Job Satisfaction* and *Organisational Commitment* both had R² values exceeding unity. As seen in Table 5.64 only *Organisational Commitment* had an R² value exceeding unity. The formation of alternative item parcels therefore seemed to rectify the problem of multicollinearity to a certain degree, but not completely.

### 5.10.4 Modifications to the structural model

The modification indices calculated by LISREL were subsequently inspected to explore possible ways of improving the fit of the model. Model modification indices answer the question whether freeing any of the currently fixed parameters in the model will significantly improve the fit of the model. This is determined by calculating the extent to which the $X^2$ fit statistic decreases when each of the currently fixed parameters in the model are freed and the model re-estimated (Jöreskog & Sörbom, 1993). Structural parameters currently fixed to zero with large modification index (MI) values (>6.6349) are parameters that, if set free, would improve the fit of the model significantly (p < .01) (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1993).

Parameters with high MI values should, however, only be freed if it makes substantive sense to do so (Kelloway, 1998). A convincing theoretical argument should be put forward in support of the proposed causal linkage. The completely standardised expected change for the parameter is the extent to which it would change from its currently fixed value of zero in the completely standardised solution if it is freed. The magnitude of the completely standardised expected

change should be substantial enough to warrant freeing the parameter[17]. The sign of the completely standardised expected change should in addition make sense in terms of the theoretical argument put forward in support of the proposed path (Jöreskog & Sörbom, 1993).

Jöreskog and Sörbom (1993) suggest that the modification indices calculated for the various matrices defining the structural model (i.e., $\Gamma$, $\mathbf{B}$ and $\Psi$) should be inspected to identify the parameter with the highest modification index value. The parameter with the largest modification index is then freed if a convincing theoretical argument can be put forward in support of the proposed causal linkage. If a convincing theoretical argument cannot be put forward in support of the proposed causal linkage the parameter with the second largest modification index should be considered.  For the purpose of modifying the reduced structural model depicted in Figure 4.1 only the $\Gamma$ and $\mathbf{B}$ matrices were inspected. The fixed off-diagonal elements of the variance-covariance matrix, $\Gamma$ were not considered. Putting forward a theoretical rational for freeing currently fixed covariance terms in $\Gamma$ in a cross-sectional research design would require the introduction of additional latent variables currently not included in the model.

Numerous, currently fixed paths that, if freed, showed that it would statistically significantly ($p <$ .01) improve the fit of the structural model. The following paths were removed from the model: $\beta_{14}$, $\beta_{54}$, $\beta_{25}$, $\beta_{75}$, $\beta_{16}$ and $\beta_{76}$. These paths were removed because support was not found for them. Paths that were not found to be significant, but had sufficient theoretical justification were retained. The goodness of fit statistics after the removal of the above mentioned paths revealed that the RMSEA value for the structural model increased to .0519 and the p-value for close fit reduced to .385. Although the model showed good fit, possible further modifications that could lead to an even better fit were inspected.

Following the removal of the above mentioned paths the $\mathbf{B}$ and $\Gamma$ matrices were inspected simultaneously, with focus placed on the highest modification value present suggesting the inclusion of an additional path. The theoretical meaningfulness of the proposed paths was a critical determinant in considering the possibility of freeing currently fixed parameters. A series of six models were altered and inspected. Table 5.65 provides a summary of the findings after the evaluation of both the $\mathbf{B}$ and $\Gamma$ matrices[18].

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[17] In the current research paper more focus was placed on the theoretical justification for the inclusion of paths rather than the expected change.
[18] The MI findings for the beta and gamma matrices as well as the fit statistics of each of the consecutive revised structural models are summarised in Table 5.65. The goodness of fit statistics and the

Table 5.65

*Summary of the findings for the Beta and Gamma Matrices*

| | | **Goodness of fit statistics after inclusion of proposed path** | | | | |
|---|---|---|---|---|---|---|
| **Model** | **Proposed path** | **Index value** | **Expected change** | **Satorra-Bentler chi square** | **RMSEA** | **p-value for close fit** |
| A | PDO→PUM | 62.560 | -0.644 | 226.118 (0.00556) | 0.0378 | 0.930 |
| B | ITQ→OC | 16.768 | -2.765 | 222.322 (0.00780) | 0.0369 | 0.942 |
| C | ITQ→PAO | 16.744 | 1.304 | 219.752 (0.00933) | 0.0364 | 0.948 |
| D | PDO→OC | 13.643 | 0.422 | 210.456 (0.0243) | 0.0331 | 0.975 |
| E | PAO→PUM | 12.447 | 0.249 | 199.979 (0.0640) | 0.0288 | 0.991 |
| F | ITQ→JS | 12.342 | -2.731 | 198.869 (0.0642) | 0.0289 | 0.991 |

It should be noted that Table 5.65 only provides a summary of the proposed paths for which the index values were significant, for which the nature of the relationship made theoretical sense and for which the inclusion of such a path made theoretical sense. Table 5.65 clearly shows that the sequential inclusion of the paths led to a systematic increase in the p-value associated with the Satorra-Bentler chi square, a systematic decrease in the RMSEA value and a systematic increase in the p-value associated with close fit. These findings all supported and provided justification for the inclusion of each path. Table 5.66, on the next page, provides a summary of the changes in path significance.

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modification indices calculated for Gamma and Beta matrices as well as the expected change for the Gamma and Beta matrices have been included in Appendix A.

Table 5.66

*Summary of changes in path significance*

| Model | | Initial paths found significant | Initial paths found insignificant |
|:---:|:---:|:---:|:---:|
| **A** | | OC → JS | JS → OC |
| | | OC → ITQ | JS → ITQ |
| | | OC → PAO | PE → JS |
| | | PE → PHC | PE → OC |
| | | PE → PUM | PE → PAO |
| | | PHC → PAO | PAO → OC |
| | | PUM → ITQ | PAO → PUM |
| | | PDO → PE | PHC → JS |
| | | | PHC → OC |
| | | | PHC → PUM |
| | | | PUM → OC |
| **B** | Removal of  six insignificant paths | JS → OC[19] | |
| | | PE → OC | |
| | | PUM → OC | |
| **C** | Inclusion of PDO → PUM | PDO → PUM | |
| **D** | Inclusion of ITQ → OC | ITQ → OC | PE → PUM |
| **E** | Inclusion of ITQ → PAO | | OC → ITQ |
| | | | OC → PAO |
| **F** | Inclusion of PDO → OC | PDO → OC | |
| **G** | Inclusion of PAO → PUM | OC → PAO | |
| | | PAO → PUM | |
| **H** | Inclusion of ITQ → JS | OC → PAO | PUM→ OC |
| | | PE → PUM | |

### 5.10.4.1 Theoretical justification for the inclusion of five new paths

Five[20] additional paths have been sequentially included after inspection of the gamma and beta modification indices of the original model and as well as of each consecutive model. After

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[19] The nature of the relationship that was found to be significant is not in agreement with the nature of the relationship as originally hypothesised. Although significance was found, the nature of the relationship found no theoretical support.

inspection of the original model numerous, currently fixed paths that, if freed, showed that it would statistically significantly (p < .01) improve the fit of the structural model. Six paths were consequently removed. The modification indices calculated for $\Gamma$ for model B proposed that *Perceived Development Opportunities* should have a negative causal relationship with *Perceived Utility of Movement.* The modification indices calculated for $\Gamma$ in model E proposed that *Perceived Development Opportunities* should have a positive causal relationship with *Organisational Commitment. Perceived Development Opportunities* was defined in section 2.4 as an employee's perception of the personal developmental opportunities that are available and accessible in order to develop competence and performance in the workplace. Throughout the literature study it was argued that employees are on a continuous mission to develop scarce skills and competencies in order to ensure their marketability in the market. Organisations that provide their employees with such opportunities to develop themselves will ensure that their employees stay committed to the organisation. Dysvik and Kuvaas (2008) postulate that providing high levels of training opportunities may be regarded as a social exchange between employer and employee. Employers who provide their employees with opportunities for development will create a sense of obligation within the employees. Employees will therefore be more committed to an organisation as they feel obligated to provide a return on the organisation's investment in them. In a study conducted by Salminen (2012) it was found that organisational factors such as opportunities for training and development influences an employee's decision to stay with an organisation. Furthermore Salminen (2012) found that in studies concerning nurses' occupational turnover intentions, *Perceived Development Opportunities* played a significant role in their decision making process. Pfeffer and Sutton (2006) state that employees who perceive their organisations as not providing them with sufficient opportunities for development might develop higher turnover intentions. This notion is supported by Salminen (2012) who state that *Perceived Development Opportunities* has a direct influence on an employee's intention to leave an organisation. A direct path from *Perceived Development Opportunities* to *Intention to Quit* was never hypothesised nor suggested by the modification indices. A statistically significant path was found in the original model between *Perceived Utility of Movement and Intention to Quit.* It was therefore proposed that *Perceived Utility of Movement* will act as a mediator variable between these two constructs. Employees who perceive that their organisation do not provide them with sufficient developmental

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[20] The causal relationship between *Perceived Alternative Opportunities* and *Perceived Utility of Movement* does not constitute as an additional path as it was one of the original paths hypothesised.

opportunities are more reluctant to leave as they have less to lose. Both the structural paths proposed were supported by the literature and were consequently included in the model.

The modification indices calculated for **B** in model C suggested that *Intention to Quit* should have a negative linear effect on an employee's *Organisational Commitment.* Similarly, the modification indices calculated for **B** in model G suggested a negative causal relationship between *Intention to Quit* and *Job Satisfaction*. Research regarding the turnover phenomenon has until now only focussed on the negative influence of *Job Satisfaction* and the positive influence of *Organisational Commitment* on *Intention to Quit* (Tett & Meyer, 1993; Ingersoll et al., 2002; Tzeng, 2002). A reciprocal relationship has not been considered. *Intention to Quit*, as defined in section 2.2, is an employee's conscious and deliberate willfulness to leave an organisation. It would make reasonably sense to argue that employees determined to leave an organisation will express lower levels of *Organisational Commitment* possibly in an attempt to psychologically justify the decision. It could furthermore be argued that employees with a high intent to leave an organisation will experience emotions that negatively impact on how they experience their working environment and ultimately decrease their level of *Job Satisfaction*. A negative relationship between *Intention to Quit* and *Job Satisfaction* could also possibly be attributed to an attempt to psychologically justify or rationalise the decision to leave the employment of the organisation.  Modification indices calculated for the *Intention to Quit* Structural Model proposed by Smuts (2011) and Dhladla (2011) also proposed a negative feedback loop from *Intention to Quit* to *Organisational Commitment*. Although Smuts (2011) and Dhladla (2011) acknowledged the plausibility of the path they nonetheless refrained from including the path in their revised models.

The modification indices calculated for **B** in model D proposed that *Intention to Quit* positively influences an employee's perception of possible alternative opportunities. Following the same reasoning as presented above, an employee determined and convinced to leave an organisation will most likely be more aware of the possible alternative opportunities available than an employee who is highly committed and satisfied with his current employment. Throughout the text, it was argued that employee turnover decisions are made rationally. An employee with a high intent to leave an organisation would therefore, rationally be on the search for alternative employment. At the same time it is possible that the employee that took the decision to leave the employment of his current employer will attempt to convince himself that he/she stands a good chance of finding alternative employment, as a form of psychological reassurance.

Figure 5.5 provides a summary of the structural paths initially proposed by the model, those that were supported in the original model, the paths that were not supported in the original model and paths that were included after the investigation of the modification indices.
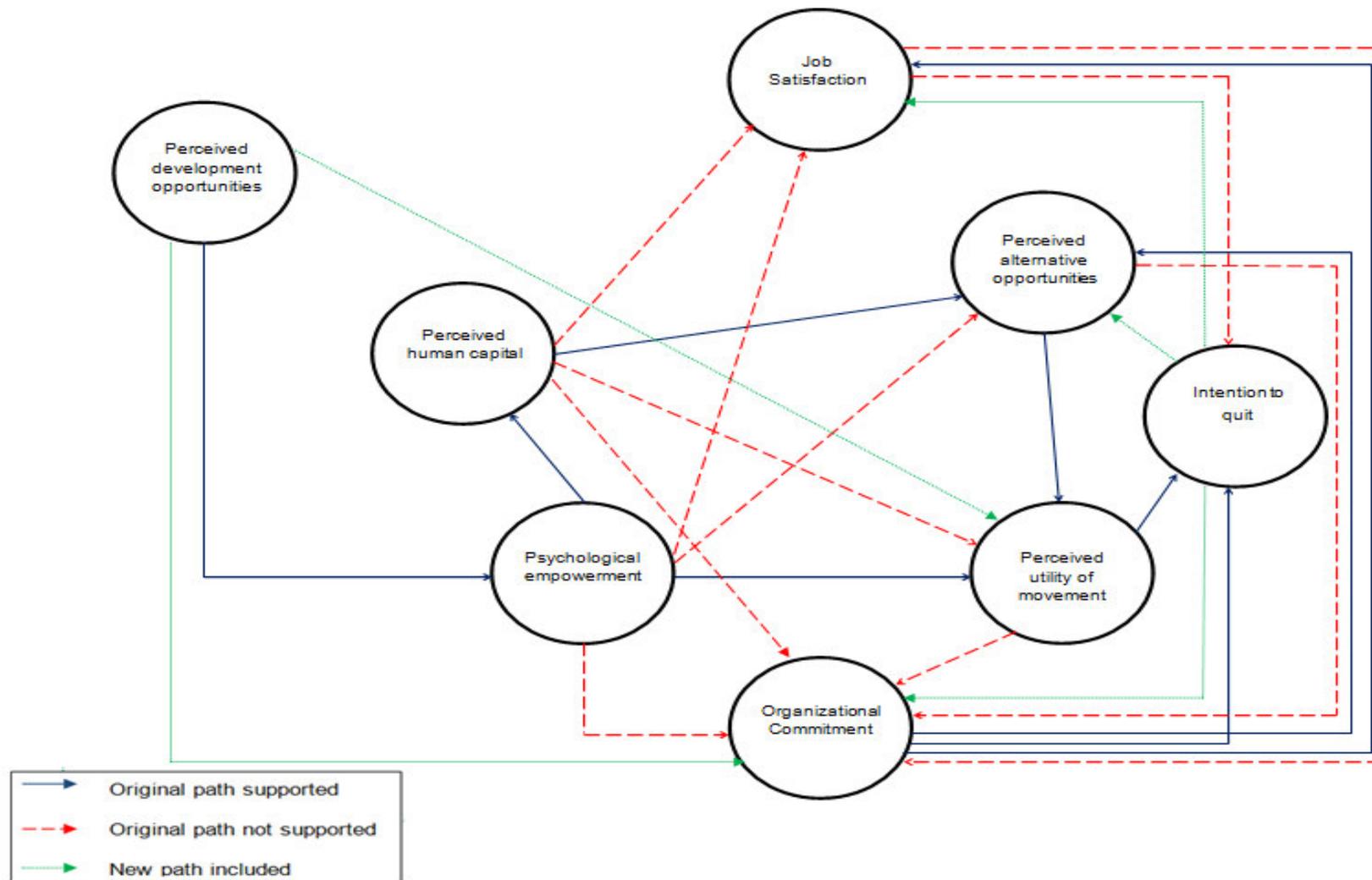
*Figure 5.5.* Structural Model representation of the findings for testing complete model fit

**5.11 Assessing the overall Goodness-of-Fit of the Final Intention to Quit Structural Model**

Evaluation of the modification indices and unstandardised matrices lead to the inclusion and removal of various paths. The original Smuts – Bezuidenhout *Intention to Quit* Structural Model as depicted in Figure 4.1 has therefore undergone various alterations. Figure 5.6 displays the structural model that was empirically tested, after all the modifications were applied[21].

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[21] The *Intention to Quit* Structural Model will from this point on be referred to as the "Final *Intention to Quit* Structural Model".
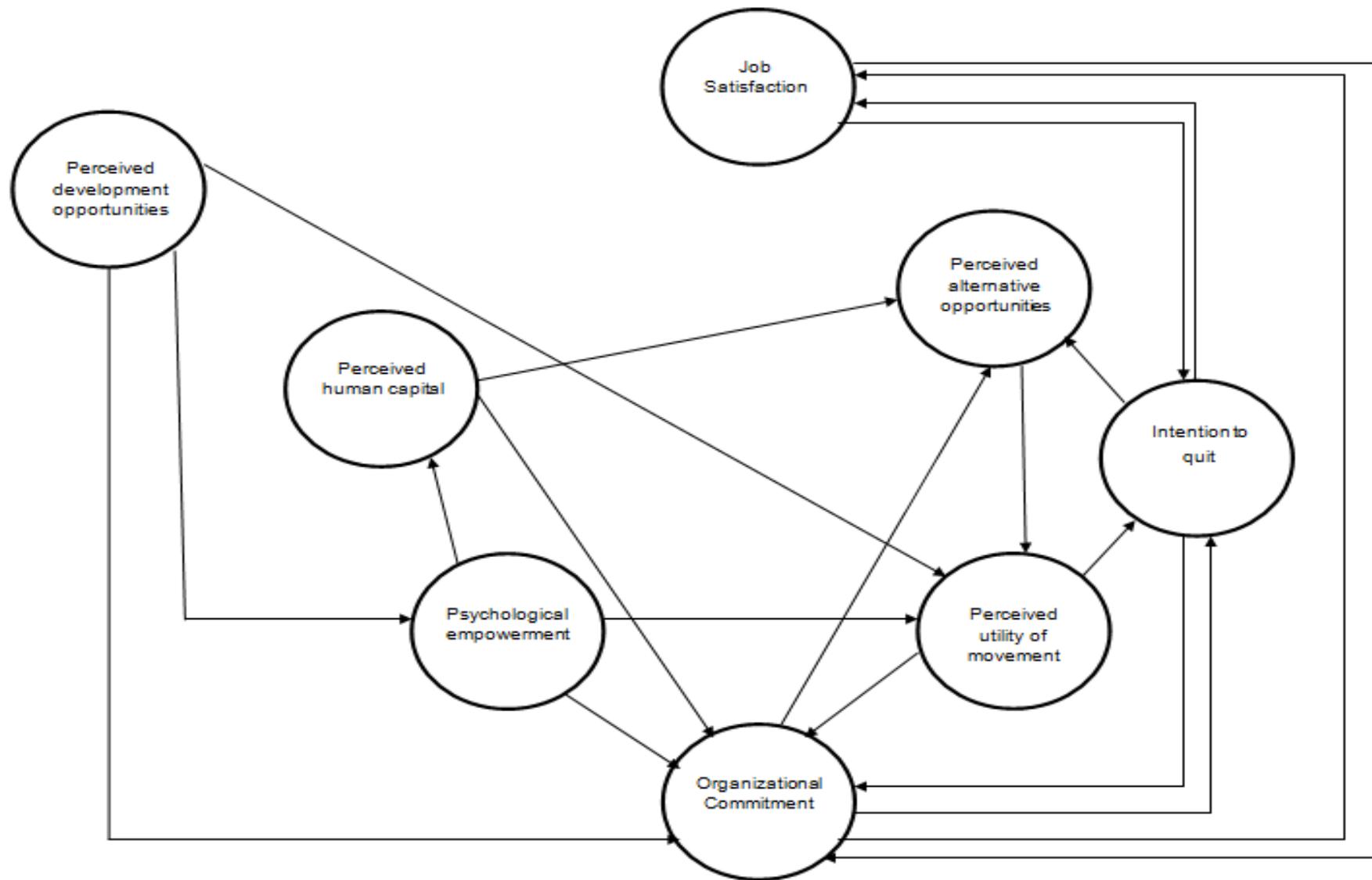
*Figure 5.6.* Final Intention to Quit Structural Model

Table 5.67 provides the results of the goodness-of-fit statistics for the *Final Intention to Quit Structural Model.*

Table 5.67

*Goodness of Fit Statistics for the Final Intention to Quit Structural Model*

Degrees of Freedom = 170
Minimum Fit Function Chi-Square = 223.641 (P = 0.00363)
Normal Theory Weighted Least Squares Chi-Square = 224.289 (P = 0.00332)
Satorra-Bentler Scaled Chi-Square = 198.869 (P = 0.0642)
Chi-Square Corrected for Non-Normality = 1415.610 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 28.869
90 Percent Confidence Interval for NCP = (0.0 ; 68.143)
Minimum Fit Function Value = 1.096
Population Discrepancy Function Value (F0) = 0.142
90 Percent Confidence Interval for F0 = (0.0 ; 0.334)
Root Mean Square Error of Approximation (RMSEA) = 0.0289
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0443)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.991
Expected Cross-Validation Index (ECVI) = 1.573
90 Percent Confidence Interval for ECVI = (1.431 ; 1.765)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 320.869
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 584.573
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.966
Non-Normed Fit Index (NNFI) = 0.994
Parsimony Normed Fit Index (PNFI) = 0.782
Comparative Fit Index (CFI) = 0.995
Incremental Fit Index (IFI) = 0.995
Relative Fit Index (RFI) = 0.958
Critical N (CN) = 222.380
Root Mean Square Residual (RMR) = 0.0535
Standardised RMR = 0.0488
Goodness of Fit Index (GFI) = 0.905
Adjusted Goodness of Fit Index (AGFI) = 0.871
Parsimony Goodness of Fit Index (PGFI) = 0.666

The Satorra-Bentler Schaled Chi-Square showed a p-value of .0642 ($p < .05$). The $H_{01}$: RMSEA=0 was therefore not rejected. The structural model showed exact fit. The sample RMSEA value of .0289 indicated good fit, as values less than .05 indicate good fit. The p-value (.991) for the test of close fit ($H_{02}$: RMSEA<.05) indicated that the null hypothesis of close fit could not be rejected ($p > .05$)**.**

The root mean square residual (RMR=.0535), represents the average value of the covariance residuals, and the standardised RMR, which represents the fitted residuals divided by their estimated standard errors, (.0488) indicate good model fit. Diamantopoulos and Siguaw (2000) indicate that values less than .05 on the standardised RMR indicate models that fit the data well. According to Kelloway (1998) values exceeding .90 for the goodness-of-fit index (GFI) and the adjusted goodness-of-fit index (AGFI) indicate good fit to the data. The GFI value of .905 exceeded the cut- off with the AGFI of .871 falling just below the cut-off.

The assessment of parsimonious fit acknowledges that model fit can always be improved by adding more paths to the model and estimating more parameters until perfect fit is achieved in the form of a saturated or just-identified model with no degrees of freedom (Kelloway, 1998). The objective in model building is, however, to achieve satisfactory fit with as few model parameters as possible (Jöreskog & Sörbom, 1993). The objective is therefore to find, in this sense, the most parsimonious model. Indices of parsimonious fit relate the benefit that accrues in terms of improved fit to the cost incurred, in terms of degrees of freedom lost, to affect the improvement in fit (Jöreskog & Sörbom, 1993). The values for the Akaike information criterion (320.869) shown in Table 5.67 suggest that the fitted structural model provides a more parsimonious fit than the independent model (5890.117) as well as the saturated model (462.000), since smaller values on these indices indicate a more parsimonious model (Kelloway, 1998). The values for the consistent Akaike information criterion (584.573) also suggest that the fitted structural model provides a more parsimonious fit than both the independent model (5980.900) and the saturated model (1460.615).

The expected cross-validation index (ECVI) reflects the difference between the reproduced sample covariance matrix derived from the estimated model parameters obtained in the current sample and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000). Since the model ECVI (1.573) was smaller than the value obtained for the independence model (28.873) and the ECVI value obtained for the saturated model (2.265), a model resembling the fitted model seems to have a better chance of being replicated in a cross-validation sample than the independence model or the saturated model. This finding was corroborated by the Aiken information criterion and the consistent Aiken information criterion results. The *Final Intention to Quit Structural Model* therefore does not seem to be overly elaborate in how it conceptualises the causal dynamics underlying employees' *Intention to Quit*. At the same time the model does not appear to under-represent the causal dynamics.

The basket of evidence as presented above seemed to suggest a well-fitting model that clearly shows better performance than the independence model and that seems to fairly accurate comprehend the complexity of the psychological dynamics of the behavior of working man with regards to their intention to leave an organisation.

## 5.11.1 Inspection of the structural model residuals

The standardised residuals for the *Final Intention to Quit Structural Model* was inspected. The smallest standardised residual was -4.695, the median standardised residual was 0 and the largest standardised residual is 3.918. Only 10 (4%) of the standardised residuals were large.

The stem-and-leaf plot and the Q-plot are depicted in Figures 5.7 and 5.8. A good fitting model would be characterized by a stem-and-leaf plot in which the residuals are distributed approximately symmetrical around zero and with minimal spread.

```
-4|75
-4|
-3|
-3|3
-2|9
-2|4320
-1|8877666665555
-1|444433222221111111000
-0|99988877666665555555
 0|4444443333322222211111110000000000000000000000000000000000000000000+17
 0|1111111111122222233333344444444
 0|555555666677777889
 1|00000112333334
 1|5567789
 2|0334
 2|56779
 3|1
 3|9
```

*Figure 5.7.* Final Intention to Quit Structural Model stem-and-leaf plot of standardised residuals

From the stem-and-leaf plot depicted in Figure 5.5, the distribution of the standardised residuals appears to be distributed approximately symmetrical around zero, which is indicative of good model fit.

```
        3.5.................................................................
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    N    .                                  . xx*                       .
    o    .                                .xx*                          .
    r    .                              **x*                            .
    m    .                             xxxx                             .
    a    .                            x**                               .
    l    .                            xx                                .
         .                           *x.                                .
         .                          xx.                                 .
    Q    .                         *x                                   .
    u    .                        x*x                                   .
    a    .                        ***                                   .
    n    .                       x*                                     .
    t    .                      xxxx                                    .
    i    .                     *xxx.                                    .
    l    .                     xx .                                     .
    e    .                    x** .                                     .
    s    .                    x*x .                                     .
         .                   xx .                                       .
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         .                 xx  x.                                       .
         .                x x   .                                       .
         .              x       .                                       .
         .            . x       .                                       .
         .            x         .                                       .
         .            x         .                                       .
         .             .        .                                       .
         .           .          .                                       .
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         .         .            .                                       .
         .        ..            .                                       .
       -3.5.................................................................

              -3.5                                               3.5
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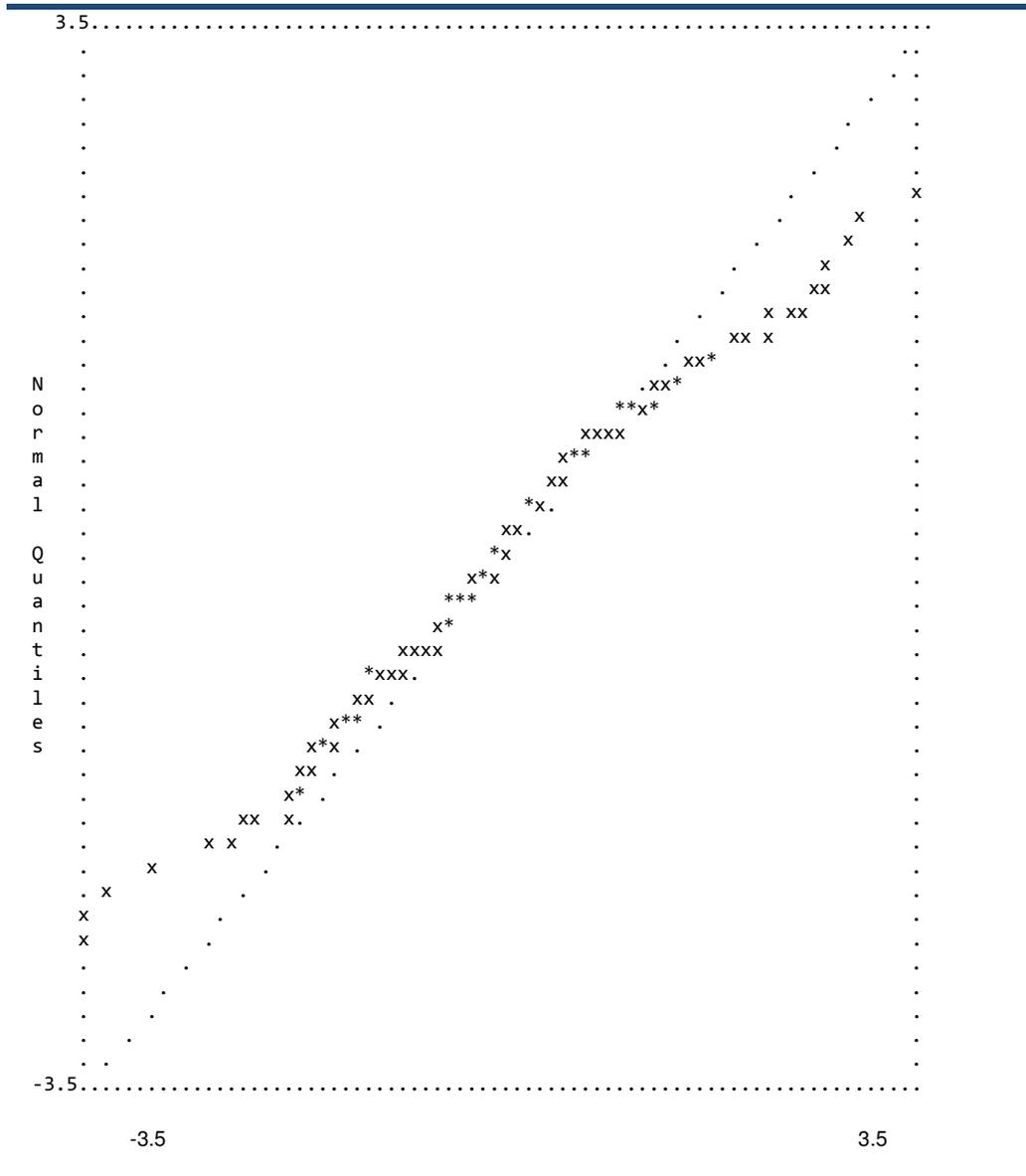
*Figure 5.8.* Final Intention to Quit Structural model q-plot of Standardised Residuals

As can be seen from Figure 5.8 the model fit appears to be very satisfactory as the data points only swivel away from the 45-degree reference line at ends of the reference line.

**5.11.2 Direct effects in the final intention to quit structural model**

The overall goodness-of-fit measures and the distribution of standardised residuals seemed to show that the *Final Intention to Quit Structural Model* fitted the data well. The objective of further analysing the structural model was to determine whether each of the hypothesised theoretical relationships were supported by the data.

Diamantopoulos and Siguaw (2000) identify four issues relevant to assessing the structural model:

1. It is important to assess whether the signs of the parameters representing the paths between latent variables are in agreement with the nature of the causal effect hypothesised to exist between the latent variables.

2. It is important to assess whether the parameter estimates are significant ($p < .05$).

3. Assuming significance, it is important to assess the magnitude of the parameter estimates indicating the strength of the hypothesised relationships.

4. It is important to evaluate the squared multiple correlations ($R^2$), indicating the amount of variance in each endogenous latent variable that is explained by the latent variables linked to it in terms of the hypothesised structural model.

The parameters of interest in assessing the structural model are the freed elements of the gamma and beta matrices. The unstandardised $\Gamma$ matrix depicted in Table 5.68 was used to assess the significance of the estimated path coefficients $\gamma_{ij}$, expressing the strength of the influence of $\xi_j$ on $\eta_i$. These parameters are significant ($p < .05$) if $t > |1,96|$ (Diamantopoulos & Siguaw, 2000). A significant estimate would imply that the corresponding null hypothesis will be rejected in favour of the relevant alternative hypothesis.

Table 5.68

*Final Intention to Quit Structural Model Unstandardised Gamma Matrix*

|  | PDO |
|---|---|
| **JS** | - |
| **OC** | 0.476 |
|  | (0.130) |
|  | 3.650 |
| **ITQ** | - |
| **PE** | 0.293 |
|  | (0.090) |
|  | 3.236 |
| **PAO** | - |
| **PHC** | - |
| **PUM** | -0.535 |
|  | (0.075) |
|  | -7.157 |

PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Table 5.68 shows that all the t-values were in fact larger than the critical cut-off of 1.96. Furthermore the signs of the parameters representing the paths between latent variables were in agreement with the nature of the causal effect hypothesised to exist between the latent variables. Table 5.68 therefore showed that each of the $H_o$ -hypotheses related to the causal relationships represented above could in fact be rejected.

The unstandardised **B** matrix, shown in Table 5.69, is used to assess the significance of the estimated path coefficients $\beta_{ij}$, expressing the strength of the influence of $\eta_j$ on $\eta_i$. Unstandardised $\beta_{ij}$ estimates are also significant (p < .05) if t >│1,96│(Diamantopoulos & Siguaw, 2000). A significant β estimate would imply that the corresponding $H_0$-hypothesis should be rejected in favor of the relevant $H_a$-hypothesis.

Table 5.69

*Final Intention to Quit Structural Model Unstandardised Beta Matrix*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | 0.795<br>(0.235)<br>3.387 | -0.269<br>(0.220)<br>-1.222 | - | - | - | - |
| **OC** | -0.821<br>(0.407)<br>-2.016 | - | -0.652<br>(0.226)<br>-2.889 | 0.460<br>(0.141)<br>3.268 | - | -0.105<br>(0.086)<br>-1.220 | -0.398<br>(0.236)<br>-1.685 |
| **ITQ** | 0.230<br>(0.242)<br>0.949 | -0.205<br>(0.157)<br>-1.305 | - | - | - | - | 0.834<br>(0.194)<br>4.296 |
| **PE** | - | - | - | - | - | - | - |
| **PAO** | - | -0.251<br>(0.115)<br>-2.182 | 0.014<br>(0.106)<br>0.134 | - | - | 0.747<br>(0.070)<br>10.626 | - |
| **PHC** | - | - | - | 0.241<br>(0.080)<br>3.028 | - | - | - |
| **PUM** | - | - | - | -0.158<br>(0.075)<br>-2.102 | 0.265<br>(0.076)<br>3.497 | - | - |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Table 5.69 indicates that the estimate $\beta_{21}$ representing the strength of the effect of *Job Satisfaction* on *Organisational Commitment* was statistically significant ($p < .05$). However the sign associated with $\beta_{21}$ was not in agreement with the hypothesised direction. It was originally hypothesised that an increase in *Job Satisfaction* would lead to an increase in *Organisational Commitment*. The null hypothesis can therefore not be rejected. Hypothesis $H_{16}$: $\beta_{31} = 0$, which hypothesised a negative linear relationship between *Job Satisfaction* and *Intention to Quit* could still not be rejected as it was still not significant ($t = 0.949$). This finding is in strong contrast with a vast amount of research. It is highly doubtful that such a relationship does not exist.

Table 5.69 shows that $H_{012}$: $\beta_{12} = 0$, which suggested a positive linear relationship between *Organisational Commitment* and *Job Satisfaction* could be rejected in favour of $H_{a12}$: $\beta_{12} > 0$. A significant relationship therefore exists between these two variables. The negative causal relationship hypothesised between *Organisational Commitment* and *Intention to Quit* was not found to be significant. Hypothesis $H_{014}$: $\beta_{32} = 0$ can therefore not be rejected. It should be noted that the t-value of -1.305 fell below the cut-off (1.96), but that the sign associated with the nature of the relationship was in accordance with the original hypothesis. Table 5.69 further shows that $H_{013}$: $\beta_{52} = 0$ could be rejected in favour of $H_{a13}$: $\beta_{52} < 0$. The hypothesis that low levels of

*Organisational Commitment* would lead to increased levels of *Perceived Alternative Opportunities* was thus supported.

The series of modification indices for the **B** matrix proposed three additional paths stemming from *Intention to Quit*. Table 5.69 however shows that only one of these paths was found to be significant in the final analysis. An employee with a high *Intention to Quit* will have a lower level of commitment to the organisation. The suggested linear relationship between *Intention to Quit* and *Job Satisfaction* was not found to be significant. The positive linear relationship suggested between *Intention to Quit* and *Perceived Alternative Opportunities* was not found to be significant either. In both of these instances the modification indices suggested the inclusion of such paths, but neither were ever found to be significant. Although neither of the two paths found significance throughout the series of analyses, the theory in support of such relationships provide justification for their inclusion. It makes theoretical sense to argue that an employee with a high intent to leave an organisation would be more aware of the possible alternative job opportunities available.

Table 5.69 provides evidence in support of hypotheses $H_{011}$: $\beta_{24} = 0$, $H_{07}$: $\beta_{64} = 0$ and $H_{010}$: $\beta_{74} = 0$. *Psychological Empowerment* positively influences an employee's level of commitment to an organisation as well as an employee's perception of his human capital value. Table 5.69 further supported the hypothesis that an employee's level of *Psychological Empowerment* will have a negative influence on his *Perceived Utility of Movement.*

*Perceived Alternative Opportunities* was found to statistically significantly ($p < .05$) and positively influence an employee's *Perceived Utility of Movement.* Hypothesis $H_{018}$: $\beta_{75} = 0$ could therefore be rejected in favor of $H_{a18}$: $\beta_{75} > 0$.

Hypothesis $H_{06}$: $\beta_{26} = 0$ could not be rejected as the t-value obtained fell below 1.96 (-1.220). The parameter estimate $\beta_{56}$ was found to be statistically significant ($p < .05$). Hypothesis $H_{04}$: $\beta_{56} = 0$ could therefore be rejected in favour of $H_{a4}$: $\beta_{56} > 0$. Employees perceiving themselves as highly employable are more inclined to be aware of other possible available job opportunities.

Table 5.69 furthermore showed that $H_{019}$: $\beta_{27}=0$ could not be rejected as the negative relationship between *Perceived Utility of Movement* and *Organisational Commitment* was not found to be significant. An employee's perception of the possible utility of moving would however have a statistically significant ($p < .05$) and positive influence on intention to leave. $H_{020}$: $\beta_{37} = 0$ could therefore be rejected in favour of $H_{a20}$: $\beta_{37} > 0$.

### 5.11.3 Completely standardised solution

Diamantopoulos and Siguaw (2000) suggest that additional insights can be obtained by considering the completely standardised **B** and $\Gamma$ parameter estimates provided by LISREL. The completely standardised **B** and $\Gamma$ parameter estimates are not affected by differences in the unit of measurement of the latent variables and can thus be compared across equations. The completely standardised **B** and $\Gamma$ parameter estimates reflect the average change, expressed in standard deviation units, in the endogenous latent variables, directly resulting from a one standard deviation change in an endogenous or exogenous latent variable to which it has been linked, holding the effect of all other variables constant (Diamantopoulos & Siguaw, 2000). The completely standardised **B** and $\Gamma$ parameter estimates are depicted in Tables 5.70 and 5.71.

Table 5.70

*Final Intention to Quit Structural Model Completely Standardised Beta Estimates*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | 0.795 | -0.269 | - | - | - | - |
| **OC** | -0.821 | - | -0.652 | 0.460 | - | -0.105 | -0.398 |
| **ITQ** | 0.230 | -0.205 | - | - | - | - | 0.834 |
| **PE** | - | - | - | - | - | - | - |
| **PAO** | - | -0.251 | 0.014 | - | - | 0.747 | - |
| **PHC** | - | - | - | 0.241 | - | - | - |
| **PUM** | - | - | - | -0.158 | 0.265 | - | - |

ITQ = Intention to Quit, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Table 5.71

*Final Intention to Quit Structural Model Completely Standardised Gamma Estimates*

|  | PDO |
| --- | --- |
| **JS** | - |
| **OC** | 0.476 |
| **ITQ** | - |
| **PE** | 0.293 |
| **PAO** | - |
| **PHC** | - |
| **PUM** | -0.535 |

ITQ = Intention to Quit, PDO = Perceived Development Opportunities, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Table 5.70 and Table 5.71 indicate that of the significant effects, the effect of *Perceived Utility of Movement* on *Intention to Quit* is the most pronounced.

### 5.11.4 Variance explained in the endogenous latent variables

Table 5.72 indicates the $R^2$ values for the seven endogenous latent variables. $R^2$ signifies the proportion of the variance in the endogenous latent variable that is accounted for by the *Final Intention to Quit Structural Model*. As is evident from Table 5.72 the *Final Intention to Quit Structural Model* most successfully accounted for the variance in *Intention to Quit* and *Perceived Alternative Opportunities*. The variance accounted for in *Job Satisfaction, Organisational Commitment* and *Perceived Utility of Movement* were also reasonably satisfactory. The *Final Intention to Quit Structural Model* was less successful in explaining variance in *Psychological Empowerment* and *Perceived Human Capital*.

Table 5.72

*$R^2$ Values for the seven endogenous latent variables included in the Final Intention to Quit Structural Model*

| JS | OC | ITQ | PE | PAO | PHC | PUM |
| --- | --- | --- | --- | --- | --- | --- |
| 0.573 | 0.512 | 0.644 | 0.086 | 0.663 | 0.058 | 0.493 |

**5.11.5 Structural model modification indices**

The *Final Intention to Quit Structural Model* depicted in Figure 5.6 seems to fit the data very well. An examination of the modification indices calculated for the **B** matrix, depicted in Table 5.73, revealed that one additional path between *Job Satisfaction* and *Perceived Alternative Opportunities* could be included in the model. An evaluation of the standardised expected change however revealed the suggestion of a positive relationship between these two variables. The suggested nature of the relationship did not make theoretical sense as an employee with high levels of *Job Satisfaction* would be less likely to be on the search for alternative employment. It was therefore decided to refrain from including such a path in the model.

Table 5.73

*Final Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| JS | - | - | **-** | 1.836 | 3.959 | 1.891 | - |
| OC | - | - | - | - | 1.244 | - | - |
| ITQ | - | - | - | 0.002 | 0.333 | 0.186 | - |
| PE | - | - | - | - | 0.020 | - | - |
| PAO | 8.825 | - | - | 0.011 | - | - | 0.000 |
| PHC | 0.935 | 1.940 | 0.024 | - | - | - | - |
| PUM | 0.347 | - | 0.046 | - | - | 0.000 | - |

ITQ = Intention to Quit, OC = Organizational Commitment, PE = Psychological Empowerment, PAO = Perceived Alternative Opportunities, PHC = Perceived Human Capital, PUM = Perceived Utility of Movement, JS = Job Satisfaction

Examination of the modification indices calculated for the Gamma matrix depicted in Table 5.74 did not suggest the inclusion of any additional paths.

Table 5.74

*Final Intention to Quit Structural Model Modification Indices calculated for the Gamma Matrix*

|       | PDO   |
|-------|-------|
| JS    | 2.569 |
| OC    | -     |
| ITQ   | 0.015 |
| PE    | -     |
| PAO   | 0.001 |
| PHC   | 0.070 |
| PUM   | -     |

## 5.12 Power Assessment

When evaluating the findings on the fit of a model it is very important to investigate the statistical power associated with testing the model. Statistical power refers to the conditional probability of rejecting the null hypothesis given that it is false (P[reject $H_0$: RMSEA |$H_0$ false]). In the context of SEM, statistical power therefore refers to the probability of rejecting an incorrect model. Diamantopoulos and Siguaw (2000) explain:

> When we test a model's fit by, say, the chi-square test, we emphasize the probability of making a Type I error, i.e., rejecting a correct model; this probability is captured by the significance level, which is usually set at .05. A significant chi-square result indicates that *if* the null hypothesis is true (i.e., the model is correct in the population), then the probability of incorrectly rejecting it is low (i.e., less than five times out of 100 if = .05). However, another error that can occur is *not* to reject an incorrect model. This type of error is known as Type II error and the probability associated with it is denoted as β. The probability of avoiding a Type II error is, therefore, 1- β and it is this probability that indicates the power of our test; thus the power of the test tells us how likely it is that a false null hypothesis (i.e., incorrect model) will be rejected (p. 93).

Unfortunately, this issue is more often than not neglected, but it is important to understand that any model evaluation would be incomplete if power considerations were ignored. The importance of conducting a power analysis stems from the critical role that sample size plays in the decisions made in model testing (Diamantopoulos & Siguaw, 2000). Specifically in large samples (i.e., high power) the decision to reject a null hypothesis of exact fit, or a null

hypothesis of close fit, becomes problematic because it is not clear whether the model was rejected because of severe misspecifications in the model, or due to the too high sensitivity of the test to detect even minor flaws in the model. Conversely in small samples (i.e., low power) the decision not to reject the null hypothesis of exact/close fit results in ambiguity because it is not clear whether the decision was due to the accuracy of the model, or to the insensitivity of the test to detect specification errors in the model. When the chi-square test is applied only Type I errors are explicitly taken into account. A power analysis therefore must be undertaken to also account for the probability of Type II errors (Diamantopoulos & Siguaw, 2000).

Two types of power calculations were performed. First, the power associated with a test of exact fit (i.e., testing the null hypothesis that the model fits perfectly in the population, as done by the Satorra-Bentler chi-square test) was estimated. However, as argued earlier, this test is very limited since models are only approximations of reality and, therefore, rarely do they fit exactly in the population. The power associated with a test of close fit was consequently also estimated. Here the null hypothesis states that the model has a close, but imperfect fit in the population. The stated null hypothesis takes the error of approximation (Diamantopoulos & Siguaw, 2000) into account. Both the test of exact fit and the test of close fit make use of the RMSEA statistic. If a model fits perfectly in the population the error due to approximation is set at 0 and the null hypothesis formulated earlier as $H_{01}$ is consequently tested against $H_{a1}$ (Diamantopoulos & Siguaw, 2000).

To determine the power of a test of the exact fit hypothesis, a specific value for the parameter needs to be assumed under $H_a$, because there are as many power estimates, as there are possible values for the parameter under $H_a$. A value that makes good sense to use in this instance is RMSEA = .05, as RMSEA < .05 is indicative of a good fitting model. If a model achieves close fit in the population the error due to approximation will be set equal to or less than .05 (Diamantopoulos & Siguaw, 2000). If a model fits only approximately in the population the error due to approximation is set at .05 and the null hypothesis formulated earlier as $H_{01b}$ is consequently tested against $H_{a1b}$ (Diamantopoulos & Siguaw, 2000). To determine the power of a test of the close fit hypothesis a specific value for the parameter again needs to be assumed. A reasonable value to assume is RMSEA = .08, since RMSEA = .08 is the upper limit of reasonable model fit.

The statistical power of the tests for exact and close fit is a function of the effect size (i.e., the assumed value of RMSEA under $H_a$), the significance level, the sample size (N) and the

degrees of freedom (v) in the model (v=½[(p][p+1]-t)=231-61 =170). A SPSS translation of the SAS syntax provided by MacCallum et al. (1996) was used to derive power estimates for the tests of exact and close fit. Given the effect size assumed above, a significance level (α) of .05 and a sample size of 205 were used. The results of the power analyses are shown in Table 5.75.

Table 5.75

*Statistical power of the tests for exact an close fit for the Final Intention to Quit Structural Model*

| $H_0$ | $H_a$ | N | α | df | Power |
|-------|-------|---|---|----|-------|
| $H_{01}$: RMSEA=0 | $H_{a1}$: RMSEA= .05 | 205 | .05 | 170 | .987408 |
| $H_{02}$: RMSEA≤0.05 | $H_{a2}$: RMSEA= .08 | 205 | .05 | 170 | .997139 |

Table 5.75 indicates that the probability of rejecting the exact fit null hypothesis given that the model fits well, but not perfectly, in the population (i.e., RMSEA = 1.05) is very high (.987). The probability of rejecting the exact fit hypothesis when the model fits well, but not perfectly, is almost a certainty. The probability of rejecting the null hypothesis of close fit under the true condition of mediocre fit (i.e., RMSEA = .08) in turn is even higher (.997). These findings, taken in conjunction with the fact that the exact fit null hypothesis was in fact not rejected, boosts confidence in the merits of the model. It is concluded that the decision not to reject the exact fit null hypothesis cannot be attributed to a lack of statistical power.

# CHAPTER 6: CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

## 6.1 Introduction

The objective of this chapter is to critically discuss the results obtained from this study, as presented in Chapter 5. The aim would be to review the original objective of the study and then to link the results obtained, to this objective. The conclusions derived will assist in the formulation of various practical applications that any organisation can benefit from.

## 6.2 Background

Organisations in the twenty-first century find themselves competing in markets characterised by unforeseen events resulting in continuous change. The rapid evolution of technology has led to increased global competition with organisations continuously competing for a position in the market. The need for superior talent has been identified as a crucial element in gaining a competitive advantage. New strategies have to be formulated and put into action in order to ensure that organisations not only engage well-performing employees but also develop them. The role of Industrial Psychologists and HR practitioners alike in the development of such strategic interventions is imperative. The development and implementation of key strategic talent management practices, activities and processes lie within the scope of the HR function.

The successful development of such talent management practices, however, is influenced by a myriad of factors posing various challenges to HR and I/O practitioners. South Africa's rich historical background and complex demographics without a doubt poses various formidable challenges that cannot be overlooked. Organisations in South Africa are under strict moral, economic, political and legal pressure to diversify their workforce. The responsibility to serve society through the efficient combination and transformation of scarce factors of production is vital.

Efforts aimed at addressing organisational challenges such as the development and retaining of talent therefore has to be rooted into the core practices of the organisation. The commitment of employees across all departments and levels are needed to ensure success. Research has however proven that the redesign and execution of employee recruitment, development, administration and retention are overseen by HR managers through the competencies of the line managers within the organisation. The responsibility for carrying out the obligations

associated with the talent management strategy therefore, indirectly rests on the shoulders of the line managers.

It was this argument that shaped the overall objective of the current study. The objective in essence was to gain a better understanding of the psychological processes that influence and ultimately determine employee turnover intention. Previous researchers have proven that an understanding of talent management and related HR strategies contribute to an understanding of how retention can be facilitated. It was therefore decided to contribute to the epistemic ideal of science by building on previous talent management studies initiated by Oehley (2007) and Smuts (2011).

Oehley (2007) proposed a list of key line manager talent management competencies and linked these managerial competencies to certain organisational outcomes, which were hypothesised to mediate the impact of the talent management competencies on employee intention to quit. Oehley (2007) found support for many of her hypotheses. However, quite a few of the structural links between the talent management competencies and organisational outcomes were not supported, and she suggested certain modifications to the talent management model.

Smuts (2011) attempted to gain a more comprehensive understanding of the psychological processes that contribute to turnover. She did so by further elaborating on the partial talent management competency model proposed by Oehley (2007) by focusing on the network of latent variables through which the core competencies have to work in order to affect the *Intention to Quit* latent variable. She added four additional latent variables in an attempt to understand how the work environment of an employee is psychologically interpreted. Her reasoning was that the causal leap in the Oehley (2007) model between line managers' competencies and the expected outcomes was too big. The model needed to make provision for specific organisational outcomes brought about by specific talent management competencies, and for the mediating role of the psychological interpretation of these features of the work environment created through the talent management competencies.

Taking into consideration both the suggestions for future research made by Oehley (2007) and Smuts (2011) the objective of the current study was to gain a better understanding of the various psychological processes leading up to an employee's intention to leave his current organisation for another. This was done by including three additional constructs to the already existing model.

## 6.3 Results

### 6.3.1 Evaluation of the measurement model

The overall goodness-of-fit of the measurement model was tested through structural equation modelling (SEM). Various indices were critically examined in an attempt to evaluate the goodness-of-fit of the measurement model. The conclusion derived at was that the measurement model fitted the data reasonable well, but not perfectly. It was furthermore found that most of the indicator variables designed for the purpose of reflecting the specific latent variables comprising the *Intention to Quit Structural Model*, succeeded in doing so.

The item parcels formulated, loaded statistically significantly on the latent variables they were designed to reflect. The values of the squared multiple correlations for the indicators were generally quite high and the measurement error variances generally quite low, thereby providing support for the use of the proposed operationalisation of the latent variables to empirically test the *Intention to Quit Structural Model*. Some concern did, however, exist with regards to the operationalisation of the *Job Satisfaction* latent variable.

### 6.3.2 Evaluation of the structural models

#### *6.3.2.1 Gamma matrix*

Inspection of the gamma matrix for model A indicated that the hypothesis that *Perceived Development Opportunities* positively influences *Psychological Empowerment* was supported. This was in contrast to the findings of Smuts (2011) who did not find support for such a causal linkage. The reason for this could be due to the multi-dimensional nature of the construct *Psychological Empowerment.* It could be that one or more of the sub-dimensions of *Psychological Empowerment* played a more significant role in the current study than in that of the Smuts study.

Examination of the subsequent modification indices (model B – model H) for the gamma matrices suggested the inclusion of two additional paths. The first was a negative causal relationship between *Perceived Development Opportunities* and *Perceived Utility of Movement.* This suggested that an employee's perception of the possible development opportunities

provided by his current employer would lower his perception of the possible utility of leaving his current employment for another.

The second path suggested was a positive linear effect between *Perceived Development Opportunities* and *Organisational Commitment*. This suggests that if organisations provide their employees with sufficient opportunities to develop their skills they will show higher levels of *Organisational Commitment*. Both these paths were included and empirically tested in the final model and were found to be significant.

### 6.3.2.2 Beta matrix

The beta matrix for model A provided evidence in support for the hypotheses that *Psychological Empowerment* positively influences *Perceived Human Capital* and negatively influences *Perceived Utility of Movement.* Furthermore it was shown that *Perceived Human Capital* positively influences *Perceived Alternative Opportunities. Perceived Utility of Movement* ultimately, positively influences *Intention to Quit.* These findings are extremely interesting. Throughout the literature study it was argued that the cognitive process underlying an employee's decisions to leave an organisation is complex and therefore the final decision is made rationally. The existence of a "three pronged process" was suggested. An employee will assess his own capabilities, than the opportunities available in the market and ultimately evaluate whether it would be beneficial to act on such an opportunity. Support for the causal paths mentioned above provides evidence for such a "rational thought process". Furthermore, it also suggested that line managers can influence this thought process through their ability to *Develop Others.*

*Organisational Commitment* was found to negatively influence both, *Intention to Quit* as well as *Perceived Alternative Opportunities.* Furthermore, it was found that *Organisational Commitment* positively influences an employee's *Job Satisfaction.* These findings all highlight the importance of instilling *Organisational Commitment* in all employees. High levels of commitment will ensure higher levels of employee retention as well as increased levels of employee satisfaction.

Besides the paths that were supported, the beta matrix also showed that eleven of the original paths hypothesised were not supported. Theses paths have been identified and discussed in section 5.10.3.

Inspection of the modification indices of the subsequent models resulted in the inclusion of six additional paths. The inclusion of each of these paths had significant influences on the rest of the paths included in the model. Inspection of the beta matrix for the final model (model - H) showed support for the following three additional paths:

It was found that *Intention to Quit* negatively influences *Organizational Commitment*. Employees intending to leave their current employer will therefore show lower levels of *Organizational Commitment*. *Perceived Alternative Opportunities* showed to have a significant positive relationship with *Perceived Utility of Movement*. This finding once again provides support for the "three pronged process" mentioned earlier. Employees who perceive to have multiple employment opportunities available to them will feel more confident in their decision to leave their current employer as the chance of staying unemployed is perceived as being slim. *Perceived Development Opportunities* was found to be significantly positive related to *Organizational Commitment*. This once again highlights the importance of providing employees with opportunities for development as it will result in increased levels of commitment.

## 6.4 Limitations to the Research Methododlgy

Some of the flaws and limitations of the research study were discussed throughout the text. The problems and challenges related to multicollinearity were discussed extensively. Besides the limitations imposed by multicollinearity, two additional limitations have to be discussed.

Firstly, the *ex post facto* nature of the study prohibits the experimental manipulation of the relevant latent variables comprising the structural model. Good model fit in SEM therefore does not imply causality. Although hypothesised paths between the latent variables comprising the model were found to be significant it does not constitute significant evidence to conclude that such causal relationships have been confirmed (Kerlinger & Lee, 2000).

Secondly, the *Intention to Quit Structural Model* was tested on a non-probability sample of employees from a non-probability sample of organisations in South Africa. It is advised not to infer from the sample used, to the general population. Generalisations obtained from such a non-probability sample should be filtered through one's knowledge of the topic at hand. It is for this reason that replication of this research on other samples and in different organisational contexts is greatly encouraged.

Modifications were made to the original Smuts – Bezuidenhout *Intention to Quit Structural Model*. These modifications were suggested by the current data. Finding support for the modifications therefore does not constitute strong evidence for these additional paths that were not hypothesised right from the outset.

## 6.5 Practical Implications

This research succeeded in its attempt to incorporate factors external to the organisation into the Oehley-Smuts (2011) *Talent Management Competency Model*. All three of the newly introduced variables (PHC, PAO and PUM) included in the revised model significantly added to the understanding of the turnover phenomenon and how line management competencies influence employee turnover decisions. I/O Psychologists and HR practitioners developing in-house training programmes and conducting recruitment and selection interventions can use the results generated in this and the preceding studies done by Oehley (2007) and Smuts (2011) in two ways.

The results from the three studies can be used for the purpose of developing more accurate and job-related selection methods, thereby increasing the likelihood of selecting the right person for the job. This research will aid HR practitioners in the identification of individuals who possess the necessary talent management competencies needed to ensure optimal performance within a specific line management position. Figure 5.6 clearly shows that an individual that possesses the ability to provide subordinates with the necessary development opportunities will ensure that subordinates stay committed to the organisation and will reduce the likelihood of such an individual leaving the organisation. A variety of assessment tools could be specifically designed to directly assess to what degree an applicant possesses such competencies. Such tools could be used during both formative and summative assessments by assessors to observe behavior within a work sample test. The model can further be used to guide the selection of the most appropriate psychometric tests specifically designed to measure specific competencies included in the model.

It should however be noted that the additional competencies identified by Oehley (2007) should also be taken into consideration during the selection process. Although Oehley (2007) did not find empirical support for each of the competencies identified, they should be taken into account when making an employment decision. Further research regarding the manner in which each of

the other competencies influence employee working behavior is needed in order to fully justify the consideration thereof.

A competency model such as the one presented in this study could also be used for the purpose of training and development. Due to time constraints, organisations are forced to speed up the recruitment and selection process. This often leads to the employment of incompetent employees. The competency model can be used as a guideline when compiling training and development workshops and programmes. Training programmes can be designed to ensure that it addresses all the relevant talent management competencies included in the Oehley (2007) model as to ensure the effective development thereof.

Furthermore the competency model can be used to assist in the identification of employee developmental needs as not all employees are competent in all areas. Employees could be given the responsibility to evaluate themselves in terms of each of the competencies. Providing employees with the opportunity for self-evaluation and development will give them an increased sense of self responsibility. By doing this, employees can also ensure that they acquire the necessary skills and competencies that will allow them to excel in all their work related endeavors.

The consecutive research efforts aimed at the development of this competency model has led to the identification of various organisational as well as external factors influencing employee perceptions and turnover behavior. The model has aided in providing researchers with a better understanding of how various factors influence one another and ultimately influence the thought processes and behavioral responses of employees. This knowledge can be used by practitioners to create working conditions that satisfy the needs of employees and addresses various factors that could negatively impact employee behaviors.

The theory regarding *Job Satisfaction* provided in the current research highlighted theimportant role an employee's standing on this variabke is and how it impacts behavioural intentions. Line management can use the theory presented as a guideline for ensuring that each of the dimensions of *Job Satisfaction* are being addressed within a specific position. The model also shows how influential an employee's *Psychological Empowerment* is and how it impacts and determines various other related and non-related factors. Line management competencies can influence and shape the various dimensions of *Psychological Empowerment* as to ensure positive outcomes. It has been proven that if line management can ensure that employees feel

competent and have a sense of meaning this will positively influence their level of *Organisational Commitment* and *Job Satisfaction*.

## 6.6 Suggestions for Future Research

Thus far, the researchers working on the original Oehley (2007) model have succeeded in their efforts of contributing to the epistemic ideal of science in that each have been able to contribute significant insight into the behaviour of working man. Each researcher has also succeeded in adding new variables to the model. The inclusion of additional variables however brings about its own unique challenges. It is suggested that the final model, as developed thus far, should be cross-validated before the completed model is tested on a sample large enough, to ensure the generation of fruitful empirical evidence.

Smuts (2011) suggested breaking up the construct, *Psychological Empowerment* into its four dimensions. In retrospect it has to be admitted that this should have been done in the current study. With that said, it is highly advised to do so in proceeding studies. There is no doubt that breaking up this construct into its various dimensions would provide the researcher with extremely fruitful insight into how each dimension is correlated with the various other factors included in the model. It is predicted that one would achieve greater insight into the inner thought processes of employees. Furthermore, it is predicted that various additional structural relationships will find support and will be suggested.

In her study, Smuts hypothesised a negative causal relationship between *Psychological Empowerment* and *Intention to Quit.* Her data however showed that such a relationship does exist but that it would be a positive casual influence. An increase in an employee's *Psychological Empowerment* would therefore lead to increased *Intention to Quit*. This finding was in exact contrast to what Smuts (2011) hypothesised.

Unfortunately this causal relationship was not included in the current study. In retrospect it would have been very interesting to see whether the finding would have been the same. The reason for Smuts' finding is difficult to explain because of the multi-dimensional nature of the construct, *Psychological Empowerment*. It could be that only one of the dimensions comprising the construct was responsible for the findings. Once again, the benefit of breaking up *Psychological Empowerment* is highlighted.

Smuts (2011), in an attempt to explain the above finding suggested the creation and inclusion of a new variable, *Perceived Performance.* She argued that the dimension, *Competence*, which makes up part of *Psychological Empowerment* could have been responsible for the positive relationship found between *Psychological Empowerment* and *Intention to Quit.* She reasoned that *Competence* relates to *self-efficacy* and that a strong sense of competence would imply that an employee will evaluate his/her ability to perform a specific set of tasks relatively more successful in relation to other individuals. If sufficient opportunities are perceived to exist elsewhere that would offer a valued improvement in working conditions and/or rewards, such an employee could experience a heightened level of *Intention to Quit*. The Final Smuts – Bezuidenhout *Intention to Quit Structural Model* found statistically significant (p < .05) structural paths running from *Psychological Empowerment* to *Perceived Human Capital*, from *Perceived Human Capital* to *Perceived Alternative Opportunities*, from *Perceived Alternative Opportunities* to *Perceived Utility of Movement* and from *Perceived Utility of Movement* to *Intention to Quit*. All the path coefficients in this structural causal chain from *Psychological Empowerment* to *Intention to Quit* were positive.

The inclusion of *Perceived Performance* could provide further insight into how various constructs in the model influence one another. Furthermore, *Perceived Performance* would most probably have various influences on the three new constructs included in the current study. It is proposed that *Competence* (measured individually) would positively influence *Perceived Performance* and that *Perceived Performance* would positively influence both *Perceived Utility of Movement* and *Perceived Human Capital.*

Modifications were made to the original Smuts – Bezuidenhout *Intention to Quit Structural Model*. These modifications were suggested by the current data. Finding support for the modifications therefore does not constitute strong evidence for these additional paths that were not hypothesised right from the outset. The additional paths should therefore still be treated as hypotheses suggested by the current data. It is therefore important that the final Smuts – Bezuidenhout *Intention to Quit Structural Model* should be tested on a new data set.

## 6.7 Concluding Remarks

The development of a model which simultaneously identifies important line management competencies and explains the psychological processes underlying turnover intention without a doubt contributes to the epistemic ideal of science. The inability of the previous studies to

explain how line manager competencies influence turnover intention was somewhat disappointing. Continuous efforts however have provided some clarity and fruitful insight into this phenomenon.

The current study has for the most part provided fruitful insight into the turnover phenomenon as well as how the line management competency, *Develops Others,* influences employee behaviour. Subsequent studies should therefore strive to justify each of the remaining competencies identified by Oehley (2007) by clarifying how each relates to the various outcome variables.

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# APPENDIX A: MODEL OUTPUTS

## Output after removal of insignificant paths

*Goodness of Fit Statistics for the Intention to Quit Structural Model after removal of insignificant paths*

Goodness of Fit Statistics
Degrees of Freedom = 176
Minimum Fit Function Chi-Square = 331.506 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square = 308.682 (P = 0.00)
Satorra-Bentler Scaled Chi-Square = 272.760 (P = 0.000)
Chi-Square Corrected for Non-Normality = 2862.937 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 96.760
90 Percent Confidence Interval for NCP = (55.974 ; 145.494)
Minimum Fit Function Value = 1.625
Population Discrepancy Function Value (F0) = 0.474
90 Percent Confidence Interval for F0 = (0.274 ; 0.713)
Root Mean Square Error of Approximation (RMSEA) = 0.0519
90 Percent Confidence Interval for RMSEA = (0.0395 ; 0.0637)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.385
Expected Cross-Validation Index (ECVI) = 1.876
90 Percent Confidence Interval for ECVI = (1.676 ; 2.115)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 382.760
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 620.526
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.953
Non-Normed Fit Index (NNFI) = 0.980
Parsimony Normed Fit Index (PNFI) = 0.799
Comparative Fit Index (CFI) = 0.983
Incremental Fit Index (IFI) = 0.983
Relative Fit Index (RFI) = 0.944
Critical N (CN) = 167.457
Root Mean Square Residual (RMR) = 0.132
Standardized RMR = 0.132
Goodness of Fit Index (GFI) = 0.874
Adjusted Goodness of Fit Index (AGFI) = 0.835
Parsimony Goodness of Fit Index (PGFI) = 0.666

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix after removal of insignificant paths*

|      | JS     | OC     | ITQ    | PE     | PAO    | PHC   | PUM      |
|------|--------|--------|--------|--------|--------|-------|----------|
| JS   | -      | -      | 0.542  | 0.874  | 2.209  | 1.399 | 0.916    |
| OC   | -      | -      | 19.044 | -      | 6.530  | -     | -        |
| ITQ  | -      |        | -      | 5.637  | 0.776  | 0.297 | -        |
| PE   | 23.635 | 24.182 | 26.117 | -      | 17.022 | -     | 1810.873 |
| PAO  | 7.213  | -      | 10.608 | 0.716  | -      | -     | 49.457   |
| PHC  | 5.219  | 10.354 | 6.791  | -      | -      | -     | 9.520    |
| PUM  | 0.086  | 0.037  | 0.222  | -      | 12.230 | 9.632 | -        |

*Intention to Quit Structural Model expected change for Beta after removal of insignificant paths*

|      | JS     | OC     | ITQ    | PE     | PAO   | PHC   | PUM    |
|------|--------|--------|--------|--------|-------|-------|--------|
| JS   | -      | -      | -0.250 | -0.084 | 0.122 | 0.086 | -0.216 |
| OC   | -      | -      | -3.091 | -      | 0.628 | -     | -      |
| ITQ  | -      |        | -      | 0.147  | 0.044 | 0.026 | -      |
| PE   | -0.743 | -1.019 | 0.700  | -      | 1.303 | -     | 57.130 |
| PAO  | 0.874  | -      | 0.689  | 0.059  | -     | -     | 2.746  |
| PHC  | -0.225 | -0.317 | 0.210  | -      | -     | -     | 0.240  |
| PUM  | -0.032 | 0.026  | 0.058  | -      | 0.311 | 0.234 | -      |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix after removal of insignificant paths*

|      | PDO    |
|------|--------|
| JS   | 0.598  |
| OC   | 13.605 |
| ITQ  | 0.856  |
| PE   | -      |
| PAO  | 0.131  |
| PHC  | 0.122  |
| PUM  | 62.560 |

*Intention to Quit Structural Model expected change for Gama after removal of insignificant paths*

|  | PDO |
| --- | --- |
| **JS** | 0.058 |
| **OC** | 0.384 |
| **ITQ** | 0.045 |
| **PE** | - |
| **PAO** | 0.020 |
| **PHC** | -0.028 |
| **PUM** | -0.644 |

**Output for model A**

*Goodness of Fit Statistics for the Intention to Quit Structural Model A*

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Degrees of Freedom = 175
Minimum Fit Function Chi-Square = 262.438 (P = 0.000)
Normal Theory Weighted Least Squares Chi-Square = 255.358 (P = 0.000)
Satorra-Bentler Scaled Chi-Square = 226.118 (P = 0.00556)
Chi-Square Corrected for Non-Normality = 2493.789 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 51.118
90 Percent Confidence Interval for NCP = (16.403 ; 93.956)
Minimum Fit Function Value = 1.286
Population Discrepancy Function Value (F0) = 0.251
90 Percent Confidence Interval for F0 = (0.0804 ; 0.461)
Root Mean Square Error of Approximation (RMSEA) = 0.0378
90 Percent Confidence Interval for RMSEA = (0.0214 ; 0.0513)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.930
Expected Cross-Validation Index (ECVI) = 1.657
90 Percent Confidence Interval for ECVI = (1.487 ; 1.867)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 338.118
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 580.207
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.961
Non-Normed Fit Index (NNFI) = 0.989
Parsimony Normed Fit Index (PNFI) = 0.801
Comparative Fit Index (CFI) = 0.991
Incremental Fit Index (IFI) = 0.991
Relative Fit Index (RFI) = 0.954
Critical N (CN) = 200.778
Root Mean Square Residual (RMR) = 0.0905
Standardized RMR = 0.0751
Goodness of Fit Index (GFI) = 0.893
Adjusted Goodness of Fit Index (AGFI) = 0.859
Parsimony Goodness of Fit Index (PGFI) = 0.677

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*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model A*

|     | JS    | OC    | ITQ    | PE    | PAO    | PHC    | PUM   |
|-----|-------|-------|--------|-------|--------|--------|-------|
| JS  | -     | -     | 0.608  | 0.952 | 2.200  | 1.389  | 1.099 |
| OC  | -     | -     | 16.768 | -     | 5.632  | -      | -     |
| ITQ | -     | -     | -      | 5.255 | 0.920  | 0.367  | -     |
| PE  | -     | -     | -      | -     | 4.224  | -      | -     |
| PAO | 9.544 | -     | 11.300 | 0.694 | -      | -      | -     |
| PHC | 4.787 | 9.630 | 6.415  | -     | -      | -      | 8.613 |
| PUM | 1.205 | 1.769 | 0.300  | -     | 12.125 | 11.444 | -     |

*Intention to Quit Structural Model A expected change for Beta*

|     | JS     | OC     | ITQ    | PE     | PAO   | PHC   | PUM    |
|-----|--------|--------|--------|--------|-------|-------|--------|
| JS  | -      | -      | -0.274 | -0.086 | 0.122 | 0.086 | -0.253 |
| OC  | -      | -      | -2.765 | -      | 0.549 | -     | -      |
| ITQ | -      | -      | -      | 0.144  | 0.048 | 0.029 | -      |
| PE  | -      | -      | -      | -      | 0.724 | -     | -      |
| PAO | 1.155  | -      | 0.742  | 0.057  | -     | -     | -      |
| PHC | -0.212 | -0.299 | 0.202  | -      | -     | -     | 0.226  |
| PUM | 0.113  | 0.173  | 0.060  | -      | 0.246 | 0.216 | -      |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model A*

|     | PDO    |
|-----|--------|
| JS  | 0.939  |
| OC  | 11.182 |
| ITQ | 2.018  |
| PE  | -      |
| PAO | 0.156  |
| PHC | 0.409  |
| PUM | -      |

*Intention to Quit Structural Model A expected change for Gama*

|     | PDO    |
|-----|--------|
| JS  | 0.098  |
| OC  | 0.432  |
| ITQ | 0.086  |
| PE  | -      |
| PAO | 0.029  |
| PHC | -0.051 |
| PUM | -      |

**Output for Model B**

*Goodness of Fit Statistics for the Intention to Quit Structural Model B*

Degrees of Freedom = 174
Minimum Fit Function Chi-Square = 257.452 (P = 0.000)
Normal Theory Weighted Least Squares Chi-Square = 251.393 (P = 0.000112)
Satorra-Bentler Scaled Chi-Square = 222.322 (P = 0.00780)
Chi-Square Corrected for Non-Normality = 2301.519 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 48.322
90 Percent Confidence Interval for NCP = (14.076 ; 90.702)
Minimum Fit Function Value = 1.262
Population Discrepancy Function Value (F0) = 0.237
90 Percent Confidence Interval for F0 = (0.0690 ; 0.445)
Root Mean Square Error of Approximation (RMSEA) = 0.0369
90 Percent Confidence Interval for RMSEA = (0.0199 ; 0.0505)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.942
Expected Cross-Validation Index (ECVI) = 1.649
90 Percent Confidence Interval for ECVI = (1.481 ; 1.856)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 336.322
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 582.733
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.962
Non-Normed Fit Index (NNFI) = 0.990
Parsimony Normed Fit Index (PNFI) = 0.797
Comparative Fit Index (CFI) = 0.991
Incremental Fit Index (IFI) = 0.991
Relative Fit Index (RFI) = 0.954
Critical N (CN) = 203.158
Root Mean Square Residual (RMR) = 0.0897
Standardized RMR = 0.0742
Goodness of Fit Index (GFI) = 0.895
Adjusted Goodness of Fit Index (AGFI) = 0.861
Parsimony Goodness of Fit Index (PGFI) = 0.674

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model B*

|       | JS     | OC     | ITQ    | PE    | PAO    | PHC    | PUM   |
|-------|--------|--------|--------|-------|--------|--------|-------|
| JS    | -      | -      | 1.433  | 1.102 | 2.245  | 1.332  | 1.284 |
| OC    | -      | -      | -      | -     | 8.092  | -      | -     |
| ITQ   | -      | -      | -      | -     | 0.016  | 0.022  | -     |
| PE    | -      | -      | -      | -     | 6.754  | -      | -     |
| PAO   | 9.823  | -      | 16.744 | 0.977 | -      | -      | -     |
| PHC   | 5.114  | 10.042 | 6.192  | -     | -      | -      | 8.719 |
| PUM   | 1.139  | 1.723  | 0.001  | -     | 12.045 | 11.319 | -     |

*Intention to Quit Structural Model B expected change for Beta*

|     | JS     | OC     | ITQ    | PE     | PAO   | PHC   | PUM    |
|-----|--------|--------|--------|--------|-------|-------|--------|
| **JS**  | -      | -      | -0.386 | -0.093 | 0.124 | 0.085 | -0.276 |
| **OC**  | -      | -      | -      | -      | 0.651 | -     | -      |
| **ITQ** | -      | -      | -      | -      | 0.007 | 0.008 | -      |
| **PE**  | -      | -      | -      | -      | 1.033 | -     | -      |
| **PAO** | 1.110  | -      | 1.304  | 0.069  | -     | -     | -      |
| **PHC** | -0.224 | -0.311 | 0.190  | -      | -     | -     | 0.229  |
| **PUM** | 0.111  | 0.174  | 0.003  | -      | -     | 0.214 | -      |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model B*

|         | PDO    |
|---------|--------|
| **JS**  | 1.134  |
| **OC**  | 13.277 |
| **ITQ** | 0.005  |
| **PE**  | -      |
| **PAO** | 0.174  |
| **PHC** | 0.426  |
| **PUM** | -      |

*Intention to Quit Structural Model B expected change for Gama*

|         | PDO    |
|---------|--------|
| **JS**  | 0.108  |
| **OC**  | 0.398  |
| **ITQ** | 0.005  |
| **PE**  | -      |
| **PAO** | 0.031  |
| **PHC** | -0.052 |
| **PUM** | -      |

**Output for Model C**

*Goodness of Fit Statistics for the Intention to Quit Structural Model C*

Degrees of Freedom = 173
Minimum Fit Function Chi-Square = 255.750 (P = 0.000)
Normal Theory Weighted Least Squares Chi-Square = 248.264 (P = 0.000154)
Satorra-Bentler Scaled Chi-Square = 219.752 (P = 0.00933)
Chi-Square Corrected for Non-Normality = 2194.184 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 46.752
90 Percent Confidence Interval for NCP = (12.804 ; 88.842)
Minimum Fit Function Value = 1.254
Population Discrepancy Function Value (F0) = 0.229
90 Percent Confidence Interval for F0 = (0.0628 ; 0.436)
Root Mean Square Error of Approximation (RMSEA) = 0.0364
90 Percent Confidence Interval for RMSEA = (0.0190 ; 0.0502)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.948
Expected Cross-Validation Index (ECVI) = 1.646
90 Percent Confidence Interval for ECVI = (1.479 ; 1.852)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 335.752
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 586.486
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.962
Non-Normed Fit Index (NNFI) = 0.990
Parsimony Normed Fit Index (PNFI) = 0.793
Comparative Fit Index (CFI) = 0.992
Incremental Fit Index (IFI) = 0.992
Relative Fit Index (RFI) = 0.954
Critical N (CN) = 204.478
Root Mean Square Residual (RMR) = 0.0884
Standardized RMR = 0.0726
Goodness of Fit Index (GFI) = 0.896
Adjusted Goodness of Fit Index (AGFI) = 0.861
Parsimony Goodness of Fit Index (PGFI) = 0.671

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model C*

|       | JS     | OC     | ITQ   | PE    | PAO    | PHC    | PUM    |
|-------|--------|--------|-------|-------|--------|--------|--------|
| JS    | -      | -      | 2.531 | 1.381 | 3.058  | 1.447  | 1.639  |
| OC    | -      | -      | -     | -     | 6.302  | -      | -      |
| ITQ   | -      | -      | -     | -     | 0.176  | 0.008  | -      |
| PE    | -      | -      | -     | -     | 8.038  | -      | -      |
| PAO   | 13.176 | -      | -     | 0.294 | -      | -      | 11.510 |
| PHC   | 4.830  | 10.019 | 5.878 | -     | -      | -      | 8.455  |
| PUM   | 1.099  | 2.059  | 0.001 | -     | 10.177 | 10.956 | -      |

*Intention to Quit Structural Model C expected change for Beta*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | - | -0.595 | -0.106 | 0.147 | 0.088 | -0.308 |
| **OC** | - | - | - | - | 0.700 | - | - |
| **ITQ** | - | - | - | - | -0.024 | 0.005 | - |
| **PE** | - | - | - | - | 2.311 | - | - |
| **PAO** | 1.032 | - | - | 0.044 | - | - | 1.221 |
| **PHC** | -0.220 | -0.314 | 0.185 | - | - | - | 0.225 |
| **PUM** | 0.109 | 0.189 | 0.004 | - | 0.223 | 0.210 | - |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model C*

|  | PDO |
|---|---|
| **JS** | 0.896 |
| **OC** | 13.643 |
| **ITQ** | 0.011 |
| **PE** | - |
| **PAO** | 0.219 |
| **PHC** | 0.411 |
| **PUM** | - |

*Intention to Quit Structural Model C expected change for Gama*

|  | PDO |
|---|---|
| **JS** | 0.096 |
| **OC** | 0.398 |
| **ITQ** | 0.007 |
| **PE** | - |
| **PAO** | 0.034 |
| **PHC** | -0.051 |
| **PUM** | - |

**Output for Model D**

*Goodness of Fit Statistics for the Intention to Quit Structural Model D*

Degrees of Freedom = 172
Minimum Fit Function Chi-Square = 238.812 (P = 0.000568)
Normal Theory Weighted Least Squares Chi-Square = 237.705 (P = 0.000673)
Satorra-Bentler Scaled Chi-Square = 210.456 (P = 0.0243)
Chi-Square Corrected for Non-Normality = 1416.741 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 38.456
90 Percent Confidence Interval for NCP = (5.807 ; 79.296)
Minimum Fit Function Value = 1.171
Population Discrepancy Function Value (F0) = 0.189
90 Percent Confidence Interval for F0 = (0.0285 ; 0.389)
Root Mean Square Error of Approximation (RMSEA) = 0.0331
90 Percent Confidence Interval for RMSEA = (0.0129 ; 0.0475)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.975
Expected Cross-Validation Index (ECVI) = 1.610
90 Percent Confidence Interval for ECVI = (1.450 ; 1.810)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 328.456
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 583.514
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.964
Non-Normed Fit Index (NNFI) = 0.992
Parsimony Normed Fit Index (PNFI) = 0.790
Comparative Fit Index (CFI) = 0.993
Incremental Fit Index (IFI) = 0.993
Relative Fit Index (RFI) = 0.956
Critical N (CN) = 212.374
Root Mean Square Residual (RMR) = 0.0830
Standardized RMR = 0.0672
Goodness of Fit Index (GFI) = 0.900
Adjusted Goodness of Fit Index (AGFI) = 0.866
Parsimony Goodness of Fit Index (PGFI) = 0.670

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model D*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| JS | - | - | 4.061 | 1.678 | 3.079 | 1.351 | 1.249 |
| OC | - | - | - | - | 2.401 | - | - |
| ITQ | - | - | - | 0.038 | 0.300 | 0.001 | - |
| PE | - | - | - | - | 0.157 | - | - |
| PAO | 35.766 | - | - | 0.150 | - | - | 10.964 |
| PHC | 3.356 | 7.668 | 5.981 | - | - | - | 8.605 |
| PUM | 0.183 | 0.043 | 0.002 | - | 12.447 | 11.384 | - |

*Intention to Quit Structural Model D expected change for Beta*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | - | -1.167 | -0.118 | 0.151 | 0.086 | -0.293 |
| **OC** | - | - | - | - | 0.325 | - | - |
| **ITQ** | - | - | - | -0.020 | -0.031 | 0.002 | - |
| **PE** | - | - | - | - | 0.180 | - | - |
| **PAO** | 2.694 | - | - | 0.032 | - | - | 1.007 |
| **PHC** | -0.183 | -0.274 | 0.188 | - | - | - | 0.228 |
| **PUM** | -0.057 | -0.032 | 0.007 | - | 0.249 | 0.216 | - |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model D*

|  | PDO |
|---|---|
| **JS** | 0.809 |
| **OC** | - |
| **ITQ** | 0.026 |
| **PE** | - |
| **PAO** | 1.064 |
| **PHC** | 0.257 |
| **PUM** | - |

*Intention to Quit Structural Model D expected change for Gama*

|  | PDO |
|---|---|
| **JS** | 0.119 |
| **OC** | - |
| **ITQ** | 0.013 |
| **PE** | - |
| **PAO** | 0.112 |
| **PHC** | -0.040 |
| **PUM** | - |

**Output for Model E**

*Goodness of Fit Statistics for the Intention to Quit Structural Model E*

Degrees of Freedom = 171
Minimum Fit Function Chi-Square = 225.042 (P = 0.00351)
Normal Theory Weighted Least Squares Chi-Square = 225.675 (P = 0.00322)
Satorra-Bentler Scaled Chi-Square = 199.979 (P = 0.0640)
Chi-Square Corrected for Non-Normality = 1464.052 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 28.979
90 Percent Confidence Interval for NCP = (0.0 ; 68.346)
Minimum Fit Function Value = 1.103
Population Discrepancy Function Value (F0) = 0.142
90 Percent Confidence Interval for F0 = (0.0 ; 0.335)
Root Mean Square Error of Approximation (RMSEA) = 0.0288
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0443)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.991
Expected Cross-Validation Index (ECVI) = 1.569
90 Percent Confidence Interval for ECVI = (1.426 ; 1.762)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 319.979
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 579.359
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.966
Non-Normed Fit Index (NNFI) = 0.994
Parsimony Normed Fit Index (PNFI) = 0.786
Comparative Fit Index (CFI) = 0.995
Incremental Fit Index (IFI) = 0.995
Relative Fit Index (RFI) = 0.958
Critical N (CN) = 222.301
Root Mean Square Residual (RMR) = 0.0537
Standardized RMR = 0.0488
Goodness of Fit Index (GFI) = 0.905
Adjusted Goodness of Fit Index (AGFI) = 0.871
Parsimony Goodness of Fit Index (PGFI) = 0.670

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model E*

|      | JS    | OC    | ITQ    | PE    | PAO   | PHC   | PUM   |
|------|-------|-------|--------|-------|-------|-------|-------|
| JS   | -     | -     | 12.342 | 1.993 | 2.775 | 1.265 | 3.019 |
| OC   | -     | -     | -      | -     | 1.607 | -     | -     |
| ITQ  | -     | -     | -      | 0.025 | 0.062 | 0.044 | -     |
| PE   | -     | -     | -      | -     | 0.026 | -     | -     |
| PAO  | 4.401 | -     | -      | 0.004 | -     | -     | 0.005 |
| PHC  | 0.253 | 1.965 | 0.075  | -     | -     | -     | -     |
| PUM  | 2.051 | 0.899 | 0.001  | -     | -     | 0.198 | -     |

*Intention to Quit Structural Model E expected change for Beta*

|  | JS | OC | ITQ | PE | PAO | PHC | PUM |
|---|---|---|---|---|---|---|---|
| **JS** | - | - | -2.731 | -0.130 | 0.148 | 0.083 | -0.528 |
| **OC** | - | - | - | - | 0.218 | - | - |
| **ITQ** | - | - | - | -0.016 | -0.015 | -0.011 | - |
| **PE** | - | - | - | - | -0.032 | - | - |
| **PAO** | 0.376 | - | - | -0.005 | - | - | 0.014 |
| **PHC** | 0.106 | -0.254 | 0.038 | - | - | - | - |
| **PUM** | -0.340 | 0.218 | 0.009 | - | - | 0.120 | - |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model E*

|  | PDO |
|---|---|
| **JS** | 0.540 |
| **OC** | - |
| **ITQ** | 0.003 |
| **PE** | - |
| **PAO** | 0.016 |
| **PHC** | 0.075 |
| **PUM** | - |

*Intention to Quit Structural Model E expected change for Gama*

|  | PDO |
|---|---|
| **JS** | 0.098 |
| **OC** | - |
| **ITQ** | 0.005 |
| **PE** | - |
| **PAO** | -0.015 |
| **PHC** | -0.022 |
| **PUM** | - |

**Output for Model F**

*Goodness of Fit Statistics for the Intention to Quit Structural Model F*

Degrees of Freedom = 170
Minimum Fit Function Chi-Square = 223.641 (P = 0.00363)
Normal Theory Weighted Least Squares Chi-Square = 224.289 (P = 0.00332)
Satorra-Bentler Scaled Chi-Square = 198.869 (P = 0.0642)
Chi-Square Corrected for Non-Normality = 1415.610 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 28.869
90 Percent Confidence Interval for NCP = (0.0 ; 68.143)
Minimum Fit Function Value = 1.096
Population Discrepancy Function Value (F0) = 0.142
90 Percent Confidence Interval for F0 = (0.0 ; 0.334)
Root Mean Square Error of Approximation (RMSEA) = 0.0289
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0443)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.991
Expected Cross-Validation Index (ECVI) = 1.573
90 Percent Confidence Interval for ECVI = (1.431 ; 1.765)
ECVI for Saturated Model = 2.265
ECVI for Independence Model = 28.873
Chi-Square for Independence Model with 210 Degrees of Freedom = 5848.117
Independence AIC = 5890.117
Model AIC = 320.869
Saturated AIC = 462.000
Independence CAIC = 5980.900
Model CAIC = 584.573
Saturated CAIC = 1460.615
Normed Fit Index (NFI) = 0.966
Non-Normed Fit Index (NNFI) = 0.994
Parsimony Normed Fit Index (PNFI) = 0.782
Comparative Fit Index (CFI) = 0.995
Incremental Fit Index (IFI) = 0.995
Relative Fit Index (RFI) = 0.958
Critical N (CN) = 222.380
Root Mean Square Residual (RMR) = 0.0535
Standardized RMR = 0.0488
Goodness of Fit Index (GFI) = 0.905
Adjusted Goodness of Fit Index (AGFI) = 0.871
Parsimony Goodness of Fit Index (PGFI) = 0.666

*Intention to Quit Structural Model Modification Indices calculated for the Beta Matrix for Model F*

|     | JS | OC | ITQ | PE | PAO | PHC | PUM |
|-----|-----|-----|-----|-----|-----|-----|-----|
| JS  | -   | -   | -   | 1.836 | 3.959 | 1.891 | -   |
| OC  | -   | -   | -   | -   | 1.244 | -   | -   |
| ITQ | -   | -   | -   | -   | 0.333 | 0.186 | -   |
| PE  | -   | -   | -   | -   | 0.020 | -   | 0.000 |
| PAO | 8.825 | -   | -   | 0.011 | -   | -   | 0.000 |
| PHC | 0.935 | 1.940 | 0.024 | -   | -   | -   | -   |
| PUM | 0.347 | -   | 0.046 | -   | -   | 0.000 | -   |

*Intention to Quit Structural Model F expected change for Beta*

|       | JS     | OC     | ITQ   | PE     | PAO    | PHC    | PUM    |
|-------|--------|--------|-------|--------|--------|--------|--------|
| JS    | -      | -      | -     | -0.286 | 0.152  | 0.093  | -      |
| OC    | -      | -      | -     | -      | 0.165  | -      | -      |
| ITQ   | -      | -      | -     | -0.005 | -0.037 | -0.023 | -      |
| PE    | -      | -      | -     | -      | 0.034  | -      | -      |
| PAO   | 0.641  | -      | -     | 0.010  | -      | -      | -0.003 |
| PHC   | 0.218  | -0.291 | 0.021 | -      | -      | -      | -      |
| PUM   | -0.149 | -      | 0.074 | -      | -      | -0.004 | -      |

*Intention to Quit Structural Model Modification Indices calculated for the Gama Matrix for Model F*

|       | PDO    |
|-------|--------|
| JS    | 2.569  |
| OC    | -      |
| ITQ   | 0.015  |
| PE    | -      |
| PAO   | 0.001  |
| PHC   | 0.070  |
| PUM   | -      |

*Intention to Quit Structural Model F expected change for Gama*

|       | PDO    |
|-------|--------|
| JS    | 0.241  |
| OC    | -      |
| ITQ   | -0.010 |
| PE    | -      |
| PAO   | -0.005 |
| PHC   | -0.021 |
| PUM   | -      |

**APPENDIX B: COMPOSITE SURVEY QUESTIONNAIRE**

# CONSENT TO PARTICIPATE IN RESEARCH

## *AN ELABORATION AND EMPIRICAL EVALUATION OF A PARTIAL TALENT MANAGEMENT COMPETENCY MODEL.*

You are asked to participate in a research study conducted by *Charl Bezuidenhout, M.Comm (Industrial Psychology)*, from the *department of Industrial Psychology* at Stellenbosch University. *The results and data generated from the questionnaires will be used for the completion of my thesis.* You were selected as a possible participant in this study because fit the specific requirements for a participant in this study. The only requirement is that all participants be employed by and organization as an employee.

### 1. PURPOSE OF THE STUDY
To elaborate and empirically evaluate a partial talent management competency model.

### 2. PROCEDURES
If you volunteer to participate in this study, we would ask you to do the following things:
We would ask you to answer questions pertaining to your work environment, feelings towards your work and to your organization.

### Questionnaires:
Employees from all levels of the organization will be asked to complete the questionnaire. The questionnaire consists of eight different measurement instruments. The time needed to complete the questionnaire is estimated to be twelve minutes. Participants will only have to complete one questionnaire. No specific location for completing the questionnaire is specified.

### 3. POTENTIAL RISKS AND DISCOMFORTS
There are no foreseeable risks, discomfort or inconveniences that might result from completing the questionnaire.
There are no physical or psychological risks to any participants.

### 4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY
Participants stand to benefit from the research as it will give them the opportunity to evaluate their level of satisfaction with their current organization. The organization allowing for the research to be conducted will benefit from the research as it will provide them with valuable information regarding the level of satisfaction of their employees. The data generated from the research will contribute to the development of successful talent management interventions and programmes.

The research aims to contribute to the field of Industrial Psychology. It aims to contribute to the understanding of factors influencing employee turnover and the withdrawal decision process.

### 5. PAYMENT FOR PARTICIPATION
No payment will be given to any participant

### 6. CONFIDENTIALITY
The data generated by the questionnaires will only be used for the purpose of the study. Only

individuals that are involved in the completion of the research as well as the evaluation thereof will be allowed access to any data generated.

Confidentiality will be assured by not disclosing the names of any of the candidates or organizations involved in the study

## 7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not.  If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.  You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## 8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact the following persons:

Researcher: Charl Bezuidenhout,  0722706979,   cbez87@yahoo.com ,    Any time

Supervisor: Ms. M. De Wet,          0825144798,    mdew@sun.ac.za ,        Office hours

## 9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty.  You are not waiving any legal claims, rights or remedies because of your participation in this research study.  If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

# QUESTIONNAIRE STARTS HERE

## * PERCEIVED DEVELOPMENT OPPORTUNITIES

*For the following statements, please indicate the extent to which the statements describe your PERCEPTION of your organisation: Indicate your response by placing selecting the relevant option. Please indicate all of the statements.*

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| **I am of the perception that my line manager provides me with development opportunities** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Opportunities to enhance my competence is available within the organization** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Opportunities to enhance my competence is accessible within the organization** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **I am very familiar with the development opportunities available to me** | ☐ | ☐ | ☐ | ☐ | ☐ |

# * ORGANISATIONAL COMMITMENT

*Listed below is a series of statements that represent feelings that individuals might have about the organisation for which they work. With respect to your own feelings about the particular organization for which you are now working please indicate the degree of your agreement or disagreement with each statement by selecting the appropriate box.*

|  | Strongly disagree | Disagree | Slightly disagree | Undecided | Slightly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| I would be very happy to spend the rest of my career with this organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I really feel as if this organization's problems are my own. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I do not feel a strong sense of "belonging" to my organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I do not feel "emotionally attached" to this organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I do not feel like "part of the family" at my organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| This organization has a great deal of personal meaning for me. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Right now, I'm staying with my organization because I have to and because I want to. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| It would be very hard for me to leave my organization right now, even if I wanted to. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Too much of my life would be disrupted if I decided I wanted to leave my organization right now. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I feel that I have too few options to consider leaving this organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| If I had not already put so much of myself into this organization, I might consider working elsewhere. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| One of the few negative consequences of leaving this organization would be the scarcity of available | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| alternatives. | | | | | | | |
|---|---|---|---|---|---|---|---|
| I do not feel any obligation to remain with my current employer. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Even if it were to my advantage, I do not feel it would be right to leave my organization now. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I would feel guilty if I left my organization now. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| This organization deserves my loyalty. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I would not leave my organization right now because I have a sense of obligation to the people in it. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I owe a great deal to my organization. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## * INTENTION TO QUIT

*For the following statements, please indicate HOW FREQUENTLY you consider the following: Indicate your response by selecting the relevant column. Please respond to all of the statements.*

| | * | | | | |
|---|---|---|---|---|---|
| | Never | Rarely | Some-times | Often | Always |
| Wanting to leave the organization. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Searching for another position. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Planning to leave this organization. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Actually leaving this organization within the next year. | ☐ | ☐ | ☐ | ☐ | ☐ |

## * PSYCHOLOGICAL EMPOWERMENT

Listed below are a number of statements that describe a person's view of themselves on the job. Please indicate the extent to which you agree or disagree with the statement about your views of yourself on the job by selecting the relevant box.

| | * | | | | | | |
|---|---|---|---|---|---|---|---|
| | Strongly disagree | Disagree | Slightly disagree | Undecided | Slightly agree | Agree | Strongly agree |
| I am confident about my ability to do my job. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| The work that I do is | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| important to me. | | | | | | | |
| I have significant autonomy in determining how I do my job. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| My impact on what happens in my unit is large. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| My job activities are personally meaningful to me. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I have a great deal of control over what happens in my unit. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I can decide on my own how to go about doing my own work. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I have considerable opportunity for independence and freedom in how I do my job. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I have mastered the skills necessary for my job. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| The work I do is meaningful to me. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I have significant influence over what happens in my department. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I am self-assured about my capabilities to perform my work activities. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## * PERCEIVED ALTERNATIVE OPPORTUNITIES

*Listed below are a number of statements that describe a person's view of the availability of possible alternative employment opportunities. Please indicate the extent to which you agree or disagree with the statement about your views regarding such possibilities by selecting the relevant box.*

| | * | | | | |
|---|---|---|---|---|---|
| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
| If I quit my current job, the chances that I would find another job which is as good as, or better than my present one is high. | ☐ | ☐ | ☐ | ☐ | ☐ |
| If I have to leave this job, I would have another job as good as this one within a month. | ☐ | ☐ | ☐ | ☐ | ☐ |
| There is no doubt in my mind that I can find a job that is at least as good as the one I now have. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Given my age, education, and the general | ☐ | ☐ | ☐ | ☐ | ☐ |

| economic condition, the chances of attaining a suitable position in some other organization is good. | | | | | |
|---|---|---|---|---|---|
| The chance of finding another job that would be acceptable is high. | ☐ | ☐ | ☐ | ☐ | ☐ |
| It would be easy to find acceptable alternative employment. | ☐ | ☐ | ☐ | ☐ | ☐ |

# * PERCEIVED HUMAN CAPITAL

*Listed below are a number of statements that describe a person's view of themselves regarding their stance within the external market. Please indicate the extent to which you agree or disagree with the statement about your views regarding your possibilities in the external market by slecting the relevant box.*

| | * | | | | | | |
|---|---|---|---|---|---|---|---|
| | Totally disagree | Disagree | Slightly disagree | Undecided | Slightly agree | Agree | Strongly agree |
| **Given my qualification and experience, getting a new job would not be very hard at all.** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **I can think of a number of organizations that would probably offer me a job if I was looking for it.** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **My experience is in demand on the labour market.** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **It would not be very difficult for me to get an equivalent job in a different organization.** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

# * PERCEIVED UTILITY OF MOVEMENT

*Listed below are a number of statements that describe a person's view of the possible utility of leaving their current organisation for another. Please indicate the extent to which you agree or disagree with the statement about your views regarding the possible outcome by selecting the relevant box.*

| | * | | | | |
|---|---|---|---|---|---|
| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
| **I believe that it would benefit me to start looking for alternative employment.** | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| I believe that the opportunities in other organizations are more favourable than in my current organization. | ☐ | ☐ | ☐ | ☐ | ☐ |
| I believe that I will find alternative employment opportunities that will be better suited for my specific needs. | ☐ | ☐ | ☐ | ☐ | ☐ |
| I believe that my skills will be more appreciated in another organization. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Leaving my current job for another, similar to or better than this one will have a positive influence on my career success. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The possibility of being happier in any other organization than the one I am curently working for is high. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The possible benefits associated with leaving outweigh the cost of leaving the current organization. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The probability of receiving a higher salary at another organization is high. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The benefits at another organization are most likely better suited for my personal needs. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other organizations most probably offer a better balance between work and life than the one I am currently employed with. | ☐ | ☐ | ☐ | ☐ | ☐ |

# * JOB SATISFACTION

**The following six sections aim to measure various dimensions of Job Satisfaction**

*This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of the people you currently work with. In **each** case please select one of the three options (yes, no or ?) next to **each** of the words or phrases listed below **each** section.*

| | * Think of the majority of people with whom you work or meet in connection with your work. How well does each of the following words or phrases describe these people? Select your appropriate response next to each each word or phrase. | | |
|---|---|---|---|
| | Yes | No | ? |
| **Boring** | ☐ | ☐ | ☐ |
| **Slow** | ☐ | ☐ | ☐ |
| **Responsible** | ☐ | ☐ | ☐ |
| **Smart** | ☐ | ☐ | ☐ |
| **Lazy** | ☐ | ☐ | ☐ |
| **Frustrating** | ☐ | ☐ | ☐ |

*This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of your work in general. In **each** case please select one of the three options (yes, no, or ?) next to **each** of the words or phrases listed below **each** section.*

|  | *Think of your work in general. All in all, what is it like most of the time? Select the most appropriate option next to each word/phrase.* | | |
|---|---|---|---|
|  | Yes | No | ? |
| **Good** | ☐ | ☐ | ☐ |
| **Undesirable** | ☐ | ☐ | ☐ |
| **Better than most** | ☐ | ☐ | ☐ |
| **Disagreeable** | ☐ | ☐ | ☐ |
| **Makes me content** | ☐ | ☐ | ☐ |
| **Excellent** | ☐ | ☐ | ☐ |
| **Enjoyable** | ☐ | ☐ | ☐ |
| **Poor** | ☐ | ☐ | ☐ |

*This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of the work you do in your current job. In each case please select one of the three options (yes, no, or ?) next to **each** of the words or phrases listed below **each** section.*

|  | *Think of the work you do at present. How well does each of the following words or phrases describe your work? Select the most appropriate response next to each word/phrase.* | | |
|---|---|---|---|
|  | Yes | No | ? |
| **Fascinating** | ☐ | ☐ | ☐ |
| **Satisfying** | ☐ | ☐ | ☐ |
| **Good** | ☐ | ☐ | ☐ |
| **Exciting** | ☐ | ☐ | ☐ |
| **Rewarding** | ☐ | ☐ | ☐ |
| **Uninteresting** | ☐ | ☐ | ☐ |

*\* This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of the payment received for work done. In each case please select one of the three options (yes, no, or ?) next to **each** of the words or phrases listed below **each** section.*

| | **\* Think of the pay you get now. How well does each of the following words or phrases describe your present pay? Select the most appropriate response next to each word or phrase below.** | | |
|---|---|---|---|
| | Yes | No | ? |
| **Barely live on income** | ☐ | ☐ | ☐ |
| **Bad** | ☐ | ☐ | ☐ |
| **Well paid** | ☐ | ☐ | ☐ |
| **Underpaid** | ☐ | ☐ | ☐ |
| **Comfortable** | ☐ | ☐ | ☐ |
| **Enough to live on** | ☐ | ☐ | ☐ |

*\* This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of the opportunities for promotion available. In each case please select one of the three options (yes, no, or ?) next to **each** of the words or phrases listed below **each** section.*

| | **\* Think of the opportunities for promotion that you have now. How well does each of the following words or phrases describe these? Select the most appropriate response next to each word or phrase below.** | | |
|---|---|---|---|
| | Yes | No | ? |
| **Good opportunities for promotion** | ☐ | ☐ | ☐ |
| **Opportunities somewhat limited** | ☐ | ☐ | ☐ |
| **Dead-end-job** | ☐ | ☐ | ☐ |
| **Good chance for promotion** | ☐ | ☐ | ☐ |
| **Fairly good chance for promotion** | ☐ | ☐ | ☐ |
| **Regular promotions** | ☐ | ☐ | ☐ |

*This section aims to determine an employee's level of satisfaction with the current employer based on an evaluation of your perception of the supervision at work. In **each** case please select one of the three options (yes, no, or ?) next to **each** of the words or phrases listed below each section.*

| | * Think of the kind of supervision that you get on your job. How well does each of the following words or phrases describe this? Select the most appropriate response next to each word or phrase below. | | |
|---|---|---|---|
| | Yes | No | ? |
| **Praises good work** | ☐ | ☐ | ☐ |
| **Tactful** | ☐ | ☐ | ☐ |
| **Influential** | ☐ | ☐ | ☐ |
| **Up to date** | ☐ | ☐ | ☐ |
| **Annoying** | ☐ | ☐ | ☐ |
| **Knows job well** | ☐ | ☐ | ☐ |

## END OF QUESTIONNAIRE

## I THANK YOU FOR YOUR PARTICIPATION