

Gordon Institute of Business Science

University of Pretoria

IT PROFESSIONAL PREMATURE TURNOVER IN INFORMATION TECHNOLOGY TRANSFORMATION PROGRAMMES IN THE TELECOMMUNICATION INDUSTRY

A Research Report Submitted

By

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Abstract

Voluntary turnover for IT professionals continues to be a key issue for industry locally and globally. The information technology industry is experiencing a diminishing pool of IT professionals, which is mainly due to the fast growing technology markets, which have resulted in a growing gap between the demand and availability of IT professionals.

Major organizations continue to invest in new technologies therefore require skilled resources to implement these application solution in the form of IT Transformation Programmes. The IT professionals are important to the successful implementation of these programmes. The high turnover in IT skills tends to have a huge impact on these particular projects.

This research seeks to establish the factors which lead to premature turnover of IT professionals on IT Transformation programmes, with a specific focus on the impact of pull and push factors.

Further to this, the study seeks to understand and explore the influence of shocks on scripted turnover decisions of IT professionals in IT Transformation programmes.

The study found vast differences in factors that lead to turnover intention for IT professionals in IT Transformation Programmes. The differences could be explained by different dynamics of the requirements or characteristics of the career itself, labour market and demographic factors of the individuals involved. This usually leads to IT professionals leaving projects prematurely. The results showed that none of the shows that none of the respondents left the programme after it ended. Pull factors accounted for more turnover decisions as opposed to Push factors for IT professionals.

Keywords: IT Transformation Programme, Voluntary Turnover, Unfolding Model, Scripts, Shocks, Telecommunications, IT professionals, Pull and Push Factors

Declarations

I declare that this research is my own work. It is submitted in partial fulfilment of the requirements for the degree of Masters of Business Administration at the Gordon Institute of Business Science, University of Pretoria. I have not been submitted before for any degree or examination in any other university. I further declare that I have received necessary authorization and consent to do the research

Name: **Carol Mofulatsi**

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List of Abbreviations and Acronyms

ERP	Enterprise Resource Planning
CRM	Customer Relationship Management
IT	Information Technology
IS	Information Systems
CIPD	Chartered Institute of Personnel and Development
HR	Human Resources

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Chapter 1. Introduction

1.1 Introduction and Research Problem

The importance of understanding turnover cannot be over emphasized when the battle for skilled and talented workers amongst highly competitive industries is considered (Sibiya, Buitendach, Kanengoni, & Bobat, 2014). The challenge of employee turnover in telecommunications industry, as in many other sectors in South Africa is exacerbated by an acute shortage of competent human resources (Sibiya et al., 2014). This is confirmed by Wocke and Heymann (2012) that the shortage of competent human resources in South Africa could be attributable to lower standards of education and increased emigration among knowledge workers, and in addition the effect of regulation and legislation that were meant to correct the gender and racial laws of the past (Wocke & Heymann, 2012).

To add to this predicament the South African telecoms industry is facing challenges and opportunities in equal measure as are many other industries that have been impacted by the changing demand from customers and major advances in technology and the impact of the global recession (Sibiya et al., 2014). The industry may experience challenges resulting in major organisational transformation, especially with Information Technology (IT) transformations programmes.

IT transformation is a complete overhaul of organizations information technology systems, which can involve changes to network architecture, hardware, software and how data is stored and accesses. (Rouse, 2012).. In addition, IT transformation, usually would entail a comprehensive change to an IT organization which cuts across its technologies, processes, culture, sourcing and delivery models that enables continuous improvements in business capabilities supported by significantly sophisticated IT capabilities at a much lower cost (Snyder, 2014). IT is also viewed as a strategic tool to enable organization to operate more efficiently with an objective to reduce costs the ability to offer customer excellent products and services. (Niederman, Sumner, & Maertz Jr, 2007).

The IT professionals are key actors to the implementation of IT transformation programmes as they are responsible for the design, the actual implementation of the system and the continuous maintenance of both the infrastructure and systems implemented. Organizations utilize IT professionals to plan, develop, maintain and integrate the systems used in their operational structures (Mohlala, Goldman, & Goosen, 2012). The extensive knowledge of

the software systems (in the form how the business generally operates, programming languages and potential limitations of the system), that the employee has accumulated over the years is of significant value to the organization

Programmes of this nature naturally have a specific life span, therefore, it is important for the IT professionals to see the IT transformation programmes to the end of the implementation process. Since IT professionals are a critical part of the implementation of the programme, it is important for the programme to keep the same resources throughout the project's life span, to maintain continuity, consistency and team cohesion. It follows then, that such dependency on IT employees could negatively impact on the organization in any had to leave. The negative impact may include intellectual property loss, projects schedules and budgets could overrun (Mohlala et al., 2012).

A fundamental issue about turnover is cost. Turnover rate causes additional costs and is seen as a negative consequence for organizations (Korsakienė, Stankevičienė, Šimelytė & Talačkilenė, 2015). The true cost of a worker leaving an organization is not only hiring and training a replacement, but also a loss of institutional knowledge, lower office morale and lessened productivity (Gaylard, Sutherland & Viedge, 2005). This is confirmed by the research done by the Chartered Institute of Personnel and Development (CIPD), (2007) found that skilled workers turnover can be costly as it can take several weeks or months to fill the vacancy, resulting in increased recruitment costs.

The IT industry is experiencing a diminishing pool of competent and skilled workers resulting in an increase in demand for these workers from the market. It seems the economic recessions to have any impact on IT professional turnover rates, as a decline would have been naturally expected (Lo, 2015). Therefore, the demand for IT professionals is not expected to decrease. IT workers are therefore at the fore front of the battle for talent, and thus there is a need to understand why there is such a large turnover in IT jobs (Gaylard et al., 2005). For example, the U.S Bureau of Labor Statistics (as cited by Dohm & Shniper., 2007) projected that between 2006 and 2016, all job types are expected to grow by 10%, but computer specialists' jobs are expected to grow by 25% (Dohm & Shniper, 2007). More recent projections in the US show computer systems and its related service industry are set to grow by nearly 4% year on year until 2020, making it one of the fastest growing sectors. (Henderson, 2012).

This all make IT employee's voluntary turnover prior to the end of the project particularly disruptive and costly. Therefore, the potential cost that the organization could incur and the predominance of IT turnover suggests that understanding and effectively managing it is expected to have significant contribution to the organizations competitive advantage. This need and concern further confirms a much needed research, to understand why IT professionals leave IT Transformation programmes prematurely.

There has been a few studies about factors impacting on intention to leave or stay for IT professionals in South African context and various industries , such as telecommunications, banking and commercial ((Sibiya et al., 2014), (Mohlala et al.,2012),(Gaylard et al., 2005)).

Despite these studies, there is no study of factors impacting intention to leave or stay for IT professionals, specifically in IT Transformation programmes, which is a gap in the body of knowledge. Therefore, taking into consideration the call of researchers (Gaylard et al (2005) and Mohlala et al (2012)) for effective retention management, the development of appropriate retention strategies of IT organization could help to retain talented IT professional's especially in the IT transformation programmes.

Further to this, many IT projects in the form of ERP implementations have been classified as failures because they failed to achieve the established corporate goals. This has since attracted substantial research on critical success factors to implementing ERP systems, amongst others, ((Umble, Haft & Umble., 2003), (Gargeya & Cyndee., 2005), (Corbett & Finney., 2007), (Schiederjans & Yadav., 2013), (Madininos, Chatzoudes & Tsairidis., 2011), (Ahmad & Cuenca., 2013). A few critical success factors has been highlighted by these studies, such as management support, interdepartmental communication, business process re-engineering, project team skills, interdepartmental cooperation, project management, evaluation progress and clear goals and objectives. Despite, premature turnover of IT professionals in IT transformation programmes been identified as a factor that could compromise the success of the project, it hasn't been identified as a critical success factor to a success of the IT project. None of the previous research did study on IT projects where retention until the end of the project is critical and the participants will either be retained in new positions or released, which is a current gap in theory. Therefore the context provides an opportunity to understand turnover of employees in a transitional relationship with their employer. Hence, the study aims to contribute to the existing body of knowledge on factors

that cause employees to leave IT transformation programmes prematurely and eventually their organization.

Despite the objective to generalize the studies across occupations, Lee and Mitchell (1994) indicate that occupation or industry in question may affect the type of turnover decision. This is reason enough to focus the on turnover processes across various occupations, especially those with specific labor markets dynamics and is of critical significance to the companies. (Niederderman et al., 2007). Therefore, this study will focus on IT professionals in IT Transformation programmes. As most of turnover studies have been compared across different occupation such as nurses and accountants (see Table 2), this study will compare IT professionals in IT Transformation programmes reasons to leave with those of nurses and accountants.

Lee and Mitchells (1994) unfolding model has been used considerably to study voluntary turnover and the model has been tested across a vast occupations and industries ((Lee & Mitchell, 1999; Lee, Mitchell, Wise, & Fireman, 1996; Donnelly & Quirin, 2006; Morrell, Loan-Clarke, Arnold, & Wilkinson, 2008; Morrell, Loan-Clarke & Wilkinson, 2004; Holtom, Mitchell, Lee & Inderrieden, 2005) with different classification accuracy results. The model has been tested for IT professionals as well (Niederderman, Sumner & Maertz Jr, 2007; Mourmant, Gallivan, & Kalika, 2009; Josefek and Kauffman, 2003), proposing an extension of the unfolding model paths with additional decision paths and providing new approach recommendations to assist organizations identify when employees are drawing closer to points of leaving the project or the organization. This is so that the organizations can take appropriate action to change IT professional's turnover behavior.

Lee and Mitchell (1994) introduced concepts of "shock", and "scripts". Shocks are defined as an event that could encourage an employee to think about quitting, and scripts are preexisting plan which could be referred to as a plan for leaving which is a preexisting plan of action, a plan for leaving. There have since been a number of recent studies on the shocks construct (Seet, Jones, Acker & Whittle (2015); Holtom, Burton & Crossley, (2012); Morrell, Loan-Clarke, Arnold & Wilkinson, (2004); Holtom et al., (2005)), but there is very limited almost absent research on scripts.

The model introduces five paths, where the Path, 1, 2, 3, are when the individual experiences a shock, and Path 4a and 4b, are when and individual does not experiences a

shock, with a script enacted only in Path 1 (the five paths are further explained in detail in section 2.3.1 below).

Despite these recent advancements in understanding turnover process studies on specific unfolding model constructs, there are some constructs that have received limited attention. There haven't been studies that have been able to articulate clearly the interactive role of scripts in the turnover process. Niederman et al, (2007) in their study found that an overwhelming majority of respondents experienced a script, making a script a construct to focus on especially when specifically the research involves IT professionals, therefore argue that scripts may have an influence on IT professional's turnover process in IT transformation programmes.

In Path 1 of the unfolding model, a shock triggers the enactment of a preexisting action plan or a script, which leads an employee to reevaluate their current position within the organization and the possibility to potentially leave (Lee, Mitchell, Holtom, McDaniel & Hill, 1999). Some studies have attempted to examine the role of shocks on the turnover process among others ((Morrell et al (2004); Kulik, Treuren, & Bordia (2012); Kammeyer-Muller, Wanberg, Glomb & Ahlburg (2005)), however a there is no study that takes a closer look at the relationship between shocks and scripts in the unfolding of the turnover process in this context. The neglect has motivated researchers to investigate this relationship to understand the nature of this interaction further. It is hoped that by shedding light on the interactions of these variables, it would enable management in organizations better manage IT professional's turnover in IT Transformations programmes.

The aim of this study therefore is to understand why IT professionals leave IT Transformation programmes prematurely, with a specific focus on pull and push factors. This is in the context of the telecommunication industry, by using, a case study at Vodacom (South Africa). This study will focus on both external and internal turnover. According to Pee et al., (2014), external turnover refers to employees leaving the project as well as the organization and internal turnover refers to employees leaving the project but still remaining in the employ of the organization. In addition, the study will explore the relationship between key constructs of the unfolding model, shocks and scripts for IT professional's turnover process in IT transformation programmes.

The main objectives of the research are:

- To establish the factors which lead to premature turnover of IT professionals on IT transformation programmes, with a specific focus on the impact of pull and push factors to the premature turnover of IT professionals on IT transformation programmes
- To understand and explore the influence of shocks on scripted turnover decisions of IT professionals in IT transformation programmes.

Chapter 2. Theory and Literature Review

The previous chapter outlined the research objectives of this research project. The following literature review will investigate and attempt to summarize the past and current research to support the research objectives.

2.1 Information Technology (IT) Professional's Voluntary Turnover

The information technology industry is experiencing a diminishing pool IT professionals, which is mainly due to the fast growing technology markets, which have resulted in a growing gap between the demand and availability of IT professionals. (Mohlala, Goldman, & Goosen, 2012). This is confirmed by Gaylard et al (2005) that IT workers are at the fore front of the battle for talent, and thus there is a need to understand why turnover is so great in IT jobs. During economic recessions, turnover rates naturally decline, but overall turnover trend of IT professionals is not reduced (Lo, 2015). The overall trend in the demand for IT professionals is not expected to decrease. For example, the U.S Bureau of Labor Statistics projected that between 2006 and 2016, all job types are expected to grow by 10%, but computer specialists' jobs are expected to grow by 25% (Dohm & Shniper, 2007). More recent projections show computer systems and related service industry to grow by nearly 4% each year to the year 2020, placing it among the fastest growing industries. (Henderson, 2012). This growing demand in IT skills is encouraging turnover rate for IT professionals. This is confirmed by a study done for ABC-Systems by (Business Analysis - Shariyaz Abdeen, 2015) they found that the reasons for the voluntary turnover of their ERP consultants was due to a high demand in local and global markets for ERP consultants.

There have been studies aimed at understanding the reasons for which IT professionals voluntarily leave their organizations. Joseph, NG, Koh and Ang (2007) based on the 31 studies on IT turnover intentions; they identified 43 conceptually discrete antecedents. They organized the antecedents based on March and Simon's (1958) concepts.

Since understanding turnover is important to preventing it from happening, previous research on IT as well as management have focused primarily on the antecedents and impact they have on turnover (Pee et al., 2014) In their study Joseph et al., (2007) found

that the antecedents seem to be related to the desire to change jobs (i.e. Desire to move, Ease of movement, , Job search, individual attributes, demographics (age, gender, and marital status), human capital (Education and tenure at the organisation) and motivation construct (need for achievement, career aspirations, negative effect), job and organization related factors. The research led to the conclusion that the 43 antecedents to turnover intentions of IT professionals could be mapped onto a distal-proximal turnover framework.

Pee et al (2014) used the same framework to review how IT professional turnover has progressed from 2005 to 2013. They found that although the vast majority of the recent studies continue to focus on turnover antecedents, such as the once listed in Joseph et al (2007), subsequent studies have identified additional turnover antecedents such as job autonomy and perceived workload and role ambiguity and role conflict (Ghapanchi & Aurum, 2011), and “shocks” such as unsolicited job offers (Nierdeman et al., 2007).

Some previous studies have also investigated performance as an antecedent to turnover (Dibbern, Winkler & Heinzl, 2008; Parker & Skitmore, 2005; Yetton, Martin & Johnson, 2000).

In addition, job satisfaction and perceived job alternatives have been also partly identified as antecedents to turnover. In Lacity, Iyer and Rudramuniyaiah (2008), investigation of turnover intentions of IT professionals they concluded that job satisfaction, organisational satisfaction and social norms impact turnover intentions. However, reasons for satisfaction with the current employer are seen as a critical antecedent to employee turnover (Korsakiené et al., 2015). Other studies that focused on job satisfaction identified work-life balance, work flexibility, job performance, inconsistent consistency work place policies and career advancement and development as the main factors leading to the turnover of IT professionals (Allen, Armstrong, Riemenschneider & Reid, 2006). However, due to shortage of skilled IT professionals and therefore resulting in high demand in local and global market, one could infer that IT professionals could potentially leave their jobs not because their dissatisfied, but because there is plenty job opportunities in the market.

Demographic characteristics have also been identified to impacting employee satisfaction (Von Hagel, 2009). This is supported by Feldman and Arnold (1982) findings that demographic characteristics, such as age, gender, education, marital status and organisational tenure, have some form of influence on IT turnover.

Incentives such as salary, promotion and perceived fairness of the reward have also been found to influence turnover decisions. However, Korsakiené et al. (2015) noted that, traditional approaches to reward and remuneration are irrelevant for knowledge workers.

2.1.1 Turnover in Information Transformation Programmes

IT transformation is a complete overhaul of organizations information technology systems, which can involve changes to network architecture, hardware, software and how data is stored and accesses. (Rouse, 2012). In addition, IT transformation usually would entail a comprehensive change to an IT organization which cuts across its technologies, culture, processes, sourcing and strategies that enables continuous improvements in business functions supported by significantly sophisticated IT capabilities at a much lesser cost (Snyder, 2014). . IT is also viewed as a strategic tool that enables organizations to operate more efficiently with an objective to reduce costs the ability to offer customer excellent products and services (Nierderman et al., 2007).

For example, Enterprise resource planning (ERP) and customer relationship management (CRM) could be classified as IT transformation programmes. For this study the focus of the literature review will be on ERP implementation research. The ERP system is a packaged software application that integrates core business processes such as sale order processing, logistics, production, financial planning, material resource planning. The application has the potential to link business partners, suppliers and customers in order to integrate value chain activities (Martin & Huq, 2007). Both public and private companies locally and globally use ERP applications to improve operational efficiency through seamless flow of information across the entire organization. (Ifinedo, 2011).

ERP systems are highly complex applications. ERP implementations can be a rather challenging and high cost proposition that places tremendous pressure and demands on corporate time and resources (Umble, Haft & Umble, 2003). These systems have been implemented in various industries but mainly in the manufacturing industry ((Pan, Nunes, & Peng, 2011), (Doom, Millis, Poelmans & Bloemen, 2010; Hasan, Trinh, Chan, Hing & Chung, 2011; Pan, Nunes & Peng, 2011; Upadhay, Jahanyan & Dan, 2011) with a few studies done in the telecommunications industry (Kanwal & Manarvi, 2010; Maguire, Ojiako & Said, 2010; Qutaishat, Khattab, Zaid & Al-Manasra, 2012)

However, many of ERP implementations have been classified as failures because they failed to achieve the established corporate goals. This has since attracted substantial research on critical success factors to implementing ERP systems, amongst others, ((Umble, Haft & Umble., 2003), (Gargeya & Cyndee., 2005), (Corbett & Finney., 2007), (Schiederjans & Yadav., 2013), (Madininos, Chatzoudes & Tsairidis., 2011), (Ahmad & Cuenca., 2013). A few critical success factors has been highlighted by these studies, such as management support, interdepartmental communication, business process re-engineering, project team skills, interdepartmental cooperation, project management, evaluation progress and clear goals and objectives.

An ERP project requires a multi-skilled and cross-functional implementation team because of its enterprise-wide scope of knowledge (Kumar, Maheshwari & Kumar, 2003). In their study Kumar et al (2003) found that acute shortage of ERP skills. This is due to a high demand for people with good understanding of both ERP application and business. Organizations also found that due to a high demand for ERP skills, a number of skilled employees frequently moved jobs, leading to an unusually high turnover. Thus in turn retraining new employees quickly became a costly exercise.

Sullivan (2008) looked at post-exit interviews of former employees who have since left the organisation and have been part of ERP implementation. They found that employees left their jobs due to lack of, honest and frequent communications with their managers,, challenging and exciting work, continual opportunity to grow and learn, and in addition they wanted some degree of control over their job , rewards and recognition for their good performance and to know that their work adds significant value to the organisation. Supporting that, Business Analysis - Shariyaz Abdeen, (2015) found that job stress due to work-life imbalance, lack of training and development and inadequate compensation influenced their decision to leave the organization.

It is important to keep the same resources through a project life cycle to ensure consistency and team integration. In their study , Parker and Skitmore (2005) found that project management turnover tends to occur in the execution phase of the project with a significant number of respondents moving into new projects prior to final stage of current projects, thereby increasing cost , risk and the likelihood of project failure. It therefore becomes advantageous for IT professionals to stay right through the life cycle of the project to

minimize the effects of performance, which could potentially cause disruptions and lead to project objectives being compromised.

Inzquierdo-Cortaza, Robles, Ortega and Gonzalez-Barahona (2009) found that the lifespan of software application projects can go on for years. In such cases the responsible development team may encounter turnover when senior developers leave while new developers join the project. The organisation stands to lose knowledge of the applications and the culture of the organization that has been accumulated by the senior developers over the years, which would take new developers a while to accumulate. This finding is supported by Hall, Beecham and Verner (2008), who affirm that, motivation is important for project success. Hall et al., (2008) found that a project is considered successful if it provides motivating work for software developers. However, they found that there no relationship between project success and staff turnover. The finding was however inconclusive and required further research.

While many studies have focused on the voluntary turnover in sectors of banking, nursing, accounting, military, studies focusing on IT professionals are rather scarce (Korsakiené et al., 2015). Further to this, only a few recent studies have been conducted in the telecommunications industry ((Kanwal & Manavie, 2010; Maguire et al, 2010; Qutaishat et al., 2012)).

The literature review shows that IT professionals could leave their organizations for various reasons depending on the context. Much of literature continues to conduct similar studies using the same constructs and finding various results. It is observed from literature that ERP implementations are complex projects which could pose various challenges to employees implementing these projects, therefore resulting in high turnover.

Despite the objective to generalize studies across all occupations, Lee and Mitchell (1994) indicate that occupation or industry in question may impact the type of turnover decision. This is reason enough to focus the on turnover processes across various occupations, especially those with specific labor markets dynamics and is of critical significance to the companies (Niederman, Sumner, & Maertz Jr, 2007).

In summary, the magnitude of turnover challenges, where retention until the end of the project is critical and participants could either stay and transfer to other department internally or leave the organization completely and the potential disruptions this may

potentially cause to the information systems projects call for concentrated research in this area (Pee, Kankanhalli, & Tan, 2014). Therefore, newer research in this context literature will provide insights for refining and easing the impact of turnover on organizations going through these specific projects and turnover challenges, hence the need to explore factors or drivers that would lead to premature turnover of IT professionals in the IT transformation programmes context, and to look into how IT professional turnover decisions or reasons compare to different occupations which could potentially have unique labour markets as well. Holtom, et al (2005) has done turnover study comparing turnover decision of nurses, accountants and IT professionals. This will follow Holtom et al (2005), by comparing IT professional's turnover reasons with turnover reasons specifically for nurses and accountants.

The following two sections will briefly review literature for nurses and accountant's turnover reasons respectively to enable comparison to IT professional's turnover reasons.

2.1.2 Nurses Voluntary turnover

Hayes et al (2012) found that nurses' turnover can have dire consequences to the economy, patient outcomes and nursing care. It can have can have negative effect on the remaining staff on staff cohesiveness and morale and even burnout as they are now under staffed. Nurse turnover can even threaten continuation of the hospital. Therefore researchers continue to focus more attention on the absolute importance of research on nurse turnover

Job satisfaction in nurse turnover intent research continues to be a major focus for researchers, showing more significance than other antecedents such as career advancement, age and working evening shifts ((Ma, Lee, Yang, & Chang, 2009; Zurmely, Martin, & Firtspatrick, 2009; Applebaum, S., Osinubi, & Robson, 2010). Job satisfaction has been found to moderate the impact of the quality of leadership and excessive workload on staff turnover (Sellgren, Ekvall, & Tonson, 2007; Han & Jekel, 2011; Han & Jekel, 2011)

Hayes, et al., (2012), did a comprehensive literature on nursing turnover based on 68 recent studies. They found that there's been recent studies exploring organisational characteristics on nurses work environments and nurse turnover. The review identified management style, workload stress and burnout, and role perceptions as organisational characteristics that impact nurse turnover. (Lee, Song, Cho, Lee, & Daly, 2003) . Further to this, while heavy workload has accounted for a significant number of cases of nursing turnover, an n

extensively demanding work environment does not necessarily lead to turnover intent in isolation. Other conditions such as, lack of team support, job control, and excessive workloads could impact the nurse both physical and mental conditions which could negatively impact the provisioning of excellent health care to their patients, also exists. Excessive work demands and lack of support from management can result in deteriorated emotional and mental health of nurses which can result in stress and burnout and eventually leading to greater turnover intent (Leiter & Maslach, 2009; Meeusen, Van Dam, Brown-Mahoney, & Van Zundert, 2011). This is confirmed in Lee et al (2003) study that nurses who experienced higher job stress and worked on night shifts at tertiary hospitals, showed lower cognitive empathy and empowerment, and were more likely to experience burnout.

Effective management continues to be acknowledged as an enabler for a positive work positive work environment. Simon, Muller and Hasselhorn, (2010) found that leadership quality and city size has been associated with leaving intentions. Nurses in management positions should show good leadership, continuously engage and communicate with the employees, offer recognition for good performance (Duffield, Roche, Blay, & Stasa, 2011). Duffield et al (2011) continues to emphasize the supportive management which encourages communication and a team player. Apker et al., (2009) in their study they found that nurses are less likely to quit if they are part of a team that encourages collaborative communication such as patient care teams

O'Brien-Pallas et al., (2010) in their study found that higher turnover rates of nurse were attributable to high role conflict and ambiguity. It is important for nurses to have clear defined roles with the required support to enable them to do their jobs.

Further to this Hayes et al., (2012) found that studies relating individual factors (such as years of experience and level of education and age) to nurse turnover, have been steady over the years. (Zurmely, Martin, & Firtspatrick, 2009) ; (Ma, Lee, Yang, & Chang, 2009) in their recent studies have reported an inverse relationship between age and turnover intention. Younger nurses may want to pursue other opportunities in the market by pursuing better education and in the meantime older nurses seems to have higher commitment to their organization (Camerino, Conway, van der Heidjen, Estry-Behar, Costa, & Hasselhorn, 2008). They found that younger nurses were more keen to leave nursing, suggesting that they potentially have more available job alternatives than their older colleagues and older nurses might not be open to opportunities of moving on. Other individual factors may be

associated with years of experience. Recent studies show that nurses turnover intention has an inverse relationship with years of experience and tenure in their current job ((Chan, Luk, & Leong, 2009), (Delobelle, Rawlinson, Ntuli, Malatsi, Decock, & Depoorter, 2011))

There have been inconsistent findings on the impact of level of education and nurse turnover intention. Recent studies show that, higher levels of education have a positive impact on nurses turnover intention ((Delobelle et al (2011) and (Brewer & Cheng, 2009)). However in contrast Chan et al., (2009) found no relationship between turnover intention and nurse's educational level.

External factors have an impact on turnover as well, such as perceived availability of other opportunities (Camerino et al., (2008), Brewer et al., (2009)) .In their study , Zeytinoglu, Denton, Davies, Baumann &Blythe, (2006), found that long hours and constantly been unpaid increased the likelihood of nurses leaving their jobs, particularly in part-time nurses. An interesting observation is that rewards and benefits seem to influence male nurses to leave their jobs as opposed to female nurses (Borkowski & Amann, 2007).

Whilst, researchers believe that job satisfaction in the form of remuneration influences turnover intent, Chan et al (2009) ruled out the possibility of eliminating turnover issues through rewards and benefits alone, as he found that salary increases had a small impact of retention of nurses, which implied that organization can never use remuneration to reduce or avoid nurse turnover

2.1.3 Accountants Voluntary Turnover

Nouri and Parker, (2013) in their study observed that employee turnover is a challenge and important issues for public accounting companies currently as these companies are battling to reduce high costs. Therefore, this issue has attracted a lot of accounting research that sort to provide understanding into accountants turnover so it can be better managed. The Nouri and Parker, (2013) found that researchers identified several factors that influence turnover of accountants, growth opportunities, organisational justice, work-family conflict, flexible work arrangements, burnout and mentoring. They believe career growth opportunities have an impact on turnover intentions. An employee would naturally reciprocate with increased organisation commitment if the organisation offers career growth opportunities.

Parker and Kohlmeyer, (2005) found organisational justice to have an influence on turnover intention of professional accountants. They define organization justice as “the conditions of employment that leads individuals to believe they are being treated fairly and unfairly by the organization”. This is very much related to rewards and benefits. Their study proposed that, in allocation of organisational rewards, consistency across individuals is an important fairness issue, as this could potentially lead to low job satisfaction, low organisational commitment and eventually high turnover intentions.

Work-family conflict is believed to have an influence on turnover intention for accountants. Work-conflict is defined as “a form of role conflict characterized by the incongruence between responsibilities of the home and the work place” (Boles & and Babin, 1996). Further to this, Pasework and Viator, (2006) found that job satisfaction is probably the most familiar consequence that is been investigated in work-family conflict research, as consequence of higher work-family conflict resulting in low job satisfaction. They further found that if a person finds a misalignment between their job activities and home activities, it easily lead to job dissatisfaction and eventually turnover. This is confirmed by Netemeyer, Boles and McMurrian, (1996) who found that turnover intentions to be directly related to work-family conflict.

Given this challenge, Pasework et al (2006) suggested offering accountants flexible working arrangements with the objective avoid work-family conflict leading to low job satisfaction. Their study however found no evidence that flexible work arrangements could potentially reduce work-family conflict, irrespective of the large number of accountants having accesses to flexible working arrangements, inferring that public accounting firms generally view flexible work arrangements as a typical employee benefit (as part of the rewards and benefits).

Accountants are identified among the top most stressful position. (Collins, 1993) found that high work load for accountants tends to generate stress for them, this both in terms of the quantity of work expected and the need to stick to the tight and inflexible time lines, which could potentially lead to burnout. Burnout condition is found to partially mediate the influence of role ambiguity, role conflict and work load and turnover intention (Fogarty, Singh, Rhoads, & Moore, 2000). Fogarty et al., (2000) define the burnout construct as “a multidimensional construct with three components

(including emotional exhaustion) and reduced personal accomplishments and depersonalization”. Stress also results from individuals' perceptions that their jobs are unfulfilling or that career opportunities are not available. Accounting professionals appear to experience higher levels of emotional exhaustion and depersonalization relative to several other professionals. Levy, Richardson, Lounsbury, Stewart, Gibson and Drost, (2011) therefore believe optimism may act as a pacifying factor against burnout, thus increasing job satisfaction and the duration of one's accounting career.

2.1.4 Push and Pull Theory

Hulin, Roznowski, and Hachiya, (1985) suggested that concurrent investigation of push and pull studies might produce meaningful insights into the notion of voluntary turnover. The unfolding model theory by Lee and Mitchell, (1994) describes push factors as a construct 'internal to the employee' that could influence a certain behavior or decision. Semmer, Elfering, Baillod, Berset and Beehr (2014) believe that most research has, concentrated on “push” models, and further characterizing turnover as disengaged behavior based on perception of the current job or work place. The pull and push theory has been studied primarily by researchers focused on perceptions and attitudes or psychological factors (Wocke & Heymann, 2012). (CIPD, 2007)

In supporting this, Korsakiené et al. (2015) in their study, believe that the current scientific investigations of voluntary turnover are grounded on the push and pull theories. They explain that pull theories focus on factors that are external to employees (economy growth, unemployment, supply of labor) and they describe how they emerge when there are job alternatives. Meanwhile , push theories focus on internal factors and aim to explain job-related perceptions and attitudes of employees related to their specific behaviour.

Semmer et al. (2014) found that push factors would be factors such as job satisfaction or commitment and pull factors would be factors such as job opportunities, unexpected offers, or career aspirations. They however believe that pull factors do not need to be conceptualized in terms of job offers. Further possibilities are the desire to try out something new; to expand once skills, knowledge, and abilities; to seek to new challenges. These factors do not require the individual to be dissatisfaction with one's current job or organization. There is increasing evidence that both push and pull factors influence turnover (Mano-Negrin & Kirschenbaum, 1999). In their study, Mano-Negrin and Kirschenbaum

(1999) seem to believe that the result of this assertion will depend on the quality and quantity of alternative job opportunities. This means that occupation specific job alternatives for specific labour markets should mediate the impact on turnover

In their study, Semmer et al., (2014) attempted to advance knowledge about turnover by examining the effects of work attitudes (job satisfaction and organisational commitment) on different forms of turnover (motivated by push and pull factors), as well as the effect of quitting on employees attitudes towards subsequent jobs. Their study confirmed well-known basic findings on attitudes and turnover, that job satisfaction and organisational commitment predicted turnover intention, which in turn predicted turnover. More particularly their study found that job satisfaction predicted turnover only for participants with push motivations, and not for those with pull motivations.

Antecedents of IT professionals turnover has been identified above, such as job satisfaction (work load, role ambiguity, role conflict, work life balance, job autonomy), growth opportunities, perceived job alternatives, incentives in the form of rewards and benefits. Based on the definition of push and pull factors above, the identified antecedents are a combination of pull and push factors. Therefore with a possibility that IT professionals could potentially leave their jobs not because their dissatisfied, but because there is plenty of job opportunities in the market due to high demand of IT skilled workers, could result in pull factors accounting for more turnover decision as opposed to push factors. This is however contrary to Wocke and Heyman, (2012) finding that pull factors push factors have similar impact on employee turnover. Due to this conflicting thoughts about push and pull factors, it is critical that emphasis is put on further research on this. This is supported by Wocke and Heymann, (2012), in their study suggesting that future research be done to potentially explore this notion in a different context and to compare contextual validity.

Therefore, will examine the influence of pull and push factors on IT professional turnover in IT transformation programmes. This is to **expand** the literature on the impact of push and pull factors on turnover

2.2 Models and the Evolution of Voluntary Turnover Theory

There are many reasons why people leave the firm, meaning that there's no standard account to why people choose to leave organizations Booth & Hammer, 2007;.Morell, Loan-Clarke & Wilkinson, 2004).

Turnover is “a relational process between an employee and an organization that includes elements of attachment, exchange, and separation” (Mossholde, Setton, & Henagan, 2005).

A considerable amount of research on turnover has focused on two purposes: investigating why employees decide to leave their organizations (i.e. predictors or antecedents of turnover) and the nature of the reason why they leave (i.e. the turnover process) (Shipp, Furst-Holloway, Harris, & Rosen, 2014). This is referred to as content versus process models of turnover (Maertz & Campion, 2004).

Early turnover research focused predominantly on content models, arguing that an employee's decision leave their job is primarily based on the ease of finding a more satisfying job and how much the individual really wants to leave the current job (March & Simon, 1958). They focused on psychological mechanisms which suggested the interaction of distinguished desirability and ease of mobility as a main antecedent of the actual turnover. It was not until Mobley's (1977) model that researchers began to show an interest in exploring the psychological decision processes linking negative job attitudes with employee turnover. Mobley focused on turnover as a process and sought to map out perceptual and psychologic processes which were thought to moderate the relationship between job satisfaction and voluntary turnover.

The subsequent models (Steel, 2002; Lee & Mitchell, 1994; Griffeth & Hom, 1995; Maertz & Campion, 1998) have generally highlighted the influence of both March and Simons (1958) push and pull factors and Mobley (1977)'s intervening psychological means between job satisfaction and voluntary turnover (Lee, Gerhard, Weller, & Trevor, 2008)

Subsequent to this, Lee (1988) enriched Mobley's model by replacing job satisfaction with job involvement and commitment (Wocke & Heymann, 2012). Lee et al. (2008) made observations from these models that models described job search process as an outcome of low job satisfaction and that, although these models include pull factors, they believe that it may be fairly conceptual and therefore recent research focus has been on the ease of

movement of the original March and Simons (1958) model. Lastly, empirical evidence over the years appears to indicate the models has potential to be further improved regarding how well they articulate voluntary turnover.

Griffeth, Hom and Gaertner (2000) in their study reported that models based on perceived alternatives and job satisfaction, continue to show inability to predict turnover, with an estimated variance of 5% (Harman, Lee, Mitchell, Felps, & Owens, 2007). Despite considerable progress in this line of research, research is still however still unable to explain how the process unfolds (Shipp, Furst-Holloway, Harris, & Rosen, 2014).

In response to these disappointing findings, Lee and Mitchell (1994) then developed their unfolding model of voluntary turnover, which was based on image theory from psychology (Beach & Mitchell, 1998). According to Beach,(1993) they described image theory as “ the decision making process as one in which most decision tasks are resolved by pre-formulated procedures developed through prior experience and training or training” (Donelley & Quirin, 2006). According to Harman et al (2007), the premise of the image theory is actually comparing the information an employee receives to three job related images namely, value image, trajectory image and lastly strategic image.

Allison Tenbrink in her unpublished PhD thesis (Tenbrink, 2015), outlines some additional pieces of information about Image theory. She suggests that, firstly individuals have different sets of images for various aspects of their life. For example, individuals have different sets of images for their work, friends, family etc. Secondly images vary on how strongly they are held, how clear they are, and how easily they can be communicated. Thirdly, individuals use images in a sequential manner during the screening process. Specifically, the information or options presented is compared to the relevant domain, the comparison to the other images, value, trajectory and strategic are made. Finally in some cases, individuals may change an image rather than accepting or rejecting the new information or options. An example would be; an individual changes their goal or tactics for achieving that goal in order to accommodate new information. However it is believed that individuals are more likely to reject new information as opposed to changing their images.

2.2.1 Unfolding Model Theory

The unfolding model of voluntary turnover by Lee and Mitchell (1994) suggests that turnover be viewed as a series of cogitation of the alternative choices available to the employee that

have been considered in prior studies, rather than looking at it as a single decision to leave (Lo, 2015).

Attribute	Path 1	Path 2	Path 3	Path 4a	Path 4b
Initiating Event	Shock	Shock	Shock	Job Dissatisfaction	Job Dissatisfaction
Script Plan	Yes	No	No	No	No
Image Violation	Irrelevant	Yes	Yes	Yes	Yes
Relative Job Dissatisfaction	Irrelevant	Irrelevant	Yes	Yes	Yes
Alternate Search	No	No	Yes	No	Yes
Offer or Likely Offer	No	No	Yes	No	Yes
Time	Very Short	Short	Long	Medium	Long

Table 1 : The Unfolding Model Paths (Holtom et al., (2008)

The unfolding model is made up of shock, scripts, image violations, job satisfaction and job search where, a shock is a particular, jarring event that initiates the psychological analysis involved in quitting, a script is a preexisting plan of action, which is a plan for leaving, image violations which entails the misalignment of individuals and organizations values, goals and strategies, low job satisfaction, job search which includes activities involving looking for job alternatives and then evaluating those job alternatives. The constructs unfold over time resulting in the five distinct paths that lead to voluntary turnover (see Table 1). The first path is a script-driven decision, where a shock triggers a preexisting script. The enactment of the scripts results in the employee leaving the organization without any deliberation and consideration of any job alternative. The second path is a “push” decision. Similar to Path 1 the shock then triggers leaving without the consideration of job alternatives. The individual decides to leave once any of image violations have occurred and they leave without considering any other job alternatives.

The third path which is usually referred to as a “pull” decision, contains a shock that triggers an evaluation via three images (values, trajectory and strategic images) that, in turn, initiate a comparison of the current job with various alternatives. This leads to subsequently searching for alternative jobs and evaluations of the available alternative prior to leaving. This path can lead to a deliberate search for job alternatives and certainly involves an evaluation of at least one alternative. Path 4a and 4b have no shocks or enact any script but have a low level of job satisfaction. Path 4a involves no job search and no evaluation of alternatives. Path 4b do job search and evaluate job alternatives, and only leaving when

there is a confirmed job. The basic premise of the model was that the individual's decision to leave is a result of negative perception of the organisation, but the result of a shock.

The unfolding model makes specific contributions to the voluntary turnover literature, by firstly introducing the scripts concept into the turnover process; secondly the model uses shocks as a trigger to turnover decision. Shocks can be positive, negative or neutral. Thirdly, the model allows for exceptional illustrative power with exclusive psychological processes in each path.

Fourthly, the model emphasizes the possibility that job satisfaction may not have any influence on the decision to leave (Path 1 and 3). Fifth, different paths unfold at different speeds, path 1 and 2 unfold quicker than Path 3,4a and 4b. Sixth, the unfolding model indicates the possibility of turnover without job alternatives (Path 1, 2 and 4a). Finally, in addition to the contributions, (Tenbrink, 2015) believes that the unfolding model is not a one path fits all to turnover, but rather forces researchers to think about turnover from a number of perspectives.

1.2.2.1 The Role of Scripts on Employee Turnover

Most studies have focused primarily on the roles of shocks and other unfolding model constructs on voluntary turnover as stated above (Seet, Jones, Acker & Whittle (2015); Holtom, Burton & Crossley (2012); Morrell, Loan-Clarke, Arnold & Wilkinson (2004); Holtom et al., (2005)), with a little focus on the role that scripts play in the turnover process. The literature will focus more on the influence these preexisting plans have on the whole turnover process. There has been conflicting findings about their influence; therefore this literature study will shed a little bit of light on that.

Lee et al. (1996) in their study demonstrated that these four paths completely described the leaving process for approximately 63% of their sample; and therefore 37% could not be classified under any of the four theorized paths. Lee et al., (1999), further explored the reason behind the 37% unclassified cases that, by modifying the unfolding model. This resulted in a significant increase in classification of job leavers (30.1%), and specifically changes concerning script alone increased remarkably (20.5%).

Lee et al (1999) observed that the role of scripts is well specified in path 1; however Lee and Mitchell (1994) appeared to have assumed the absence of influence of scripts on leaving in path 2 – 4b.

Earlier theory and research on framing (Beach, 1997) and (Wieck, 1995) have suggested that scripts may be more widely held than was originally proposed in the unfolding model, that in fact the existence of scripts may not just be limited to Path 1, instead they may co-exist with other factors while Path 2, 3, 4a and 4b unfold (Lee T. W., Mitchell, Holtom, McDaniel, & Hill, 1999). For example an employee might have a script but have decided not to enact it because actual enactment was tricky or it just didn't make sense to enact it that point in time.

In the earlier research by Lee et al (1996), they found that six nurses left under Path 1 (scripted turnover), but four other nurses who were classified as quitting via path 3 or 4, held scripts that did not apply to their leaving the organisation. Similarly in Morrell et al (2008) study, 146 employees who have quit reported a script, where only two left via Path 1 (scripted turnover). They believed this was due to the nurse's favorable labour market, which at the time offered as lot of job opportunities, which saw some of the nurses leave without even having a confirmed job offer.

This was then supported by Niederman et al. (2007), where 79% respondents were classified into Path 1 (reported a script), and 21% where classified into the rest of the Paths. They found that there were respondents who did not report a shock but had a script. This then calls into question what could possibly initiate the scripted turnover for these leavers. Lee et al (1994) previously attributed this type of script activation to the possibility of slowly growing dissatisfaction with the current job rather than an occurrence of a shock. Niederman et al. (2007) suggested a new Path be added to the unfolding model (Path 4c), to cater for employees who do not report a shock but however report a script. They believe that the unique characteristics of the IT professional's job and specific labor market dynamics may result in turnover decisions process not been catered for in any of the unfolding model paths. Niederman et al (2007) suggested that researchers investigate whether this new path (Path 4c) should be defined independent of Path 1 or maybe only as a slight variation of Path 1 involving no shock or maybe a sequence of fairly distinguishable minor shocks.

Holt et al (2007) in their study revealed the importance of scripts and acknowledged that it is one construct of the unfolding model that has been neglected in the conventional studies of

turnover decision. They believe that with better understanding of the types of preexisting scripts employees have, organizations and managers might prevent turnover through specific retention interventions. Niederman et al (2007) suggested an introduction of a turnover ombudsman that would advise and encourage IT professionals consider all facts before making any expeditious decisions about leaving the organisation.

In summary there are mixed and conflicting findings about the existence of scripts in four paths of the unfolding model. There have been limited if not non-existent studies involving IT professionals, with a focus on scripts, and there has been a call to looking closely into this unfolding model construct which has sparked an interest in research.

2.2.2.1 The Role of Shocks on Employee Turnover

One of the primary contributions of the unfolding model is the understanding that not all turnovers is predicted by job dissatisfaction (Holtom, Burton, & Crossley, 2012). Evidence suggests that shocks plays a significant role in initiating turnover. A shock is the most studied and researched of the unfolding model constructs. It has been studied based on different contexts. The literature review will look at these different contexts and focus more on the role that shocks have on the whole turnover process.

Shocks are the basic premise of the unfolding model. Formally defined as “it is a very distinguishable event that jars employees towards deliberate judgements about their jobs and perhaps to voluntarily leave their jobs” (Lee & Mitchell, 1994). When studying the shocks construct it is important to be familiar with more than just the definition. A shock must be interpreted in the context if the individuals beliefs and images. Lee & Mitchell (1994) argue that not all events are shocks. An event is a shock only when starts thinking about the possibilities of leaving a job.

A shock can be expected or unexpected, internal or external to the individual and it can be positive, negative or neutral.

Morrell et al. (2004a) subsequently sought to test the unfolding model with an empirical study with a focus on the roles of shocks in employee turnover. They reported that 44.3% of the nurses reported that shocks and indicated that they had significant effect on the decision to leave. They found that expected shocks are more distinctly possible to be positive, personal, and lead to unavoidable quitting; negative shocks are distinctly possible to be

work related and possibly associated with low job satisfaction, and can result in avoidable quitting; work related shocks are fairly influential, and can associated with low job satisfaction and search for available job alternatives and they can lead to avoidable quitting.

In their subsequent study (Morell et al., 2004b), expanded their previous study (Morell et al., 2004a)), and explored the impact of organisational change on employee turnover. They concluded that shocks do play a role in employee's decision to leave and that shocks have a major influence in the final decision to leave.

Holtom et al (2005) believes that categorizing types of shocks can assist in mitigating their impact and to explain the different types of shocks. The categories might include winning the lottery, having a spouse transferred, being elected a church officer, losing a loved one, or adopting an infant, being passed over for promotion, receiving a job offer, having an argument with the boss, becoming vested or earning a large bonus, corporate takeovers, scandals, diversification, or downsizing. They found that different types of shocks occur with varying frequency and that they affect the decision paths differently.

In path 1, shocks often involve the larger, ongoing processes in an individual's life. Thus, shocks that induced scripted behavior (Path 1) are expected to involve issues that are more personal than organisational. In path 2, leaving is theorized to be a response to an event, usually an abhorrent one. As a result, leaving is expected to involve negative shocks. In their subsequent study Holtom, Burton and Crossley (2012) suggests that negative on-the-job shocks occur more frequently than positive shocks. In path 3, leaving is characterized by tis decidedly rational spirit. Job search or an unsolicited offer elicits comparisons between alternatives and the current position. Shocks that induce such analytical deliberations (path 3) are expected to involve more organisational and job offer characteristics than personal issues.

The following is the distribution of individuals who have left across unfolding model decision paths from some of the studies referenced above:

Decision Path	Shock	Script	Lee et al (1996) 44 Nurses	Holtom et al (1999) 229 Accountants	Donelly and Quirin (2006) 42 Accountants	Morell et al (2008) 352 Nurses	Kulik et al (2012)Consumer Corp Employees	Niederman et al (2007) IT Professionals
1	Yes	Yes	22%	14%	3%	1%	22%	56%
2	Yes	No	15%	14%	3%	0	15%	Not Provided
3	Yes	No	31%	32%	59%	33%	31%	5%
4a	No	No	7%	18%	4%	0	7%	Not Provided
4b	No	No	25%	23%	24%	44%	25%	7%

Table 2 : Distribution of leavers into unfolding model paths

From Table 2 above, shocks account for more turnover than paths where there's no shock experienced, except for Morrell et al (2008) it is contrary. This supports Morrell et al (2004a) finding that shocks will feature in a considerable number of cases of employee turnover, and that shocks will be influential in the final decision to leave. The reason for Morrell et al (2008) contrast was due to the inability to classify certain leavers into Path 1, 2, and 4a. They believed high number of available job opportunities in the market prevented classified leavers to be classified into these paths, which was the same for Niederman et al (2007)

In summary, there has been a number of studies conducted to test the constructs of the unfolding model, but mostly are primarily focused on the shocks construct (Seet, Jones, Acker and Whittle (2015); Holtom, Burton and Crossley (2012); Morrell, Loan-Clarke, Arnold and Wilkinson (2004); Holtom et al (2005)), but very limited almost absent research on its relationship to scripts. This is supported by Holt et al (2007) in their study that the importance the scripts and acknowledge that it is one construct of the unfolding model that has been overlooked in traditional studies of turnover decision. They believe that with better understanding of the types of preexisting scripts employees have, organizations and immediate supervisors might alter subsequent decisions through specific interventions In addition, the literature shows some inconsistencies in findings in terms of the impact of shocks in scripted turnover. Whilst the literature has showed more research on the role of shocks, this research will critically look the role of shocks in relation to scripts.

Chapter 3. Research Questions and Hypothesis

The proposed study contributes to the turnover literature in two ways. Firstly it was observed from the literature review that the turnover process has been researched in various contexts, with little or no reference to IT Transformation programmes. Therefore this study will seek to explore turnover of IT professionals in IT Transformation programmes, specifically contributing to the existing body of knowledge on factors that cause employees to leave IT transformation programmes prematurely. Further to this, the study will examine the influence of pull and push factors on IT professional turnover in IT transformation programmes. This will contribute to literature by expanding the literature on the impact of push and pull factors on turnover

Secondly, it will be the first study to examine the influence that scripts have in the turnover process. No study thus far has investigated the script construct or look at examining the interactive role of scripts on the turnover process. More specifically, this present study will be looking at the interaction of scripts and shocks, and the interactive role of scripts and push and pull factors, in the unfolding of the turnover process. The investigation of the interaction of the script and shocks follows from the unfolding model which proposes that a shock to the system forces the employee to evaluate the situation based on the personal characteristics and previous experience (Lee & Mitchell, 1994).

The research in the literature review, discussed many aspects about the shock and script constructs, as well as pull and pushes factors. In many ways mixed and conflicting results were found, which shows a deficiency in the research on the script construct itself and even in relation to other constructs of the unfolding model, but most importantly the “shock” construct. The following research questions explore these contradictory and conflicting findings and also seek to examine the influence of pull and push factors on these constructs.

3.1 Research Question 1:

What are factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely?

There are three parts to this research question. The first is identifying the factors that influenced the employee to leave and the second part is testing whether the employee would stay until the end of the programme and the third part, is examining the influence of

these pull and push factors on IT professional's turnover. For the first part, owing to the design of the research, IT professional's turnover numbers will be used to gather the sample, therefore, no hypothesis testing was possible because it would require testing the dependent variable. The first part will be addressed by looking at whether the respondent experienced a shock, and if they did, then to look at the brief descriptions of the event that triggered the decision to leave.

The second part will be addressed by examining the responses given by the respondents through open-ended questions as to why they left the IT Transformation programme, but specifically focusing on whether they left prior to the end of the programme (see Table 3, Question 1). The respondents needed to indicate whether they resigned, transferred to another department or if the IT programme actually came to an end.

The influence of pull and push factors on IT professional's turnover, will be addressed through classification of the answers the respondents gave to the open-ended question about the reason why they left the organization (see Table 3, Question 2). The respondent needed to indicate, whether it was because of, growth opportunities, IT Transformation ended, took another job, greater remuneration, retrenchment, family related reasons or other issues not mentioned above. The reasons would be classified into whether they are pull or push factors as defined in the literature review. This classification will take into consideration all the responses from Question 4 in Table 3.

It was observed from literature that ERP implementations are generally very complex projects which could pose various challenges to employees implementing these projects, resulting in IT employee's voluntary turnover prior to the end of the project. Most of the reasons identified from literature (for example high demand of IT skills locally and globally) would naturally result in turnover prior to the end of the project. Therefore this leads to the first hypothesis, which states that IT professionals will not stay until the end of the project, meaning IT professionals will leave before the end of the project.

Hypothesis 1a: *IT professionals will not stay until the end of the IT Transformation programme*

The literature has shown that pull and push factors influence employee turnover but that the pull factors do not have a higher impact on employee turnover than push factors. However, research also shows that a shortage of skilled IT professionals result in a high demand in

local and global market for IT professionals and ERP consultants. This has been identified as an important challenge in the turnover of IT professionals and ERP consultants.

Research also indicated that push factors refer to job satisfaction or commitment and pull factors were job alternatives in the market, unexpected offers, or career aspirations. Therefore, given that voluntary turnover is a result of the high demand in local and global market for IT professionals and ERP consultants, this study's second hypothesis is that pull factors have more influence than push factors on decisions to leave IT Transformation programmes. This will therefore serve as an extension of research done by Lee et al. (1994), Mano-Negrin and Kirschenbaum (1999) and recently Wocke and Heymann (2012) on the impact of push and pull factors to turnover. This study will define this.

Hypothesis 1b: *Pull factors have more influence than Push factors on an IT professional's decision to leave IT Transformation Programmes*

3.2 Research Question 2:

What is the influence of shocks on scripted turnover decisions for IT professionals on IT Transformation programme?

There have been a number of studies conducted to test the constructs of the unfolding model, but most are primarily focused on the shocks construct (Seet et al., 2015; Holtom et al., 2012; Morrell et al., 2004; Holtom et al., 2005), with very limited (and almost absent) research on its relationship to scripts. In addition, the literature shows some inconsistencies in the findings in terms of the impact of shocks in scripted turnover.

From exploring the research in the literature it becomes clear that, the IT industry is faced with a contracting pool of skilled employees causing demand of IT skills to increase. The high demand in local and global markets for ERP consultants have been a concerning challenge in the turnover of these consultants. This tends to increase the IT professionals ease of mobility, causing them to leave the organisation for no reason but the fact that there are more or better opportunities in the market. This means that IT professionals' turnover would not necessarily experience a specific event that would trigger their decision to leave (i.e. they would not experience a shock), contrary to previous findings that shocks is

attributable to high turnover, and that shocks will have a huge influence in the final decision to leave (Morell et al., 2004a)..

According to the literature, scripted decision turnover accounted for most of the turnovers of IT professionals (Nierderman et al., 2007). Such research found that 79% of respondents were classified as Path 1, (they reported to have had a script). Therefore, IT professionals are expected to have a script irrespective of whether they experience a shock or not, which is contrary to Lee et al.'s (1994) findings. These unique and contrary findings of IT professionals lead to the next hypothesis of this study:

Hypothesis 2: *Some of the IT professional's decision to leave will not be triggered by a shock, but they will have a script*

Chapter 4. Research Methodology

The previous chapter outlined the research questions defined from research objectives and the literature review. This chapter outlines the research design and methodology used to get to the results and conclusions to address the research questions defined.

4.1 Research Design

This study used a quantitative research approach with descriptive data to describe identified variables in relation to the constructs (shocks script and pull and push factors). This was to obtain a sample to provide empirical evidence for statistical analysis within acceptable levels of confidence. This makes it an explanatory or causal study which examined and explored the relationship between key variables as mentioned earlier. An electronic questionnaire-based survey was used to collect data. These data will be defined in more detail in the next section.

4.2 Research Method

To test the defined hypotheses, data was gathered through an electronic questionnaire-based survey. A questionnaire was sent to IT professionals who have been involved in IT transformation programs in Vodacom, one of the large telecommunications companies in South Africa. Vodacom employs about 6 000 full-time employees, of which only about 300 have been involved in the IT transformation programmes. The strength of using a questionnaire is that it has the potential to generalize to a large population if appropriate sampling design has been implemented; high measurement reliability with the proper questionnaire construction and high construct validity if proper controls have been implemented. (Mouton, 2001).

The questionnaire design took place in two stages: The first stage involved generating additional questions based on the literature review of unfolding model and its constructs, specifically; shocks, scripts as well as pull and push factors. The second stage was testing the questionnaire with two IT professionals. The questionnaire was then modified to take into account the feedback received.

The questionnaire was adapted from two questionnaires that have been used for the same purpose ((Lee, Mitchell, Holtom, & Hill, (1999); (Morrell et al., (2008)). The final questionnaire included the following sections:

4.2.1 Demographic Information

The seven questions to collect general demographic data about the respondent. Tenure, age (in years), gender, and highest degree earned, and their tenure with the IT transformation program were assessed by one question each.

4.2.2 Factors Influencing the Decision to Leave for IT Professionals

There were four questions to collect the factors that potentially could have influenced the IT professional to leave the IT transformation programme. Two open-ended questions the respondents were asked to briefly describe the decision to leave (Question 2 and 4, see Table 3).

#	Factors Influencing the Decision To Leave - Questions
1	"Why did you leave the IT Transformation Programme?"
2	"If you have resigned, why did you leave the organization?",
3	"Was there a single event that caused you to leave the organization?"
4	"Please briefly describe the event"

Table 3 : Factors Influencing the Decision to Leave - Questions

4.2.3 Shock Characteristics

These questions were to measure shock and shed more light on the nature of shocks. They were adapted from the extended and refined questions from (Lee T. W., Mitchell, Holtom, McDaniel, & Hill, 1999).

The specific shock characteristics relevant to Hypothesis 2 were assessed with the following yes/no questions (see Table 4):

#	Shock Characteristics Questions
1	“Was there a single event that caused you to think about leaving?”
2	“Please briefly describe the event”
3	“Would you characterize the event as negative?”
4	“Would you characterize the event as positive?”
5	“Would you characterize the event as negative?”
6	“Would you characterize the event as neither positive nor negative?”
7	“Did the event involve purely personal issues (i.e. unrelated or external to the job itself?”
8	“Did the event involve purely firm issues?”
9	“Did the event involve a combination of personal and firm issues?”
10	“How much did the event influence your final decision to leave?”

Table 4 : Shock Characteristics - Questions

4.2.4 Script Characteristics

The rest of the question was to measure the presence of the script and its relationship to the shock experienced. It is an extension of Lee et al., (1999) and Morrell et al., (2008) studies.

The specific script characteristics of scripts relevant to Hypothesis 1 – 3b were assessed with the following questions (see Table 5):

#	Script Characteristics - Questions
1	“I have left a job before for essentially the same reason (i.e. similar circumstances)”
2	“At the time I left my job, I had already determined that I would leave if a certain event were to occur (e.g. not receiving a promotion)”
3	“My decision to leave was influenced by a colleague (or colleagues) leaving?”
4	“After your first thoughts of leaving how long did it take you to make a decision?”

Table 5 : Script Characteristics – Questions

As the questionnaire was to be administered to 60 people who had already left the organization, and who are currently dispersed across the globe, the link to the questionnaire was emailed to all the individuals. The questionnaire was developed using survey development tool called SurveyMonkey. SurveyMonkey is credible online survey cloud-based development tool. It currently has 25 million users completing 90 million surveys a month (Konrad, 2015). As all individuals have left the organization, various means were used to get forwarding email addresses of the individuals. Where the researcher had personal relationships with the individuals, it was easy to get their contact details; otherwise social media platforms like LinkedIn, Facebook were used.

As this was an explanatory study to examine a relationship between the scripts, shock, pull and push factors and the influence they have on IT professionals in IT Transformation programme turnover process. Explanatory study looks at the relationship between two or more variables (Cooper & Schindler, 2003). Saunders and Lewis (2012) suggest that explanatory research can either be quantitative or qualitative. Since various variables will be subjected to statistical tests such as chi-square, to get a clearer view of the relationship between the variables, it therefore made this study quantitative. If the problem is identifying factors that influence an outcome, the use of an intervention, or understanding the best predictors of outcomes, then a quantitative approach is best (Creswell, 2003).

This study took a form of a case study within the Vodacom (SA) Organization in the context of IT Transformation Programmes. Case Studies are particularly good at enabling the researcher to get a detailed understanding of the context of the research and the activity taking place within that context (Saunders & Lewis, 2012). A case study is a very detailed research enquiry into a single example (of a social process, organization or collective) (Payne & Payne, 2004). The strength of a case study is the ability to have high construct, in depth-insights and finally being able to create a rapport with research subjects (Mouton, 2001). However, owing to the fact that the study will only be done at one Telecommunication Company, generalizations about the applicability of the results might not be directly made to the whole telecommunications industry.

4.3 Population and Unit of Analysis

Vodacom has gone through two major IT transformation programmes over the past four years, and had over 300 IT professionals working on the programmes. Therefore, for this empirical study, the universal sample included all the IT professionals who have been involved in IT transformation programmes at a telecommunications company, and who have subsequently left the organisation. The population for this study was made up of the 60 IT professionals who have left the organisation in the past four years. These 60 IT professionals are approximately 20% of the total of number of employees in the transformation programmes (300), which is twice as much as the whole organisation's turnover (about 10.6% for 2014, as stated above). Vodacom is an African mobile telecommunications company, providing messaging, data and converged services to over 55 million customers

with a turnover of R75.5 billion per annum. Vodacom currently has approximately 8 000 employees, with a current employee turnover of 10.5%. Originating in South Africa, Vodacom has grown its operations to include networks in Mozambique, Tanzania, Lesotho and the Democratic Republic of Congo. It also provides business services to customers in over 40 African countries such as Ghana, Nigeria, Ivory Coast, Zambia, Cameroon, Angola and Kenya (Vodacom, 2015).

4.3.1 Unit of Analysis

The term 'unit of analysis' is the entity that is been analyzed in a scientific research. The unit of analysis refers to the what of the study: what "object", "phenomenon", "entity", "process" or "event" that is been investigated (Mouton, 2001)

Therefore, the unit of analysis for this study is the "IT professionals" who have left the organization and previously have worked in an IT Transformation programme.

4.4 Sampling Method

As stated above, Vodacom has gone through two major IT transformation programmes over the past 4 years, and had over 300 IT professionals working on the programmes. The IT professionals are made up of Project Coordinators and Managers, Business Analysts, and Software and Solution Architects, Software Developers. In the past 4 years about 60 of these IT professionals have left the organization which is approximately 20% of the total of number of employees in the Transformation programmes. A complete list of all the 60 IT professionals who have left the programme and the organization was available, and was representative of all the above IT professions involved in the programme, therefore making these 60 IT professionals the sampling frame for this study.

The sample of this study was selected using purposive sampling, a non-probability sampling method, which is also called judgement sampling. Purposive sampling maybe used with both qualitative and quantitative research techniques (Tongco, 2007). Choosing the purposive sample is fundamental to the quality of the data gathered, thus, reliability and competence of the potential respondent must be ensured. Purposive sampling can be used

with a number of techniques in data gathering, for example using a survey or administered questionnaire. Tongco (2007) in their study indicate that, this sampling method involves a deliberate choice of a potential respondent due to the qualities the informant possesses. This means deciding on the type and level of participants to administer the questionnaire to. A homogeneous purposive sampling was done (comprising all individuals who left the IT Transformation programme in the past four years), to provide minimum variation in the data collected. This allowed identified characteristics of the sample to be explored in greater depth and minor differences to be more apparent.

There is no cap on the sample size for purposive sampling method, as long as the needed information is obtained (Bernard, 2002). The questionnaire was sent to all 60 employees who have left the IT transformation programme in the past four years, and that included a letter explaining the purpose of the study. Of the once that was contacted, five were undelivered due to an inaccurate emailing list but 27 completed, usable questionnaires were returned, therefore bringing the final sample to 27. This represents a response rate of 55%, which is higher than Lee et al (1994) – 20%, Donnelly and Quirin (2006) - 14%, Niederman et al (2007) - 10.6% and Morrel et al (2008) – 31%.

4.5 Data Analysis

This study used a quantitative research approach combined with descriptive data to describe variables in relation to the constructs analyzed, with special emphasis placed on the questionnaire and the sample used.

The research followed a similar classification criterion for each variable for the Lee et al (1999) and Morrel et al (2008) studies. The variables were the presence or absence of: shock, engaged script, pull factors and push factors. Dichotomizing procedures of Lee et al (1999) were used to classify each respondent into each variable. This entails respondents been initially classified as having experienced a shock or not, and then classified into whether they had a script or not.

Owing to the data small and mainly dichotomous classification a chi-squared test was used to test the relationship between the identified variables. McHugh, (2013) indicates that non-parametric methods are most appropriate when the sample is small. If the variables of interest are dichotomous in nature, then chi-square test is appropriate. A chi-square statistic

is sensitive to sample size. She recommends that, when the sample sizes are too small, exact test should be used instead of the chi-square test, which is Fisher's exact test. The conventional rule of thumb is that if all of the expected numbers are greater than 5, it's acceptable to use the chi-square; if an expected number in a cell is less than 5, you should use an alternative. Therefore in this study to overcome the small data set, a chi-square test results was used where cell number is greater than 5 and a Fischer exact test result was used where cell number is less than 5.

The following measures were defined:

- **Factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely**

Four questions to collect the factors that potentially could have influenced the IT professional to leave the IT transformation programme. (Please refer to section 4.2.2)

- **Pull and Push Factors**

Push and pull factors were identified from two open-ended questions (Question 2 and 4, see Table 3) The responses would then be categorized into logical grouping which was then classified into either a push or pull factor.

- **Shocks**

The specific shock characteristics were assessed with the following yes/no questions (see Table 4):

- **Scripts**

The specific script characteristics of scripts relevant to Hypothesis 1 – 3b were assessed with the following questions (see Table 5):

4.6 Research Limitations

As the research has only focused on individuals who have been in IT Transformation programmes in Vodacom in the last four years, a limitation might be that all respondents are from Vodacom, despite the fact, this also helps with reducing confounding variables that could have occurred across several forms such as varying pay and conditions.

The final sample contained 27 respondents, which is a relatively small sample, however there has been similar studies done with relatively small samples (Donnelley et al., (2006) and Lee et al., (1996), with sample sizes of 24 and 44 respectively.

As this study was only done at a single Telecommunication Company; generalizations about the applicability of the results might not be directly made to the whole telecommunications industry.

Using a survey could sometimes lead to the potential lack of insider perspective and depth and this may lead to criticism of “surface level” analysis. In addition, the survey data might sometimes be very sample and context specific (Mouton, 2001). It can open the study to questionnaire error, high-non response, data capturing or possible inappropriate selection of statistical technique.

The study required respondents to answer some open-ended questions, causing them to articulate their recent turnover decision process, therefore opening up a possibility of memory biases within the data.

This chapter detailed the research methodology and design used in order to gather empirical evidence to support of the outlined research questions. The next chapter outlines the results of the statistical tests conducted.

Chapter 5. Research Results

The next chapter outlines the results of the statistical tests conducted and the analysis of the results generated from the statistical tests.

5.1 Sample Method Description and Normality Testing

The IBM SPSS Modeler statistical software was used to analyze the data using the chi-square test functionality in SPSS Modeler. The chi-squared test is based on frequency count data, therefore always compares a set of observed frequencies obtained from a sample to a set of expected frequencies that describes the null hypothesis (Wegner, 2012). It is used to test for independence of association and it also establishes whether two categorical variables are statistically related.

The non-parametric tests were run because the data collected was not on an interval/ratio scale, meaning that the data did not allow for parametric tests to be used. Running any sort of normality and homogeneity test would produce uninterpretable results based on the variables in the used questionnaire. For a non-parametric test, the sample size is independent and therefore can be used with any sample size as long as the assumption on minimum expected cell frequency is met. (Explorable.com, 2009)

5.1.1 Sample Demographics

The results show that (see Table 6 below), 59% of the respondents are between 35 - 44 years of age and 40% between 25 – 34 years, with 63% male respondents versus 37% of female respondents (see Table 7 below). This could suggest that the organization could require experienced IT professionals in key positions in the programme. This could be further explained by the tenure of the employees in the organization.

		Frequency	Percent
What is your age?	25 to 34 Years	11	40.7
	35 to 44 Years	16	59.3
	Total	27	100

Table 6: Frequency Table for Age of IT Professionals

		Frequency	Percent
What is your gender?	Female	10	37
	Male	17	63
	Total	27	100

Table 7 : Frequency Table for Gender of IT Professionals

Most of the respondents (66%) have worked for the company for more than two years, and about 30% worked for the company for six months to about two years and about 4% for less than six months(see Table 9 below). About 26% of the respondents graduated from college and only 74% completed graduate school (see Table 8 below). This indicates the need for the organizations to have professionally qualified IT professionals for the IT transformation programmes.

		Frequency	Percent
What is the highest level of education you have completed?	Graduated from College	7	25.9
	Completed Graduate School	20	74.1
	Total	27	100

Table 8 : Frequency Table for Highest Qualification for IT Professionals

		Percent
How long have you worked at the company?	Less Than 6 Months	3.7
	6 Months to 1 Year	18.5
	1 to 2 Years	11.1
	More Than 2 Years	66.7
	Total	100
		Percent
How long have you worked in an IT Transformation Programme (e.g. Customer 3D, EVO etc.)	6 Months to 1 Year	18.5
	More Than 1 Year	81.5
	Total	100

Table 9 : Frequency Table for Tenure for IT Professionals

The results show that, 82% of the respondents have worked in the IT transformation programme for over one year and about 18% between six months and one year. The older respondents (13) seem to have stayed with the programme for longer as opposed to the younger respondents (9) (see Table 10 below). This could be because older employees have already invested so much in the organization and the programme that it is difficult for them to move on and adapt to new environments.

		How long have you worked in an IT Transformation Programme (e.g Customer 3D , EVO etc.)		Total
		6 Months to 1 Year	More Than 1 Year	
What is your age?	25 to 34 Years	2	9	11
	35 to 44 Years	3	13	16
Total		5	22	27

Table 10 : Frequency Table for Age vs Tenure for IT Professionals

		Frequency	Percent
Why did you leave the IT Transformation Programme?	Resigned from Company/ Organisation	19	70.4
	Transferred to other Department Internally	8	29.6
	Total	27	100

Table 11 : Frequency Table for the reason to leave

Of the 27 respondents, 19 left the programme and resigned from the organization, which accounted for external turnover. 8 of the respondents left the programme, stayed in the organization but transferred to different departments (see Table 11 below). External turnover is typically more damaging because knowledge that the employee has accumulated over the years can become inaccessible and even permanently lost with the leaving of an employee.

5.2 Research Questions and Hypothesis

The research questions gave rise to three hypotheses. The following is a summary of the research questions, hypotheses, statistical tests tables.

5.2.1 Factors Influencing the Decision to Leave - IT professionals

Research question 1 asks the question of factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely.

There are three parts to this research question. The first was to identify the factors that influenced the employee to leave. Due to the design of the research using IT professional's turnover numbers to gather the sample, no hypothesis testing was possible as it would require testing the dependent variable.

The second part is testing whether the employee would leave before the end of the programme (i.e. Hypothesis 1a), and the third part was to test the influence of pull and push factors on IT professional's turnover (i.e. Hypothesis 1b). The respondent was asked to give a reason why they left the IT transformation Programme and eventually the organization, and in addition, to indicate if they experienced a shock, if yes then to briefly describe the event that triggered the decision to leave. The following (Table 12 below) outlines the brief descriptions of the events that triggered the decision to leave (only 16 of the 26 respondent's respondent to this question), therefore each gave one response:

#	Responses
1	Job opportunity with more benefits
2	Indecision and lack of appreciating experiences and suggestions from team members
3	Management created culture of fear and bullying
4	Overworked
5	Got married and moved overseas with my husband
6	lack of growth
7	Nothing to do as Accenture did most of the work.
8	Requested by CEO of company to move back to customer care due to the critical nature of the business unit for Vodacom
9	Internal office politics
10	Unfair treatment
11	The pure focus on cost optimisation and efficiency without consideration for sustainability and the effectiveness of the transformation. Does it make business sense? and I was headhunted
12	The programme itself was becoming chaotic and unstructured and I became bored and needed to find something next to do that could be exciting to me.
13	My manager was a moron who stifled my growth. He was also a micromanaging imbecile.
14	There was a change in the corporate structure of my consulting firm that was working on the transformation project, changing my career path.
15	Leaving employment is driven by a range of events. Leadership, growth, remuneration all play a part
16	Work life balance

Table 12 : Reasons that influenced IT professional's decision to leave

The following table (Table 13) outlines the reasons respondents gave for leaving the IT transformation programme:

#	Response	Percentage	Frequency
1	IT Transformation Program Ended	0%	0
2	Resigned from the organisation	70%	19
3	Transferred to another department Internally	30%	8

Table 13 : Reasons for leaving IT Transformation Programme

Table 13 shows that, 70% of the respondents left the IT transformation programme and resigned from the organization and the rest (30%) indicated that they left the IT Transformation programme and transferred to another department.

Table 14, shows that most respondents cited growth opportunities, taking another job, and greater remuneration, as reasons for leaving the IT Transformation programme.

#	Response	Percentage	Frequency
1	Growth opportunities	45%	10
2	Take Another Job	18%	4
3	Greater Remuneration	23%	5
4	Retrenchment	0%	0
5	Family Related Reason	0%	0
6	Other	14%	3
7	IT Transformation Program Ended	0%	0

Table 14 : Reasons for leaving the IT Transformation Programme and eventually leaving the organization

Hypothesis 1a states that IT professionals will not stay until the end of the IT Transformation programme. Table 13 and 14 shows that none of the respondents left because the programme had ended, therefore supporting the hypothesis.

Hypothesis 1b states that Pull factors have more influence than Push factors on IT professionals decision to leave IT Transformation Programmes

From the literature push factors refer to job satisfaction or commitment and pull factors are job alternatives in the market, unexpected offers, or career aspirations.

Push and pull factors were identified from two open-ended questions from the questionnaire (Question 2 and 4 from Table 3 above). The responses were categorized into logical grouping which was classified into either a push or pull factor (see Table 15 below); where the following were classified under “Job Dissatisfaction”:

- Dissatisfied with Work/Supervisor
- Unfair treatment
- Programme became chaotic and unstructured
- Internal Office Politics
- Culture of fear and bullying
- Overworked
- Work life Balance

For statistical analysis, pull factors were coded as 1 and push factors as 2 (see Table 15):

Factors	Reasons
1 = Pull	Growth opportunities
	Headhunted
	Greater Remuneration
2 = Push	Relocation
	Job Dissatisfaction
	Transformation Program ended
	Corporate Restructuring

Table 15 : Push and Pull Factors

		How much did the event influence your final decision to leave?			Total
		Not at All	Somewhat	Very Much	
Please briefly describe the event?	Pull	2	5	8	15
	Push	0	1	7	8
Total		2	6	15	23

Table 16 : Push and Pull Factors for IT Transformation Programme Turnover

Table 16, shows that 15 respondents cited pull factors as reason for leaving and 8 respondents cited push factors as reason for leaving, supporting hypothesis 1b .

Of the respondents who experienced pull factors (17), 11 resigned from the organization and 6 transferred to other departments internally. Of the respondents who experienced push factors 8 resigned from the organization and only 2 transferred to other department internally (see Table 17 below)

		Why did you leave the IT Transformation Programme?		Total
		Resigned from Company / Organisation	Transferred to other Department Internally	
Please briefly describe the event?	Pull	11	6	17
	Push	8	2	10
Total		19	8	27

Table 17 : Push and Pull Factors vs The reason to leave

One interesting finding from this study was that of all the respondents, 63% were male and 37% were female, and male respondents (17) have experienced more pull and push factors as opposed to female respondents (10) (see Table 18 below).

		What is your gender?		Total
		Female	Male	
Please briefly describe the event?	Pull	7	10	17
	Push	3	7	10
Total		10	17	27

Table 18 : Push and Pull Factors vs Gender

26% of respondents indicated that they did not search for a job before they left and about 19% did not search much. Only 22% did a very comprehensive search for job before they left.

5.2.2 Influence of Shocks on Scripted Turnover Decisions - IT professionals

Research Question 2 investigated the possible influence of shocks on scripted turnover decisions for IT professionals on IT Transformation programme. From the literature it became clear that, the IT industry is faced with a diminishing pool of skilled employees causing demand for these employees to increase and similarly it was found that high demand in local and global market for ERP consultants have been a key issue in the voluntary turnover of these consultants.

This tends to increase the IT professionals ease of mobility, resulting in employees leaving the organization for no reason but the fact that there are more and better opportunities in the market. In other words the IT professional turnover would not necessarily experience a specific event that would trigger a decision to leave (i.e. they would not experience a shock), which is contrary to literature review findings that shocks have been found to feature in a considerable number of cases of turnover, and that shocks will be more influential in the final decision to leave the organization (Morrell K. , Loan-Clarke, Arnold, & Wilkinson, 2004a).

Niederman et al.,(2007) in their study found that scripted decision turnover accounted for more turnovers for IT professionals. They found that 79% of respondents were classified into Path 1, were they reported to have had a script. Therefore, IT professionals are expected to have a script irrespective of whether they experience a shock or not, which is contrary to Lee et al (1994). Owing to these unique and contrary findings of IT professionals, this study therefore hypothesize that IT professionals will leave the IT Transformation programme without experiencing a shock but they will have a script.

Hypothesis 2: *Some of the IT professional's decision to leave will not be triggered by a shock, but will have a script*

Table 19 below shows that, 14 respondents (52%) respondents reported a shock but 12 respondents (44%) did not report a shock.

		Percent
Valid	Yes	51.9
	No	44.4
	Total	96.3
Missing	System	3.7
Total		100

Table 19 : Frequency Table for Shocks

Table 20 below shows that, 12 respondents did not report a shock. 4 (15%) of the 12 respondents that did not report a shock, actually claimed to have had scripts and 3 had left a job before for essentially the same reason, supporting the hypothesis that some of the IT professionals, decision to leave the IT transformation programme will not be triggered by a shock but will have a script.

		At the time I left my job , I had already determined that I would leave if a certain event were to occur (e.g. not receiving a promotion)		Total
		Yes	No	
Was there a single event, particular event that caused you to think about leaving?	Yes	6	8	14
	No	4	8	12
Total		10	16	26

		I have left a job before for essentially the same reason (i.e. similar circumstances)		Total
		Yes	No	
Was there a single event, particular event that caused you to think about leaving?	Yes	4	10	14
	No	3	9	12
Total		7	19	26

Table 20 : Frequency Table for Scripted Turnover

The results show that 56% of the respondents felt that the shock had a significant influence in their final decision to leave, and only 22% somewhat feel that the shock influenced their

decision to leave. Only 7.4% felt that the shock did not influence their decision to leave (see Table 21 below).

		How much did the event influence your final decision to leave?			Total
		Not at All	Somewhat	Very Much	
Was there a single event, particular event that caused you to think about leaving?	Yes	0	2	12	14
	No	2	4	3	9
Percentage (No Shocks)		7.4	22.2	55.6	
Total		2	6	15	23

Table 21 : Influence of shocks on decision to leave

A chi-squared of independence was conducted to determine if a decision to leave depended on shocks. The result was statistically significant, $\chi^2(1) = 7.326$, $P = 0.026$, indicating that decision to leave, in this study, is dependent on shocks (see Table 22 below).

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.326 ^a	2	0.026

Table 22 : Chi-squared test for Shock vs Decision to leave

A chi-square test of independence was conducted to determine if scripted turnover decision is dependent on the shocks. Table 23 below show the chi-squared result was not statistically significant for both incidences where the respondent indicated that they have left a job before for essentially the same reason (i.e. similar circumstances) and they had already determined that they would leave if a certain event were to occur, $\chi^2(1) = 0.042$, $P = 0.838$ and $\chi^2(1) = 0.028$, $P = 0.619$ respectively indicating that scripted turnover decision is independent of shocks (see Table 23). Therefore one can conclude that there is no association between shocks and scripted decision turnover.

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.042 ^a	1	0.838		
Continuity Correction ^b	0	1	1		
Likelihood Ratio	0.042	1	0.838		
Fisher's Exact Test				1	0.596
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.248 ^a	1	0.619		
Continuity Correction ^b	0.009	1	0.926		
Likelihood Ratio	0.249	1	0.618		
Fisher's Exact Test				0.701	0.464

Table 23 : Chi-Square for Shocks and Scripted Turnover

Chapter 6. Discussion of Results

The previous chapter outlined the various tests and analyses performed on the data sets as set out in the research design, research questions and hypotheses. The results were then tabulated and briefly described. This chapter discusses the results and shows the depth of insights while additional findings are highlighted in contrast to the findings from the literature review.

The basic premise of this was to understand why IT professionals leave IT Transformation programmes prematurely, with a specific focus on pull and push factors. A secondary aim was to explore the relationship between key constructs of the unfolding model, shocks and scripts for IT professional's turnover process in IT transformation programmes.

6.1 Sample Size and Sample Characteristics

The final sample for this study yielded 27 completed and usable responses, as indicated in the previous chapters, which represented 55% response rate, which is higher than 20% by Lee et al (1994), 14% by Donnelly and Quirin (2006), 10.6% by Niederman et al (2007) and 31% by Morrel et al (2008). The sample was made up of IT professionals who had been with the programme for the last four years Donnelly and Quirin (2006) utilized a small sample of both voluntary quitters and stayers, Niederman et al (2007) used a sample of Management Information systems (MIS) who have quit their jobs. Morrel et al used a sizeable sample of nurse quitters.

Owing to the variables used in the questionnaire, this study could not run normality and homogeneity. Non-parametric tests were run because the data collected was not on an interval/ratio scale, meaning that the data did not allow for parametric tests to be used.

6.2 Factors Influencing the Decision to Leave for IT professionals

Research Question 1 investigated the factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely. This study identified the factors that influenced the employee to leave. In addition to that, a test was done to examine whether

the employee would stay until the end of the programme (i.e. Hypothesis 1a), and further looked at the influence of pull and push factors on IT professional's turnover (i.e. Hypothesis 1b).

To prove more insight into the findings resulting from identifying the factors that influence the employee to leave and Hypothesis 1a, the results were compared to the findings for nurses and accountants.

In this study most respondents cited greater remuneration, more job opportunities and lack of growth as reason why they left the IT Transformation programme and eventually the organization. This supports Ghapanchi and Aurum (2011) and Business Analysis - Shariyaz Abdeen, (2015) findings that incentives such as salary; promotion and perceived fairness of the reward; and lack of training and development influenced turnover decisions. Sullivan (2008) when he looked at post-exit interviews of former employees (who have been involved in ERP implementation), who have left the firm, showed that they left their jobs due to lack of recognition and rewards for their performance and continual opportunity to grow and learn.

However, Agarwal and Ferratt (2001) state that, even organizations that work with leading – edge technologies and offer competitive salaries experience high levels of dissatisfaction and more than expected turnover among their IT professionals, rendering rewards and benefits irrelevant IT professionals turnover. Nurses however have different results where rewards and benefits tend to be the most crucial factor for males as opposed to females when considering leaving nursing profession .Whilst job satisfaction with rewards and benefits influence turnover intent it was found from literature that predicted impact of increase retention rates in nurses salary was small, which implied that retention issues are unlikely to be eliminated through salary increase alone. Accountants, however, found organisational justice, which is much related to rewards and benefits, had an influence on turnover intention. Literature proposed consistency of organisational rewards across the organization to reduce job dissatisfaction, increase organisational commitment and eventually reduce turnover for accountants

This study therefore shows that rewards and recognition is a key issue for most skilled knowledge workers, and therefore it needs to be taken into consideration when developing strategies to prevent turnover, especially for IT professionals. Although most of the studies referenced in the literature review offered compelling evidence in support of greater remuneration as of the main reason for voluntary turnover, Korsakienė et al., (2015) noted

that, traditional approaches to work remuneration and reward are less appropriate for knowledge workers, contradicting the findings from this study and some of the findings from literature. This then makes the findings about rewards and recognition as an antecedent for turnover for IT professionals inconclusive.

The growing demand for IT skills compounded by the effects of local and global market dynamics for IT professionals and ERP consultants has resulted in more available job opportunities in the market for IT professionals and or ERP consultants. This is supported by Morrel et al (2004), that when a large number of alternative jobs is available in the market, opportunity costs (the potential to pursue other available options) is likely to increase. This was confirmed by the result from this study which reported a case where an individual was headhunted. Owing to the fact that this study was based on small data, given the result from the study and literature, there is a possibility that more individuals would have probably reported been headhunted if the study was based a larger sample.

Similar to IT professionals there is a growing shortage of nurses. Parry (2008) noted that there is an abundance of qualified nurses in the developed world, but a shortage of nurses who are available to the workforce. This is found to be attributable to aging nursing population, and decreasing numbers of new entrants into the profession, in the developing world therefore creating a high demand for nurses.

Lacity, Iyer and Rudramuniyaiah (2008), who investigated turnover intentions of IT professionals and concluded that job satisfaction, organisational satisfaction and social norms, affect turnover intentions. And in addition they cited job autonomy and perceived workload as determinants of IT turnover. This study confirms their findings. Respondents from this study indicated their level of job dissatisfaction which was characterized by been unhappy with their manager or supervisor; they felt they were unfairly treated, and there was fair activity of internal office politics, some reported high workload, lack of work life balance, and some experienced a culture of fear and bullying, as a reason they left the organization.

Meanwhile, Allen, Armstrong, Riemenschneider, and Reid (2006), in their study, identified work flexibility, work-life balance as the main factors leading to the turnover of IT professionals, which was supported by ABC systems findings that work-life imbalance resulted in job stress. Holt et al (2007) suggested that, individuals who are dissatisfied with their current employment have thoughts of quitting. In the case of nurses, literature showed that nurses experience higher job stress and worked on night shifts at tertiary hospitals

which resulted burnout. Therefore it would be ideal to offer flexible working arrangement, and efficient way of rationing work load amongst the workers, which should drastically reduce turnover intentions. This is confirmed for accountants as well, as from literature it is believed that flexible working arrangements effectively could change the negative direct relationship between work-family conflict and job satisfaction, thus reducing work-family conflict indirect impact on turnover intentions. Burnout condition was found to partially mediate the influence of role ambiguity, role conflict, and work overload and turnover intention for accountants as well (Fogarty, Singh, Rhoads, & Moore, 2000). Therefore the same could apply to IT professionals, where organizations offer flexible working arrangements to manage high workload, and work life balance to improve job satisfaction.

On the other hand the results from this study confirm the job satisfaction is continues to be an antecedent of turnover more especially for IT professionals. However, demand for IT skills and the availability of job opportunities in the market might render job satisfaction irrelevant for IT professionals.

Literature found that the more educated IT professionals are, the more the risk of them leaving the organizations. The result from this study show that 26% of the respondents graduated from college and only 74% completed graduate school. This indicates the need for the organizations to have professionally qualified IT professionals for the IT transformation programmes. This confirms results from previous studies which found education to be positively related to turnover intentions, meaning that highly educated employees tend to be less satisfied with their jobs and careers and are therefore more likely than less educated employees to resign, and it increases employee mobility (Wocke & Heymann, 2012). Comparing these results to nurses, studies relating level of education to turnover have been inconsistent. Some studies show a higher correlation between, higher levels of education and turnover intention ((Delobelle et al (2011) and (Brewer & Cheng, 2009)) and some found no relationship between turnover intention and nurse's educational level (Chan et al (2009)). In accountants level education was almost irrelevant to turnover.

Even though education influence on turnover for nurses and accountants seems to be inconsistent and in some cases irrelevant, it remains a key issue for IT professional turnover.

Demographic characteristic such as age, gender, education, marital status and organisational tenure has been identified as factors that influence turnover (Feldman and

Arnold (1982), Wocke and Heyman (2012). An interesting finding from this study was that the older respondents (14) seem to have stayed with the programme for longer as opposed to the younger respondents (7). This could be because older employees have already invested so much in the organization and the programme, and it might be difficult for them to move and adapt to new environments.

Many studies of voluntary turnover have found that older, more tenured employees are less likely to leave than younger employees (Negadevara, Srinivasan, & Valk, 2008). In terms of tenure, Lo (2013), through their literature review on studies on tenure found that , technologically oriented professionals who are younger , highly educated and have less organisational tenure appear to be more willing to leave the organization to pursue external job opportunities. The result is similar to a few recent studies for nurses where they found that there is an inverse relationship between age and turnover intention ((Zurmely, Martin, & Firtspatrick, 2009) and (Ma, Lee, Yang, & Chang, 2009)). Younger nurses may want to pursue other opportunities in the market by pursuing better education and in the meantime older nurses tend to be more committed to their organization (Camerino, Conway, van der Heidjen, Estryn-Behar, Costa, & Hasselhorn, 2008).

In summary, there are definite similarities in factors that lead to premature turnover for IT professionals, nurses and accountants, despite different context. However there are vast differences in factors that lead to turnover intention. The differences could be explained by different dynamics of the requirements or characteristics of the career itself, labour market and demographic factors of the individuals involved.

Hypothesis 1a

The results from (Table 13 and 14 above), shows that none of the respondents left the programme before it ended, therefore supporting the hypothesis 1a. This meant that none of the respondents waited for the programme to end to leave the programme and or the organization. However Izquierdo-Cortaza et al., (2009) and Pee et al., (2014), believe that it is critical to keep the same resources through a project life cycle to ensure consistency and team integration and eventually a successful project. They believe this would minimize the effects on project performance, on project disruptions that could lead to project objectives being compromised. Therefore resources leaving the project before it ends may lead to project failure. Similar to nurse's turnover can have dire consequences to patient care; can have negative effect on the remaining staff; on staff cohesiveness and morale and even

burnout as they are now under staffed. Nurse turnover can even threaten continuation of the hospital. Literature showed that the lifespan of software system project can range from several years to decades. In this kind of cases the development team responsible for the system may experience turnover. Developers' who have been with the project longer may leave while new developers to join the project. With senior developers leaving, projects lose critical and knowledgeable resources who are experienced both with the detail of the software system and with the organisational culture circumstances of the project. New developers would need to sometime become familiar with both issues. This would require training new developers to bring them up to speed, which could be costly to the project and the organization. Therefore it is important for project resources to see the project to an end to avoid unnecessary cost from recruitment of new resources and potential project failure.

This then becomes a challenge for organization to devise strategies to provide an incentive for these resources to stay until the end of the project. Organizations however would need to be more creative in developing these incentives for IT professionals. It became clear from the previous results that rewards and recognition in isolation might not prevent turnover for IT professionals. Therefore organization should consider more comprehensive offering should develop for IT professional's unique needs. Research about antecedents of turnover has been generally fragmented, for example only focusing on single constructs (job satisfaction, role conflict and role ambiguity or even testing relationship between these constructs) ((Lee et al., (2008); Delobelle et al (2011); Lu et al., (2005)). To cater for these comprehensive offers to IT professionals, research needs to start looking at these different constructs together as opposed to studying them separately or in pairs.

Hypothesis 1b

From the literature push factors would refer to job satisfaction or commitment and pull factors would be job alternatives in the market, unexpected offers, or career aspirations.

This study found that more respondents cited pull factors as reason for leaving to push factors as reason for leaving, supporting hypothesis 1b. This result is probably due to the shortage of IT skills therefore high demand of these skills from the labour market. One respondent indicated that they were headhunted. Most respondents cited growth opportunities (45%) and to take another job (18%) as reasons they left the organization. However, contrary to these results, Wocke and Heymann (2012), found that push and pull factors have a reasonably similar impact on voluntary turnover.

Literature found that pull factors do not need to be conceptualized in terms of job offers. The desire to try out something new; to expand once skills, knowledge, and abilities; to seek to new challenges; are further possibilities. These do not require dissatisfaction with one's current job or organization. This is supported by literature, where it found that job satisfaction predicted turnover only for participants with push motivations, and not for those with pull motivations.

Further to this the results showed that 26% of respondents indicated that they did not search for a job before they left and about 19% did not much search. Only 22% did very comprehensive search for job before the left, which could have been influenced by high demand in IT skills in the labour market a not necessarily that they are dissatisfied with their job.

Of the respondents who experienced pull factors (17), 11 resigned from the organization (external turnover) and 6 transferred to other departments internally (internal turnover). Of the respondents who experienced push factors 8 resigned from the organization and only 2 transferred to other department internally. The organization therefore experienced more external turnover as opposed to internal turnover. It became clear from literature that external turnover is typically have dire consequences for an organization because knowledge that has been accumulated by the employee over the years can become inaccessible and or even permanently lost with the employee leaving the organization, as opposed to internal turnover where employees depart from the project team but stay in the organization and thus could still be reachable. In this case, due to higher external turnover, the organization is bound to incur costs to replace the employees that have left. Respondents that have left the organization have cited growth opportunities and greater remuneration as the main reason they left.

As stated in the previous hypothesis, demographic characteristic such as age, gender, education, marital status and organisational tenure has been identified as factors that influence turnover. One interesting finding from this study was that of all the respondents, 63% were male and 37% were female, and males (17) have experienced more pull and push factors as opposed to females (10). This confirms the finding by Wocke and Heymann (2012), that gender has impact on push and pull factors in the turnover process and that pull factors have more influence on male decision to leave, and push factors have more influence on female's decision to leave. This could be because of the stereotype of IT as a

male dominated profession ((Igbaria & Chidambaram, 1997), (Ahuja, 2002)), and therefore the IT labour market only favors male IT professionals as opposed to female IT professionals.

6.3 The Influence of Shocks on Scripted Turnover Decisions for IT professionals

Research Question 2 explored the influence of shocks on scripted turnover decisions for IT professionals on IT Transformation programmes. The results showed that shocks had an influence in the IT professional's decision to leave. This is confirmed by Morrell et al (2004a and 2004b), that shocks have a substantial influence on the decision to leave. However this study reported responses where no shock was reported, but resulted in scripted turnover, which is characteristic of Path 4 of the unfolding model.

Table 19 above showed that, 14 (52%) respondents reported a shock and 12 (44%) did not report a shock. 4 (15%) of the 12 respondents that did not report a shock, actually claimed to have had scripts and 3 had left a job before for essentially the same reason, supporting the hypothesis that some of the IT professionals, decision to leave the IT transformation programme was not be triggered by a shock but had a script. This result could be based on the dynamics of labour market for IT professionals. It became clear in the literature that there is diminishing pool of IT professionals in the market, therefore resulting in a high demand for IT professionals. Therefore there could be a lot job opportunities in the market, and the IT professionals would not have to experience a shock or be dissatisfied with their current job to leave. They would leave because of the high availability of better job opportunities available to them in the market.

The result from this study is confirmed by Morrell et al (2008) where some nurses experienced a shock but however had a script. They believed this was a function of the labour market, since nurses similar to IT professionals typically have many alternative job opportunities, and often quit without having a definite job. This result confirms Niederman et al (2007) findings about IT professionals, where he found similar results were no particular shock initiated the decision to leave and the turnover script.

This result is however contrary to Lee et al (1994) unfolding model premise that there is no occurrences of scripts in paths were a shock is not experienced. This raises a question of what could possibly initiate the turnover script in this case. Niederman et al (2007) suggested that, Lee and Mitchell (1994) attributed this script to a slowly growing dissatisfaction with their current job rather than an experience of a particular shock. This supported (Beach, 1997) and (Wieck, 1995), were they have suggested that scripts may be more widely held than was originally proposed in the unfolding model. In addition, the results supported Lee et al (1999) suggestion that, the existence of scripts may not be limited to path 1 only. Instead they may coexist with other factors while paths 2, 3, 4a and 4b unfold.

An interesting result from this study which could partly explain this result, was that, a test of independence was conducted to determine if scripts turnover decision is dependent on the shocks, and it was found that there was no association between shocks and scripted decision turnover .

Niederman et al (2007) suggested an additional path, Path 4c, to the unfolding model to cater for this type of leavers, with specific reference to IT professionals. This Path would be characterised by scripted turnover without experiencing a shock. Lee et al (1999) found, Path 4, to be characterised by low job satisfaction. Low job satisfaction is seen as causing thoughts and actions associated with leaving. It is so low that departure occurs without a job search in 4a or with search or evaluation in 4b. However, earlier it was mentioned that IT professionals have high mobility, due to a high demand of IT skills in the labour market; therefore job satisfaction might not necessarily influence their decision to leave.

This is supported by the results from hypothesis 1b above, that more respondents cited pull factors as reason for leaving to push factors as reason for leaving, where push factors included job dissatisfaction, making job dissatisfaction less influential to the decision to leave for IT professionals. This confirms the finding from literature that the unfolding model highlights the possibility that job satisfaction may not have any influence on the decision to leave. This study highlights the possibility of the same in Path 4, specifically for IT professional. This is however contrary to the findings by Gaylard et al (2005), that overall job satisfaction is important in retaining IT employees.

It would be interesting to see the relationship between the suggested Path 4c (scripted turnover without a shock) with job search. This result showed that more respondents (7 out of 12) who did not report a shock comprehensively searched for a job before they left, which

is contradictory to the finding above about the decision to leave for Path 4c been potentially influenced by labour market. This contradiction and inconclusive result requires further research in this new group of leavers.

The results from this study show that, for most respondents, 8 (44%), it took longer (months) to make a decision to leave. This confirms Lee et al (1996) finding that than Path 4a or Path 4b (where there is no shock) occurred slower than Path 1 and 2 (where there's a shock). This is due to varied mental deliberations in each path. However, when the turnover decision results from a growing dissatisfaction with the employee's position, there is gradual recognition that leaving the job is an alternative. This will result in lengthened screening process. (Donelley & Quirin, 2006). Mental deliberations in Path 4 are found to unfold gradually over time. These results were inconclusive specifically for the respondents who experienced a shock but had a script.

In review and summary of this chapter, it is safe to conclude that enough evidence has been found to address each of the research objectives and questions outlined in this study, however with a room for further research on the impact of job satisfaction, job and tenure for IT professional. This chapter outlined and discussed the research findings in detail and highlighted additional insightful findings. The next chapter will outline a summary of main research findings, implications for management, limitations of the research and suggestions for future research.

Chapter 7. Conclusion

This chapter will outline a summary of main research findings, implications for management, limitations of the research and suggestions for future research.

7.1 Principal Findings

7.1.1 Conclusion: Factors Influencing the Decision to Leave for IT professionals

Research question 1 investigated the factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely. The first part was identifying the factors that influenced the employee to leave. Most respondents cited greater remuneration, more job opportunities and lack of growth as reason why they left the IT Transformation programme and eventually the organization. These results are consistent with Ghapanchi and Aurum (2011) and ABC-Systems (Business Analysis – Shiriyaz Abdeen (2015), where incentives such as salary, promotion and perceived fairness of the reward influenced turnover decisions. This proves that growth opportunities are important to IT professionals, which is consistent with Gaylard et al. (2005) findings that knowledge workers are pre-occupied with personal growth opportunities.

The results from this study further showed that remuneration or rewards still very much influences the decision to leave for IT professionals, even in the South African context. This is further supported by recent findings from Korsakiene et al. (2015) that adequate financial rewards and lack of advancement opportunities are the two of the top three factors impacting decision to leave.

In addition to the above three factors of remuneration, advancement and equity/fairness, this study confirmed that the high demand of IT skills in the local and global market had an impact on the turnover decision, increasing the IT professionals ease of mobility. This result supported findings by Morrell (2004a) and more recently by Wocke and Heymann (2012). Whilst it became clear that, due to high demand of IT skills locally and globally and the assumption stated above that job satisfaction might not necessarily have an impact on IT professionals decision to leave, the respondents from this study showed some level of dissatisfaction with their current job.

In conclusion this research identified factors influencing the decision for IT professionals to leave IT Transformation programmes prematurely, which was consistent with most similar studies done previously. This confirms that IT professionals have similar challenges and needs across different contexts, irrespective of the challenges in the telecommunications industry in South Africa and the unique South African labour market which is mainly influenced by the impact of legislation and regulations that were aimed at redressing historical racial and gender practices, and the increased emigration among knowledge workers and lower standards of education.

The second part was to investigate whether the employee would not stay until the end of the IT transformation programme and to explore the influence of pull and push factors on IT professional's decision to leave.

To prove this, the study took on to compare the results to the same for nurses and accountants.

The results from this study showed that respondents left before the end of the programme contradicting prior findings from literature (Izquierdo-Cortaza et al.,(2009) and Pee et al.,(2014)), which emphasized the importance of resources staying through the life cycle of the project. Nurse's turnover literature showed a similar need for nurses to remain in the employ of the hospital as well to avoid dire consequences. This not ignoring the fact that the occupations are compared in context, where for IT professional the project has an end date and for nurses the day they leave is the "project" ends.

This study showed that resources might not stay through a project life cycle, not because they're not motivated or dissatisfied with their current job but because of the unique labour market for IT professionals which is characterized by high demand for IT skills. This was confirmed by the results which showed that, one of the respondents indicated that they were actually headhunted. In addition, few respondents from this study cited greater remuneration, job opportunities and benefits as factors that influenced their decision to leave the programme prior to the end of its lifecycle. Nurses showed similar labour market dynamics, and it was not clear from literature for accountants.

Further to this, this study explored the influence of pull and push factors on IT professional's decision to leave. Of the respondents who experienced pull factors (17), 11 resigned from the organization (external turnover) and 6 transferred to other departments internally

(internal turnover). Of the respondents who experienced push factors 8 resigned from the organization and only 2 transferred to other department internally. The organization therefore experienced more external turnover as opposed to internal turnover, which is then more undesirable because knowledge that has been accumulated by the employee over the years can become inaccessible or even permanently lost with the employee leaving the organization.

In conclusion, the research found evidence in support of the assertion that IT professionals in IT programmes would leave the IT transformation programme before it ended, or rather would not stay until the IT transformation programme ended, and found evidence that pull factors had more influence on IT professional's decision to leave than push factors.

7.1.2 Conclusion: The Influence of Shocks on Scripted Turnover Decisions for IT professionals

Research Question 2 was to explore the influence of shocks on scripted turnover decisions for IT professionals on IT Transformation programmes. Meaning IT professionals would likely leave the IT Transformation programme without experiencing a shock and will have a script. The results from this showed that there were respondents that did not report a shock, but actually claimed to have had scripts This finding was supported by various previous studies (Niederman et al (2007), Morrell et al (2008), Lee et al (1999)). Niederman et al. (2007) suggested a new path (Path 4c) be added to the unfolding model to cater for this unique group of leavers.

The results from this study show some additional insights to this group of leavers who did not experience a shock but however reported a script. The study found that, for most respondents, 8 (44%), it took longer (months) to make a decision to leave. This was partly confirmed by Lee et al (1996) finding that than Path 4a or Path 4b (where there is no shock) occurred slower than Path 1 and 2 (where there's a shock). This is due to varied mental deliberations in each path. It was however unclear from this study what the decision speed was for respondents that did not experience a shock but had a script.

In addition the results from this showed that more respondents (7 out of 12) who did not report a shock comprehensively searched for a job before they left. This was contradictory to the finding above about the decision to leave for this group of leavers, which was considered

to be potentially influenced by the IT labour market dynamics, therefore would not necessarily need to search for a job.

In conclusion there was evidence in this study to support research question 2. The research then investigated the potential characteristics of this new path (Path 4c), through additional insights from the results from this study. There was unclear findings and in some cases contradictory findings on the potential characteristics of this new path based on similar variables that applied to other paths of the unfolding model for example, job search, decision speed and job satisfaction.

7.1.3 Overall Conclusion

The research attempted to establish the factors which lead to premature turnover of IT professionals on IT transformation programmes, with a specific focus on the impact of pull and push factors to the premature turnover of IT professionals on IT transformation programmes and to further understand and explore the influence of shocks on scripted turnover decisions of IT professionals on IT transformation programmes. Most findings from the research were supported by literature, especially in the context of IT transformation programmes in telecommunications industry in South Africa. The findings showed similar findings to different occupations, industry and country setting. Unique to this research was the contradictory finding about push and pull factors influence on decision to leave. Decision to leave was accounted more to pull factors as opposed to push factors, which was attributable to the unique IT labour market), and contradictory to that, literature showed that that push and pull factors have a reasonably similar impact on voluntary turnover.

7.2 Implications for Management

This study showed that growth opportunities, financial rewards and benefits and job satisfaction are the most important factors that influence IT professional are decision to leave. The study highlights also the need to manage these identified factors to retain valued IT professionals.

The findings from this study suggest that IT professionals in IT transformation programme whether locally or globally have similar factors influencing their decision to leave. Therefore management should leverage off the findings from various studies done to understand the various identified factors, and try and put comprehensive retention strategies (as mentioned

earlier in the report) together to mitigate and potentially minimize or totally avoid them. Management retention strategies should be proactive, rather than waiting for employees to leave and only try to manage turnover. The retention strategy should be customized for the project-oriented organization. Retention programs that work for one organization might not work for another organization. There should be continuous open and honest line of communication with the employees' right through the project life cycle to understand their employment situations or even their career aspirations. Management should continuously communicate the benefits of staying in the project right through its lifecycle, and consider incentivizing them to stay such a promotion based on their performance obviously or a special bonus over and above the normal incentive bonus that everyone else is illegible for. If there's no incentive for them to stay they will definitely move on. It was clear from literature that economic consequences can be a powerful tool in response to the turnover decision process. Another recommendation from literature would be to review IT professionals' job design to include opportunities for variety, development and challenge (Sumner, Yager, & Franke, 2005).

This study found that IT professional's turnover is not influenced by shocks but somehow had scripts, which the this study as attributed to dynamics of the IT labour market. This was further shown by push and pull factors influence that, pull factors had more influence on turnover decision for IT professional than push factors. This emphasizes the need for management to have continuous conversation with employees to try and tap into their pre-existing plans (scripts) to enable them to put plans to prevent them from been enacted. Turnover decision process which includes scripts often involves personal or family issues, which management could do nothing about. Therefore, organisational level initiatives addressing issues pertaining to family and personal issues could be effective.

Literature suggests that Path 4 generally takes longer to unfold due to much deliberation; therefore management should be able to detect any immediate employment issues and manage the turnover decision in time. This could mean addressing their need for growth and better compensation in the organization, by making opportunities available for them to grow in the organization, which could be through promotion and giving them more challenging work. Management should regularly do industry benchmarks in terms of rewards and benefits, so it can offer competitive remuneration to prevent turnover over pay. To ensure high job satisfaction management could look into flexible working arrangements to ensure work flexibility and to manage work load and stress to prevent potential burnout.

7.3 Suggestion for future research

Prior, studies on turnover decision process have used samples which are comprised only of leavers and some on both leavers and stayers. This study only focused on leavers. There were some elements of internal turnover, where employees left the project but still stayed within in the organization. It would therefore be to look into this group of leavers/stayers in the context of IT transformation programmes.

This study confirmed a new potential unfolding model path for IT professional leavers, attributable to the unique characteristics of the IT profession. Each unfolding model path is uniquely characterized by the way a decision to leave process unfolds. As future research would suggest further study into and defining how this new path would unfold given the unfolding model constructs. It would be interesting to look into the nature scripts that IT professionals seems to have as compared to other occupations. Further to this future research should look into project-oriented turnover as opposed to normal organisational turnover, and explore the notion of external and internal turnover.

It would be interesting to see the relationship between the suggested Path 4c (scripted turnover without a shock), with job search. This result showed that more respondents (7 out of 12) who did not report a shock comprehensively searched for a job before they left, which is contradictory to the finding above about the decision to leave for Path 4c been potentially influenced by labour market. This contradiction and inconclusive result requires further research in this new group of leavers. Further to this, literature clearly showed that the unfolding has been rarely applied to IT professional turnover. Therefore it is suggested more future research focus on testing the unfolding model on IT professionals to potentially enrich and extend the model to cater for IT professional turnover. For example, this study found that labour market dynamics had major effect and influence on the decision to leave for IT professionals. Therefore, recommend a future study to explore the possibility of including labour market dynamics into the unfolding mod

Chapter 8. References

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Chapter 9. Appendices

9.1 Appendix A: The Research Questionnaire

Voluntary Turnover

1. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64

2. What is your gender?

- Female
- Male

3. What is your race?

- African
- White
- Indian
- Coloured
- Other - If Other please specify

4. What is the highest level of education you have completed?

5. How long have you worked at the company?

- Less than 6 months
- 6 months - 1 year
- 1 - 2 years
- More than 2 years

6. How long have you worked in an IT Transformation Programme (e.g Customer 3D , EVO etc.)

- less than 6 months
- 6 months - 1 yr
- more than 1 yr

7. Why did you leave the IT transformation Programme?

- IT programme came to an end - Rolled off the project
- Resigned from Company/Organisation
- Transferred to other Department internally

8. If you have resigned, why did you leave the Organisation?

- Growth Opportunities
- IT Transformation Program Ended
- Take Another Job
- Greater Remuneration
- Retrenchment
- Family Related Reasons
- Other Reasons
- Other

9. Was there a single event, particular event that caused you to think about leaving?

- Yes
- No

10. Please briefly describe the event?

11. To what extent was the event expected or unexpected?

Not at All	Not Really	Undecided	Somewhat	Very Much
<input type="radio"/>				

12. Did the event involve personal issues or work issues?

- Personal Issues
- Work Issues
- Both Personal and Work Issues

13. Would you characterize the event as positive or negative?

- Positive
- Negative
- Neither Positive or Negative

14. How much did the event influence your final decision to leave?

Not at All	Not Really	Undecided	Somewhat	Very Much
<input type="radio"/>				

15. I have left a job before for essentially the same reason (i.e similar circumstances)

Yes
 No

16. At the time I left my job , I had already determined that I would leave if a certain event were to occur (e.g. not receiving a promotion)

Yes
 No

17. My decision to leave was influenced by a colleague (or colleagues) leaving?

Yes
 No

18. After your first thoughts about leaving how long did it take you to make the decision to leave?

Months
 Weeks
 Days

19. Before you left how comprehensive was your search for another job?

No Search	Not Much Search	Neutral	Somewhat Comprehensive Search	Very Comprehensive Search
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. There are things the organisation might have done that might have made me want to stay

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
<input type="radio"/>				

21. At the time that I left it seemed clear to me that I had to decide there and then whether to stay or go

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
<input type="radio"/>				

9.2 Appendix B: Turnitin Report

The last score for my report was 18% similarity without references. And have since made changes to the documented and submitted for re-assessment, and will submit as soon as I get results from turnitin software.