



**Impact of Talent Management and Job Embeddedness on Retention of Managerial  
Employees in Knowledge-Intensive Firms in Singapore**

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## **Abstract**

Employee retention continues to pose major challenges to organisations, particularly knowledge-intensive firms that rely on human capital advantage for growth and sustainability. Talent management (TM) has emerged as a contemporary theory to influence employee retention that is based on strategic programs to attract, identify, develop and retain high-potential or business-critical employees. While the strategic role of TM is accepted in academia and has gained popularity amongst practitioners, the field continues to face criticism owing to the similarities in the conceptual foundations with strategic human resource management (SHRM) theories. Another issue is insufficient empirical evidence of TM as a predictor of critical employee behaviours and outcomes, calling for empirical studies to further expand TM theory and test its interlinkages with related constructs. Past research has largely examined TM through an organisational lens, with minimal emphasis on individual employee perspectives of TM. To address these gaps, this study tested the conceptual framework based on employee perception of TM and its interlinkages with employee retention, job embeddedness (JE) and human capital, thereby contributing to expansion of TM theory.

Although employee turnover is a well-researched topic, past studies are largely based on traditional turnover models, with a focus on broad affective areas. However, traditional turnover models offer a limited explanation for employee turnover and the relatively new theory of JE has emerged as a valid predictor of employee retention. In contrast to the traditional turnover models, JE is based on broader non-affective measures that prompt employees to stay in an organisation. Consequently, JE has gained acceptance amongst scholars as an ‘anti-withdrawal’ construct focused on employee retention. The primary aim of both TM and JE is employee retention; however, there is limited empirical research on the interlinkages between TM and JE

and their relationships with employee retention. By addressing these research gaps, this study aims to contribute to the theoretical advancement of JE theory.

Another prominent development has been the emergence of intangible resources, such as human capital, as a source of competitive advantage for organisations. In particular, knowledge-intensive firms are known for leveraging their human capital for complex problem-solving and decision-making under uncertainty to provide innovative products and solutions. These skills are in high demand but short supply, making human capital retention a paramount issue in these firms. Low employee retention, particularly of managerial employees, who form the core workforce in knowledge-intensive firms, remains a major threat for firms. However, there are limited empirical studies exploring human capital retention based on the emerging theories of TM and JE. One country that is witnessing a significant growth of knowledge-intensive firms is Singapore. With the aim of addressing the abovementioned gaps, this study examined the relationships between TM, JE, human capital and employee intention to stay based on an integrated conceptual framework using mixed methods research for managerial employees in knowledge-intensive firms in Singapore.

Primary data was collected from a sample of 204 managerial employees from knowledge-intensive firms, and quantitative analysis was conducted using structural equation modelling (SEM). The qualitative analysis was based on 11 in-depth interviews with human resource and business managers to enhance the richness of quantitative data interpretation and supplement understanding of the central phenomena of TM, JE, human capital and employee retention.

The findings of the SEM analysis indicate adequate model fit and support for majority of the hypothesised relationships. The model indicated a positive relationship between TM, JE, human capital and intention to stay. The synthesis of qualitative and quantitative data largely converged and complemented, supporting the main research questions and relationship, and established the

significance of high-potential managerial employee retention in knowledge-intensive firms. Thus, the overall findings of the study further extended understanding of the core theories and their interrelationships in a novel country, industry and employee group context. The thesis concludes with a discussion on the theoretical implications of the findings, practical implications and recommendations for practitioners, and scope for future research.

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## **Chapter 1 - Introduction**

### **Overview**

Employee turnover and retention continues to attract the interest of scholars and practitioners and is viewed as a key phenomenon affecting individuals and organisations (Allen and Vardaman, 2017). However, there has been a shift in research interest from the psychology of leaving to the psychology of staying (Hom, Lee, Shaw & Hausknecht 2017). The origins of employee turnover and retention literature can be traced to the seminal work of March and Simon (1958) that introduced the concept of organisational equilibrium linking employee turnover to ‘ease of movement’ and ‘desirability of movement’. Growing interest in employee retention has been influenced by several factors, including globalisation of trade (Steel, Griffeth & Hom, 2002), changes in workforce demographics and generational diversity (Michaels, Handfield-Jones & Axelrod, 2001), increased workforce mobility (Sousa-Poza and Henneberger, 2004), regulatory changes (Batt and Colvin, 2011) and technological and generational changes at workplaces (Espinoza and Ukleja, 2016). Sustained interest in employee retention is reflected in that around a thousand papers on the topic have been published since 1995 (Griffeth and Hom, 1995), a number that has steadily doubled by 2017 (Lee, Hom, Eberly, Li & Mitchell, 2017b).

Another significant development affecting organisations and employees over the past decade is the growth of knowledge economies and knowledge-intensive firms (Alvesson, 2004, Popescu, Comănescu & Sabie, 2016). According to (OECD, 1996) report, knowledge economies are based on production, distribution and use of knowledge and information and the essential nature of work revolves around intellectual and analytical tasks (Alvesson, 2004). Since human capital plays an important role in these intellectual and analytical tasks, knowledge-intensive firms are known to rely on their human capital for survival and growth (Yalabik, Swart, Kinnie & Van Rossenberg, 2017). The definition of a firm’s human capital is not necessarily limited to top

management, and scholars consider different work groups as human capital. Within an organisation's workforce, middle managers form a key human capital pool that is significant in linking and executing organisational strategies (Ou, Seo, Choi & Hom, 2017). They act as a glue or bridge between top management and the rest of the workforce (Ortlieb and Sieben, 2012) and possess significant firm-specific, tacit knowledge. These characteristics result in higher organisational dependence on middle managers, thus making the retention of middle managers a substantial contemporary issue. However, a key challenge associated with human capital is its retention (Irawati and Rutten, 2013), and this continues to be a major threat faced by these firms (Irawati and Rutten, 2013, Delery and Roumpi, 2017).

Employee turnover causes a direct negative impact on workforce morale, productivity and innovation (Eriksson et al., 2014, Kundu and Gahlawat, 2016). The traditional theories of employee attrition have expanded our understanding of employee turnover phenomenon. This interpretation of employee retention in the contemporary knowledge-based economy calls for a different approach from the traditional models designed to deal with 'machine workers' (Paton, 2013), warranting more holistic research that integrates relevant theories to the current context. To address this gap in the research, this thesis aims to study the factors affecting employee retention in the context of managerial employees working in knowledge-intensive firms in Singapore through the lens of talent management (TM), job embeddedness (JE) and human capital theories and to test the validity of the conceptual framework based on this empirical study.

This chapter presents the background of the study, research problems, introduction to core theories, research gaps, scope of the study, proposed methodology, contributions of this study, and an outline of this thesis.

## **1.1 Introduction to Employee Turnover and Retention**

Employee turnover is a complex construct, and past studies have explored a range of antecedents influencing employee quit decisions. Historical research on employee turnover focused on three broad dimensions, emerging from the work of March and Simon (1958): (i) job satisfaction, (ii) organisational commitment and (iii) perceived job alternatives. These antecedents have been extensively elaborated in meta-analytical studies by (Mobley, Griffeth, Hand & Meglino, 1979), (Hom, Caranikas-Walker, Prussia & Griffeth, 1992), (Griffeth, Hom & Gaertner, 2000) and (Hancock, Allen, Bosco, McDaniel & Pierce, 2013). The focus of classical turnover models was on psychological processes that influence employee job attitudes, such as job satisfaction, which was regarded as a key predictor of employee turnover (WeiBo et al., 2010)

Job satisfaction indicates the degree to which individuals like their job and several scholars report significant positive relationship between job satisfaction and employee turnover (Griffeth et al., 2000, Van Dick et al., 2004, Hancock et al., 2013). However, variables such as job satisfaction are very individualistic in nature, and hence limits firms ability to directly influence employee behaviours and retention (Baysinger and Mobley, 1983, Mitchell et al., 2001). Mitchell et al. (2001) argue against job satisfaction as a retention lever, citing the critical role of non-financial and non-attitudinal factors in employee decision making process. Researchers have also studied other predictors of turnover, such as organisational culture (Sheridan, 1995), employee motivation (Ramlall, 2004), supervisor and organisational support (Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002), intrinsic and extrinsic motivation of employees (Hausknecht, Rodda & Howard, 2009) and corporate social responsibility (Carnahan, Kryscynski & Olson, 2017).

In summary, the traditional turnover models explored employee attrition, focusing either on content (addressing the why question) or the process (addressing the how question), with a primary emphasis on the reasons that make an employee quit, mainly related to the affective

dimensions of turnover. On the contrary, the reasons for employees to continue to stay with an organisation have received relatively lesser attention and remain an area of interest (Maertz Jr and Campion, 2004, Lee, Hom, Eberly & Li, 2017a). Despite the predominance of traditional turnover models, scholars highlight some of their key limitations as follows:

- (i) The traditional turnover models provide limited explanation of the actual employee turnover process (Mobley et al., 1979, Trevor and Nyberg, 2008) and lack richness and diversity to understand and explain it (Mitchell and Lee, 2001).
- (ii) The traditional models are based on correlation, not causal relationships (McEvoy and Cascio, 1985), as scholars had limited tools at their disposal to test dynamic and complex ideas that influence employee turnover (Lee et al., 2017b).
- (iii) The majority of the predictors of employee turnover are affective in nature. However, it is not feasible for human resources (HR) practitioners to influence individual employees' decisions to quit or stay based on individual differences (Baysinger and Mobley, 1983). This poses difficulty for HR professionals to fulfil their strategic accountability of employee retention through effective organisation-wide retention programs (Phillips and Connell, 2003).

Given the complex nature of interlinkages with different retention constructs, scholars need to consider a broader set of causal agents and look beyond the traditional turnover models to understand employee retention (Lee et al., 2017b). This thesis explores the employee retention phenomenon by integrating the contemporary theories of TM, JE and human capital. The following section introduces the core theories adopted in this research.

## **1.2 Introduction to Core Theories**

The purpose of this thesis is to present a cogent study about the employee retention phenomenon using an integrated framework adopting TM, JE and human capital theories. The following

sections provide a brief overview of each of these core theories, the associated research gaps and significance of the study.

### **1.2.1 Talent Management (TM)**

TM is increasingly seen as a remedy to address talent flow and shortage issues faced by organisations by investing in systematic programs for management, development and retention of talent (Tarique and Schuler, 2010, Cappelli and Keller, 2017, De Boeck et al., 2018, Whysall et al., 2019, Asplund, 2019). Organisations and HR professionals are embracing TM programs as strategic interventions to alleviate employee retention challenges (Oladapo, 2014). The term was coined by management consultancy firm McKinsey (Chambers, Handfield-Jones, Hankin & Michaels III, 1998) and the Chartered Institute of Personnel Development (CIPD), the professional association of HR professionals, defines TM as a systematic process of attraction, identification, engagement, retention and development of those individuals who are of particular value to organisation, either due to their perceived potential to fulfil future roles or by being part of business or operation-critical roles (CIPD, 2013).

Despite continuous development of TM field into an important area of human resource management (HRM) (Lee et al., 2017b), the conceptual foundations of TM continue to evolve (Festing, Schäfer & Scullion, 2013). Scholars point to a distinct lack of frameworks (Al Ariss, Cascio & Paauwe, 2014) owing to scarcity of scientific, evidence-based studies to establish the effectiveness and consequence of TM (Ford, Harding & Stoyanova, 2010). There is consensus amongst researchers and HR professionals that the TM concept would benefit from clearer definitions and conceptual boundaries, so as to distinguish it with overlapping areas such as strategic human resource management (SHRM), workforce planning and personnel management to mitigate prevailing scepticism (Gallardo-Gallardo, Thunnissen & Scullion, 2017, Scullion and Collings, 2011). As a relatively new area striving to gain credibility, the TM field needs ongoing empirical studies to expand our understanding of the relationship between TM practices and

organisation- and individual-level outcomes (Dries, 2013), pointing to the first research gap addressed in this thesis.

Employee turnover and retention continues to be one of the key individual- and organisation-level outcomes (Combs, Liu, Hall & Ketchen, 2006), (Park and Shaw, 2013). The concept of employee retention has evolved from a historical unidimensional approach of ‘tending a dam that keeps a reservoir in place’ to one of ‘managing the flow of a river with the goals to control the direction and speed of the flow’ (Cappelli, 2000a, p.104), with the employee retention paradigm advancing from conventional HR goals of ‘minimising employee turnover’ to new expectations of ‘influencing who leaves and when’. TM is often reported to influence employee retention (Deery, 2008, Oladapo, 2014), yet there continues to be a gap in understanding between TM theory and practices and the resultant impact on employee retention (Allen, Bryant & Vardaman, 2010, Deery and Jago, 2015). Hence, one is not in a position to assert cause-and-effect relationship between TM and employee retention (Bethke-Langenegger, Mahler & Staffelbach, 2011). To address this limitation, Gallardo-Gallardo and Thunnissen (2016) call for further diagnosis to identify the relationship between TM and turnover so as to design and implement appropriate employee retention strategies.

The present study examined the relationship between TM and employee retention using JE, a relatively new theory explained in detail in section 1.2.2. JE is reported to have a strong relationship with employee retention (Crossley, Bennett, Jex & Burnfield, 2007, Hunter, Tan & Tan, 2008, Jiang, Liu, McKay, Lee & Mitchell, 2012b). However, there is a limited number of studies investigating the relationship between TM practices, JE and employee retention (Bergiel, Nguyen, Clenney & Taylor, 2009, Wheeler, Harris & Harvey, 2010, Ghosh and Gurunathan, 2015). Thus, this empirical study addresses the second research gap according to (Gallardo-Gallardo and Thunnissen, 2016) through an integration of TM and JE theories to understand employee retention.

The third research gap focuses on the interaction effect of TM with other organisational theories that influence employee attitudes and behaviour (Collings, Scullion & Vaiman, 2015). Prior studies recognise the relationships between TM and several organisational factors, such as culture and organisational support (Bhatnagar, 2007), the employee–organisation relationship (Kuvaas, 2008), supervisory support (Tymon, Stumpf & Doh, 2010) and work–life balance (Deery and Jago, 2015). In addition to these conventional factors, another significant factor affecting organisations is the emergence of human capital (Lepak and Snell, 1999, Ployhart and Moliterno, 2011, Collings and Mellahi, 2009). HR practices are reported to have a direct positive association with human capital development (Youndt and Snell, 2004, Lepak, Liao, Chung & Harden, 2006, Aldamoe et al., 2013). This relationship needs to be further examined to establish a causal linkage between TM practices, human capital and employee perception of retention (De Vos and Dries, 2013). Accordingly, this thesis examines relationships between TM, human capital and employee retention in order to further expand the boundaries of TM theory.

Most TM studies are designed to understand organisational perspectives of the impact of TM (42% of reported studies); limited attention (26% of reported studies) is paid to employee perspectives (Gallardo-Gallardo and Thunnissen, 2016). This contradiction overlooks the central role played by an individual employee, who acts as a major stakeholder in the design and implementation of TM programs. The missing link is an understanding of TM as a relational construct that takes into account of relationships amongst individuals and organisations (Al Ariss, Cascio & Paauwe, 2014). These relationships are defined by employee perceptions of the organisation’s policies that determine how the talents in the firm is being managed and are influenced by the firm’s TM philosophy, such as an inclusive or exclusive strategy. Given the strategic nature of TM and its impact on both organisations and individual employees, it is important to present a holistic framework for TM by integrating the essence of both individual and organisational perspectives. In order to address these gaps, the research design for this study

is based on an integrated construct of TM comprising employee and organisational perspectives – TM (Self) and (TM Org), respectively – with the aim to test the differences, if any.

Lastly, this study addresses two contextual research gaps. According to (Jones, Whitaker, Seet & Parkin, 2012), empirical research needs to study both employees who are included in the talent pool and are ‘talent managed’ as well as those who are excluded from the talent pool, in order to understand the overall impact of TM. In the context of Singapore, employee turnover and retention continues to be a major issue calling for further investigation of the relationship between TM practices and employee retention (Zheng, 2009, Long and Perumal, 2014).

To summarise, TM continues to excite researchers due to its strategic nature and because it is in its nascent stage, presenting an opportunity to extend theoretical boundaries (Cappelli and Keller, 2017). This study focused on four main research gaps: (i) the impact of TM management on employee retention using JE theory, (ii) the interaction of TM with human capital, (iii) assessing these relationships based on employee and organisational perspective to determine differences and (iv) the national context of Singapore. The following section introduces JE theory and its interlinkages with TM and employee retention.

### **1.2.2 Theory of Job Embeddedness (JE)**

The pioneering research by (Mitchell, Holtom, Lee, Sablinski & Erez, 2001) introduced the theory of JE, giving prominence to factors influencing employee stay decision, further expanding the employee retention literature. Prior to the introduction of JE, scholars had mainly adopted traditional turnover models to study employee attrition and retention. Over time, JE has demonstrated better power to predict employee turnover, thus addressing some of the key limitations of traditional turnover models discussed in the preceding sections (Burton, Holtom, Sablinski, Mitchell & Lee, 2010, Jiang et al., 2012b). Since its introduction, JE theory has

shifted the dominant discourse in employee turnover from leaving to staying in the job (Holtom, 2016), thus bringing a paradigm shift.

JE is a multidimensional construct reflecting the extent of ‘totality of embedding forces’ that keep a person in a job (Mitchell et al., 2001, p.1109). It extends beyond the negative attitudes that prompt a person to leave a job. The embeddedness concept stems from Kurt Lewin’s field theory, which suggested that people’s lives can be represented by several interconnected roles, representing diverse aspects of their perceptual lives (Lewin, 1951).

The main argument of JE theory is that the reason an employee decides to stay in an organisation is not the same as the reason they decide to leave – ‘employee retention is not obverse of turnover’. Mitchell et al. (2001, p.1104) describe embeddedness as a ‘web or net’ in which one can be enmeshed or embedded in many ‘different’ ways. The extent of employee embeddedness is measured using three dimensions: “fit”, “links” and “sacrifice”. These three dimensions are further studied in organisational (on-the-job) and community (off-the-job) contexts. The fit dimension is an employee’s perceived compatibility or comfort with an organisation and their environment. Links are formal or informal connections that an employee has with other people or institutions. The sacrifice dimension represents the perceived emotional or fiscal loss incurred upon leaving a job. In combination, JE forms a holistic assessment of factors that influence employee turnover and retention. Over the past decade, several researchers have adopted JE theory to study employee retention, and results support JE as a valid predictor of employee retention (Cunningham, Fink & Sagas, 2005, Mallof, Holtom & Lee, 2007, Dawley and Andrews, 2012, Lang, Kern & Zapf, 2016, Sablynski, 2017).

The majority of extant employee retention research is largely focused on traditional measures of turnover, such as organisational commitment, job satisfaction”” and perceived job alternatives. However, these constructs are very individualistic in nature and hence cannot be effectively

influenced by organisational practices designed by HR departments (Mitchell et al., 2001, Baysinger and Mobley, 1983). This is a major challenge faced by HR professionals, who are the developers and custodians of programs for employee retention (Mitchell et al., 2001, Baysinger and Mobley, 1983). In contrast, the JE concept presents an opportunity for organisations and HR professionals to systematically develop programs that enhance employee embeddedness, with the objective of increasing employee retention through suitable HR and TM programs (Holtom, Mitchell, Lee & Eberly, 2008).

Due to its relative novelty, the current stage of JE theory development presents several possibilities for its extension. (Lee, Burch & Mitchell, 2014) focus on three main research gaps: (i) the type of HR strategies that increase employee embeddedness and reduce turnover, (ii) linking JE with non-turnover outcomes and (iii) reviews of the JE indicators in capturing the causal nature of the construct. In addition, JE has been extensively studied in the Western context; JE research in a non-Western context is required to assess its validity (Holtom, Mitchell, Lee & Eberly, 2008, Peltokorpi, Allen & Froese, 2015, Allen, Peltokorpi & Rubenstein, 2016).

This study aims to address these research gaps by (i) studying the relationship between TM, JE, human capital and employee intention to stay, (ii) examining the impact of JE on non-turnover outcome of human capital and (iii) reviewing the JE measures in different national and industry contexts, thereby contributing to JE theory building. The following section provides an overview of the third core theory adopted in this study.

### **1.2.3 Human Capital**

Broader macro-economic changes in the business environment are causing a shift from traditional sources of differentiation, such as machinery and financial resources, to non-traditional, intangible sources, such as knowledge and human capital (Lepak and Snell, 2002). This shift towards human capital as a differentiator is on the rise, leading to greater scholarly

interest in this topic (Ployhart and Moliterno, 2011, Irawati and Rutten, 2013, Suseno and Pinnington, 2017). The conceptual origin of human capital can be traced back to the field of economics in theories proposed by Schultz (1961) and Becker (1964). The human capital theory is founded on two premises: (i) investments in people resulting in economic benefits and (ii) distinction between physical capital, such as machines and tools, and human capital.

Human capital is created by enhancing skills, capabilities and knowledge of a person that permits him to act or perform differently (Coleman, 1988). The fundamental difference between human capital and traditional capital is the basis of 'ownership and free will' and the 'inseparability' of human capital from the person possessing it (Becker, 1994, p.16). This challenges and redefines the accepted understanding of organisational assets.

Most of the scholarly research on human capital theory was built on the foundations of economic theories. However, its treatment in the organisational research is in a nascent stage (Wright and McMahan, 2011). For the purpose of this thesis, the human capital construct is studied using the HRM perspective (Lepak and Snell, 1999, Wright and McMahan, 2011). Accordingly, this thesis will not cover economic perspective extensively: the scope is confined to human capital in the context of organisations and HRM and defined as knowledge, skills, abilities and other characteristics of individuals (Ployhart and Moliterno, 2011).

The resource-based view (RBV) is one of the leading theories connecting human capital and firm performance, linking firm performance to its unique resources such as human capabilities (Barney, 1991). Building further on human capital theory, Lepak and Snell (1999) characterised human capital along two dimensions of value and uniqueness. According to the authors, 'value' refers to human capital's potential to contribute towards an organisation's core competency and 'uniqueness' refers to the extent of difficulty in replacing these human capital resources. Owing to the characteristics of value and uniqueness, human capital is considered one of the most

critical inputs in the knowledge economy. Human capital is viewed as a strategic profit lever and source of innovation and renewal, and the performance of the firm is often linked to the knowledge and skills of its employees (Bassi and McMurrer, 2007). Hence, it is imperative for organisations to attract, motivate and retain talented employees to remain competitive (Bontis and Fitz-Enz, 2002, Boon, Eckardt, Lepak & Boselie, 2018).

Most knowledge-intensive firms are reliant on their core employees for development of products and services, yet it is argued that HR is frequently ‘underutilized’ because employees often perform below their maximum potential (Bailey, 1993). Thus, proper management and development of these intangible assets are essential for optimal performance (Carleton, 2011). According to human capital theory, organisations place greater importance on their employees who are designated as ‘high value–high uniqueness’, emphasising their retention, due to the significant threat posed by turnover of these pivotal employees (De Vos and Dries, 2013). Retention of human capital based on TM attracted significant research interest (Cappelli and Keller, 2014). However, the interactional effects of SHRM, such as TM on human capital and employee retention, are important areas that require empirical investigation (Wright and McMahan, 2011). This thesis aims to address this research gap to ascertain the impact of human capital development on employee retention.

Another unique aspect of human capital is the notion of deterioration of acquired skills in the absence of application (Schultz, 1961). The rise of the knowledge economy has sparked a wave of learning, training and workplace education in organisations across all sectors (Carleton, 2011), aimed at addressing the issues of skills obsolescence (Fossum, Arvey, Paradise & Robbins, 1986). When employees perceive minimal skill deterioration, with clarity to apply new skills in future roles, it is likely to result in lower quit intentions (Benson, 2006). In line with these arguments, it has been long recognised that investment in human capital development, especially for skilled workers, leads to employee retention and on-the-job training and learning

aid in strengthening the bond between workers and employers (Becker, 1994). In particular, when a firm invests in human capital development by equipping its employees with firm-specific skills and capability, there is a reduction in turnover intentions for employees receiving such training (Becker, 1962, Crook, Todd, Combs, Woehr & Ketchen Jr, 2011). Organisations with employees that have skills specific to that firm have a more critical challenge of retention, as these employees cannot be replaced by unskilled workers – despite their easy availability, there would be associated training costs (Heckman, 2000).

Human capital development practices adopted by firms include HR practices (Cascio, 1991, Cascio and Aguinis, 2008), employee development and succession planning strategies (Combs and Skill, 2003). These practices of attracting, developing and retaining employees form the core objectives of TM programs. Although past studies have revealed a positive relationship between TM and human capital (Grobler and Diedericks, 2009, Nagra, 2011, Höglund, 2012), there is a need to further understand this relationship, keeping in mind both individual employee and organisational perspectives. This points to the second research gap for human capital theory.

The third research area that needs exploration is the mediating role of human capital on TM practices and employee retention (Ployhart and Moliterno, 2011). Accordingly, this study is aimed at understanding the relationship between TM and employee intention to stay and the mediating role of human capital, by making an empirical study in the context of managerial employees in knowledge-intensive firms in Singapore. Thus, by addressing the three research gaps discussed, it will contribute to the advancement of a core research area – TM and human capital – based on empirical data. The following section provides an overview of the research problem in the background of core theories introduced in the preceding sections.

### **1.3 Research Problem**

Employee retention remains a concern for organisations (Hom et al., 2017), further aggravated due to a shrinking talent pool available for employers (Vaiman and Collings, 2013). Retention of high-performing employees possessing skills in high demand is not necessarily dependent on external factors such as unemployment rates alone (Allen, 2006). Hence, firms need to address internal organisational factors that drive turnover, which creates increased costs and difficulty in attracting and replacing employees with scarce skills (Terera and Ngirande, 2014). It is estimated that the direct replacement cost for one employee ranges between 90% to 200% of their annual salary (Cascio, 2006), over and above additional intangible costs such as loss of knowledge and skills acquired by employees ( Hancock, Allen, Bosco, McDaniel & Pierce, 2013) and impact on customer service and satisfaction (Holtom and Burch, 2016).

TM has emerged as a strategic intervention to enhance employee attraction and retention (Gallardo-Gallardo and Thunnissen, 2016), leading to increased adoption of TM practices by firms. Due to the lack of evidence of causal linkages, TM and HRM practices are subject to the perception that good practices will *somehow* enhance organisational performance and outcomes (Ferris, Arthur, Berkson, Kaplan, Harrell-Cook & Frink, 1998). While there is a consensus amongst scholars and practitioners about effective TM practices, there is as yet insufficient evidence and measurement related to TM (Green, 2011), which has led to the call for empirical studies. The following section provides an overview of these issues in the context of the research setting of this thesis: Singapore.

#### **1.3.1 Singapore**

Singapore is a nation that is steadily transforming into a knowledge-based economy (Yue, 2001, Menkhoff, Wah & Loh, 2016), placing science and technology at the centre of its economy (McGilvray, 2016), with its sustainability largely dependent on the growth of knowledge-intensive firms. However, Singapore is facing challenges as a result of both economic

uncertainty and lack of talent retention (Ministry of Manpower, 2012), and knowledge-intensive firms continue to face the challenge of employee retention (Majeed, 2009, Singapore Business Review, 2017).

Within knowledge-intensive firms, managerial employees are the linchpin between top management and the rest of the organisation, forming a critical strategic group of interest to firms (Ortlieb and Sieben, 2012). Due to their criticality, managerial employees demonstrate higher turnover propensity (Kangas, Kaptein, Huhtala, Lämsä, Pihlajasaari & Feldt, 2016), yet empirical studies that focus on TM and retention of managerial employees are limited. The effectiveness of HRM practices can be improved by keeping in mind the needs of specific employee groups (Lepak, Liao, Chung & Harden, 2006, Krausert, 2014) and adopting targeted efforts and resource allocation to cater to different employee groups (Lepak et al., 2006, Krausert, 2014). Hence, it can be argued that TM practices intended to enhance managerial employee retention will be effective; this argument needs further validation based on a well-designed study on TM practices and employee retention (Krausert, 2014).

Although employee turnover and retention have been studied extensively in Singapore, there are no reported empirical studies based on TM, JE and human capital theories and their effect on employee retention. This thesis addresses these gaps by reporting on a cogent study of the antecedents of employee retention. In addition, this study focuses on the mediating effect of JE and human capital on TM and employee intention to stay, to further extend the boundary conditions of these theories. The thesis will also demonstrate the management practices adopted by knowledge-intensive firms to address the employee retention phenomenon. The following section presents an overview of the research questions and research framework.

## **1.4 Research Questions and Conceptual Framework**

The primary objective of this thesis was to understand the employee retention phenomenon by integrating TM, JE, and human capital theories using a cogent, testable conceptual model. Based on the brief overview of significance and relevance of the research problems in the preceding section, this study aims to address the research questions outlined below.

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

**Research question 2:** How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?

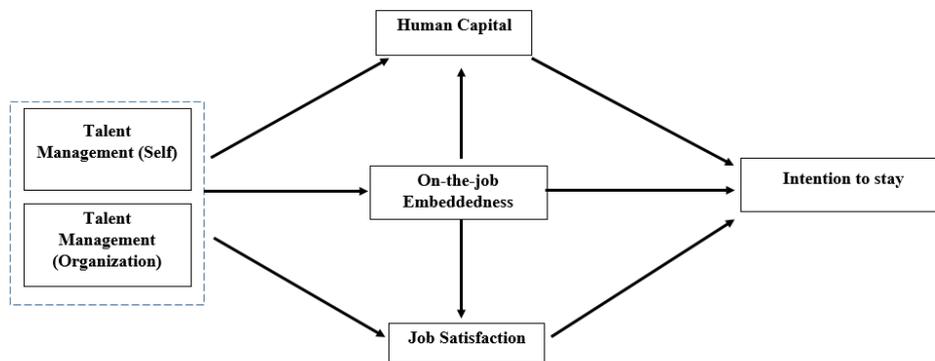
**Research question 2a:** How does human capital affect (i) job satisfaction and (ii) employee intention to stay?

**Research question 3:** Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?

**Research question 4:** To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?

As outlined, this thesis presents an analysis of the antecedents for employee intention to stay using the conceptual framework demonstrated in Figure 1.1.

Fig. 1.1 – Conceptual Framework



### 1.5 Scope of the Study

The broad scope of this research falls within the HRM domain, combining basic theories of employee retention, TM, JE, and human capital and their interrelationships. The scope was restricted to managerial employees working in knowledge-intensive firms in Singapore. The significance and rationale of this scope are further elaborated in section 2.7.

### 1.6 Significance of the Study

This study has several implications, from theoretical and practical perspectives and in relation to the specific research gaps associated with the three core theories outlined in section 1.2. Employee retention and TM has been studied extensively by scholars and attracted the interest of practitioners as a strategic lever to maintain an organisation's competitiveness. However, there is need for further empirical research to establish conceptual rigour (Collings and Mellahi, 2009, Collings, Scullion & Vaiman, 2015), methodological frameworks of TM (Gallardo-Gallardo and Thunnissen, 2016) and interactional effect (Collings and Mellahi, 2009, Iles, Chuai & Preece, 2010a, Gallardo-Gallardo and Thunnissen, 2016, Cappelli and Keller, 2017). There is also a need for TM studies to take into account broader national and institutional contexts rather than focusing exclusively on organisational performance (Al Ariss et al., 2014). By testing the

relationship of TM and JE, human capital, and employee retention, this study aims to extend the theoretical boundary of TM.

Moreover, as a relatively new theory, several researchers in different settings have reported that JE has predictive validity for employee retention. However, most JE studies focus on the aggregate concept, whereas examination of the three dimensions of JE (fit, links and sacrifice) separately would lead to a better understanding of the linkages between JE and employee retention (Lee et al., 2014). Further, there is no reported study using the JE framework in the context of TM and human capital and its interlinkages, and there is a need to expand the JE research in a non-US context (Holtom et al., 2008, Tanova and Holtom, 2008, Coetzer, Inma & Poisat, 2017). Lastly, JE studies have reported across different countries (the USA, several European countries, India, China and Indonesia), across different industries and occupational roles (nurses, healthcare workers, sports coaches and athletic department employees, state department employees, technology professionals and managerial employees). A review of published studies indicates the absence of an empirical study in the context of managerial employees in knowledge-intensive firms in Singapore. Thus, by testing the relationship between TM and JE, this study aims to expand the theoretical framework of JE while adding a new context to the body of research.

The third significance of this study is the focus on human capital in the knowledge economy, due to a shift in emphasis towards intangible capital, including human capital, with a greater focus on high-performing employees with unique skills (Lepak and Snell, 2002). One distinctive nature of high-skill employees is their zeal to constantly enhance their skills to ensure career success (Maurer, Pierce & Shore, 2002) and professional vitality (Stumpf, 2014). Organisations recognise these traits and invest in TM programs for systematic development and retention of these high-potential employees. However, limited empirical studies are testing the concept of TM; Iles et al. (2010b) urge scholars to undertake studies that enhance the validity of the TM

concept. Further, Singh et al. (2012) argue for the need to establish linkages between TM, human capital development and employee retention, so that the field can progress from mere associations and correlations to more powerful, predictive analysis. The aim of this thesis is to address these research gaps and contribute in TM and human capital theory building.

Lastly, managerial employees are a critical subset of organisations and are seen as a glue that ensures firm performance. According to Bendickson and Taylor (2017), the motivations and behaviours of managerial employees need further examination so as to improve their retention. This study aims to further understanding of the drivers of retention for managerial employees in the context of knowledge-intensive firms.

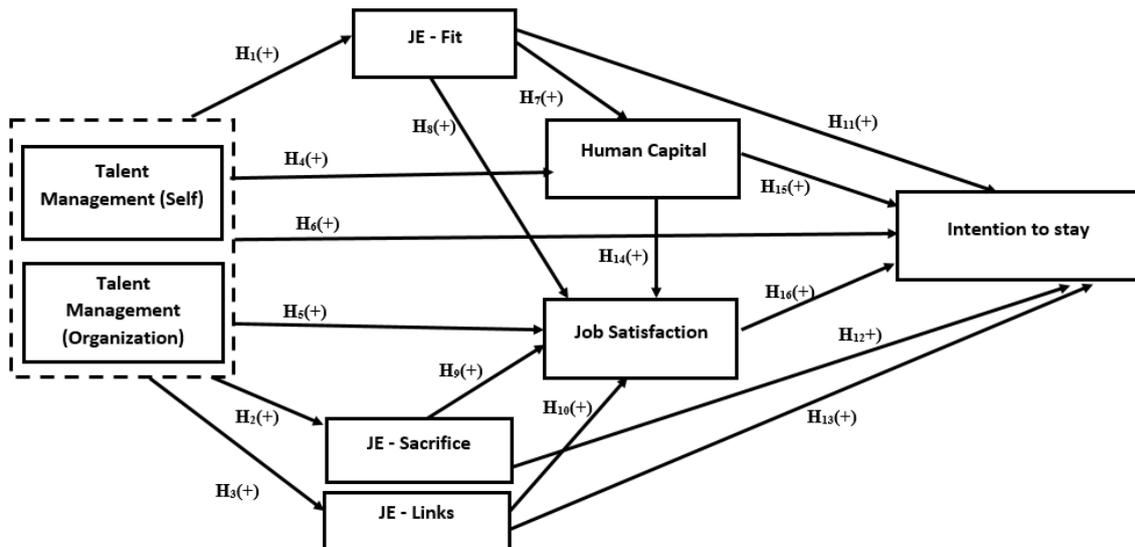
In conclusion, the aim of this study is to determine the factors affecting retention of managerial employees based an integrated research framework of TM, JE and human capital theory. The following section describes the proposed research methodology and data analysis techniques.

### **1.7 Research Methodology and Data Analyses**

The conceptual model and theoretical framework designed and developed for this study is summarised in Figure 1.2 below. This research study adopted a mixed method approach using both quantitative and qualitative techniques to address the research questions and to examine the relationships between the research variables. The detailed research methodology is presented in Chapter 3. The quantitative study was based on empirical data collected through a survey of managerial employees working in knowledge-intensive firms in Singapore. A structural equation model (SEM) based on 204 responses was tested using the measurement model estimation, confirmatory factor analysis (CFA), and SEM analysis. The details of the data analyses and interpretation are summarised in Chapter 4. The purpose of the qualitative study was to discover the human aspect of the employee retention phenomenon and to gain further insights into the results of quantitative research. Qualitative data was collected through 11 in-depth interviews.

The respondents for these interviews were from two distinctive subgroups: HR professionals and business managers associated with knowledge-intensive firms in Singapore. The interview data was analysed using content analysis and key findings, and implications of the qualitative study are detailed in Chapter 5.

Fig. 1. 2 – Research Framework and Hypotheses



## 1.8 Major Areas of Contribution

This research aims to make following contributions.

1) **Contribution to theory building**, by meeting the criteria of originality and utility (Corley and Gioia, 2011)

- a) TM theory building and testing through methodological advancement and empirical research by studying the relationships between:
  - i) TM (Self) and TM (Org)
  - ii) TM and JE
  - iii) TM and human capital
  - iv) TM, job satisfaction and employee intention to stay

- b) JE theory extension by studying the relationship between JE and TM, human capital and employee intention to stay through empirical research.
  - c) human capital theory extension by development and testing a measure of human capital and studying the mediating effect of human capital on TM and employee retention
- 2) **Methodological contribution** to develop TM, JE, and human capital theory through empirical research using SEM to verify the conceptual model and the mediating effect of the predictor variables and their explanatory power
  - 3) **Contribution to practice** through recommending relevant organisational practices related to employee retention based on TM, JE and human capital theories
  - 4) **Contextual contribution** by examining:
    - a) knowledge-intensive firms in Singapore
    - b) managerial employees in knowledge-intensive firms.

## 1.9 Thesis Outline

This thesis has adopted the guidelines issued by the University of Canberra's (UC's) Higher Degrees by Research: Policy and Procedures specified in the Gold Book for doctoral students. The thesis is presented using the outline recommended by Perry (1998) and presents the following key sections: background and introduction, literature review, research methodology, analysis of data (quantitative and qualitative), conclusions and implications.

## 1.10 Key Definitions Used in this Study

The following terms are used in this thesis.

- Employee retention: voluntary move by the company to create an environment that engages employees for the long term (Chaminade, 2007)

- Human capital: two dimensions of *value* and *uniqueness*, with value referring to human capital potential to contribute and uniqueness representing the extent of difficulty in replacing the human capital (Lepak and Snell, 1999)
- Intent to stay: the likelihood that an individual employee will remain in the organisation (Tett and Meyer, 1993)
- JE-fit: an employee's perceived compatibility or comfort with an organisation and with his or her environment" (Mitchell et al., 2001)
- JE-links: 'formal or informal connections between a person and institutions or other people' (Mitchell et al., 2001)
- JE-sacrifice: 'the perceived emotional or fiscal loss from leaving a job' (Mitchell et al., 2001)
- Job embeddedness (JE): the web of connection that an employee has with respect to 'links, fit and sacrifice' in an organisation (Mitchell et al., 2001)
- Knowledge-intensive organisation: business enterprises where knowledge is accepted as the most important input (Starbuck, 1992)
- Managerial employees: professionals working in mid-level roles in organisations forming a critical subgroup (Ortlieb and Sieben, 2012)
- Talent: Employees who are particularly valuable to an organisation---either in view their 'high potential' for the future or because they are fulfilling business/operation-critical roles (Iles, 2008 pg.215).
- Talent management (TM): a set of activities and processes involving systematic identification of key positions, creating a differentiated human capital architecture to fill these positions and to ensure continued commitment and retention (Collings and Mellahi, 2009)

- Turnover intention: individual's own estimated probability (subjective) that they are leaving the organisation permanently at some point in the near future (Vandenberg and Nelson, 1999)
- Turnover: a permanent movement by an employee beyond the boundary of an organisation (McEvoy and Cascio, 1985).

### **1.11 Conclusion**

This chapter presented an overview of the research problem and questions, core theories and research gaps, research methodology, significance and the contributions of the study. The chapter introduced the background and significance of employee retention, followed by the introduction of the three core theories adopted in this study: TM, JE and human capital. The foundations of these theories, their inter-linkages and related research gaps were discussed, after which the four research questions were presented, along with the conceptual framework and proposed research methodology for this study. The proposed contributions to theory building, methodological contributions and continuation to practice were discussed, and the chapter concluded with definitions of key terms adopted in this thesis. Chapter 2 provides a comprehensive and critical overview of current knowledge related to the study area and core theories, key debates, continued discussion of research gaps, and the development of hypotheses that formed the basis of this thesis.



## **Chapter 2 – Literature Review**

### **Introduction**

The previous chapter outlined the background and significance of the present study, with section 1.4 identifying core theories and research questions on the basis of the gaps in the existing literature. This chapter provides a critical review of the existing literature to address the central research questions identified in section 1.3. The literature review is designed to develop the theoretical foundations of the core research area of employee turnover and retention, talent management (TM), job embeddedness (JE) and human capital management, as well as the methodological design aspects, to gain a more in-depth understanding of the nature and significance of the research problem. The literature review was conducted via a critical analysis of central terms in order to understand their definitions and historical evolution of the relationships between the various research constructs under examination, so as to assess their relevance and significance in understanding the research questions.

The literature review process was guided by the criteria of effective review, by ensuring inclusion of important variables that influence the problem statement, parsimony in the identification of key variables and their interrelationships, and the proposed techniques to be adopted to ensure testability and reliability of a study (Sekaran, 2006). Adequate emphasis was placed on utilising various sources of information, including scholarly databases, published articles, relevant management books and other unpublished research such as conference proceedings and papers related to the research topic.

Thus, this chapter fulfils the following goals:

- i. critical review of literature on employee turnover and retention (section 2.1), TM (section 2.3), JE (section 2.4) and human capital (section 2.5) to understand their theoretical underpinnings in the context of this study

- ii. review of literature in research context of managerial employees working in knowledge-intensive firms in Singapore (section 2.7)
- iii. synthesis of the review to establish relevance of the proposed research study on the mediating effect of JE on TM and the retention of managerial employees in knowledge-intensive firms in Singapore (section 2.8).

## **2.1 Overview of Employee Turnover and Retention**

Employee turnover and retention have attracted the attention of academic researchers over several decades (Mobley et al., 1979, Griffeth, Hom & Gaertner, 2000, Holtom et al., 2008), a trend that continues (Batt and Colvin, 2011, Hom et al., 2017). Voluntary employee turnover is seen as a vital bridge between organisational strategies and programs at the macro level and individual employee behaviour at the micro level (Holtom et al., 2008). The field of employee turnover and retention has evolved through inquiry over the past century, resulting in the modification of existing theories and the emergence of newer theories (Harman, Lee, Mitchell, Felps & Owens, 2007).

Several reasons can be attributed to the sustained interest in the topic of employee retention, primarily the impact of employee turnover on both organisations and individuals (Hom et al., 1992), organisational effectiveness (Koys, 2001) and both direct and indirect costs (Cascio, 1991, Cascio, 2007). The impact of turnover is reflected in shortened average tenures of executives, the trend for employees to change their employers every three to four years, and employees' greater willingness to consider external job opportunities when approached by recruitment firms (Cappelli, 2008). The ubiquitous nature of the retention issue is evident across a wide range of organisations – regardless of their size, nature of business and technological advancements – and remains pertinent in times of both lower and higher unemployment levels (Ramlall, 2004). Employers are faced with the greater challenge of thinking strategically about employee turnover and retention to address the talent shortages that exist for most positions,

either adopting organisation-wide employee retention strategies during lower unemployment rates or focusing on key employees or jobs in times of higher unemployment rates.

The origins of employee turnover and retention literature can be traced back to the seminal work of March and Simon (1958), offering a psychological explanation to antecedents of voluntary employee turnover. Their theory postulates that an employee is constantly faced with two different types of decisions: "decision to participate" and "decision to produce". The decision to participate is linked to employee perception of inducements offered by organisations to participate and, in turn, results in "decision to produce" determining the contributions by the employee. A balance between these two decisions accounts for 'organisational equilibrium'. Firms that maintain positive equilibrium through higher inducements derive higher employee contributions. Simultaneously, employees experience reduced quit intentions due to the higher motivation to stay, caused by the perception of balance between organisational expectations and personal contributions (Mitchell and Lee, 2001). Employee perception of organisational equilibrium is in turn influenced by the 'perceived desirability of movement' and 'perceived ease of movement' (Tosi, 2008).

The conceptual underpinnings of March and Simon's work led to development of three broad sets of traditional employee turnover models: organisational commitment, perceived job alternatives and job satisfaction (Mobley, 1977, Mobley et al., 1979), with numerous studies having been made over the past several decades (Hulin, Roznowski & Hachiya, 1985, Tett and Meyer, 1993, Griffeth et al., 2000, Hancock et al., 2013). Over time, the desire to move attribute has been associated with employee perception of job satisfaction, and ease of movement has been linked with the perceived availability of external job opportunities. Organisational commitment has a strong relation to employee intention to stay and is moderately related to turnover intention (Steers, 1977, Payne and Huffman, 2005, Mowday, Porter & Steers, 2013).

The role of perceived external opportunities, or ‘ease of movement’, has been hypothesised as an external factor influencing employees’ decisions to quit, suggesting a ‘pull theory’ (Lee and Mitchell, 1994). Hulin et al. (1985) theorised that having an alternative job to go to (job alternative) played a major role in determining employee perception of turnover and that the cognitive process adopted by employees varies based on their personal and organisational circumstances, acknowledging the individual differences. Several studies report job alternative as an antecedent to turnover (Mobley et al., 1979, Gerhart, 1990, Trevor and Nyberg, 2008). However, on its own, job alternative does not play an important role, especially in the absence of desire for movement (Holtom et al., 2008).

On the contrary, job satisfaction and organisational commitment form part of “push theory”, where factors internal to an employee are of interest to industrial psychologists for determining employee retention and turnover. Although job satisfaction and organisational commitment are independently linked to turnover intention, the relationship is stronger in the case of job satisfaction (Tett and Meyer, 1993). Studies by Vroom (1964), Porter and Steers (1973), Locke (1976) and Terera and Ngirande (2014) report a consistent negative relationship between job satisfaction and turnover intention. However, the reported values of correlations have not been very significant – typically, less than 0.40 (Mobley, 1977); consistently low correlations indicate a possibility of other mediating causes (Spencer, 1986).

The prevailing wisdom that job attitudes is an antecedent to job search and that the available alternatives determine turnover decision has been dominant over the past five decades, although the research results have been relatively weak (Holtom, Mitchell & Lee, 2006). While the empirical evidence indicates some support to job satisfaction and turnover relationship, the ability of these models to predict turnover has been very weak – 0% to 5% (Griffeth et al., 2000) – pointing towards the need for further research. While influencing employee turnover decision, job alternative plays a relatively smaller role in employee retention decision. Hence, it is

necessary to identify other variables that influence employee turnover and retention which may further enrich the understanding of the topic (Zheng and Lamond, 2010).

Despite numerous studies reporting the relationship between turnover and factors such as organisational commitment, ease of movement and job satisfaction, critics point to inconsistent results (Mobley et al., 1979) – for example, a positive relationship between pay, tenure and turnover intention by Cotton and Tuttle (1986), negative relationship with pay by Porter and Steers (1973) and a neutral relationship in the meta-analysis by Mobley et al. (1979). Other prominent meta-analysis studies that have reported dissimilar results include those by (McEvoy and Cascio, 1985, Tett and Meyer, 1993, Steel and Lounsbury, 2009, Hancock et al., 2013).

Beyond these traditional turnover drivers, other antecedents to employee turnover include aggregate-level factors such as industry (Cheng and Brown, 1998), geographic region (Khatri et al., 2001) and organisational culture (Sheridan, 1995). Other research studies focus on employee-level factors, including perception of supervisor and organisational support (Eisenberger et al., 2002), emotional intelligence (Dess and Shaw, 2001), experience of shocks (Holtom, Mitchell, Lee & Inderrieden, 2005), employees' intrinsic and extrinsic motivations (Hausknecht et al., 2009), training and development (Koster, De Grip & Fouarge, 2011), employee behaviours such as absenteeism (Hom and Kinicki, 2001) and demographic factors such as age, education, team tenure (Wiersema and Bird, 1993), gender (Batt and Colvin, 2011) and leadership (Waldman, Carter & Hom, 2015).

This overview of traditional turnover models points to several shortcomings, such as the limited predictive value of job satisfaction, organisational commitment, perceived opportunities and turnover intention (3.6%) and actual turnover (12%) (Mitchell and Lee, 2001). The decision to quit is more complicated than depicted in the traditional turnover models (Lee et al., 1996). Hence, it is necessary to adopt a different approach. In the Asian context, (Khatri, Chong Tze &

Budhwar, 2001) claim that higher turnover, especially in Singapore, is a reflection of ‘bad’ attitudes developed by employees due to labour shortages and is a perennial issue for management due to the dearth of studies investigating the issue using comprehensive set of variables.

While some critics believe employee turnover is excessively ‘hyped’ and the gravity of turnover is overstated, others consider it a *positive* phenomenon from organisational, economic and socio-psychological perspectives (Dalton and Todor, 1979). Few others point to the inevitability of employee turnover in the backdrop of a declining lifetime or long-term employment relationships and changing expectations of careers as a series of close relations (Cappelli, 2000b). However, the negative impact of turnover is widely acknowledged (Huselid, 1995, Glebbeek and Bax, 2004, Hom et al., 2017). The following section provides an overview of the consequences of employee turnover on individuals and organisations.

### **2.1.1 Impact of Employee Turnover**

Employee turnover is reported to have a significant economic and non-economic impact on organisations, an estimated cost of USD\$1 million for every 10 managerial or professional employees leaving the organisation (Fitz-Enz, 1997). Other intangible costs include loss of knowledge and skills acquired by employees (Hancock et al., 2013) and the cost of an entire range of progressive withdrawal behaviour, which are traditionally not considered as economic costs but can be as high as 16.5% of the pre-tax income for the year (Sagie, Birati & Tziner, 2002). Turnover is often more expensive for employers, particularly in jobs that offer higher education and training (Van Dick, Christ, Stellmacher, Wagner, Ahlswede & Grubba, 2004). The turnover rates are affected by the type of industry, ranging from 35% in manufacturing to as high as 60% to 300% in hospitality (Ghazali, Nasyuki, Yi & Ishak, 2011).

The direct negative effect of turnover can also be seen in higher replacement costs, ranging between 90% and 200% of annual salary (Cascio, 2006), usually greater than the salary cost of the departing employee. Besides monetary cost, the loss of social relationships of valued departing employees leads to erosion of crucial social capital (Holtom et al., 2006) and is likely to trigger other hidden organisational costs, such as damage to productivity, workplace safety and employee morale (O'Connell and Kung, 2007). Further, stress, anxiety and uncertainty accompanied by transition adjustment, as well as the energy expended in a new job search from an employee's perspective, trigger costs (Holtom et al., 2008). Apart from organisational costs, employees who quit experience personal costs, such as transitional costs like relocation, arranging new medical coverage and pension plans costs (Mitchell et al., 2001). Some of the other areas affected by turnover are recruitment and selection (Pfeffer and Sutton, 2006). Thus, the transient nature of the workforce due to employee turnover results in significant challenges in leveraging organisational human capital (Bontis and Fitz-Enz, 2002).

However, not all turnover is viewed as harmful and dysfunctional. Contrary to expectations, turnover may benefit both the individual and the organisation (Dalton, Krackhardt & Porter, 1981). Turnover can be considered either functional, such as the exit of a poorly performing employee (Holtom et al., 2008), or as unavoidable turnover (Barrick and Zimmerman, 2009). The traditional reliance on dichotomous metrics of functional versus dysfunctional turnover needs to be expanded to include more reliable antecedents of turnover (Dalton, Todor & Krackhardt, 1982).

There is increased evidence that both organisations and employees have become reconciled that turnover is inevitable, especially in competitive markets, where the turnover is determined by market pull rather than organisational retention strategies alone (Cappelli, 2000a). Hence, organisations increasingly focus on improving retention, especially of their key employees, if not

for all employees (Cappelli, 2000b). In line with this finding, the current study focuses on intention to stay of managerial employees in Singapore.

Recent literature on employee retention presents the issue as ‘self-inflicted’ by organisations instead of one triggered purely due to employee attitudes (Cappelli and Keller, 2014). The macro-level changes in employment relationships is shifting from a closed, internal system to an open, external system, largely driven by inability of organisations to offer assurance of longer term employment stability. Thus, changing employer preference has resulted in changing employee preferences, compelling employees to take greater control of their own careers and mobility, leading to higher retention issues (Bidwell, Briscoe, Fernandez-Mateo & Sterling, 2013).

Newer forms of employer–employee relationships are evolving as traditional relationships witness steady decline due to employees shifting inside the organisation (Cappelli, 2000b). The emergence of a ‘new employment deal’ with a focus on an approach based on ‘contract and careers’ questions the traditional concepts of long-term commitment, internal promotions and career growth. However, not all roles in organisations are suited for this new model, particularly managerial roles. Due to the very nature of managerial roles, which demand interdependence and knowledge of firm-specific policies and systems, they are more suited for open-ended relationships. This makes the new employment model incompatible for managers, due to its inherent contradictions.

As outlined in the preceding sections, the traditional models of employee turnover and retention largely focus on job satisfaction, organisational commitment and perceived job alternatives. These variables are very individualistic and make it difficult for human resource managers to develop programs that directly influence employee behaviours that enhance employee retention (Baysinger and Mobley, 1983, Mitchell et al., 2001). The previous emphasis on traditional

turnover models also implies insufficient research on the reasons that make employees stay in an organisation (Maertz Jr and Campion, 2004). A summary of the key limitations of traditional turnover models is provided below.

- i. The traditional models provide limited explanation of the actual turnover process (Mobley et al., 1979), and the combined predictive power of traditional turnover measures is very limited (Mitchell and Lee, 2001).
- ii. The traditional models are based on correlation, not a causal relationship (McEvoy and Cascio, 1985), and they provide minimal guidance to human resource (HR) practitioners in increasing employee retention by achieving changes in the affective and behavioural intentions of employees.
- iii. The traditional turnover model does not suggest some of the decision paths followed by employees while leaving organisations. This indicates the presence of additional turnover antecedents that need further understanding (Lee and Mitchell, 1994).
- iv. The strategic goal of HR practitioners is to influence organisation-level employee retention; hence, there is a need to study factors at an organisational level (Baysinger and Mobley, 1983).

In the Asian context, Khatri et al. (2001) claim that higher turnover, especially in Singapore, is a perennial problem for management due to a dearth of studies investigating the issue. Using a comprehensive set of variables, this study aims to provide an incremental understanding of employee decision to stay rather than to quit, using a comprehensive framework and the role of the employer in reducing the turnover (Barrick and Zimmerman, 2005). The following section offers an overview of the studies on employee intention to stay, which is the dependent variable in this thesis.

### **2.1.2 Employee Intention to Stay**

A large majority of scholarly work on employee turnover postulates on staying in the job as against leaving the job. Mitchell et al. (2001) maintain that employee intention to stay in the job is not the obverse of quit intention. Employee intent to stay refers to an estimated probability of an employee continuing to work with an employer (Price and Mueller, 1981), the likelihood of an employee remaining in the organisation (Tett and Meyer, 1993) or the extent to which an employee plans to continue with his or her employer (Kim, Price, Mueller & Watson, 1996). Conversely, turnover intention is a 'conscious and deliberate wilfulness to leave the organisation' (Harman et al., 2007, p.262) and refers to the degree of likelihood of an employee wilfully leaving the organisation.

Studies on employee turnover have used both actual turnover and turnover intentions as their dependent variables. While the actual act of turnover or quit decision is the ultimate behavioural consequence, researchers face several constraints in adopting actual turnover data in research. This starts with access to employee turnover data being limited, due to firms' reluctance to share the actual employee turnover data due to internal and external sensitivities. Another constraint is the time lapse between turnover intention and the actual quit decision. In most cases, this may require a longitudinal study to track, which may not be either feasible or viable for researchers, owing to time and resource constraints. Hence, employee turnover intentions are the best proxy predictor of actual turnover, and this relationship has been substantiated by a meta-analytical study reporting significant correlation between turnover intention and actual turnover (Steel and Ovalle, 1984). This is reported as the strongest predictor of turnover (Tett and Meyer, 1993). This relationship is valid in a multi-country context (Sousa-Poza and Henneberger, 2004), where turnover intention was positively correlated with actual turnover 15 months later (Purba, Oostrom, Born & van der Molen, 2016). Despite being the strongest predictor of turnover, (Mowday, Porter & Steers, 1982) caution that the strength of the relationship is modest,

indicating that there may be other factors at play and turnover intention may not be the only precursor to an employee's exit. This is also reflected in variability in the intention – actual behaviour relationship reported and intention do not automatically result in turnover behaviour (Vandenberg and Nelson, 1999).

According to (Cho, Johanson & Guchait, 2009), intention to leave and intention to stay may not be similar and the converse of each other; hence, factors that reduce intention to leave may not necessarily increase stay intention. Employee intention to leave is linked to perceived organisational support (POS), and HR practices are effective in enhancing the perceived organisational support (Rhoades and Eisenberger, 2002). TM is a strategic program by the HR function that aims to enhance employees' skills and capabilities, and employees favourably perceive these types of programs. In line with the above arguments and its research questions, the aim of this study is to understand employee intention to stay based on the core theories of TM, JE and human capital. The following sections introduce the core theories and their relevance to the current study.

## **2.2 Overview of Core Research Theories**

In the following sections, an overview of the theories – TM, JE and human capital – is provided to address the research questions and research gaps.

### **2.3 Talent Management (TM)**

Organisations are shifting away from traditional sources of competitive advantage towards non-traditional, intangible assets such as knowledge and human capital (Lepak and Snell, 2002). Under these circumstances, it is essential for firms to manage their talent flows by attracting, motivating and retaining relevant employees to leverage their human capital. However, most organisations continue to face talent shortages and employee retention challenges due to either

ineffective management of their talent flows or continuous shrinkage of relevant talent pools (Vaiman and Collings, 2013, Khilji, Tarique & Schuler, 2015, Khilji and Schuler, 2017).

This talent pool shortage is a cause of concern for chief executive officers (CEOs) and senior managers (Guthridge, Komm & Lawson, 2008) and continues to draw higher mind-share and time allocation by top management to address talent issues arising out of shifting demographic and workforce preferences (Stahl, Björkman, Farndale, Morris, Paauwe & Stiles, 2012). This concern about talent pool shortage is evident across different markets; according to McKinsey & Company, a leading management consultancy firm, a significant shortage of talent is predicted in both developed and developing economies by the year 2020 (Dobbs, Lund & Madgavkar, 2012). The proverbial 'war for talent' (Chambers et al., 1998) has further intensified in the knowledge economy, owing to increased dependence on human capital (Iles, 1997), compelling firms to design collective efforts to address talent shortages (Ulrich, 2015).

Within organisations, there are both macro- and micro-level shifts in the way talent is being managed (Cappelli and Keller, 2014). At the macro level, firms are moving away from lifelong employment practices, resulting in a micro-level shift in which individuals no longer have lifetime careers but instead have shorter tenures. These changed career paradigms and practices are resulting in organisations having greater reliance on external hiring. Greater dependence on external hiring requires more predictable manpower requirements and certainty in anticipating human capital demands in both the short and long term. The collective impact of these changes has prompted firms' systematic development and retention of talent (Tarique and Schuler, 2010), resulting in greater adoption of TM programs as a means to address talent issues (Cappelli and Keller, 2017).

The debates and divergent views related to definitions of talent and talent management (TM) have further fuelled interest in the topic of TM, resulting in an upsurge of related academic

research related (Gallardo-Gallardo and Thunnissen, 2016). Nevertheless, there is a need for a clearer definition and conceptual boundaries within TM to avoid overlap with areas such as strategic human resource management (SHRM) and personnel management (Collings, Scullion & Vaiman, 2015). While on one hand the TM field has gained eminence amongst researchers and HR professionals, on the other hand, scholars highlight the research gap for ongoing conceptual development of the field (Sparrow and Makram, 2015). The aim of this thesis is to address the specific research gaps related to TM based on empirical evidence.

The following section provides a brief overview of the background, evolution and different theoretical perspectives in TM (section 2.3.1), distinguishing TM and HRM (section 2.3.2), contemporary issues, debates and current challenges in TM (section 2.3.3), TM in the context of managerial employees (section 2.3.4) and TM studies and their limitations (section 2.3.5). This literature review will inform the identification of the research gaps and the development of the conceptual framework for this study.

### **2.3.1 Origins and Definition of Talent Management (TM)**

The establishment of the term ‘talent management (TM)’, and its subsequent popularity and acceptance as a mainstream discipline, is usually attributed to management consulting firm McKinsey Inc., through their influential article portraying the talent shortage scenario leading to a ‘war for talent’ (Chambers et al., 1998). However, according to Cappelli (2008), the origins of the field can be traced to the post-World War II era of economic affluence that led to a focus on managing organisational talent. Despite heightened interest in the practice of TM, scholars argue for the need for a precise definition (Lewis and Heckman, 2006) and clearer conceptual boundaries, scope and goals (Collings and Mellahi, 2009). According to Lewis and Hackman (2006), ambiguous and interchangeable uses of the term for different HR practices by researchers resulted in a disappointing state of inertia in the academic literature. This has led to TM earning notoriety as a fad rather than a management field (Reilly, 2008).

The interest in the field of TM was sustained due to the arrival of the 'talent era' as a catalyst for creating strategic differentiation, placing greater focus on TM as a strategic function (Ashton and Morton, 2005). Although TM has become an integral part of the HRM community lexicon (Collings et al., 2011), some scholars view TM as an attempt to repackage existing HR practices with limited theoretical development and a lack of robust empirical evidence (Dries, 2013). The recognition of TM has also been influenced by debates and disputes related to the definition and meaning of the term 'talent', with arguments in favour of talent being either innate or acquired (Meyers and van Woerkom, 2014). Thus, despite being prevalent in both the academic and practice community, the TM field is evolving with the potential for theory building and other contributions.

While a standard definition of TM is absent, a commonly accepted definition of TM is a 'set of activities and processes that involve systematic identification of key positions, creating a differentiated human capital architecture to fill these positions and ensure continued commitment and retention' (Collings and Mellahi, 2009, p.343). According to the Chartered Institute of Personnel and Development (CIPD) in the UK, TM is the systematic attraction, identification, development, engagement, retention and development of those individuals who are of particular value to an organisation, either in view of their high-potential or because they are fulfilling roles that are critical to the business or operation (CIPD, 2013). According to Allen (2008) TM is workforce planning, hiring, development and retention to ensure organisational access to the right quality and quantity of talent. Cappelli and Keller (2014, p.307) define it as 'the process through which organisations meet their needs for talent in strategic jobs'. Based on the various definitions, it can be summarised that talent, or the talent pool, represents groups of individuals with the potential to differentially contribute, those occupying strategic jobs, high-performing incumbents in strategic jobs, and individuals who possess the potential to occupy strategic jobs in the future (Cappelli, 2008, Boudreau and Ramstad, 2007, Collings and Mellahi,

2009). Hence, TM is seen as a means to achieve financial success (Cappelli, 2008). Having understood the origins and definitions, the next section outlines some of the key theoretical grounding and development related to the TM field.

### **2.3.2 Background of Talent Management (TM)**

Theoretical underpinnings of the TM field can be traced back to the SHRM literature linking HR practices and organisational outcomes (Lewis and Heckman, 2006). The evolution of TM can be traced back to the human resource planning (HRP) process of ensuring the right people for the right jobs at the right time in order to achieve organisational goals in the short, medium and long-term (Jackson and Schuler, 1990). However, historically the linkages between organisational planning and HRP were usually driven only by business functions, with the HR department seen as a weak, reactive function. The desire to change this perception stimulated establishment of a strategic role of human resources (HR) across its spectrum of integrated activities of selection, assessment, rewards and development of employees (Tichy, Fombrun & Devanna, 1982). An empirical study linking HRP and business planning provided necessary evidence and the impetus for HR professionals to acquire strategic thinking and operating capabilities (Jackson and Schuler, 1990). These practices were subsequently adopted by progressive organisations, resulting in the evolutionary growth of SHRM.

Another dominant theory in business literature that has influenced TM literature is the resource-based view (RBV) presented by Barney in his seminal paper (1991). According to RBV theory, firms can achieve sustained competitive advantage through four empirical indicators of its resources: value, rareness, imitability and non-replicability (the VRIN framework). These indicators fluctuate based on conditions external to firms; firms with proven ability to develop resources according to the VRIN framework are in a better position to exploit external opportunities.

In the context of HRM literature, the VRIN framework has contributed to development of HR practices that are specific to firms and difficult to imitate (Wright, Dunford & Snell, 2001), thus establishing firms as a ‘unique bundle of resources’ (Boxall, 1996, p.65). RBV provided the critical conceptual basis for assertion of humans as a source of competitive advantage, emphasising the role of the HRM function in implementing strategic scenarios and generating strategic capabilities. This led to the evolution of the SHRM function enabling the firm to command human resources advantage’ by managing its human capital advantage (i.e. recruiting and retaining highly (competent employees) and human process advantage (i.e. creating a socially complex process that promote internal learning and collaboration and that is difficult to imitate).

RBV has played an integral role in influencing and advancing both SHRM theory building (Wright et al., 2001) and TM literature by providing a bridge between the fields of strategy and HRM. This is instrumental in building the legitimacy of the HR function by putting ‘people’ on the radar screen by shifting the emphasis towards internal firm resources and competitive advantage (Lewis and Heckman, 2006). The linkage between RBV and TM was first argued by scholars Barney (1991) and Wright et al. (2001), highlighting that ‘dynamic capabilities’ of a firm include organisational and strategic routines that enable new resource configuration as the markets evolve.

The third management field that has contributed to the development of the TM domain pertains to international human resource management (IHRM) (Mellahi and Collings, 2010), especially in the context of global talent, where the competition for attracting and retaining talent pools has shifted to regional levels (Sparrow, Farndale & Scullion, 2013).

This section provided a brief overview of the three foundational theories that shaped the development of TM. Owing to the diversity in the foundational theories, TM has evolved with

mixed perspectives, based on the views held by different scholars. This has led to the emergence of a range of practices and debates within the TM field. Some scholars question the difference between TM and HRM (Chuai, Preece & Iles, 2008), while some endorse the uniqueness of each field (Iqbal, Qureshi, Khan & Hijazi, 2013). The following section presents the key similarities and differences between TM and HRM.

### **2.3.3 Distinguishing Talent Management (TM) from Human Resource Management (HRM)**

The TM literature has evolved over past decades along three tracks related to HRM: (i) TM as a rebranding of HR practices, (ii) TM linked to succession planning and (iii) TM as a lever to manage high-performing employees (Collings and Mellahi, 2009). There are several similarities between TM and HRM, given that both are related to the same functional area of people management: linking the right people with the right roles in alignment with the business strategy. Yet scholars point to the differences between these two concepts. According to Iles et al. (2010b), the difference in TM and HRM is essentially about scope and the emphasis of activities. HRM has a broader scope and egalitarian emphasis, compared with the specific and segmented approach of TM. Scullion and Collings (2011) state that, despite their commonality, three key distinctions separate HRM and TM: speed of implementation, scope of coverage and focus of activities in the form of sub-disciplines or integrated practices. Additionally, the focus of SHRM research has been largely on internal organisational factors, while TM emphasises both internal and external conditions.

The diversity of perspectives within TM has prompted questions amongst scholars about the differences, if any, between HRM and TM, with some critics dismissing TM as a rebranding of HR practices (Lewis and Heckman, 2006). In defence, advocates of TM stress that the key distinction lies in attribution: ‘human resource’ versus ‘talent’ (Meyers and van Woerkom, 2014). While HR represents a generic body of the workforce without specific focus on any employee group or HR practices, the term ‘talent’ is associated with a specific group of people

within the organisation, with a focus on purposeful practices targeted at their attraction, development and retention. This establishes TM as a scientific discipline that falls under the broad umbrella term of HRM. The fourth distinction separating TM and HRM is about the ‘talent mindset’ as a culture of the organisation, with interconnected practices that go beyond the different silos of the HR function (Cascio and Boudreau, 2016, p.110).

In conclusion, while the field of TM is linked to SHRM and RBV theories, it has evolved through six different theoretical perspectives (Dries, 2013):

- (i) human capital perspective, emphasising an employee’s contribution to the organisation
- (ii) industrial/organisational psychology perspective, emphasising the ability to predict success in more senior roles
- (iii) educational psychology perspective, emphasising domain-specific excellence
- (iv) vocational psychology perspective, emphasising a vocational self-concept/identity
- (v) positive psychology perspective, emphasising self-actualisation
- (vi) social psychology perspective, emphasising the perception of talent.

Through adoption of these theoretical perspectives, the TM field has witnessed significant development and mainstream acceptance, through the effort of scholars including (Boudreau and Ramstad, 2005, Lewis and Heckman, 2006, Boudreau and Ramstad, 2007, Cappelli, 2008, Collings and Mellahi, 2009, Dries, 2013). Notwithstanding these efforts, TM continues to face the criticism of being a ‘phenomenon’ in its infancy stage, yet to reach maturity, due to lack of a cogent theory to establish cause-and-effect relationships (Dries, 2013). This points to the potential for theory building in TM. Apart from the abovementioned criticism, the field is also witnessing contrary practices and views, leading to debates about its relevance. The following section outlines some of the key debates related to TM, their theoretical underpinnings and their impact on the theoretical stance to be adopted in this thesis.

### **2.3.4 Theoretical Perspectives in Talent Management (TM)**

The field of TM has attracted both HRM practitioners and academic researchers alike; however, both these groups differ significantly in their interpretation and emphasis, leading to a diversity of perspectives (Dries, 2013). A case in point is the emphasis placed by academic scholars on ‘strategic jobs across the organisation’, as against the practitioner’s interest in ‘fewer roles’, typically focusing on senior management and executive positions (Scullion and Collings, 2011, p.926). These differences arise from two popular perspectives within TM that are based on the inherent assumptions about the fundamental nature of talent, usually referred to as the inclusive versus exclusive talent and the innate versus acquired talent perspectives (Dries, 2013).

#### **2.3.4.1 Exclusive Versus Inclusive Approach**

The ‘inclusive versus exclusive talent’ approach pertains to the scope of TM practice, with its central question focusing on applicability of TM practices being limited to a select group of employees or to the entire workforce. Stahl et al. (2012) further elaborate that an inclusive approach ensures that TM practices are available to all employees, while the differentiated approach limits the access of TM programs to select high-performing employees. This critical decision about the scope of TM programs underpins the variations seen in the purpose, design and implementation of the TM programs. Within the different TM philosophies, the ‘exclusive’ approach has received greater support from organisations due to the strategic and selective nature of TM practices (Iles et al., 2010b) and has been advocated by other authors (Berger and Berger, 2003).

Interestingly, within the ‘exclusive’ approach, there is a further bifurcation based on the identification criteria for workforce differentiation. This leads to different parameters or filters for segregation of the workforce, such as key jobs versus key employees (Huselid, Beatty & Becker, 2005). This compares with the view endorsed by Cappelli and Keller (2014), who focus on organisational performance and key jobs that influence performance, thus moving away from

key individuals. According to the authors, this shift from individual to organisational performance is justified as it aligns with the strategic nature of TM programs.

On the contrary, critics of the 'exclusive' approach question the fundamental assumptions of differentiation and reject the proverbial 'war for talent' as a mere rhetoric (Swales, 2013b). They further claim that these practices are seen to create anxieties, fostering unfavourable competition amongst employees; they propose an alternative 'humanistic view' of TM. This view considers employee development as a 'legitimate end in itself', not driven by any rhetoric. The sponsors of an inclusive strategy of TM view it as a competitive necessity (Iles et al., 2010a). Another emerging view is to embrace a hybrid approach to TM. This approach does not view these two philosophies as mutually exclusive. The hybrid approach allows for differentiation, yet it avoids potential issues arising due to an exclusive approach (Stahl et al., 2012).

#### **2.3.4.2 Innate Versus Acquired Approach**

The second dominant philosophy within TM is linked to the nature of talent – that is, whether talent is innate or acquired – and stems from considerable divergence in the literature about the definition and meaning of the term 'talent' (Meyers and van Woerkom, 2014). While the proponents of 'innate' philosophy emphasise the role of nature in defining individual talent, those favouring the 'acquired' talent definition endorse the role of nurturing in the creation of talent pools (Collings and Mellahi, 2013). The underlying talent philosophy of the firm has a direct bearing on its HR practices. For instance, firms supporting an innate talent mindset are more likely to place emphasis on HR processes such as selection and performance management in order to distinguish talent; firms supporting the acquired approach are likely to lay greater emphasis on learning and development and succession planning. Thus, the TM practices and programs are interlinked with the philosophy and definition of talent endorsed by organisations. However, the original narrative of talent as a binary construct – either talent or non-talent – has

evolved over time due to a growing acceptance that talent needs to be visualised as a continuum ranging from innate to acquired, rather than as two polar opposites. The talent philosophy of firms has a direct impact on their communication strategies. The following section outlines the communication practices adopted by firms.

#### **2.3.4.3 Talent Management (TM) Communication – Open Versus Opaque Approach**

Another dimension of decisions made by firms implementing TM programs is the strategy for employee communication – and, with respect to communication with employees, these can take an approach that is either explicit and open or closed. In the explicit approach, employee selection into the talent pool or high-potential status is made known to the concerned employee by the organisation. In the closed or regulated approach, this information on employee status is not formally communicated to individual employees and is accessible only to a select group of senior managers. Both explicit and closed communication approaches have their advantages and tactical challenges. Past studies on explicit communication of high-potential status report greater importance attached by employees on being formally identified as high-potential (Campbell and Smith, 2010). This results in an increase in performance, career success and organisational commitment (Dries, 2011). Inclusion in the high-potential employee group is seen as a signal of organisation's trust in the employee's potential and is accompanied by high demand for, and expectation of, that high-potential employee (Gelens, Hofmans, Dries & Pepermans, 2014). However, the critics of the explicit approach point to the limitation that designating an employee as high-potential, or 'talent', implicitly implies others as 'talentless' or 'low-potential (LoPo)' and may cause lower morale within the organisation (Cappelli and Keller, 2014, p.326). Critics of the high-potential approach also anticipate a negative effect from the 'crown prince' syndrome, leading to arrogant and complacent behaviours by high-potential employees and lower workforce morale (Gobel-Kobialka, 1998). The sponsors of the explicit approach point to the possibility of losing a talented employee for want of communication. The study by

(Fernández-Aráoz, Groysberg & Nohria, 2011) concludes that mere communication of high-potential status does not result in retention of these employees and that organisations need to implement strategic programs aimed at retaining this select group, further pointing to the relevance of the research questions in this thesis.

#### **2.3.4.4 TM Practices – Best Practice Versus Best Fit Approach**

The final theoretical perspective within the TM literature revolves around the adoption of best practice versus best fit (Collings and Mellahi, 2009). The ‘best practices’ approach promotes a set of universal configurations of HR practices that can improve firm performance; the best fit approach focuses on the impact of HR practices on the internal and external context. The critics of the best practices approach question its validity under different circumstances and conditions and its lack of clarity on single ‘universal’ HR practice (Lengnick-Hall, Lengnick-Hall, Andrade & Drake, 2009). On the other hand, the critics of the best fit, or contingency, approach call for expanding the focus to include critical factors such as human capital. Over time, there has been a shift from considering both these approaches as mutually exclusive towards building strong foundations from the universal approach and creating specific HR practices which depend on the contingency or situations (Boxall and Purcell, 2011).

These different approaches have enriched the TM field by creating a more holistic definition of ‘talent’ by integrating alternative perspectives regarding the nature of talent (Meyers and van Woerkom, 2014). This suggests a more holistic approach of assessing an employee-based contribution towards a sustained competitive advantage of the firm. It goes beyond the classification approach to defining talent, thus extending the focus beyond the narrow constraints of key jobs versus key individuals and linking TM programs to results, emphasising the strategic nature of TM programs (Collings and Mellahi, 2013).

### **2.3.5 Existing Studies in Talent Management (TM)**

The origins and mainstream acceptance of the TM concept are largely attributed to management consulting firms but limited empirical evidences that have prompted researchers to focus on theory building and rigorous review of the assumptions and validity of popular narrative of ‘war for talent’ and talent shortages (Dries, 2013). The following section provides a critical review of the empirical studies on TM to determine key research gaps. These research gaps are integrated with the theoretical perspectives outlined in section 2.3.4 to develop a cogent conceptual framework for this study. The review of TM literature revealed that majority of the published papers in the area of TM are conceptual papers, with limited empirical studies. A comprehensive list of studies based on empirical analysis was prepared and 28 studies published over the past 10 years were examined. These studies were selected based on their research design and reporting of results. The list of these studies, along with key summary is attached in Annexure 4. Based on the analysis of these studies, two main types of research studies were observed: (i) TM theories and practices and (ii) TM and employee retention. The following section presents a summary of key studies in each of these areas, along with major findings and conclusions, and the identified research gaps.

#### **2.3.5.1 TM Theories and Practices**

The TM field has witnessed significant scholarly interest in developing and extending the TM theory and has resulted in the development of a range of different perspectives and practices that are yet to reach maturity. Dries (2013) calls for development and testing of a cogent theory to establish cause-and-effect relationship through empirical studies, which are currently limited. TM theories have evolved on the foundations of different philosophical underpinnings, based on the talent strategy (exclusive/inclusive) and nature of talent (innate/acquired). According to a study by (Iles et al., 2010a), adoption of an exclusive approach to TM is more prevalent, with fewer organisations opting for an inclusive approach. Despite its prevalence, there are limitations

to an exclusive approach, and (Powell, Duberley, Exworthy, Macfarlane & Moss, 2013) call for empirical studies to further explore this topic. On the contrary, Gelens et al. (2014) assert that creating exclusive talent pools and assigning differential status have a positive impact on high-potential employees.

The second area of conceptual deliberations on TM that has attracted the interest of researchers relates to claims about the strategic role (Collings and Mellahi, 2009) and strategic impact of TM. According to a study by (Bethke-Langenegger et al., 2011), the strategic impact of linking the corporate and the TM strategy includes positive corporate profile and financial outcomes, over and above statistically a significant relationship with HR outcomes such as performance motivation and commitment leading to employee retention. In their report on financial impact, Collings et al. (2011) argue that TM programs align business and TM strategies and generate return on investment; the authors reported an increase of up to 20% in return on equity over a five-year period. The authors conclude that firms that are able to achieve alignment between business and TM strategies are more likely to outperform their competitors over a period of time.

The third area of scholarly interest has been TM practices and processes, which have been enhanced due to the emergence of information technology systems and solutions that enable firms to gain insights about their talent pool in a strategic and proactive manner (Schramm, 2006). This has led to greater adoption of sophisticated business analytics tools and methods to analyse talent data to ensure higher productivity, employee engagement and retention of top talent ( Davenport and Harris, 2007, Davenport, Harris & Shapiro, 2010). Effective adoption of technology has become a key determinant of successful management of human capital. While technology adoption has resulted in marked improvement in TM solutions, the methods and metrics that can be adopted by firms to assess the impact of TM practices need further refinement and study (McDonnell, 2011). In particular, the metrics that establish the causal linkage with firm performance need further research (Boudreau and Ramstad, 2007). Growth in

TM literature has seen scholars assessing the linkage between TM and employee behaviour and outcomes. TM can be seen as a panacea for all employee behaviours and outcomes (Iles et al., 2010b), which has led to the sceptical conclusion that TM is a mere fad. However, one area that has received consistent focus has been the linkage between TM and employee retention.

#### **2.3.5.2 TM and Employee Retention**

The association between TM and employee retention has been alluded to in several studies. In his empirical study of HR professionals in US firms, Oladapo (2014) reports on the strategic value of TM and its linkage with employee retention. He claims that firms with an effective TM program can enhance employee retention, as their HR departments have direct control over the 'hot buttons' that control turnover triggers.

The advocates of practices linking key talent and talent pool segments on the employee retention approach highlight the substantial dysfunctional impact of turnover of key talents (Cappelli and Keller, 2014). They argue that the negative impact of employee turnover on firm performance is significantly higher in the case of key talent pool turnover as compared with the attrition of other employees (Kwon and Rupp, 2013). On the contrary, some scholars advise exercising prudence in implementing TM practices for employee retention, since the design and implementation of appropriate TM strategies can be effective only if accurate analysis of the turnover problem and turnover drivers are diagnosed (Allen, 2008). There is also a need to alter the view from 'TM as an art' to 'TM as a science' and as a discipline founded on an evidence-based approach. This enables organisations to design systemic and targeted retention programs that are effective (Allen et al., 2010, p.62).

The adoption of TM and the study of its efficacy has been reported across a wide range of countries and industries. A comprehensive paper by the Society of Human Resource Management in the US elaborates broad-based, targeted or a combined retention strategies that

can be adopted by HR departments to enhance employee retention (Allen, 2008). A study assessing the impact of TM practices on employee retention in information technology-enabled services in the US and India suggests varying employee engagement scores based on the employment stages of the respondents (Bhatnagar, 2007). This presents an opportunity to employers to adopt effective TM practices based on employment stages in order to enhance employee retention. In a study based on Swiss firms, Bethke-Langenegger et al. (2011) report that TM practices had a positive impact on employee retention, job satisfaction, motivation and commitment for employees considered to be part of a select group of employees. According to the authors, the positive relationship and higher employee motivation are caused by the privilege or appreciation of being part of the select group, or the employees' desire to maintain their membership of the 'talent' group by validating the trust and investment the firm made in their development. (Alias, Othman, Loon, Ridzuan & Krishnan, 2017) report a significant positive relationship between TM practices and employee retention, especially for top talent employees.

Based on these studies, it can be argued that an exclusive approach to TM is effective in enhancing employee retention and forms the basis of the research question in this thesis.

### **2.3.6 Key Limitations of Talent Management (TM) and Research Gaps**

Notwithstanding its popularity and growth, the field of TM has received its fair share of criticism, owing to a lack of concise and commonly accepted definitions. This has led to questioning by scholars on the validity of the field as a separate discipline (Lewis and Heckman, 2006), given the lack of sufficient evidence underpinning its practices (Christensen Hughes and Rog, 2008). The discussion in the preceding section indicates that TM practices become intricately linked with HR practices due to strong association and interlinkages with SHRM, RBV and IHRM (Al Ariss et al., 2014), leading to the question of differentiation between TM and HRM. The ensuing section summarises the key limitations in TM theory and practices and the research gap addressed in this thesis.

### **2.3.6.1 TM Framework**

TM has established itself as a popular strategy for employee retention for talented employees, but the process of how TM leads to greater employee retention remains largely unexplored (Narayanan, 2016). While conceptualising TM, the studies place higher emphasis on understanding organisational perspective (42% of reported studies) with limited studies focusing on employee perspective (26%) (Gallardo-Gallardo and Thunnissen, 2016). On the contrary, employee perspective has been argued to be of greater significance since the early stages of TM development (Tucker, Kao & Verma, 2005). Recent research lend support to this idea that employee buy-in and involvement plays a pivotal role in the success or failure of TM initiatives (Oladapo, 2014). However, the literature on TM continues to be largely focused on understanding the organisational perspective, with the individual perspective being largely absent (Dries and Pepermans, 2007).

The organisational perspective of TM programs stems from investment in developing and retaining a select group of employees through a bundle of practices that result in organisational outcomes (Collings et al., 2015). However, the individual employees' perception about the perceived benefits are complex and not necessarily one-dimensional. According to the social exchange theory, when an organisation invests in employees, employees are likely to reciprocate in a positive manner (Khoreva, Vaiman & Van Zalk, 2017). According to the individual differences theory, the response and behaviour of individual employees towards organisational initiatives is likely to differ based on individual constructs such as personality, values and preferences, resulting in varied employee responses to similar investments (Chan and Drasgow, 2001). As with other organisational initiatives, such as training and development, employees may not perceive themselves to directly benefit from the investment; additionally, they may not perceive themselves as the only or sole beneficiary of the program (Maurer et al., 2002). Further, an employee's motivation to participate in HR programs is linked to their motivation and belief

in the benefit – whether immediate or accrued in future – from participation. The perception of benefits accruing to the organisation over and above individual benefits can result in either higher motivation to participate or to withhold participation based on the employee's identification with the organisation. This view is supported by Maurer and Lippstreu (2008), with organisational support for development resulting in varying employee commitment, depending upon their individual performance and learning preference. These employee perceptions become more critical in situations where the development activities are more firm-specific and may not be seen as promoting marketability.

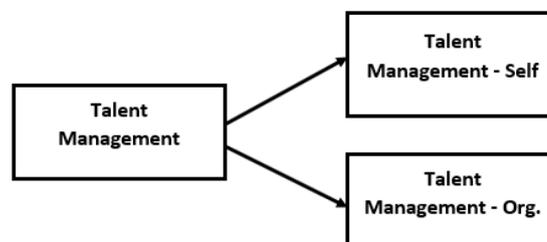
Integrating the social exchange theory to TM, Festing and Schäfer (2014) argue that employee perception of benefits is linked to their psychological contracts and differences in work values. The authors conclude that the employee perception of TM is critical in the conditions of talent shortages. The psychological contract held by individual employees is also reported to influence employee perception of development practices and is mediated by the differential status of the employee (Höglund, 2012). Those employees who are considered as 'talent' are reported to have positive motivations and obligations to skills development and application. In the design and implementation of a TM program, balancing the individual and organisational goals of TM programs is essential so as to ensure a mutual benefits approach (Farndale, Pai, Sparrow & Scullion, 2014).

In the context of high-potential employees, understanding employee perception based on a holistic TM framework, integrating both organisational and personal perspective, is essential. Most of the existing TM models and frameworks place emphasis either on the organisational perspective (key jobs/key individuals, inclusive/exclusive) or on individuals in the form of parameters for assessment of talent (innate/acquired, performing/non-performing). This measure largely deploys a universalistic approach that tends to be prescriptive. The need is to adopt a contingency approach that caters to diversity and individual perspectives (Cooke, Saini & Wang,

2014). An integrated framework will enable inclusion of individual differences, and address the research gap pointed out by (Festing et al., 2013). This invites empirical researchers to assess causal relationships between organisational practices and individual behaviour needs – hence the research question ‘Does TM have a positive influence on creating a relational psychological contract?’. This thereby contributes to employee attraction and retention and enhances both the conceptual and methodological understandings of TM. Hence, this study aims to understand an integrated perspective of TM as experienced by employees by assessing the relevance and benefits of TM from both the personal and the organisational perspective.

For the purpose of this study, TM is conceptualised as an aggregated construct made up of two separate dimensions: TM (Self) and TM (Org), as shown in Fig. 2.1.

Fig. 2. 1 - Talent Management (TM) Construct



These two dimensions – TM (Self) and TM (Org) – represent the employees’ perception of the perceived rewards and cost of TM programs accrued for self and perceived benefit accrued to the organisation, forming a holistic assessment of TM programs. As discussed in the preceding sections, prior research has mainly focused on TM programs from the perspective of the organisation, with limited attention paid to individuals (Dries and Pepermans, 2007). However, based on the understanding of social exchange theory (Cook and Emerson, 1987, Cook, Cheshire, Rice & Nakagawa, 2013) and individual differences theory (Chan and Drasgow,

2001), an employee perception of organisational initiative is likely to differ significantly; by assessing these differences through an empirical analysis, this thesis aims to contribute to extending TM theory.

Further, employee perception of TM programs is affected by the psychological contracts that represent employee belief of reciprocal obligations between employee and employer (Morrison and Robinson, 1997). Thus, an employees' assessment of the reward and cost associated with TM can be represented as a combination of TM (Self) and TM (Org). By testing the TM (Self) and TM (Org) constructs, this thesis aims to address the gap in understanding the perceptions and expectations of talented individuals by considering both personal and organisational perspective (Festing and Schäfer, 2014), thereby contributing to extending TM theory. The changing nature of the employer–employee relationship is causing a shift in the onus for individual development from organisationally managed to self-managed development (Garavan, Carbery & Rock, 2012), where the locus of decision-making is shifting towards individuals. However, there is a gap in our understanding of individual characteristics and the influence of organisational factors that facilitate talent development. In the following section, some of the key limitations and research gaps are discussed and summarised.

#### **2.3.6.2 TM and Employee Retention**

The relevance of TM practices is projected to grow, with organisations witnessing greater demand for talent that is essential for gaining a competitive edge (McDonnell, 2011). Yet the TM field faces criticism around the relevance and efficacy of TM practices that were historically developed for the 'closed employment system' based on the assumptions of internal organisational growth and retention (Collings, 2014). This is in contrast with the current system, which places limited emphasis on lifetime career with any one organisation. Despite increased adoption and hype around TM, there is limited evidence to support the effectiveness of TM programs (Meyers and van Woerkom, 2014), as few studies are based on empirical data (Iles et

al., 2010b, McDonnell, Lamare, Gunnigle & Lavelle, 2010). To further expand the theoretical foundations of TM, there is a need to understand the relationship between TM practices and organisational performance and to assess the opportunity to reduce employee turnover (Wheeler et al., 2010). This study aims to assess the impact of TM (Self) and TM (Org) on employee intention to stay, thus contributing to a closing of the research gap.

### **2.3.6.3 Other Limitations of TM**

TM theories are based on the assumptions of maximising employee talent to gain sustained competitive advantage (Scullion and Collings, 2011). The implied assumption is the effective operationalisation of these strategic initiatives, yet TM practitioners and researchers continue to face challenges in implementing TM systems, resulting in issues around attracting and retaining talent, due to the lack of a talent pipeline (Mellahi and Collings, 2010). The challenge of operationalising a TM strategy also arises due to the contradictory nature of advice advocated by TM researchers, owing to divergent views on the definition of TM. For example, some scholars advocate ‘top grading’ practices that encourage hiring only ‘A’ performers, while others promote talent pool segmentation based on the criticality and scarcity of talent (Lewis and Heckman, 2006).

In the existing TM literature, the focus is on TM concepts and practices. Further, there is a lack of research on topics such as an exclusive approach to TM and its impact on employee behaviour, customisation of TM practices based on the characteristics of the targeted talent pool, and the impact of TM practices on employee groups considered as either ‘talent’ or ‘non-talent’ (Gallardo-Gallardo and Thunnissen, 2016). Additional empirical studies based on TM practices, such as identification of talent, the extent of sharing of information with employees, and the duration of membership to the talent pool and their causal relationship with employee outcome are required in different country contexts (McDonnell, 2011). This thesis aims to address these

gaps by testing the relationship between TM and employee retention using an exclusive approach, as well as by testing the relationship for high-potential employees within Singapore.

TM practices vary by industry sector. For example, in the information communication technology (ICT) industry, TM focuses on enhancing employee engagement and retention (Bhatnagar, 2007). In the retail industry, TM is adopted to encourage employee creativity (Deepa and Kuppusamy, 2013). In hospitality, TM practices focus on emotional, aesthetic and informational processes (Deery and Jago, 2015). Thus, across different industries, TM programs have been linked to the capabilities and performance expected of their respective workforce. Extending this argument in the context of knowledge-intensive firms, managerial employees and high-potential employees form a critical workforce group and are typically part of TM programs (section 2.3.7). However, there is lack of research on TM and employee behaviour in knowledge-intensive firms (Brown et al., 2004).

From a methodological understanding, the TM literature will benefit from both qualitative and quantitative research that examines the effects of organisational size and sectors on TM programs (Dries, Vantilborgh & Pepermans, 2012). This gap is addressed through the quantitative and qualitative design research in this thesis (section 3.2).

Lastly, due to its origin in Western countries, the majority of initial TM studies were conducted in Anglo-Saxon business contexts, with the predominant preference for the case study method or survey of HR professionals (Lewis and Heckman, 2006). The trend continues, with TM research largely based on studies in the North American context (Festing et al., 2013). To extend the generalisability of the TM concept and to expand the integrity and validity of the TM framework, these relationships need to be studied in different national and industry contexts covering a specific employee group, to assess the relationship and impact of TM practices (Gallardo-Gallardo and Thunnissen, 2016). The present study aims to address this gap by

undertaking an empirical study of TM practice in the context of knowledge-intensive firms in Singapore, focusing on managerial employees to extend the context and generalisability of TM theory. The following section provides an overview of literature on managerial and high-potential employees.

### **2.3.7 TM and Managerial and High-Potential Employees**

This section outlines the rationale for selecting managerial and high-potential employees as the scope for this study. As discussed in previous sections, this study adopted the ‘exclusive’ TM philosophy, in which the implementation of TM practice involves two key activities: (i) identification of strategic jobs in the firm and (ii) development of incumbents occupying the strategic jobs. While the concept of strategic jobs is intuitively appealing, the key operational challenge faced by firms is to identify these strategic jobs accurately.

(Huselid, Beatty & Becker, 2005) were the first to propose two criteria to identify strategic jobs: (i) direct strategic impact on firm’s result and (ii) performance variability attributable to incumbent in strategic jobs. Using these two criteria, firms can assess their range of jobs and prioritise retention of critical jobs where individual performance has the greatest potential to impact firm performance.

The second approach to identify strategic jobs, proposed by Boudreau and Ramstad (2007) is based on the concept of ‘pivotal positions’. Its underlying premise is that a small number of pivotal positions provide above-average performance for firms.

The third framework for defining and identification of talent or talent pools is based on a two-dimensional matrix comprising scarcity and value of talent on one axis and performance and potential on the other axis (Collings, 2014).

Traditionally, top management positions were considered to hold strategic value. However, increasingly, firms are expanding their definitions of ‘talent’ to include jobs beyond the top

management positions, based on their criticality to the firm's performance, and are willing to design specific HR and TM programs for such incumbents (Collings, 2014). This is supported by a growing body of workforce differentiation literature asserting that strategic jobs in organisations are not confined to executive levels (Collings and Mellahi, 2009) and are potentially located anywhere in the organisation on the basis of the firm's strategic competencies. Consequently, TM practices are not restricted to only top and senior management levels but also include key positions across the organisation (Cappelli and Keller, 2014).

In the current stage of conceptual development of TM, the definition of 'talent' varies on the researcher's choice of theoretical perspective and the population under consideration. This provides researchers an opportunity to define a scope for their studies that is different from pre-existing work (Dries, 2013). While some define talent as 'critical few', others hold a contrary view of investing in 'vital many' to avoid the risk of alienating the bulk of the workforce (Guthridge et al., 2008). Adoption of these alternative frameworks generates an option to assess a wider range of talent as compared to the traditional approach, providing organisations and researchers the choice to select a definition that aligns their strategic goals.

One such critical workforce group is managerial employees, widely regarded as guardians of firms who are responsible for allocation of resources to achieve organisational performance goals and more likely to possess firm-specific, broader expertise (Krausert, 2017). Within the context of knowledge-intensive firms, the employees in managerial roles often meet the criterion of strategic value creating roles (Lepak and Snell, 2002). The organisational investment in employee development is perceived as discretionary investment by employees, which in turn enhances reciprocal behaviours, such as higher commitment, from employees. A study by Krausert (2014) proves higher economic benefits of adoption of high-involvement HRM systems for managerial employees. This thesis aims to investigate the relationships between TM and

managerial employee retention in knowledge-intensive firms in Singapore, to further extend the (Krausert, 2014) claim in a novel setting and to further extend TM theory.

Another phenomenon that has emerged as a consequence of the 'exclusive' TM philosophy is that of high-potential employees, with a higher number of firms adopting special programs for this select group of employees (Dries et al., 2012). The origin of the high-potential employee concept can be traced back to HRM practices focused on succession planning, with Derr et al. (1988) describing these employees as corporate-wide resources, owing to the individual and firm-specific knowledge they possessed. Other definitions of 'high-potential employees' focus on an employee's ability to succeed in roles with greater scale and scope than their current role (Fernández-Aráoz et al., 2011) or employees who are recognised as future leaders (Dries and Pepermans, 2007). The phenomenon of the high-potential employee has also attracted criticism, with some questioning its sustainability (Iles, 1997), while Baruch and Peiperl (1997) argue that the high-potential employee approach is redundant in managing employee careers and expectations in 21st century organisational realities. (Ready, Conger & Hill, 2010) argue that, despite its desirability and adoption, the assignment of high-potential employees can demand greater sacrifice, especially when firms discontinue the status on high-potential employees; hence, there is a need for different approaches in the management of employee expectations and retention.

High-potential employees are considered twice as valuable as the rest of the workforce, and a TM program is critical in ensuring their development to fit the business strategy, ensuring the right people for the right challenges (Winiarska-Januszewicz and Winiarski, 2014). However, firms are unable to manage and retain these employees, despite making significant investments in high-potential employees in order to minimise the negative impact of turnover of this critical talent pool (Grossman, 2012). In fact, turnover rates are reported to be highest amongst this strategic talent pool (Collings and Mellahi, 2009). Hence, this phenomenon of high-potential

employees continues to attract research interest (Festing and Schäfer, 2014, Krishnan and Scullion, 2017).

Notwithstanding the interest, empirical studies that address the issues of identification, development and retention of high-potential employees are limited (Lewis and Heckman, 2006, Collings and Mellahi, 2009). Another limitation is that studies on high-potential employees primarily focus on organisational perspectives of identification, development and retention. However, the individual employee viewpoint, especially that of high-potential employees, has not sufficiently been studied (Dries and Pepermans, 2007). This study aims to address both these research gaps, to contribute to TM theory related to high-potential employees.

The theoretical underpinning of TM adopted in this thesis is based on an ‘exclusive’ approach, which has an extended history. It is consistent with the theory of optimisation of resources (Cappelli and Keller, 2014) and focuses on workforce segmentation, considered as valuable and unique from a human capital perspective (Lepak and Snell, 1999). In general, scholars taking a human capital approach to TM favour disproportionate investment in the select group of employees or positions owing to their relative contributions (Nijs, Gallardo-Gallardo, Dries & Sels, 2014). However, there are no studies in the context of human capital theory linking TM and employee retention within a differentiated workforce environment.

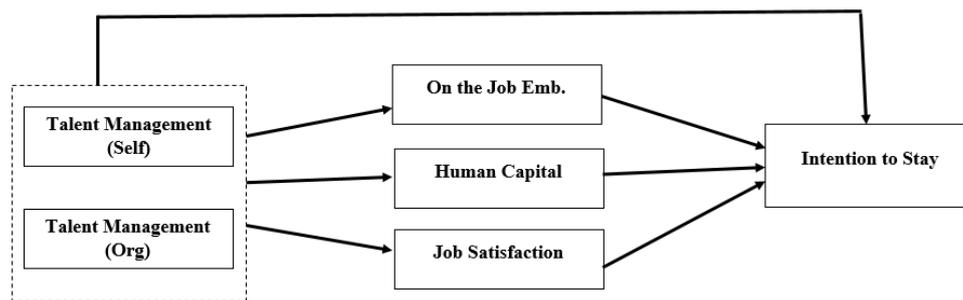
While the concept of workforce differentiation has gathered acceptance at the organisational level, there is limited empirical research on employee reactions to differentiated workforce practices and their impact on employee retention (Gelens et al., 2014). Past studies on workforce differentiation have largely focused on the subjective process of justice or social exchange relationships (Björkman, Ehrnrooth, Mäkelä, Smale & Sumelius, 2013). Despite the criticality of high-potential employees, empirical research on the turnover process for key employee groups, such as managerial employees, is limited – pointing to a research gap in this area (Cappelli and

Keller, 2014). One of the key barriers to research on high-potential employees is the reluctance of organisations to provide access to data related to high-potential employees, either due to the perceived risk of losing them or hesitation to adopt a transparent approach to communication (Dries and Pepermans, 2007). Björkman et al. (2013) argue that employee self-perception as high-potential results in lower employee turnover intention. However, there is no reported study assessing this in the context of managerial employees in Singapore: this study aims to address the abovementioned research gaps and evaluate the difference in perception between high-potential employees and other employees. The scope of this thesis is confined to managerial employees in knowledge-intensive firms, and the study aims to determine the impact of TM, JE and human capital as predictors of managerial employees' intention to stay. The following section summarises the research questions and the research gaps related to TM theory.

### **2.3.8 Research Questions and Research Gaps**

While HR professionals hold a unanimous view about the efficacy of TM programs, there is limited understanding about how TM leads to employee outcomes such as retention (Narayanan, 2016). Due to this lack of conviction and evidence, most HR managers fail to get adequate support and sponsorship from the leadership and management teams within their firms (Oladapo, 2014). This study aims to address specific gaps (section 2.3.7) through the empirical testing of the research framework. This will test the casual linkages between TM and employee retention in the context of managerial employees in knowledge-intensive firms in Singapore and thus contribute to TM theory building. The conceptual framework is depicted in Fig. 2.2.

Fig. 2. 2 – Conceptual Framework



Based on the above discussion, the research questions addressed in this thesis are listed below.

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

To summarise, research question 1 has been framed to address specific research gaps identified in the literature review as follows:

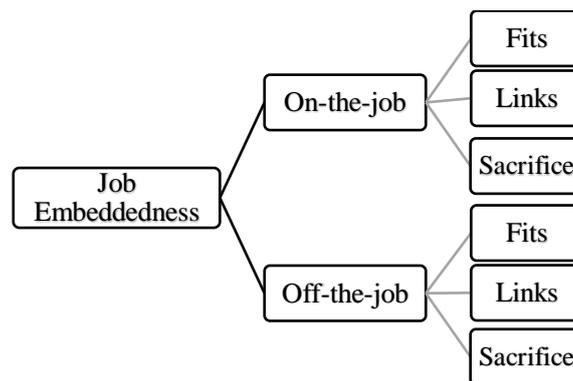
- relationship between TM and JE, human capital and employee intention to stay for managerial employees in knowledge-intensive firms
- relationship with TM (Self) and TM (Org) and difference, if any (Gallardo-Gallardo and Thunnissen, 2016, Dries and Pepermans, 2007)
- difference in perception about TM based on high-potential employee status (Festing and Schäfer, 2014, Aguinis and O'Boyle, 2014)
- relationship between TM and employee outcomes in the country context of Singapore (McDonnell, 2011) for managerial employees (Bendickson and Taylor, 2017).

This concludes the section on TM. The conceptual framework of this thesis consists of two more core theories – JE (section 2.4) and human capital (section 2.5) – and their interlinkages in predicting employee retention. The following section provides an overview of JE theory and its relevance to this thesis.

## 2.4 Job Embeddedness (JE)

The theory of JE was introduced in the pioneering research by Mitchell, Holtom, Lee, Sablinsiki and Erez (2001) to predict employee turnover intention and retention by addressing the limitations of traditional turnover models (Mobley et al., 1979). JE is a multidimensional construct reflecting the ‘totality of embedding forces that keeps a person in a job’, beyond the negative attitudes that prompt the person to leave the job (Mitchell et al., 2001). According to JE theory, employee embeddedness can be viewed in the context of on-the-job and off-the-job, and can be measured using three dimensions: links, fit and sacrifice. The authors describe embeddedness as a ‘web or net’ in which one can be embedded in many different ways (Mitchell et al., 2001, p.1104). Fig. 2.3 depicts the JE construct, with its two settings and three dimensions.

Fig. 2. 3 – Job Embeddedness (JE) Theory



The central argument of JE theory is that the reasons for employees to stay with an organisation are not the same as their reasons for leaving. The authors argue that ‘employee retention is not the obverse of turnover’; hence, the factors that precipitate leaving may be significantly different from those that enhance staying. In contrast to the traditional turnover models, JE is seen as an ‘anti-withdrawal’ construct. A sizable body of research indicates a positive relationship between JE and employee retention (Lee et al., 2014), and employee role performance (Lee et al., 2004) provides a buffer to the negative effect of job search behaviour (Holtom, Burton & Crossley, 2012). The following section provides an outline of the theoretical development of JE theory.

### **2.4.1 Background of JE**

The origin of JE can be attributed to Kurt Lewin's field theory (1951). According to Lewin, based on their environments, individuals develop mental maps that determine their place in it, based on a range of interdependent driving and restraining forces that act on individuals. Similarly, JE theory attempts to understand the network of forces that drive or restrain a person's behaviour in their organisation and their quit or stay decision, as an individual's behaviour is influenced by the extent of the embeddedness experienced by them (Allen, 2006).

The second theory that has shaped the development of JE is the 'unfolding model' of employee turnover (Lee and Mitchell, 1994). This model considers comprehensive factors, both 'market-pull and psychological-push', in understanding employee behaviour and voluntary turnover decisions (Lee and Mitchell, 1994, p.52). According to the unfolding model, employee decision to stay or quit is based on rational choices. Contrary to prevalent dominant thinking, the unfolding model considers employee behaviours as largely pre-programmed, and the decision may not necessarily involve extensive evaluation or be based on economic parameters (Lee and Mitchell, 1994). Thus, the unfolding model presented a contrary view of the turnover process as compared with that held by the traditional turnover models (Lee and Maurer, 1997).

Another key contribution of the unfolding model is the introduction of different turnover decision processes that are based on events experienced by the employees, including 'shock-driven' and 'script-driven' turnover. Shocks are events or triggers experienced by employees, while scripts are the various decision paths that are available to an employee (Lee et al., 1996). Both shocks and scripts extended the understanding of turnover process beyond attitudinal approaches, providing an alternative perspective on turnover process that goes beyond the conventionally accepted sequence of 'negative attitude-search-quit' (Mitchell and Lee, 2001). Thus, the unfolding model addressed two key limitations of prevailing turnover models: (i) improving understanding of the intermediate linkage between satisfaction and turnover and (ii)

expanding the current research beyond the narrow focus of satisfaction–turnover linkage as addressed by the unfolding model.

While the critics of the unfolding model point towards partial support for the model when tested in a different context and occupation group, and its failure to classify a substantial number of leavers (Morrell, Loan-Clarke, Arnold & Wilkinson, 2008), the unfolding model argued in favour of effective employee retention by organisations by considering the effect of various precipitating events and offering specific interventions for specific conditions. Building further on this, the JE theory focused on the reasons for employees to stay. The following section provides a comprehensive overview of the JE theory.

#### **2.4.2 JE Theory**

Mitchell and Lee (2001) introduced JE as a comprehensive concept including both work and non-work factors that influence employee decision to stay or leave a job. The JE theory emphasises aggregate factors and forces that embed an employee in their job, leading to employee retention. Accordingly, employees experiencing higher embeddedness would lead to greater inertia, lowering the probability of an employee quitting (Mitchell and Lee, 2001). The three dimensions of JE – fit, links and sacrifice – are considered in two settings: on-the-job and off-the-job, forming a more holistic assessment of employee retention and turnover intention, as shown in Fig. 2.3.

The central assumption of JE theory is that the process of employee decision of leaving and staying are different. While the quit decision involves a number of psychological states, processes and behaviours, the stay decision is largely associated with non-affective, non-job-related factors that can be influenced by organisations (Mitchell et al., 2001). This enhances the practical utility of JE theory for organisations and HR managers, who can influence turnover by focusing on enhancing employee embeddedness. Since the JE dimensions are more cognitive

than affective, the construct is flexible in recognising the differences in the manner in which employees become embedded in organisation (Besich, 2005). Thus, JE provides a valuable new lens to understand and influence employee retention, which HR professionals can use to implement a range of HR programs catering to individual differences, thereby increasing intention to stay and actual retention (Holtom and O'Neill, 2004).

Critics of JE point to the potential downside, citing the potentially harmful effect of employees who feel enmeshed in unfavourable conditions resulting in their de-motivation and frustration, leading to them being more likely to engage in counterproductive behaviours (Crossley, Bennett, Jex & Burnfield, 2007). Another possibility of deviant behaviour concerns lack of trust by employees (Marasi, Cox & Bennett, 2016). Employees experiencing low trust and high embeddedness are more inclined to engage in workplace deviant behaviours than employees who are low on both trust and embeddedness. Thus, high JE does not necessarily result in a positive outcome in every situation and may even result in lowering employee performance (Greene, Mero & Werner, 2018). Another challenge associated with embeddedness is the difficulty in implementation of JE as a concept owing to its complex nature, and scholars caution HR professionals to avoid treating JE as a panacea for employee retention (Marasi, Cox & Bennett, 2016); hence it is essential to study JE dimensions based on the context.

While the original study by Mitchell et al. (2001) presented embeddedness as an aggregate construct comprising both on-the-job and off-the-job embeddedness, several subsequent studies have considered only one of the two components of embeddedness, according to Lee et al. (2004). In certain cases it is useful to consider these constructs separately, as they are likely to have different effects on employee behaviour, and on-the-job embeddedness has higher impact on employee turnover (Mitchell, 2001). In addition, different results are reported for organisational and community embeddedness (Harman, Blum & Taho, 2009, Ramesh and

Gelfand, 2010). Further, firms are in a better position to influence the organisational factors that are linked to employee retention; hence, in their models scholars have focused only on organisational embeddedness (Besich, 2005, Ng and Feldman, 2009, Burton, Holtom, Sablinski, Mitchell & Lee, 2010, Lev, 2012). Organisational embeddedness is also reported to have a mediating effect on employee retention, according to Lev (2012). Hence, the research framework in this study (see Fig. 1.1) is based only on organisational embeddedness. The following section summarises the findings and limitations of key studies that formed the basis of the research questions presented in this thesis.

### **2.4.3 Existing JE Studies and Key Limitations**

Since its introduction in 2001 (Mitchell), JE theory has gained wider acceptance in a relatively shorter span of time, as reflected in the increased number of studies based on JE theory. However, JE-based studies report varying results based on the variables under consideration, such as cultural context (Ramesh, 2007), type of industry (Ferreira, Martinez, Lamelas & Rodrigues, 2017) and type of organisation (Coetzer, Inma & Poisat, 2017). Hence, to develop the conceptual framework, empirical studies based on JE were reviewed, and the list of key empirical studies is presented in Annexure 5. Based on the research questions in this thesis, three key areas were studied: JE and employee retention, JE and HRM and TM practices, and JE and human capital. The following section summarises the findings and potential limitations related to JE studies.

#### **2.4.3.1 JE and Employee Retention**

The findings of (Mitchell et al., 2001) study confirm the validity of JE in measuring meaningful variance in turnover and predicting significant incremental variance over and above variables in traditional turnover models, including job satisfaction and organisational commitment. This pioneer study established the reliability of JE measures and reported significant correlation between JE, turnover intention and predicted actual turnover intention, over and beyond the

traditional measures. Lee et al. (2004) further extended the validity of relationship between embeddedness and employee turnover, providing support for JE as a predictor of employee retention and initial validity of the measures. Several scholars thereafter reported a positive relationship between embeddedness and employee retention (Lee et al., 2004, Cunningham et al., 2005, Crossley et al., 2007, Tanova and Holtom, 2008, Ramesh and Gelfand, 2010, Smith, Holtom & Mitchell, 2011, Lang et al., 2016). Apart from lowering the turnover intentions, Lang et al. (2016) reported that highly embedded employees have lower probability of receiving alternative job opportunities, thus indirectly leading to lower turnover.

Other scholars have validated JE as a predictor of employee retention, including (Cunningham et al., 2005, Mallol et al., 2007, Dawley and Andrews, 2012, Lang et al., 2016). Past studies have considered both organisation and community embeddedness to study employee retention (Ramesh and Gelfand, 2010, Smith et al., 2011). However, studies of both organisational and community embeddedness show greater variations in measures, research methodology and reported results. On the other hand, some scholars have considered only organisational embeddedness and report significant negative correlations with employee turnover intentions (Burton et al., 2010, Lev, 2012). (Purba et al., 2016) argue in favour of separate investigation of organisational and non-work-related embeddedness and its linkage to turnover intentions. Allen (2006) provides discriminant validity for organisational embeddedness, reporting significant negative correlation with turnover. According to Crossley et al. (2007), when employees assess their attachment with their jobs, they tend to evaluate organisational factors more heavily, as compared with their community factors.

An alternative perspective on community embeddedness is presented by Dawley and Andrews (2012), who argue that higher community embeddedness may in fact result in increased – not decreased – turnover intentions in some cases, as employees with higher community embeddedness are likely to have more contacts within the community, which makes it easier for

them to find alternative job opportunities. Allen (2006) argues that community links, family situation and spouse are more likely to influence turnover decisions in scenarios that require the employee to relocate – hence, it may not be significant in other cases. Further, employee preference for several community dimensions is likely to vary significantly by employee group, based on factors such as age, marital status, ethnicity et cetera, which would make it difficult for organisations to effectively control for these factors. The authors concluded that, while JE is negatively related to turnover, this relationship is stronger for organisational factors.

Based on the above review, it can be argued that employees who perceive higher levels of organisational embeddedness are likely to demonstrate higher intention to stay (Besich, 2005). Hence, the purpose of this study is to assess organisation policies and practices that influence employee retention. HR and TM practices primarily focus on organisational and not community factors (Bergiel et al., 2009). Accordingly, the scope of this study is limited to organisational embeddedness. Through such scope, this study addresses the call for research by (Jiang et al., 2012b) to understand how organisational embeddedness and the three dimensions of JE – fit, links and sacrifice – relate to retention. The following section presents an overview of JE and HRM and TM practices.

#### **2.4.3.2 JE and Human Resource Management (HRM) and Talent Management (TM) Practices**

The JE concept has been developed as an aggregate of non-affective factors that influence an employee's decision to stay in the organisation, and several studies have examined the relationship between HRM and JE. The pioneering study testing the impact of HRM practices and employee turnover using the unfolding model was reported by Lee and Maurer (1997). In their study of HRM practices and retention of knowledge workers (Lee et al., 1999, Lee and Mitchell, 1994) conclude that different HRM practices are relevant for the retention of different employee groups; however, it is important to note that not all HRM practices are effective in every type of quit decision. The authors conclude that firms can enhance retention of knowledge

workers by adopting suitable HRM practices, such as training and development and career planning.

According to Ghosh and Gurunathan (2015), HRM practices that are aligned to organisational goals and the personal goals of knowledge workers tend to forge strong psychological contracts amongst employees, resulting in enhanced employee retention. They further claim that a one-unit increase in positive perception of HRM practices leads to a 31% reduction of turnover intention. The effect of HRM practices in lowering turnover intention is mediated by JE through employee perception of fit and increased professional links. Collectively, increased fit and links lead to a greater perception of sacrifice amongst employees, discouraging them from leaving the organisation. Ferreira, Martinez, Lamelas & Rodrigues (2017) argue that organisations can influence employee retention by increasing employee perception of cost of leaving through relevant training and career development programs and by embedding employees. Other HRM practices, such as proactive planning for career opportunities for employees, results in higher embeddedness for employees who are advancing up the career ladder (Lang et al., 2016). TM programs are focused on critical groups of employees – typically, those considered to be high-performing – with the aim to enhance their skills, competence, and retention (Cappelli, 2008). Hence, it can be argued that effective HRM and TM practices will enhance embeddedness and lead to a reduction in employee turnover.

#### **2.4.3.3 JE and Human Capital**

The human capital of an organisation is represented in the knowledge, skills and abilities of its workforce and is considered to be a key differentiator that determines the success or failure of firms. The tacit knowledge held by individual employees make the organisational human capital a major profit lever (Bontis and Fitz-Enz, 2002) and a source of innovation and strategic renewal. This dependence on human capital is more pronounced in the knowledge economy,

where knowledge and information drives growth and performance (Felin, Zenger & Tomsik, 2009). Managing human capital has thus become a central role of HRM professionals.

While human capital creation can be influenced by several means, it is argued that enhancing person–job fit is an effective approach (Holtom et al., 2006) and beneficial for both the firm and the employee. It is also argued that JE that leads to the creation of human capital and a higher job fit is also associated with greater job performance (Halbesleben and Wheeler, 2008). In addition, a higher perception of fit results in higher job satisfaction (Holtom et al., 2012). Apart from enhancing human capital, JE enhances employee social capital by enhancing the number of formal and informal links within the organisation (Ng, 2010). However, authors caution that some employees with high JE may lack motivation to increase their human capital if these development areas are not seen as personally relevant. According to Moses (2013), employee perception of human capital is influenced by employee perception of the nature of embeddedness in the organisation; hence, a positive perception about being embedded in the organisation will lead to positive human capital and vice versa. Thus, it is important for HR professionals to weigh relevant factors, including employee embeddedness, while investing in human capital development.

A critical premise of human capital theory is development of firm-specific knowledge and capabilities that enable employees to create value for customers (Lepak and Snell, 1999). Accordingly, most firms invest in training and development to enhance individual employee skills and overall organisational capability. Such investment is reported to enhance employee perception of fit (Takawira, Coetzee & Schreuder, 2014), resulting in a virtuous cycle of future growth potential and high performance. The above discussion indicates an association between JE and human capital development. The following section summaries the key research gaps associated with the research questions related to JE.

#### **2.4.4 Research Question and Research Gaps**

JE theory has gained popularity and acceptance amongst the academic community and the HR and consulting community, as it presents a nuanced understanding of employee retention. Owing to its relative novelty, scholars have identified several areas to enhance the theoretical boundaries of JE. This thesis addresses the following research question and specific research gaps.

**Research question 2:** How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?

Research question 2 has been developed to address specific research gaps identified in the literature on JE, TM and human capital review:

- relationship between TM and organisational embeddedness (Ferreira et al., 2017) and the mediating effect of JE on TM and employee retention (Wheeler et al., 2010)
- relationship between JE and fit and human capital (Moses, 2013)
- extend understanding of JE in a new country context (Harman, Blum & Taho, 2009, Sender, Rutishauser & Staffelbach, 2018) for a subgroup of managerial employees in the context of a different industry – i.e. knowledge-intensive firms (Peltokorpi, 2013)
- methodical contribution by assessing JE measures as a reflective construct (Zhang, Fried & Griffeth, 2012).

The following section presents a conceptual overview of the third core theory in this thesis – human capital theory – and its linkage with other theories in this thesis.

### **2.5 Human Capital Theory**

The preceding sections introduced TM and JE theories as adopted in this thesis. This section introduces the theory of human capital and its relevance to the research framework of this thesis.

Though the human capital theory has evolved during the 20th century, its conceptualisation can be traced back a few centuries to the 1776, when renowned economist Adam Smith recognised

the linkage between human capabilities and wealth of nations (Sweetland, 1996). The formal field of human capital was established in the 1960s through the work of Theodore Schultz (1961, p.2), who pioneered the concept of acquisition of skills and knowledge as "an investment in human capital", contrary to the prevalent practice of treating these as expenses. The concept was further expanded by Gary Becker (1962), who articulated the role of intangible resources such as knowledge as a form of capital that can be leveraged by firms.

The majority of the initial scholarship on human capital theory focused on the role and impact of education in creating human capital, and the initial works were based on two basic assumptions that education improved skills and productive capacity of a worker. This in turn led to workers' income variations. The development of human capital theory led to the treatment of every worker as a capital resource and was the beginning of workforce differentiation, departing from the traditional view of the workforce as a homogenous entity (Bowles and Gintis, 1975). While there is a significant body of literature on human capital within the economics discipline, for the purpose of this thesis the concept of human capital has been considered in the context of HRM, and the subsequent literature review is based on HRM and organisational perspective.

Traditionally, the term 'capital' in management literature implies resources that could be used to achieve individual and organisational goals, and the notion of capital focused mainly on physical (machinery) and financial (funds) resources, based on economic and financial perspectives. On the contrary, the premise of human capital theory is that skills, knowledge and experiences possessed by people contribute to economic value for firms. Such economic value is created by enabling employees to complete assigned tasks and to engage in productive pursuits that translate into performance (Snell and Dean, 1992). The human capital that makes an employee productive can either be specific to one organisation or generic across organisations (Becker, 1962).

Another foundational assumption pertaining to human capital is the role of individual employees' free will. According to the theory, a substantial part of human capability is intangible, and individual employees' behaviours are largely determined by their own free will, emotional and cognitive capabilities (Becker, 1962), thus distinguishing human capital from other traditional capitals accessible to firms. These unique characteristics of human capital put limits on the 'ownership' that employers can claim for the knowledge, skills and abilities that are embodied within their employees. The organisational challenge is further aggravated due to the transferable nature of human capital and its ability to command a premium from other competitor firms in the market (Becker, 1964), giving rise to the significance of human capital management and retention as an integral part of the SHRM function (Wright and McMahan, 2011).

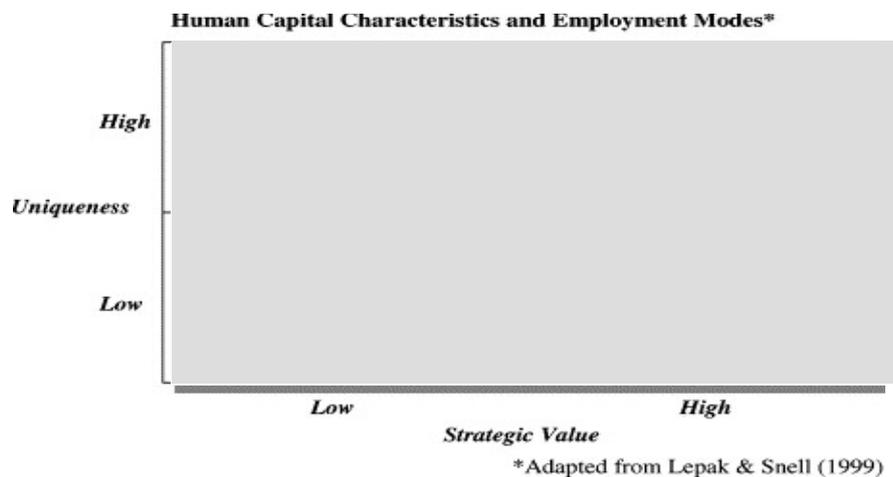
Before its acceptance as a mainstream theory, the notion of human capital was criticised by some as equating human beings to capital goods, thereby reducing human beings to mere material components at the disposal of firms, leading to devaluation of humans as machines or slaves (Becker, 1994). This view was challenged by advocates of human capital theory, such as Adam Smith, who boldly included the acquired and beneficial capabilities of people as part of capital (Schultz, 1961). Other critics claim human capital theory endorses supply-side perspectives – that is, the theory explains human behaviour and wages based on knowledge and skills possessed by employees. However, in reality the wages and HRM practices adopted by firms are determined by both demand and supply of skills; hence, not all enhancements in wages can be attributed to investment in skills (Strober, 1990). Despite criticism, human capital has arguably evolved as one of the most critical resources over a period (Pfeffer, 1994), is seen to play a critical role in knowledge-intensive activities (Gambardella, Panico & Valentini, 2015) and continues to contribute to a firm's competitive advantage (Delery and Roumpi, 2017). The

following section presents a brief overview of human capital theory in the context of employees and HRM.

### 2.5.1 Human Capital Framework

The impetus for the growth of human capital theory can be traced back to SHRM literature linking employee contribution and organisation success (Dries, 2013). According to RBV, the skills and capabilities of a firm’s employees embody its human capital, which is a major source of sustained competitive advantage (Wright et al., 2001). In their seminal work, Lepak and Snell (1999, p.35) categorise organisational human capital along two dimensions – value and uniqueness, where ‘value’ refers to the potential of human capital to contribute to an organisation’s core competence and ‘uniqueness’ represents the extent of difficulty faced by firms in replacing this human capital (Lepak and Snell, 1999). Within the human capital framework, these two dimensions are presented by the authors as a matrix with four quadrants, representing different characteristics and employment modes, as presented in Fig. 2.4.

Fig. 2. 4 – Human Capital Framework



Source - (Lepak and Snell, 2002)

Within the human capital framework, quadrant 1 depicts employees possessing both high value and high uniqueness. Owing to their characteristics, employees in quadrant 1 are considered to hold a strategic role in the firm’s performance and are, hence, treated as talent (De Vos and

Dries, 2013). The framework proposes ‘internal development’ as the employment mode for this workforce group, as employees possessing high value and unique skills cannot be easily bought from the external labour markets. Hence, organisations are likely to rely on an investment-oriented approach based on mutual investments by firms and employees to develop such employees (Lepak and Snell, 2002). These high-investment practices include TM practices, which are reported to affect outcomes such as employee attitudes and behaviours for highly valuable and unique employees (Gelens et al., 2014).

Critics of the human capital view, which favours differentiation of employees based on their value and uniqueness to the firm, argue that such practices have led over the past few decades to the emergence of a two-tiered workforce, comprising a select minor group of top-tier, high-value, unique employees with higher bargaining power and a majority of employees who are seen as ‘replaceable’ and who may not be in a position to ‘demand’ fair treatment and career opportunities. This leads to an adverse effect on the workforce (Van Buren, 2003). Despite criticism, the concept of human capital continues to gain acceptance, owing to its relationship with firm strategy and performance (Hitt, Biermant, Shimizu & Kochhar, 2001). The following section presents a brief review of empirical studies on human capital and its relationship with other predictor variables in this research study. Annexure 6 presents the details of select studies based on human capital theory and employee outcomes.

### **2.5.2 Existing Studies in Human Capital and Key Limitations**

The extant studies on human capital have focused on explanations of its causal linkages with several predictor variables, including organisational culture, employee motivation, employee engagement and satisfaction (Barney 1986), leadership (Edmondson 1996), employee performance and rewards (Massingham and Tam, 2015) and service quality (Aryee et al., 2016). However, the significance of human capital as a driver of differentiation was first proposed by Barney (1991), emphasising the strategic value of rare and inimitable resources (VRIN). It has

since been extensively adopted by firms witnessing an increase in technology-enabled and knowledge-intensive work. Boxall (1996, p.67) further argues that firms with demonstrated ability to attract and retain an exceptional talent pool have access to human capital advantage over their competitors owing to 'latent with productive possibilities'. Building further, Hitt et al. (2001) reported the relationship between human capital and firm performance. The authors argued that there is a u-shaped, curvilinear relationship between human capital and firm performance, reflecting the impact of investment in human capital on the long-term performance and sustainability of firms. Later, several scholarly papers confirmed the relationship between human capital and organisational performance (Hitt et al., 2001, Collins and Clark, 2003, Marimuthu et al., 2009, Crook et al., 2011).

However, by itself, human capital may not create a differentiating value, unless and until the concerned employees choose to engage in individual and collective behaviours that benefit the firm (Wright et al., 2001) and demonstrate stability and lower turnover (Bontis and Fitz-Enz, 2002). Unlike other forms of capital, firms do not 'own' their human capital; they only have access to it. In order to derive valuable strategic impact from their human capital, firms need to ensure appropriate work design and people management (Barney, 1991). This points to the critical role played by management and associated HRM and TM practices in creating an alignment of interest between the firm and its employees to ensure a talented and committed workforce.

The necessity for a holistic study to understand the relationship between TM, human capital and employee retention has become more important in the context of greater reliance on highly skilled employees, especially in the context of knowledge-intensive firms. According to (Heckman, 2000), the skills differential between highly skilled employees and those considered to be semi-skilled and low-skilled is widening, placing a further premium on attracting and retaining human capital. Within the Association of Southeast Asian Nations (ASEAN) region,

and particularly in Singapore, the rise in the knowledge-based economy is placing greater demand and premium on human capital and ICT capabilities (Irawati and Rutten, 2013). This has led to greater interest in the topic of human capital.

Lastly, despite the growing number of studies, human capital measures adopted in empirical studies vary widely in conceptualisation and application. Wright and McMahan (2011) argue for development of human capital measures and empirical evidence to extend our understanding of the strategic nature of HRM and implication of human capital for both the organisations and the employees. In order to address this research gap, this study adopted human capital measures based on the human capital framework suggested by Lepak and Snell (2002), to test the psychometric properties through this empirical study.

As discussed earlier, for the purpose of this research, the human capital theory in the discipline of HRM and business has been considered, although this is a widely researched topic in the field of economics.

### **2.5.3 Research Question and Research Gaps**

Effective human capital management calls for greater investments in training and development and reduction in employee turnover (Bontis and Fitz-Enz, 2002). Retention of human capital becomes an important consideration for firms that have a larger employee base in the high-value, high-uniqueness quadrant, as turnover of these pivotal employees is likely to pose significant threat to firms (De Vos and Dries, 2013). In addition, differences in the human capital composition demonstrates significant variations within the organisations. Hence, these two dimensions of human capital are studied conjointly (on the basis of value and uniqueness) to assess their relationship with the strategic employee retention initiative of TM. This thesis addresses this gap on the basis of following research question:

**Research question 3:** Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?

To conclude, research question 3 addresses specific research gaps identified in the literature of human capital, TM and employee retention as follows:

- relationship between human capital and employee retention practices in firms (De Vos and Dries, 2013)
- there is limited research explaining the link between HRM practices and retention of managerial employees (Purcell and Hutchinson, 2007)
- the majority of the employee retention literature is focused on individual employees rather than a specific group of key resources, such as managerial employees (Ortlieb and Sieben, 2012).

This concludes the overview of three core theories – TM, JE and human capital – adopted in this thesis. The following section presents an overview of the research setting. This includes HRM practices in Singapore, past studies on employee retention in Singapore, the growth of knowledge-intensive firms and the criticality of retention of managerial employees. The section concludes with research question 4 and associated research gaps.

## **2.6 Research Setting**

The research setting of this thesis is Singapore. To understand the context and appreciate the significance of the research questions, this section provides an overview of HRM practices in Singapore and their current standing, and a background to employee turnover and key retention issues faced by knowledge-intensive firms, especially in the context of managerial employees, by review of key extant studies.

### **2.6.1 Human Resource Management (HRM) Practices in Singapore**

HRM practices within a country are usually linked to its unique culture and context (Burton, Butler & Mowday, 2003), resulting in the modification of organisational practices to meet

country-specific characteristics. In line with the growth of the city-state of Singapore from a sleepy seaport in early 19th century to a developed country by 1999, the HRM function has also evolved from its traditional Chinese family business approach to one embracing Western models of personnel, or HRM, practices under the influence of multinational enterprises (MNE), guided by proactive government policies (Yuen, 1997). This evolution was accelerated by external factors, such as dynamic international economic forces and regionalisation of local companies, and internal factors, such as labour market conditions and an educated workforce (Chew and Goh, 1997). Singapore has benefitted from the collaborative tripartite relationships between the key stakeholders: government, labour unions and employers. This has promoted a harmonious labour–management relationship (Ministry of Manpower, 2017b), which is perceived to be a key competitive advantage of the nation. The HR function has continued to evolve both at national level, through its emphasis on strategic development and strengthening of the tripartite movement, and at the firm level, by attracting foreign talent, developing local talent through its enhanced education system and adopting professional management practices (Wan, 2003). The country has proactively managed the talent pool through strategic sourcing from both local and foreign talent pools to successfully transition into a knowledge-based economy (Gan, Kuah & Leggett, 2017).

Singapore adopted human capital development as a national strategy as it transitioned from a manufacturing to a service economy during the 1990s (Osman-Gani, 2004), resulting in firms constantly altering their human capital strategies in line with national goals, focusing on creating a pool of well-trained human resources. Singaporean firms are known to align their organisational strategies to the national strategy and systematically modify HRM practices that enhance employee outcomes (Khatri, 2000), such as higher employee productivity and performance, job satisfaction and commitment (Wan, Ong & Kok, 2002), positioning the HR function as a strategic function.

Another reason for the growth of the SHRM function in Singapore has been a conscious attempt to enhance the strategic capabilities of HR practitioners (Akaraborworn and McLean, 2002), since HR practices and HR practitioners' capabilities were seen as critical success factors in developing and maintaining the competitive advantage and survival of firms (Park, Gardner & Wright, 2004). HRM practices in Singapore have resulted in employee outcomes such as improved organisational performance due to high-performing work systems and practices (Bae, Chen, Wan, Lawler & Walumbwa, 2003), employee retention through work-life benefits (Soon, Quazi, Tay & Kelly, 2005), higher employee retention due to integrated HRM practices (Rowley and Warner, 2004, Reiche, 2009), employee capability-building through employee training and development (Lee et al., 2003) and increased employee engagement and satisfaction (Van Rooy et al., 2011). On the flipside, post the Global Financial Crisis of 2009, several organisations were required to implement workforce reductions with downsizing and lay-offs, giving an impression that the 'war for talent' was replaced by a 'war on talent' (McDonnell, 2011), emphasising the strategic role of HRM practices in integrating external environmental factors and firm practices and policies.

Over the past decade, Singapore has emerged as a knowledge economy (Yue, 2001) and is moving towards its 'Vision 2030', which emphasises sustainability (Ministry of Trade and Industry, 2014). This transition of the economy has been supported by the HRM function through its adoption of progressive collective and collaborative strategies to leverage its human capital (Wan, 2003). The dynamic and innovative human capital development initiatives, such as a vision for the country to be a "talent capital", have positioned Singapore as an attractive destination for human capital (Ministry of Manpower, 2000, Ministry of Trade and Industry, 2014). The Future Economy Council (FEC) was set up to identify growth levers to drive Singapore's transformation into its next growth phase, and one of five key areas of investments identified is 'future jobs and skills' (Ministry of Communications and Information, 2017). The

FEC has recommended the development of ‘deep skills’ for the workforce through lifelong learning to cope with changing demands as the economy transforms, placing greater demands on HR professionals to design and implement relevant workforce strategies, as the criticality of human capital and the axiomatic ‘war for talent’ is expected to accelerate with the rise of the knowledge economy. However, it is predicted that the focus of the ‘war’ will shift from average workers to ‘talented knowledge workers’, who will be the prime-mover of the new economy (Ng, 2011). The evolving HR policies need to align with the changes in employment legislations, financial incentives and technological growth to sustain the national initiatives (Osman-Gani and Chan, 2009), so as to ensure the strategic role of the HRM function (Stanton and Nankervis, 2011). Apart from adopting strategic practices, it is also essential for organisations to market their HRM practices internally within their firms, treating their employees as internal customers, as this is reported to have a significant reduction in employee turnover intentions (Limor and Jacob, 2018).

Popular media reports and anecdotal evidence indicate that Singaporean firms frequently implement TM practices; however, the published studies on TM practices and their outcomes in Singapore are very limited (Koh, 2003). Tarique and Schuler (2010) urge scholars to conduct further empirical studies on specific HRM practices, including TM practices. In particular, there is a need to review HR practices in knowledge-intensive sectors so as to establish linkages between HRM practices, employee outcomes and firm performance (Budhwar and Debrah, 2009). (Varma and Budhwar, 2013) stress the necessity for refining TM theory and practical applications, thus pointing to a significant research gap in TM concepts and organisational practices in the Singapore context.

One of the key outcomes of TM programs is employee retention, which continues to be a significant issue for Singaporean firms and is outlined in the following section, thus providing a context to the research questions and hypotheses presented in the subsequent sections.

### 2.6.2 Employee Turnover and Retention in Singapore

Global employment trends and employee retention issues continue to affect Singapore due to its interlinkages with global and regional economies (Khilji et al., 2015). As a comparatively small country with limited resources, Singapore has long realised the importance of attracting and retaining talent for its competitive advantage (Bhasin and Cheng, 2002). Historically, Singapore has been confronted with high employee turnover, with turnover rates projected to be the highest amongst Asian countries, with Singaporean employees earning notoriety for job-hopping for no apparent reason (Khatri, Budhwar & Fern, 1999).

The higher employee turnover in Singapore is shaped by the *kiasu* psyche (high achievement and anxiety), in which employees are likely to prefer an alternative employment arrangement when their psychological contracts are violated (Ang, Tan & Ng, 2000). While acknowledging the peculiar nature of the workforce, Khatri et al. (2001) highlight three sets of causal variables influencing voluntary turnover: demographic, controllable and uncontrollable factors. The authors argue that the extent of turnover due to controllable factors (job satisfaction, organisational commitment and organisational justice) is considerably greater as compared with uncontrollable factors (perceived alternatives and job-hopping). The ownership for employee retention then shifts to HR practitioners, making them accountable for designing and implementing appropriate programs that influence employee behaviour. Other HR policies and practices such as recruitment, selection and induction also help mitigate and strategically manage the effect of turnover (Cheng and Brown, 1998). Historically, tight labour markets and skills shortages (Chew and Goh, 1997) were known to affect employee anxieties and attitude (Osman-Gani and Chan, 2009) and these factors continue to be a challenge (Singapore Business Review, 2017). The skills shortage is further accentuated by changing rules governing the employment of a foreign workforce, leading to workforce contraction and tighter labour market conditions due to lower unemployment (Ministry of Manpower, 2017a). These findings further

confirm the importance of HR practices in influencing employee retention, which is the central question of this thesis.

Historically, employee turnover models have been developed predominantly in Western settings. These are likely to be more context specific and need not necessarily be applicable in other national settings, due to differences in people's work-related values (Hofstede, 1983). Therefore, the turnover models need to be studied in specific national context to better understand and control employee attrition (Maertz and Campion, 1998). Accordingly, the aim of this study is to understand employee retention in the national context of Singapore to test the relevance of turnover models.

Employee retention has also remained a significant and consistent issue in the context of knowledge-intensive firms in Singapore (Horwitz, Heng & Quazi, 2003), and it continues to remain a recurrent challenge (Ministry of Manpower, 2012, Ministry of Manpower, 2017a). Hence, it is of interest to policymakers, businesses and HR practitioners alike. Growth of knowledge-intensive firms has resulted in a greater proportion of the Singaporean workforce (39%) occupying higher status jobs, including managers and professionals, with formal accreditations. These employees are likely to demand better career and job opportunities and are more employable compared with their counterparts in lower status jobs, thereby resulting in higher turnover rates (Ang, Tan & Ng, 2000). HR and TM practices are reported to influence employee organisational commitment and retention (Chew and Chan, 2008), while skills training and development programs enhance employee retention (Park et al., 2004, Zheng, 2009, Osman-Gani and Paik, 2016). However, the role of TM and its effect on employee behaviour needs to be examined in different country context (Khilji and Schuler, 2017). Thus, this thesis aims to extend the TM, JE and employee retention theories in the context of Singapore.

### **2.6.3 Knowledge-intensive Firms in Singapore**

Renowned futurist Alvin Toffler (1990) predicted a shift in the levers for wealth creation from muscle to mind during the 21st century. This is reflected in the growth of the knowledge economy, with talent and intelligence emerging as key economic forces (Crawford, 1991). This shift has led to the emergence of human capital as the driving force, replacing the physical capital which was considered as the driving force during the industrial era (Starbuck, 1992, Snell and Dean, 1992). The advent of the information era has resulted in growing academic and research interest in the topic of knowledge-intensive firms, business enterprises that accept knowledge as their most important input in order to produce exceptionally good results through expertise (Starbuck, 1992). While broadly adopted in the management lexicon, the term 'knowledge-intensive' represents a category of firms that have complex interlinkages to the nature and type of knowledge, deal with a greater extent of ambiguity and uncertainty, and rely mainly upon the formal and acquired skills and competencies of its employees (Alvesson, 1993).

Knowledge-intensive businesses have reported an accelerated growth (Steel et al., 2002), and this trend has been reported in Singapore as well (Yue, 2001). This shift towards the knowledge-based economy is not only redefining the conventional industrial-age models of work and organisational structures but also empowering individual employees involved in knowledge work (Burton-Jones, 2001). These knowledge workers are expected to engage in problem-solving and decision-making as part of their job responsibilities as compared with other workers whose job scope is confined to physical work (Snell and Dean, 1992), with their firms relying on these employees for success and survival (Drucker, 2002). There is greater pressure on firms to hire high-value workers who possess high cognitive ability (Festing et al., 2013), as this group of employees have come to the forefront as major creators of wealth and jobs. Owing to this, retention of a high-value workforce is reported as a key challenge faced by HR and TM professionals in the knowledge economy (Vaiman and Holden, 2010, Sparrow et al., 2013). The

challenge of employee retention also stems from one of the key traits possessed by these knowledge workers: higher mobility and relatively frequent job changes, resulting in higher turnover (Tan, Baum & Horton, 2007).

In their pioneering work related to knowledge workers' attrition, (Lee and Maurer, 1997) conceptualised different ways in which knowledge workers are likely to leave an organisation, based on the 'unfolding model of turnover'. They argue that effective HRM interventions are important means of retaining knowledge workers. Their claim was supported in an empirical study by Wong and Singh (2004) across 180 knowledge-intensive firms in Singapore, concluding with a significant positive relationship between staff development practices, employee behaviour and firm performance. In addition to development practices, other means of enhancing employee retention include TM initiatives that provide challenging and meaningful work to employees, enabling career development opportunities, recognising contributions, and creating a supportive environment (Carleton, 2011). TM practices become very relevant and pertinent especially in the case of knowledge workers, as these employees are known to demonstrate keen interest in enhancing their specialist skills so as to maintain their 'market appeal' and distinguishing position (Paton, 2013). Hence, it can be argued that these employees are likely to possess more favourable disposition towards learning and development, especially for acquiring firm-specific knowledge through programs such as TM. The number of knowledge-intensive firms is predicted to grow, resulting in an exponential growth in the number of knowledge workers. Thus, it is essential to conduct empirical research to further understand factors that influence motivation, performance and retention of this critical employee group (Acseste, 2010).

The salience of employee turnover in knowledge-intensive industries is significantly different from that in traditional industries. In traditional industries, turnover typically results in the replacement of an existing employee by another trainable employee. This is contrary to

knowledge-intensive sectors, where each knowledge worker is likely to possess a specific skill set and tacit knowledge, making replacement a major concern, further amplifying the magnitude and consequence of employee attrition (Wong and He, 2005). In addition, knowledge-intensive firms are known to attract human capital with higher skills and formal qualifications. In order to maintain employee skills, these firms make systematic investment in training, and the training expenditure results in a substantial percentage of payroll, thereby increasing the criticality of employee retention. The knowledge-intensive firms in Singapore continue to witness the changing nature of work due to newer knowledge management practices and the global convergence of technology, making it challenging to attract, motivate and retain employees (Horwitz et al., 2003). While the category of knowledge worker includes several different employee groups, managerial and professional employees are the most commonly included groups, comprising professional employees such as engineers, lawyers and accountants (Krausert, 2014). However, there is limited research on firm-level HRM practices and their impact on specific groups of employees, especially middle managers (Krausert, 2014). This thesis addresses both these research gaps by testing the relationship between TM, JE, human capital and employee retention in knowledge-intensive firms in Singapore. The following section provides an overview of managerial employees, their significance in knowledge-intensive firms and the relevance of this group in this research context.

#### **2.6.4 Managerial Employees in Singapore**

The topic of middle managers in organisations continues to evoke mixed sentiments. While being treated as a dying breed by some, others claim that everyone is becoming a middle manager (Peters, 1987). Yet middle managers have persisted and are known to provide consistency and control that is essential for the functioning of an enterprise (Floyd and Wooldridge, 1994). Middle managers play an important role in implementing organisational change, as they are able to recognise the need for change due to their unique position within the

organisation and can influence perception across hierarchy, by both upward and downward management (Floyd and Wooldridge, 2000). The middle managers also play a critical role in the execution of change initiatives, acting as fulcrums, owing to their ambidextrous abilities (Belasen and Lubet, 2017). Their involvement is reported to generate greater employee support for change within the organisation (Heyden, Fourné, Koene, Werkman & Ansari, 2017).

Managerial employees are deemed to possess strategic value to their employers due to the extensive high-level technical and managerial responsibilities conferred upon them (Ortlieb and Sieben, 2012). Within knowledge-intensive firms, managerial leadership acts as a catalyst that enables organisational learning, thereby developing innovation capabilities (Bontis and Fitz-Enz, 2002). Over time, managerial roles too have evolved. The complexities and demanding nature of work in knowledge-intensive firms requires managers to demonstrate comprehensive technical and leadership skills compared with the traditional industrial era managerial roles which focused on planning, organising and review functions (Mintzberg, 1973). Generally, employees in managerial roles build upon their functional knowledge by acquiring firm-specific and industry-specific knowledge through experiential learning, and this investment-oriented approach makes it difficult for competitor firms to imitate managerial employees and their skills (Combs and Skill, 2003). Another distinguishing factor of managerial employees is their ability to apply their expertise and tacit knowledge to solve complex workplace problems and usually perform intellectually challenging jobs involving discretionary behaviours, such as self-initiative and accountability for outcomes and resources, making them a critical resource for firms.

Despite their significant role as 'linking pins' connecting and implementing strategic initiatives in organisations, existing literature has placed greater emphasis on studying top management teams comprising an inner circle of the most senior executives of a firm, rather than middle managers (Raes, Heijltjes, Glunk & Roe, 2011). (Wright, McMahan & McWilliams, 1994) criticise the general tendency of firms to consider only their top echelon as the source of

competitive advantage and argue in favour of including other talent pools, such as middle managers, whose strategic roles have a direct relationship with organisational performance (Floyd and Wooldridge, 1994, Floyd and Wooldridge, 1997). Thus, over a period of time, the premise that middle managers play a key role in firm performance has led to the development of ‘middle management perspective’ (Wooldridge, Schmid & Floyd, 2008), and motivating and retaining middle managers is seen as a primary role and responsibility of top management (Ou, Seo, Choi & Hom, 2017).

The SHRM literature also endorses the competencies of professional and managerial staff, distinguishing them as a valuable human capital pool residing within the firm (Wright et al., 1994, Boxall, 1996). In the context of knowledge-intensive firms, managerial employees meet the criteria of being resources that are valuable, rare, inimitable and not easy to substitute (Barney, 1991); hence, they are considered core assets within the differentiated HR architecture (Lepak and Snell, 1999). In conclusion, based on both strategy and HRM literature, one can conclude that managerial employees provide productive services and essential inputs for execution of processes (Foss, 1997) and possess social capital essential for effective strategy implementation (Ahearne, Lam & Kraus, 2014). Hence, it is a fundamental managerial task to retain these competences within the firm (Ortlieb and Sieben, 2012).

While critics question their relevance (Embertson, 2006) and denounce them as the ‘frozen middle’ – that is, averse to change – middle managers continue to make valuable contributions to firms that are largely unrecognised (Huy, 2001, Huy, 2011). Such neglect leads to risk of demotivation and burnout of middle managers (Belasen and Belasen, 2017), increasing turnover rates amongst mid-level managers (McKinney, McMahon & Walsh, 2013). The turnover risk is also amplified as managerial employees are more visible, internally and externally, and hence more susceptible to being hired by competitors offering attractive financial incentives (Ortlieb and Sieben, 2012). Since managerial employees play critical boundary-spanning roles within

organisations (Schotter, Mudambi, Doz & Gaur, 2017), they represent key human capital with the ability to influence firm performance under both favourable and negative events, and special consideration and effort needs to be placed on their retention (Bendickson and Taylor, 2017).

The linkage between SHRM, TM practices and employee retention has been detailed in preceding sections of this chapter. Advocates of SHRM and employee retention contend that the turnover drivers and subsequent retention programs differ significantly based on the employee group under consideration (Lepak and Snell, 2002). Hence, it is recommended that the most relevant group or subgroup of employees be identified to understand the turnover phenomenon and ensure a focused approach. It is also advisable to focus on one industry that considers human capital as a dominant resource (Hitt et al., 2001). However, there is limited research on the link between HRM practices and managerial employees (Purcell and Hutchinson, 2007). The majority of employee retention literature is focused on individual employees rather than a specific group of key resources, such as managerial employees (Ortlieb and Sieben, 2012). Within the TM literature, strategic jobs are emphasised, but limited research effort has been made on the process of identifying strategic jobs (Huselid and Becker, 2011). There is also an urgent need to identify such jobs within the organisation and beyond the executive suits (Cappelli and Keller, 2014).

Within Singapore, continued growth of the knowledge-based economy is projected (Menkhoff, Wah & Loh, 2016), and the number of Singaporeans and non-Singaporeans employed in professional, managers, engineering and technical (PMET) roles is expected to increase from 850,000 at present to 1.25 million by 2030 (National Population Division, 2013). Currently, the PMET segment of the workforce comprises key employee groups in knowledge-intensive industries, further accentuating the need for theory building and empirical research in this area. To address these research gaps, the scope of this study is confined to managerial employees

within knowledge-intensive firms and testing the relationship between TM practices and employee retention for this set of strategic job holders.

### **2.6.5 High-Potential Employees**

The TM process involves both identification of strategic jobs and development of individuals in strategic jobs. Two such criteria for identifying strategic jobs were proposed by (Huselid, Beatty & Becker, 2005): direct strategic impact on business results and performance variability of the incumbents. These criteria can be adopted by firms to assess its range of jobs and prioritise retention of those critical jobs where individual performance has the greatest potential to impact firm performance (Boudreau & Ramstad, 2007).

A growing body of workforce differentiation literature asserts that the strategic jobs in an organisation are not confined to executive levels (Collings and Mellahi, 2009) and can potentially be located anywhere in the organisation on the basis of the firm's strategic competencies. This gives rise to the phenomenon of 'high-potential' employees, with organisations adopting special programs for this select group of employees (Dries et al., 2012); such high-potential employees are commonly recognised as future leaders in the organisation (Dries and Pepermans, 2007). The high-potential employees are considered to be twice as valuable as other employees (Cappelli and Keller, 2017) and TM programs are known to play a critical role in ensuring the development of high-potential employees. This ensures that the right people are available for the right challenges, aligned with the business strategy (Winiarska-Januszewicz and Winiarski, 2014).

Despite awareness about the critical role played by high-potential employees, most organisations continue to struggle with managing and retaining these employees (Grossman, 2012), with some organisations lacking the criteria and processes for determining high-potential employees and relying instead on post hoc identification (O'Boyle and Kroska, 2017). The absence of a formal

retention program is known to affect the future talent pipeline (Letchmiah and Thomas, 2017). The challenge of retention is further aggravated due to the limited number of empirical studies that address identification, development and retention of high-potential employees (Lewis and Heckman, 2006, Collings and Mellahi, 2009). As a result, retention of high-potential employees continues to be a focus for researchers (Festing and Schäfer, 2014, Krishnan and Scullion, 2017). Another limitation of existing studies on high-potential employees is the emphasis on assessing the organisational perspective. The primary focus of these studies include the topics of identification, development and retention for an organisation, resulting in insufficient focus on individual employees' viewpoints (Dries and Pepermans, 2007). Lastly, there is limited knowledge about the underlying psychological mechanisms about the behaviours of employees designated as high-potential compared with the rest of the workforce (Gelens, Dries, Hofmans & Pepermans, 2015). Accordingly, this thesis addresses these abovementioned research gaps and the call for empirical research on this specific employee group to investigate the impact of HRM practices on employee outcomes (Khoreva and van Zalk, 2016).

**Research question 4:** To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?

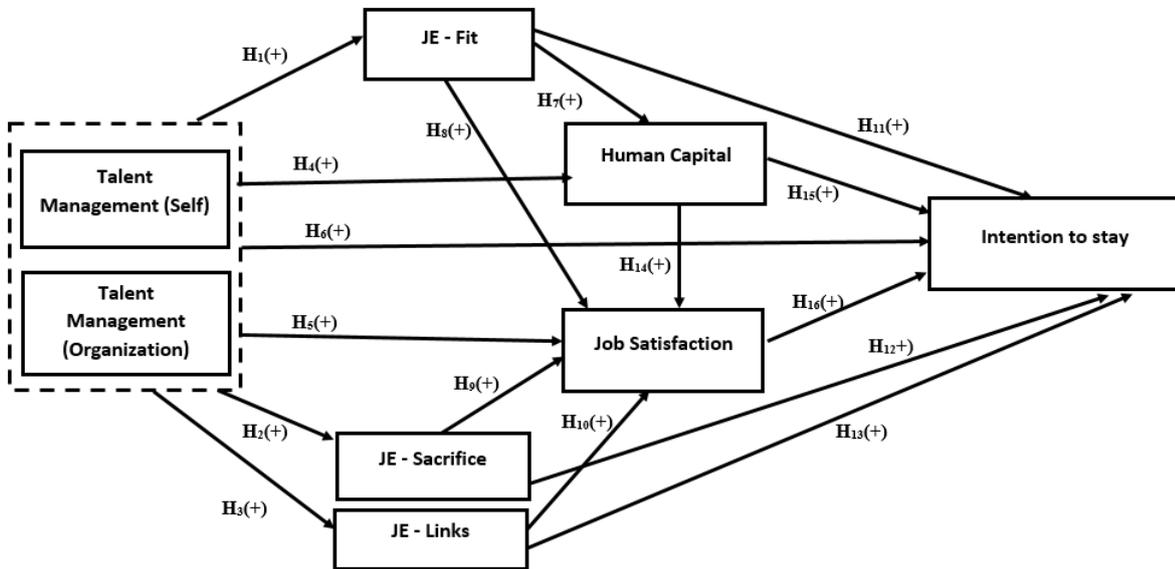
The purpose of this section was to provide an overview of the research setting of this thesis, its significance and interlinkages with the research questions and conceptual framework. The following section presents the conceptual framework and hypotheses.

## **2.7 Conceptual Framework and Hypotheses**

The preceding sections in this chapter summarised theories related to employee retention, TM, JE and human capital, the key research gaps and the associated research questions. The arguments presented in these sections were integrated to develop a holistic conceptual research

framework to determine the causal relationship between the predictor variables and the dependent variable of employee intention to stay, presented in Figure 2.5.

Fig. 2. 5 – Conceptual Framework and Hypotheses



The research design adopted for the thesis is detailed in section 3.2. The main research questions, as introduced in section 1.4, are:

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

**Research question 2:** How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?

**Research question 3:** Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?

**Research question 4:** To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?

In the following section, each construct in the conceptual framework and its interlinkages with other variables is presented, along with the study's hypotheses.

## **2.8 Research Model and Hypotheses Development**

The preceding sections of this chapter provided a critical overview of the theoretical foundations of this thesis, including the core theories of employee turnover and retention (section 2.1), TM (section 2.3), JE (section 2.4) and human capital (section 2.5). This section integrates core theories, findings from extant studies and research gaps. Further, based on the research questions and conceptual framework (Fig. 2.5), the hypothesised relationships are defined.

### **2.8.1 Talent Management (TM) and Job Embeddedness (JE)**

TM programs are focused on systematically identifying strategic positions and attracting, developing and retaining employees (Collings and Mellahi, 2009). However, the scarcity of empirical research on TM continues (Lewis and Heckman, 2006), resulting in limited knowledge about the antecedents and consequences of TM programs on employee attitudes and behaviours over a period of time (Höglund, 2012, Cappelli and Keller, 2017).

Historically, HRM practices have reportedly led to significantly lowered turnover intentions (Huselid, 1995), while (Benson, Finegold & Mohrman, 2004) argue that employee development practices mitigate the impact of a precipitating event or shock that may trigger a quit decision. Retention of employees is also enabled through employee development and TM practices (Chew and Chan, 2008), and both HRM and TM practices are reported to have moderating and mediating effects on employee retention (Anthony and Kenneth, 2010).

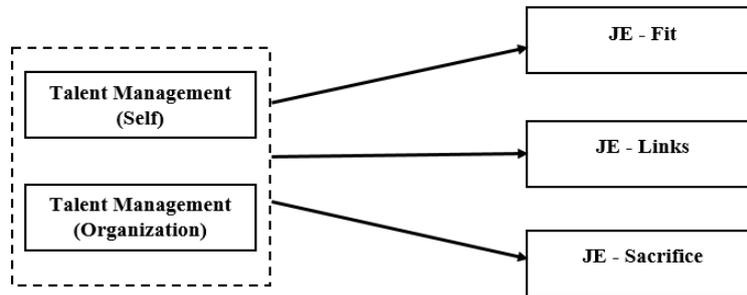
The HR practices adopted by firms embed employees in their current positions and organisations by creating links, fit and sacrifice that influence turnover (Allen et al., 2003). The predictive validity of JE theory and employee turnover and retention behaviours is has been demonstrated by (Allen, 2006), while the direct relationship between HRM activities and the fit, links and

sacrifice components of JE has been reported by (Wheeler, Harris & Harvey, 2010). The authors claim that HR practices enhance the skills and capabilities of employees, thus improving fit; increase co-worker connections and teamwork, which relates to the links dimension; and a combination of tangible (promotions, compensation, benefits) and intangible factors (work environment, peer group, flexibility), representing the sacrifice dimension.

Other scholars report relationships between HR practices, such as training, and JE and turnover (Bergiel et al., 2009) and between TM and JE and employee intention to stay (Anthony and Kenneth, 2010). Although the relationships between specific employee-oriented practices and employee behaviours appear to be intuitively appealing, there is a need to further investigate these, owing to contrary findings reported by Bergiel et al. (2009). This gap in the interlinkages between TM and consequent employee attitudes and behaviours can be assessed through a JE lens, as the focus of JE is contextual factors that influence employee attitudes and behaviours, such as fit, links and sacrifice, leading to employee retention (Lee et al., 2014). Extending this argument, one can posit that the effectiveness of TM practices will be positively associated with employee embeddedness and the three dimensions of JE – fit, links and sacrifice – and it is hypothesised that JE is the likely mediator of this relationship, in order to explain how these practices influence employee decision to stay or quit (Bergiel et al., 2009). Accordingly, this study empirically assesses the relationship between TM, on-the-job embeddedness and employee intention to stay in deciphering employee behaviours (Wheeler et al., 2010), thus expanding the theoretical boundary of TM theory. The study is conducted in the context of knowledge-intensive firms, thus contributing to extending the TM theory in a specific context (Cappelli and Keller, 2014).

The TM construct is presented as TM (Self) and TM (Org) – as explained in section 2.3.6 – and the proposed relationship between TM and JE constructs are presented in Fig. 2.6 below.

Fig. 2. 6 – Talent Management (TM) and Organisational Embeddedness



**Research question 1(i):** How does talent management (TM) affect employee job embeddedness (JE)?

**Research question 1(a)(i):** Does this relationship differ for TM (Self) and TM (Org)?

**Hypothesis:** TM is positively related to organisational embeddedness JE.

The three dimensions of JE – fit, links and sacrifice – and their relationships with TM are further explained below, followed by the relevant hypotheses.

### 2.8.1.1 Fit

The on-the-job dimension of fit represents an employee’s perceived compatibility or comfort with the organisation (Mitchell et al., 2001). Perception of fit can be enhanced through several HR and TM practices, including selection, on-boarding and training and development of skills and competencies that are required on the job, as fit represents a match between an employee’s abilities and the requirements of the organisation (Ng and Feldman, 2012). The objectives of TM programs are to equip key employees with skills, capabilities and experiences to achieve the organisation’s strategic goals, and these result in higher perceptions of fit due to the matching of personal and organisational values, interests and goals (Mitchell and Lee, 2001).

Organisational practices such as enhanced supervisory support and highly specialised training are reported to increase employee embeddedness (Giosan, 2004), and higher job fit and

embeddedness has been associated with past career success (Stumpf, 2014). The objective of TM programs is to enhance the performance of employees who have a demonstrated track record of performance and future growth potential (Cappelli, 2008); thus, it can be argued that TM programs lead to enhanced employee embeddedness and fit.

The effectiveness of TM practices are dependent upon employee fit at multiple levels, including internal fit (Stahl et al., 2012); hence, firms adopt different measures to enhance employee fit, such as building strong social networks within employee groups through TM programs (Schiemann, 2014). However, not all investments and perceptions of fit can be considered as leading to higher organisational embeddedness, as cautioned by (Marasi et al., 2016); in the absence of organisational trust, investments in building firm-specific capabilities through development programs may result in a negative perception of being stuck, triggering deviant behaviours. In conclusion, it can be hypothesised that TM programs have a positive relationship with the fit dimension of JE.

**H<sub>1a</sub>:** TM (Self) is positively related to the JE-fit dimension.

**H<sub>1b</sub>:** TM (Org) is positively related to the JE-fit dimension.

### **2.8.1.2 Links**

The on-the-job links dimension presents formal or informal connections between a person and institutions or other people, representing their network of relationships (Mitchell et al., 2001). The extent of embeddedness is determined by the number and strength of the connections in the network, wherein strong links result in higher embeddedness (Bergiel et al., 2009). Studies based on the concept of social capital promote the role of inclusiveness in order to create a higher sense of belonging amongst employees (Guthridge et al., 2008), and this effect is greater for talented employees who are more effective when operating in vibrant networks that support performance while they suffer in the absence of such networks. The internal and external links

enable employees to develop social networks and provide exposure to enhance their personal development through these networks (Preece, Iles & Jones, 2013). Hence, it is crucial for organisations to facilitate interaction and collaboration between employees, especially in knowledge-intensive firms, where the transfer of knowledge is of greater significance. HR professionals can systematically work towards improved internal and external links through TM programs (Whelan, Collings & Donnellan, 2010). For example, TM programs that are focused on identifying and developing high-potential employees provide extra mentoring and counselling by talent advisers, and these employees are invited to join networking events that enhance their links within the organisations (Gelens et al., 2014). Additionally, to maximise performance, the high-potential employees are systematically transferred, or rotated in and out of different functions and business units and assigned to project teams that work on stretch assignments (Swales, 2013a), which enables the creation of cross-functional networks (Heinen and O'Neill, 2004), stimulating employee development through mentoring and networking (Meyers and van Woerkom, 2014).

The quality of fit and links experienced by an employee are seen to promote job performance, as both organisational fit and links are seen as 'instrumental resources' that enable employees to perform effectively (Kiazad, Holtom, Hom & Newman, 2015). According to Allen (2006), this effect is stronger for newer employees who report positive relationships between employee socialisation and links, which in turn enhances employee embeddedness. Thus, organisational links, represented by co-workers, aid in embedding employees and are associated with several individual outcomes, such as performance, work attitudes and withdrawal (Chiaburu and Harrison, 2008), and co-worker attitudes can influence employee quit or stay decisions (Felps et al., 2009). TM practices in organisations play a key role in strategising these links within teams and across organisations and establish connections or links amongst employees; greater numbers

and higher quality of links enhance employee embeddedness (Zhang et al., 2012). Hence, the following relationships are hypothesised:

**H<sub>2a</sub>:** TM (Self) is positively related to the JE-links dimension.

**H<sub>2b</sub>:** TM (Org) is positively related to the JE-links dimension.

### **2.8.1.3 Sacrifice**

The on-the-job sacrifice dimension represents the perceived emotional or fiscal loss from leaving a job (Mitchell et al., 2001). The strategic nature of TM programs results in the selective implementation of these programs, usually targeting employees who are either viewed as holding key positions or considered as high-potential employees (Cappelli and Keller, 2014), and inclusion in TM programs is seen as prestigious and aspirational by many employees (Yarnall, 2011) since it is customary for firms to invest significant resources in the training, development and growth of employees who are part of TM programs (Iles et al., 2010b), enhancing their internal career development (Cascio, 2014). While these investments by firms lead to enhanced employee capabilities, they also make the employees more marketable and hence susceptible to poaching (Cappelli, 1998). However, the effect of the employability paradox is downplayed by (Nelissen, Forrier & Verbruggen, 2017) as being less applicable in select situations when the employees do not perceive internal growth opportunities.

Eligibility criteria for participating in TM programs are usually firm-specific. Being part of an exclusive group of employees is seen as a recognition, resulting in psychological and emotional satisfaction for most employees. Most employees would have to forgo these benefits if they quit, making them averse to the sacrifice they would make if they left the organisation (Giosan, 2004). Such a perception of sacrifice is further increased when an employee forgoes organisation- or domain-specific trainings upon quitting; they are likely to weigh the quit decision based on the switching cost, which includes other tangible and intangible factors

(Kiazad et al., 2015), stay in an organisation that has higher skill utilisation (Nelissen et al., 2017). In conclusion, a higher perception of sacrifice due to turnover may deter an employee from quitting. Hence, the following relationships are hypothesised:

**H<sub>3a</sub>:** TM (Self) is positively related to the JE-sacrifice dimension.

**H<sub>3b</sub>:** TM (Org) is positively related to the JE-sacrifice dimension.

### **2.8.2 Talent Management (TM) and Human Capital**

Organisations constantly seek to enhance the different forms of capital available to them, including their human capital. The quality of human capital is influenced by factors such as education levels, specialised training and job experiences; in turn, the quality of human capital determines the extent to which employees can meet the demands of specific jobs (Leana and Van Buren, 1999). Historically, education and training were considered to be the most critical forms of investment in human capital (Schultz, 1961, Becker, 1994); subsequently, investment in human capital has been achieved through the systematic implementation of HR development practices (Cascio, 1991). HR practices – such as selection, training and development – as a means for investment in human capital have been generally adopted by firms (Snell and Dean, 1992, Huselid, 1995), since a significant part of the firm's knowledge is located in its human capital, and firms can create value through proper selection, development and management of its human capital (Lepak and Snell, 1999), as human capital – not cash, buildings or assets – is widely accepted as a critical differentiator (Fitz-Enz, 2000).

Although human capital is a source of innovation and a profit lever, especially in the knowledge economy (Bontis and Fitz-Enz, 2002), human capital becomes valuable only when employees translate their intangible capabilities into performance for the firm by meeting the different demands placed on them, such as decision-making and the application of judgements in novel situations (Snell and Dean, 1992). The human capital in any firm can be enhanced through HRM

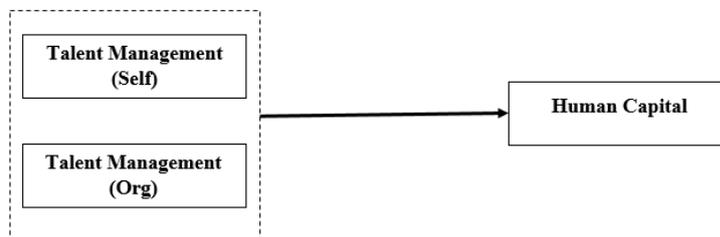
practices that focus on make (internal skills and talent development) or buy (externally focused HRM practices that attract and recruit suitable talent), and both set of practices are directly linked to enhancing human capital (Youndt and Snell, 2004). In order to leverage the economic value of human capital, talent needs to be developed and deployed in line with the strategic intent of the firm, placing significant emphasis on structured TM programs (Collings and Mellahi, 2009), and considered an integral part of the SHRM initiatives. As reported by (Höglund, 2012), the HRM practices result in employees experiencing a motivational effect. Hence, it is hypothesised that TM has a direct positive impact on enhanced human capital.

Investment in employee capability leads to higher emphasis on ‘employability’ in lieu of job security; hence, TM strategies are driven by the firm’s strategy to mitigate the risk of high employee turnover (Benson et al., 2004). Accordingly, the foundation of human capital theory promotes the development of firm-specific skills – not necessarily marketable skills – that are seen to prompt employee turnover. On the other hand, the adoption of such a philosophy prompts a question around employee perception of the firm’s investment in developing their skills and capabilities – that is, whether these perceptions are favourable and likely to result in enhancing an employee’s intention to stay. Höglund (2012) asserts that differential treatment and talent inducement in the form of training results in increased human capital and that such efforts are seen favourably by employees, leading to employee motivation and a perception that they have an obligation to serve the firm. Enhancements in human capital are partly contingent on employee perceptions of the firm’s HRM practices (Youndt and Snell, 2004, Arena and Uhl-Bien, 2016). However, there is a need for an integrated study of TM and human capital (Collings et al., 2015) to further establish the legitimacy of the TM field – this study addresses this research gap.

The current literature on contribution of different forms of human capital in organisations tends to be excessively focused on top and senior management; however, a firm’s human capital is not

necessarily restricted to the top of the organisation (Stewart and Ruckdeschel, 1998). Hence, there is necessity for empirical data and analysis across multiple organisational levels, including managerial employees. Managers are seen as unique organisational resources in firms that rely on firm-specific knowledge as a means for achieving strategic objectives (Hitt et al., 2001) and are known to influence strategic change initiatives and firm performance based on their social and human capital (Helfat and Martin, 2015). The nature of human capital is also determined by the value addition and potential for gain (Krausert, 2014) and degree of difficulty in replacing employees in specific roles. Despite their significance, there have been limited studies on TM for middle-level managers; such research is more essential in organisations that adopt TM practices, since the middle-level managers are the feeder talent pool for senior and top management positions. This study examines the relationship between TM practices and human capital, as presented in Fig. 2.7.

Fig. 2. 7 – Talent Management (TM) and Human Capital



**Research question 1(ii):** How does talent management (TM) affect human capital?

**Research question 1(a)(ii):** Does this relationship differ for TM (Self) and TM (Org)?

**H<sub>4a</sub>:** TM (Self) is positively related to human capital.

**H<sub>4b</sub>:** TM (Org) is positively related to human capital.

### 2.8.3 Talent Management (TM) and Job Satisfaction

Job satisfaction as an antecedent to employee turnover intention and actual turnover is a well-researched topic, although the studies report mixed results. The majority of studies report a

consistently strong relationship between employee job satisfaction as a predictor of turnover (Porter and Steers, 1973, Lambert, Lynne & Barton, 2001), while other studies claim a consistent but not strong (usually less than 0.40) relationship (Mobley, 1977) or a moderate correlation (Carsten and Spector, 1987) between employee job satisfaction and employee turnover. However, the general consensus is that employees who are satisfied in their jobs are more likely to demonstrate higher stay intentions compared with those who are dissatisfied (Tett and Meyer, 1993).

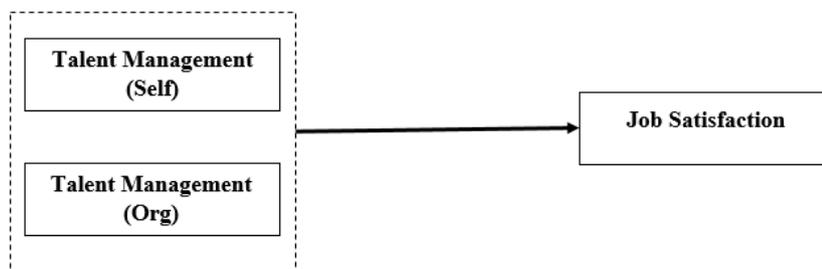
Job satisfaction is an affective construct conceptualised as a weighted sum of satisfaction derived from all job facets (Wanous and Lawler, 1972). Since different job facets are likely to have different effects on employee perception, an overall measure is adopted to assess the relationship between job satisfaction and employee behaviour (Porter and Steers, 1973). Several antecedents of job satisfaction, both proximal and distal, have been extensively studied by scholars, including macro-level constructs such as firm size and authority (Williams and Hazer, 1986), organisational culture and leadership styles (Lok and Crawford, 2001), work environment (Wright and Davis, 2003) and micro-level factors, such as work related values (Mathieu and Farr, 1991), personality (Judge, Thoresen, Bono & Patton, 2001), demographic factors (Lambert et al., 2001), role ambiguity and burnout (Yang, 2010). Scholars have also studied consequences of job satisfaction over and above turnover intention, including withdrawal syndromes such as absenteeism (Kass, Vodanovich & Callender, 2001), job performance (Judge et al., 2001) and job involvement (Meyer et al., 2002). Several extensive meta-analytical studies have reported relationships between job satisfaction and turnover intention and actual turnover, including (Brown and Peterson, 1993, Tett and Meyer, 1993), thereby establishing the predictive validity of job satisfaction as an antecedent for turnover intention.

Another area that has attracted the interest of scholars is related to the relationship between HRM practices and their impact on employee job satisfaction. During the development phase of

SHRM, Schuler and Jackson (1987) established linkages between organisation strategies and distinctive HRM practices – such as planning, staffing, performance appraisal, compensation and training and development – while Huselid (1995) argued in favour of lower employee turnover due to high-performance work practices, thereby providing further impetus to studies that focused on specific HRM practices. HR practices that foster growth and development result in positive associations with organisations, thus generating higher employee satisfaction (Wayne, Shore & Liden, 1997), and firms that link employee development with employee contributions are reported to generate higher organisational commitment and satisfaction (Allen et al., 2003).

With the maturity of HRM practices, the research studies shifted to more complex and multilevel sophisticated models linking individual and firm-level factors to establish relationships between HRM practices and employee- and firm-level outcomes (Guest, 2011). These relationships have led researchers to take a keen interest in studying the impact of TM on employee attitudes and behaviour, since TM practices are part of SHRM (Collings and Mellahi, 2009). The maturity of TM practices has resulted in their greater acceptance as a means for employee development, job satisfaction, motivation and retention (Bethke-Langenegger et al., 2011). TM practices are reported to have a positive effect on high-potential employees (Huselid and Becker, 2011), and this study aims to test the hypothesised relationship between TM and job satisfaction in the context of managerial employees based on the relationship depicted in Fig. 2.8.

Fig. 2. 8 – Talent Management (TM) and Job Satisfaction



**Research question 1(iii):** How does talent management (TM) affect employee job satisfaction?

**Research question 1(a)(iii):** Does this relationship differ for TM (Self) and TM (Org)?

**H<sub>5a</sub>:** TM (Self) is positively related to job satisfaction.

**H<sub>5b</sub>:** TM (Org) is positively related to job satisfaction.

#### **2.8.4 Talent Management (TM) and Intention to Stay**

The shortage of critical talent and difficulty in attracting and retaining talented employees in strategic positions is one of the key hurdles for organisations concerned with sustainable growth (Dries, 2013) – and the resultant pressure for employee retention is even greater for firms operating in knowledge-intensive industries, due to high external variability related to workforce (Collings, 2014). One employee retention strategy is the adoption of effective HR practices, such as an attractive compensation system (Ramlall, 2004), recruitment and selection, and performance management, as these are known to have significant positive relationships with employee intention to stay (Ghazali et al., 2011).

The significant relationship between HR practices and employee behaviour has led to a greater focus on understanding the linkages between high-performing HR practices, individual and firm performance and reduction in employee turnover (Becker and Huselid, 2006). However, not all HRM practices impact employee performance and turnover, and such variation in outcomes is largely driven by the purpose of the HR practices. According to (Wheeler et al., 2010), ‘commitment’ oriented SHRM practices that shape desired employee behaviour lead to lower turnover compared with ‘compliance’ focused practices that result in higher employee turnover.

The criticality of employee retention has also led to a paradigm shift in the design of retention programs – shifting from traditional all-inclusive, broad-based, firm-wide employee retention programs towards highly targeted efforts aimed at specific individuals or groups of individuals through TM programs (Cappelli, 2000a). This has resulted in greater adoption of TM programs, and retention goals shifting from the conventional approach of ‘minimising employee turnover’

to a new paradigm of ‘influencing who leaves and when’ (Cappelli, 2000a), making employee retention proactive and strategic. An effective TM strategy is the key to a stable workforce and retention of talented staff, especially in people-intensive industries known for high reliance on their workforce (Deery, 2008, Deery and Jago, 2015). Investment in other retention programs, such as leadership (Peterson and Luthans, 2003) and talent development practices, are also linked to the behavioural outcome of higher intention to stay (Chami-Malaeb and Garavan, 2013).

TM theory and practices have matured over the past decade, and the TM practices adopted by firms have also evolved, with firms modifying TM practices based on ‘clusters’ of expected outcomes (Festing et al., 2013). Based on their empirical study, authors argue for the adoption of specific TM practices, in contrast to a generic approach, and present three clusters of TM practices: *highly engaged* TM, where firms pursue intensive HR and TM measures to both attract and retain current employees; *retention-based* TM practices, which focus on retention measures of employees; and *reactive* TM practices, characterised by low emphasis on the TM program. In addition, (Festing et al., 2013) report a significant growth in the adoption of highly engaged or retention-based TM practices for employee engagement and retention. This finding is relevant in the context of employee retention in knowledge-intensive settings, where learning, autonomy and significance are seen as motivating job characteristics associated with employee satisfaction and lower turnover intentions (Huang, 2011), thus confirming the contribution of TM practices in enhancing employee stay intention.

During the initial stages of TM development, employee retention studies were mainly based on anecdotal evidence and lacked research-backed findings (Lewis and Heckman, 2006), amplifying the need for systematic research on causal factors examining the relationship between TM and employee retention and turnover (Collings and Mellahi, 2009). TM studies also face methodological issues and constraints related to research design, including cross-sectional

studies with retrospective interpretation, raising questions on the validity of causal linkages between TM practices and organisational outcomes (Lewis and Heckman, 2006). In addition, the absence of descriptive data on TM practices, and the associated challenges in implementation, limits the current understanding of TM theory and practices (Cappelli and Keller, 2014).

Most extant TM studies have focused on organisational outcomes, with a relatively little research emphasis on individuals who are identified as talent and their expectations from the TM programs (McDonnell, 2011). This is significant, since one of the key purposes of TM practices is to address the expectations of highly valuable and unique employees – they are essentially crafted for employees (Lepak and Snell, 1999). Further, greater emphasis needs to be placed on TM systems and processes by including micro-level variables linked to employee perceptions and behaviours (Collings and Mellahi, 2013), to enrich our understanding of TM practices and their linkages of employee perception with micro-level outcome variables, such as employee satisfaction, engagement and performance (Meyers and van Woerkom, 2014).

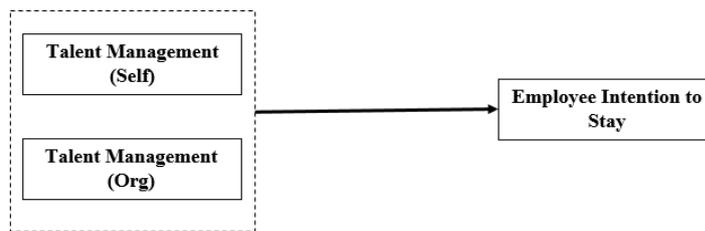
During the initial phase of TM's maturity, most of research studies were conducted in the North American context. There is a need to expand these studies to represent other geographical contexts, so as to counterbalance different perspectives and traditions for the TM field to mature (Collings et al., 2011). It is also essential to expand the field of study beyond the distinct Anglo-Saxon coverage that is seen in the current literature, with the majority of studies adopting a US- or UK-centric approach (Gallardo-Gallardo and Thunnissen, 2016). On the contrary, although the Asian region continues to evolve an economic growth engine, TM research studies are in the nascent stage, with only a handful of reported studies made, each covering distinct countries and specific industries. There is a considerable need for further research in this region (McDonnell, Collings & Burgess, 2012). Empirical studies in the Asian context are needed as this region is estimated to play a more pivotal role in future decades, owing to its large population (more than

60% of world population) and greater participation in active workforce categories, which will make the region the source of global talent in coming decades (Stahl et al., 2012).

However, while studying the Asian region, researchers must note the variations in economic, geographical, cultural and management approaches that are evident across different countries and cultures (McDonnell et al., 2012). Hence, it is imperative to consider each country as a distinct study area. Singapore, despite its relatively small size and population, has established its position as a key economy in the region and aspires to play a leading role with the emergence of the knowledge economy. With limited extant studies reported on the Singapore context, an in-depth study of TM, JE, human capital and employee intention to stay will further address the current debates on TM relevant in that context.

The extant studies point to the predictive power of TM programs in enhancing critical psychological links between employees and organisations, thereby influencing employee retention. However, there is scope for further understanding this relationship (Oladapo, 2014), and the legitimacy of the field can be further enhanced through expansion of the TM theory (Collings, Scullion & Vaiman, 2015). The TM theory building, through collaboration between practitioners and academics, will benefit from empirical studies based on methodological and measurement rigour, to enable HR professionals to design effective TM practices that influence employee retention. This research will contribute to the extension of the theoretical understanding of TM by testing the relationships between TM (Self) and TM (Org) and employee intention to stay in the context of managerial employees in knowledge-intensive firms in Singapore, as presented in Fig. 2.9.

Fig. 2. 9 – Talent Management (TM) and Intention to Stay



To address this gap, this thesis explores the following research questions and associated hypotheses:

**Research question 1(iv):** How does talent management (TM) affect employee intention to stay?

**Research question 1(a)(iv):** Does this relationship differ for TM (Self) and TM (Org)?

**H<sub>6a</sub>:** TM (Self) is positively related to employee intention to stay.

**H<sub>6b</sub>:** TM (Org) is positively related to employee intention to stay.

The following section presents the key research questions and hypotheses related to the second core theory adopted in this thesis: JE.

### 2.8.5 Job Embeddedness (JE) and Human Capital

It is argued that JE leads to the creation of both human capital and social capital for employees (Holtom et al., 2006), as it leads to employee job fit (of both the role and the organisation). These outcomes result in higher identification with organisational environment, role requirements and clarity in terms of the knowledge, skills and abilities required, eventually enhancing employees' ability to perform on the job (Halbesleben and Wheeler, 2008). JE also enhances professional connections – or network or associations – both within and outside the firm, by building links and enhancing employee social capital (Ng and Feldman, 2010). However, the outcome of fit perception is based on the extent of positive or negative employee perception; hence, an employee who is both engaged in challenging work and experiencing

professional growth is likely to demonstrate higher job satisfaction if they perceive a positive fit with their role and organisation (Holtom et al., 2012).

Based on their pioneering study, Ng (2010) argue for a linkage between JE and social and human capital. According to the authors, highly embedded employees have stronger fit and links within the organisation, resulting in higher social capital and creating more opportunities for employee performance and retention. On the flipside, the authors suggest that greater social capital and higher embeddedness may also lower an employee's motivation to enhance their human capital. This claim assumes that employees' investment in human capital development enhances their marketability across industry. As a result, highly embedded employees who are not looking for external opportunities are less likely to participate in organisational activities to enhance human capital and view them as personally irrelevant. Hence, the authors report a negative relationship between JE and human capital development, since the causal linkages indicate that employee perception of embeddedness leads to higher social capital that reduces a firm's human capital.

However, Moses (2013) claims that employee behaviour is a function of the strength or extent of their embeddedness but, more importantly, is linked to employee perception of the nature of embeddedness in the organisation. Hence, if the employee holds a positive perception about being embedded in the organisation, it will lead to positive human capital and vice versa. Another critical premise of human capital theory is the development of firm-specific knowledge and capabilities that equip employees in creating customer value (Lepak and Snell, 1999). Accordingly, most firms invest in training and development to enhance employee skills and overall organisational capability. In turn, these investments are likely to enhance employee perception of fit (Takawira et al., 2014), resulting in a virtuous cycle of future growth potential and high performance. Hence, this thesis aims to contradict the argument presented by (Ng,

2010) by supporting the argument that a higher perception of job fit results in development of human capital. As such, research question 2(i) is presented, with its accompanying hypothesis:

**Research question 2(i):** How does job embeddedness (JE) affect human capital?

**H<sub>7</sub>:** JE-fit is positively related to human capital.

### **2.8.6 Job Embeddedness (JE) and Job Satisfaction**

Job satisfaction is an employee's affective attachment to the job, either in its totality or with regard to specific aspects (Tett and Meyer, 1993), and it is one of the most frequently investigated predictors of employee attrition, consistently reported to have a significant relationship with turnover (Porter et al., 1974, Griffeth et al., 2000, Van Dick et al., 2004, McNall et al., 2009, Mitchell et al., 2015). Amongst the traditional turnover drivers, job satisfaction correlates more strongly with intention to turnover, compared with organisational commitment (Mobley, 1977).

Employee job satisfaction is affected by several factors, including organisation- and task-based activities (Igarria, Meredith & Smith, 1994), work environment, job enrichment, supervisory support and role clarity (Holtom et al., 2006) and employees with higher job satisfaction are less likely to leave. Additionally, job satisfaction interacts with job alternatives and turnover intention such that a dissatisfied employee is more likely to leave as compared with a highly satisfied employee, even when faced with fewer job alternatives, acting as a buffer for external job opportunities.

Job satisfaction has a positive correlation (0.45) with JE, and (Oehley and Theron, 2010) claim that employees with lower JE reported higher intention to search for alternative employment. Thus, lack of embeddedness was associated with greater search intention regardless of job satisfaction. Hence, it can be inferred that highly embedded and highly satisfied people demonstrate lower job search behaviours, leading to higher retention. Within the JE dimensions,

JE-fit and job satisfaction are highly correlated, as both represent an attachment measure and are reported to have high association ( $r \geq 0.71$ ) (Cunningham et al., 2005). Other studies that have reported significant relationships between the fit, links and sacrifice dimensions of JE and job satisfaction include those by (Park, 2009, Ramesh and Gelfand, 2010, Wheeler et al., 2010, Smith et al., 2011, Allen et al., 2016, Darrat, Amyx & Bennett, 2017). The aim of this study is to assess the relationships between the three dimensions of JE and job satisfaction, to assess the relationship in the context of TM and employee retention, as per the following research question and hypotheses:

**Research question 2(ii):** How does job embeddedness (JE) affect job satisfaction?

**H<sub>8a</sub>:** JE-fit is positively related to job satisfaction.

**H<sub>8b</sub>:** JE-links is positively related to job satisfaction.

**H<sub>8c</sub>:** JE-sacrifice is positively related to job satisfaction.

The following section presents the hypotheses development for JE and employee intention to stay.

### **2.8.7 Job Embeddedness (JE) and Employee Intention to Stay**

This section outlines the findings of past studies on JE and employee retention in different settings. In their initial study, Mitchell (2001) presented JE as an ‘anti-withdrawal’ construct, with a negative relationship between turnover intentions and actual turnover, providing a buffering effect on employees by creating an inertia in which a highly embedded employee is less likely to leave due to a precipitating event. Thus, JE is a predictor for employee retention based on the understanding of human psychology that people who are immersed in their environment rarely consider leaving their jobs (Harman et al., 2007).

Several studies compare traditional turnover models and JE, reporting stronger results with embeddedness. For example, organisational commitment is one of the most widely studied turnover predictors in the traditional model (Porter et al., 1976). Compared with organisational commitment, global measures of embeddedness have unique predictive variance ( $\beta=-0.27$ ,  $p<0.05$ ) over turnover (Crossley et al., 2007). In addition, JE explains 6% of additional variance in the intention to quit and 5% in the actual turnover, thus supporting the predictive validity of JE over traditional turnover models.

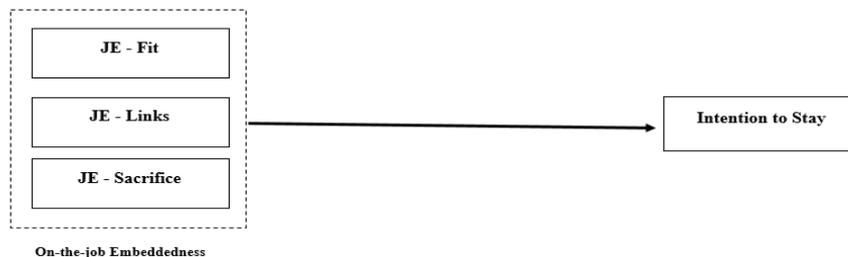
On-the-job embeddedness and turnover share a significant negative relationship, especially for newcomer employees (Allen, 2006), while Cunningham et al. (2005) report a positive association between JE and stay intentions when compared with employee engagement. The study established the predictive validity of two different sets of JE measures that are commonly adopted: composite measures and global measures. Turnover intentions could be predicted using embeddedness (0.006,  $p<0.5$ ) (Halbesleben and Wheeler, 2008), and the relationships were effective across different employee race groups (Mallol et al., 2007). Several studies support the relationship between JE and employee turnover (Slugoski, 2008, Hom et al., 2009, Smith et al., 2011, Holtom and Burch, 2016, Cheng, 2014, Allen et al., 2016).

Although the strength of JE is the aggregate nature of forces that embed an employee, studies indicate that the three dimensions of fit, link and sacrifice act differentially (Jiang et al., 2012b), leading to varied consequences for employees (Zhang et al., 2012). As discussed in section 2.4 and illustrated in Fig. 2.3, both on-the-job and off-the-job embeddedness dimensions predict employee retention. However, results for the strength of these relationships are mixed, with several scholars largely emphasising on-the-job embeddedness (Burton et al., 2010, Purba et al., 2016). The researcher usually bases their decision to consider combined or separate JE components on the research purpose and design. This approach is also based on the realistic

perspective of the employer’s ability to influence organisational factors, compared with off-the-job, or community, factors.

The purpose of this study is to further extend the validity of the JE construct, which can be demonstrated only through its repeated use and by considering a specific sample that is both different from that used in previous studies and marked with high turnover rates (Cunningham et al., 2005). The motivation of the current study is to better understand the antecedents for employee retention, to enable HR professionals to design and implement HR and TM practices that influence employee decisions and mitigate turnover risk; hence, only on-the-job embeddedness is chosen as an appropriate theory for this study. Several studies report only organisational embeddedness, based on similar arguments (Halbesleben and Wheeler, 2008, Bergiel et al., 2009, Lev, 2012, Oyler, 2014). Fig. 2.10 presents the conceptual framework of the relationship between JE and employee intention to stay for managerial employees in knowledge-intensive firms in Singapore.

Fig. 2.10 – Organisational Embeddedness and Intention to Stay



The following section presents a brief review of the three dimensions of JE – fit, links and sacrifice – and their relationship with intention to stay in order to address the following research question:

**Research question 2(iii):** How does job embeddedness (JE) affect employee intention to stay?

### **2.8.7.1 Job Embeddedness (JE) Fit, Links and Sacrifice and Employee Retention**

JE is an aggregate construct with three dimensions – fit, links and sacrifice – and several studies report the relationship between each of these dimensions with an outcome variable, such as employee turnover intention, employee innovation behaviour (Ng, 2010), job performance, customer service (Karatepe, 2013a) and sales training effectiveness (Cheng, 2014), with positive embeddedness causing higher perception of personal and organisational benefit amongst employees (Marasi et al., 2016).

JE-fit represents the extent to which the jobs and communities fit other aspects of employee ‘life spaces’ and is defined as an ‘employee’s perceived compatibility or comfort with an organisation and with his/her environment’ (Mitchell et al., 2001, p.1104). An employee with a higher fit is likely to feel professionally tied to the organisation (Mallol et al., 2007). Prior research postulates higher job satisfaction in the short term and a reduction in employee turnover over a longer period of time due to person–organisation fit (O’Reilly, Chatman & Caldwell, 1991), with ‘misfits’ likely to quit faster compared with employees who fit. According to Besich (2005), JE-fit is significantly related to employee stay intention and has a significant negative relationship with turnover intention ( $r=-0.30$ ,  $p<0.01$ ). Thus, a person’s fit with a job and organisation influences their attachment with the organisation, which, in turn, enhances employee intention to stay (Bergiel et al., 2009). On-the-job fit is reported to generate intrinsic satisfaction amongst managers, making them less likely to leave their positions (Deery, 2008). Beyond job fit, employee perception of fit between personal and organisational values also results higher willingness to exert organisational commitment (Chew and Chan, 2008). Based on these arguments, a positive relationship is hypothesised between JE-fit and employee intention to stay:

**H<sub>9a</sub>:** JE-fit is positively related to intention to stay.

The second JE dimension, JE-link, is characterised by ‘formal and informal connections between a person and institutions or other people’, represented as a web of social, financial and psychological connections (Mitchell et al., 2001, p.1104). The extent of embeddedness is determined by the number of connections, with higher connections resulting in higher embeddedness, binding the employee to their job and organisation. Maertz et al. (1996) contend that team members and other colleagues representing organisational links exert normative pressure on employees, influencing their decision to stay in the job. This linking process typically enhances employee social capital (Holtom et al., 2006) and organisational tenure and reduces the desire to seek alternative job opportunities (Bergiel et al., 2009). Further, links are reported to have a negative relationship ( $r=-0.10$ ,  $p<0.01$ ) with turnover intention (Besich, 2005) and a positive relationship with employee retention (Allen, 2006). Hence, a positive relationship can be argued to exist between the JE-links dimension and employee intention to stay.

**H<sub>9b</sub>:** The JE-links dimension is positively related to intention to stay.

The third dimension, JE-sacrifice, captures the ‘perceived cost of material or psychological benefits that may be forfeited by leaving a job’, and these perceptions of losses can be related to the nature of work and projects, colleagues, perks et cetera (Mitchell et al., 2001, p.1105). Higher perception of loss is likely to reduce the intention to leave and plays an important role in employee retention. Although employees may be motivated by comparable salaries and benefits, the switching costs, loss of colleagues, loss of accrued benefits and other sacrifices are seen to deter employees’ decision to quit (Bergiel et al., 2009), and, the higher the sacrifice, the lower is the intention to leave (Robinson, Kralj, Solnet, Goh & Callan, 2014).

Cunningham et al. (2005) argue that between the three dimensions of JE – fit, links and sacrifice – organisational sacrifice holds the strongest relationship with intention to stay, while (Besich, 2005) study reports a significant negative relationship between organisational sacrifice and

intention to quit ( $r=-0.08$ ,  $p<0.05$ ). Employees are usually wary of the risks associated with changing a job, and the sacrifice dimension acts in limiting the alternatives under consideration to a few worthy options, indirectly supporting employee retention (Halbesleben and Wheeler, 2008). This suggests that the sacrifice aspect of JE may be the most important facet related to intention to stay. (Kiazad et al., 2015) argue that several intangible aspects of work – such as workplaces, co-workers and office politics – cause higher perceptions of sacrifice in the minds of employees than what is ascribed to, resulting in employee retention due to the mentality of the ‘known devil’. Other factors, such as forgoing benefits linked to tenure or seniority, specialist knowledge about internal processes or loss of key clients, affect perceptions of sacrifice and deter employees from leaving (Mitchell et al., 2001), leading to a negative relationship between JE-sacrifice and intention to leave (Robinson et al., 2014). While past studies have focused on the salience of organisational sacrifice, the effect of severing ties and networks with organisations needs to be studied further, as employees leaving their employers and community do not necessarily perceive good fit and links as sacrifices (Halvorsen, Treuren & Kulik, 2015). Based on the above arguments, it is hypothesised that the JE-sacrifice dimension will have a positive relationship with employee intention to stay.

**H<sub>9c</sub>:** The JE-sacrifice dimension is positively related to intention to stay.

This section concludes the hypotheses related to JE. The following section elaborates on human capital theory, job satisfaction and their relationships with employee intention to stay.

### **2.8.8 Human Capital and Job Satisfaction**

Investment in human capital and the resultant employee behaviours and outcomes have intrigued practitioners and academic scholars owing, to firms’ increased reliance on intangible assets, including organisational workforce (Boudreau and Cascio, 2017). The investment in human capital development and consequent employee behaviours and outcomes has been extensively

reported, and include employee turnover (Benson et al., 2004), team and firm performance (Harris and McMahan, 2008), individual job performance (Pil and Leana, 2009), and validating the predictive value of human capital for positive employee outcomes. This is supported by (Bontis and Fitz-Enz, 2002) claiming a significant positive relationship (0.358) between human capital and employee satisfaction, while the mediating effect of human capital and job satisfaction is argued by (Moshavi and Terborg, 2002). Investment in human capital both enhances employee satisfaction and improves innovation and organisational growth (McGuirk, Lenihan & Hart, 2015). These findings reaffirm that sharing the cost of human capital investment by the employer and employees leads to the mutual interest of both parties in maintaining long-term employment relationships (Strober, 1990). As outlined in section 2.5, this thesis aims to study the relationship between human capital and job satisfaction in the context of managerial employees in knowledge-intensive firms, to extend the validity of human capital theory by addressing the following research question and hypothesis:

**Research question 2a(i):** How does human capital affect job satisfaction?

**H<sub>10</sub>:** Human capital is positively related to job satisfaction.

### **2.8.9 Human Capital and Intention to Stay**

Investment in human capital in the form of training and development is reported to be perceived positively by employees and results in employee retention (Price, 2001). This relationship is expected to be stronger in the context of knowledge-intensive firms, where human capital is considered to be the most valuable asset (Ramlall, 2004). Employees in knowledge-intensive firms strive to avoid skill obsolescence and ensure a more considerable degree of fit with their jobs; hence, such employees hold positive perceptions about organisational investment in human capital (Benson et al., 2004). Another unique attribute of employees in knowledge-intensive firms is that the majority of employees are characterised by higher educational attainment,

possess superior communication and interpersonal skills and usually attach importance to their ability to create value for the organisation (Carleton, 2011); hence, it can be argued that employee retention can be influenced by investment in their skills and development.

Despite growing interest in, and increased adoption of, human capital theory, scholars have mainly focused on the role of HR practices (Jiang, Lepak, Hu & Baer, 2012a). However, there is limited research on how firms and HR professionals can apply the concept of human capital in practical settings to derive intended employee and organisational outcomes (Kryscynski and Ulrich, 2015), given that human capital continues to determine organisational competitiveness (Lin et al., 2017). This study aims to address this research gap by testing the relationship between human capital and employee intention to stay through an empirical investigation, thereby contributing to human capital theory development. The associated research question and hypothesis:

**Research question 2a(ii):** How does human capital affect employee intention to stay?

**H<sub>11</sub>:** Human capital is positively related to intention to stay.

#### **2.8.10 Job Satisfaction and Intention to Stay**

Job satisfaction and its interaction with employee turnover and retention is widely reported in the literature, tracing its foundation to the seminal work of (March and Simon, 1958), which associated job satisfaction with perceived desirability of movement, which has evolved over time to become employee intention to turnover or actual turnover (Trevor, 2001). ‘Job satisfaction’ is defined as the affective attachment to the job considering both particular aspects of the job and/or in totality (Tett and Meyer, 1993). Past studies report a strong and positive relationship between job satisfaction and both employee retention (Porter et al., 1974, Mobley, 1977, Griffith, 2004) and turnover (Hom and Kinicki, 2001). While designing the measures for the JE questionnaire, (Mitchell et al., 2001) indicated an overlap between JE and job satisfaction;

however, there is sufficient empirical evidence about the construct validity of JE, and Oyler (2014) argues that both job satisfaction and the three JE dimensions should continue to be included to understand employee retention. Accordingly, this study examines the predictive relationship between job satisfaction and employee intention to stay.

**Research question 2(c):** What is the relationship between job satisfaction and intention to stay?

**H<sub>12</sub>:** Job satisfaction is positively related to intention to stay.

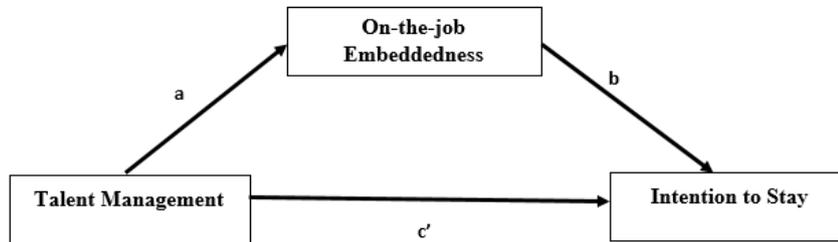
### **2.8.11 Mediating Effect of Job Embeddedness (JE)**

The relationship between HR practices and JE have significant impact over employee retention; nevertheless, the magnitude of the direct effect of each on turnover or retention is relatively small (Griffeth et al., 2000), indicating that some of these variables, including HR practices, may be distal predictors of job-related intentions (Bergiel et al., 2009). If so, it is likely that the relationship is mediated by another intervening factor, one which being JE (Bergiel et al., 2009).

Wheeler et al. (2010) claim that HRM practices create a significant level of JE and reduce turnover based on the full mediating effect of organisational embeddedness on HRM practices and employee turnover intention. It is also noteworthy that the community embeddedness did not find support for either turnover intentions or a mediating effect of HRM practices (Wheeler et al., 2010). The mediating role of JE on turnover intention has been reported for other factors, such as perceived conflict (Nosrati and Eslami, 2017), intention to stay, work–life balance (Thakur and Bhatnagar, 2017) and task characteristics (Ferreira et al., 2017). Thus, it can be hypothesised that the relationship between TM practices and employee intention to stay is mediated by on JE. Past TM studies have considered mediating effect of variables, including employee engagement (Alias, Noor & Hassan, 2014), organisational justice (Gelens et al., 2014), job satisfaction (Luna–Arocas and Morley, 2015) and organisational commitment

(Kontoghiorghes, 2016). By testing the mediating effect of JE, this study aims to expand TM and JE theory. Fig. 2.11 depicts the mediating relationship.

Fig. 2. 11 – Mediating Effect of Job Embeddedness (JE)



**Research question 3(i):** Does job embeddedness (JE) mediate the relationship between talent management (TM) and employee intention to stay?

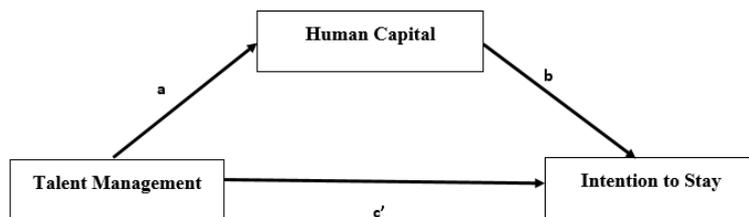
**H<sub>13</sub>:** The relationship between talent management (TM) and intention to stay is mediated by organisational embeddedness (JE).

### 2.8.12 Meditating Effect of Human Capital

Organisational human capital – representing the knowledge, skills and abilities possessed by the organisation’s workforce (Coff and Raffiee, 2015) – is strongly related to firm performance (Crook et al., 2011). However, despite large investments in reducing employee turnover, human capital retention has been a concern in past (Ramlall, 2004, Hollenbeck and Jamieson, 2015) and continues to remain one of the major challenges faced by firms (Hollenbeck and Jamieson, 2015, Lin, Yu-Ping, Yu-Ping & Jaw, 2017). According to SHRM literature, investment in employee development leads to higher human capital (Becker and Huselid, 2006) practices that focus on enhancing motivation, and reducing negative behaviours has a positive impact on human capital. Additionally, these human capital enhancing practices mediate the relationship between leadership and organisational outcomes (Zhu, Chew & Spangler, 2005). Other studies that report a mediating effect of human capital include HR practices and organisational learning (López-Cabrales, Real & Valle, 2011).

Human capital is also reported to mediate the relationship between HR configurations that emphasise investment in employee skills and capabilities and organisational performance (Youndt and Snell, 2004). TM programs are strategic initiatives to systematically attract, develop and retain key human capital (Cappelli, 2008). While there is evidence on the relationship between TM practices and organisational outcomes such as employee retention, there is limited research describing the process through which TM practices influence employee behaviours that eventually affect retention. This thesis proposes to test the mediating effect of human capital on TM and employee intention to stay (Jiang et al., 2012a) by addressing the research question and hypothesis following Fig. 2.12.

Fig. 2. 12 – Mediating Effect of Human Capital



**Research question 3(ii):** Does human capital mediate the relationship between talent management (TM) and employee intention to stay?

**H<sub>14</sub>:** Human capital partially mediates the relationship between talent management (TM) and employee intention to stay.

### 2.8.13 Talent Management (TM) and High-Potential Employees

TM practices are known to have a positive impact on employee attitudes and behaviours. This relationship is stronger for highly valuable and unique employees (Huselid and Becker, 2011) and can be attributed to the psychological contract held by high-potential employees. A psychological contract represents an individual employee’s beliefs about the mutual exchange arrangement with the organisation (Morrison and Robinson, 1997). According to Youndt and Snell (2004), a psychological contract enhances reciprocation, as there is a linkage between

inducements offered by the employer and the level of obligation experienced by employees. The authors further claim that employees who are part of the high-potential group within an organisation demonstrate greater reciprocity, have higher intention to stay and demonstrate positive obligations to investments made by their employer (Höglund, 2012). Further, an employee's awareness of their inclusion in the high-potential group results in a positive perception of organisational justice (Sonnenberg, van Zijderveld & Brinks, 2014); such a positive belief can lead to positive outcomes such as job satisfaction and employee retention (Metz, Kulik, Brown & Cregan, 2012).

While TM is seen as a framework for retaining members of the talent pool who value psychological contracts (Al Ariss et al., 2014), critics of a differentiation approach based on high-potential status point to its limitations and caution against possible negative outcomes, such as turnover of employees who are excluded from the TM program (Gelens et al., 2014). In some cases, the differentiation may lead to employee perception of setback due to social comparisons, creating an overall negative impact of TM programs (Marescaux, De Winne & Sels, 2013), thus accentuating the double-edged nature of the concept of differentiation. However, it is predicted that the changing nature of work in the 21st century will place greater demands on individual differences and the emergence and retention of high-potential individuals (Aguinis and O'Boyle, 2014), prompting firms to adopt programs for high-potential employee engagement through participation in development activities such as TM (Khoreva and van Zalk, 2016).

Although there is growing reliance on high-potential employees within knowledge-intensive firms, there are limited empirical studies that explore the phenomenon from the perspective of high-potential employees themselves (Dries and Pepermans, 2007). This study aims to address this research gap by ascertaining the outcomes of TM programs on high-potential employees, as follows:

**Research question 4:** To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?

**H<sub>15</sub>:** The relationship between (TM) and intention to stay is stronger for high-potential employees.

## 2.9 Chapter Summary

The purpose of this chapter was to provide a critical review of core theories that form the foundation of this thesis – TM, JE and human capital – based on the extant studies and to develop a coherent conceptual framework to address the research questions and hypotheses, in the context of managerial employees in knowledge-intensive firms in Singapore. This review presents the relationships between TM and JE, TM and human capital, TM and job satisfaction, TM and intention to stay, JE and human capital, JE and intention to stay, and job satisfaction and intention to stay. It also examines the mediating effect of JE and human capital. The relationships are consistent with employee retention literature. The summary of the research questions and hypotheses appears in Table 2.1.

Table 2.1 – Summary of Research Questions and Hypotheses

<b>Research question 1:</b> How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?	
<b>Research question 1(a):</b> Do these relationships differ between (i) TM (Self) and (ii) TM (Org)?	
H <sub>1a</sub>	TM (Self) is positively related to the JE-fit dimension.
H <sub>1b</sub>	TM (Org) is positively related to the JE-fit dimension.
H <sub>2a</sub>	TM (Self) is positively related to the JE-links dimension.
H <sub>2b</sub>	TM (Org) is positively related to the JE-links dimension.
H <sub>3a</sub>	TM (Self) is positively related to the JE-sacrifice dimension.
H <sub>3b</sub>	TM (Org) is positively related to the JE-sacrifice dimension.
H <sub>4a</sub>	TM (Self) is positively related to human capital.
H <sub>4b</sub>	TM (Org) is positively related to human capital.
H <sub>5a</sub>	TM (Self) is positively related to job satisfaction.
H <sub>5b</sub>	TM (Org) is positively related to job satisfaction.
H <sub>6a</sub>	TM (Self) is positively related to intention to stay.
H <sub>6b</sub>	TM (Org) is positively related to intention to stay.
<b>Research question 2:</b> How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?	

<b>Research question 2a: How does human capital affect (i) job satisfaction and (ii) employee intention to stay?</b>	
H <sub>7</sub>	JE-fit is positively related to human capital.
H <sub>8a</sub>	JE-fit is positively related to job satisfaction.
H <sub>8b</sub>	JE-links is positively related to job satisfaction.
H <sub>8c</sub>	JE-sacrifice is positively related to job satisfaction.
H <sub>9a</sub>	JE-fit is positively related to intention to stay.
H <sub>9a</sub>	JE-links is positively related to intention to stay.
H <sub>9c</sub>	JE-sacrifice is positively related to intention to stay.
H <sub>10</sub>	Human capital is positively related to job satisfaction.
H <sub>11</sub>	Human capital is positively related to employee intention to stay.
H <sub>12</sub>	Job satisfaction is positively related to employee intention to stay.
<b>Research question 3: Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?</b>	
H <sub>13</sub>	Job embeddedness (JE) mediates the relationship between talent management (TM) and intention to stay.
H <sub>14</sub>	Human capital mediates the relationship between talent management (TM) and employee intention to stay.
<b>Research question 4: To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?</b>	
H <sub>15</sub>	The relationship between talent management (TM) and intention to stay is stronger for high-potential employees.

Chapter 3 outlines the research methodology adopted to conduct this empirical study and test its hypotheses. The chapter includes details on mixed method research design, quantitative and qualitative research, and the proposed data analysis techniques adopted.



## Chapter 3 – Research Methodology

### Introduction

The main aim of Chapter 2 was to critically review current knowledge and extant studies related to talent management (TM), job embeddedness (JE), human capital and employee relationships and to develop a coherent research framework and hypotheses to address the research gaps. Chapter 3 details the research design and methodology adopted for planning and conducting the study outlined in the research framework (Fig. 2.5). The chapter is divided into three main sections. The first provides a brief overview of the research design and a justification for the use of mixed method research, by exploring its strengths and limitations in the context of this research. The second provides an overview of the quantitative method, including details on the operationalisation of measures, design of the survey questionnaire and data analysis. The third discusses the qualitative research method for data collection, analysis and interpretation. The chapter concludes with a discussion on the different tools and possible limitations. The following section outlines the research design for the study.

### 3.1 Research Design

Research designs represent different models of conducting research and are useful guides in determining the logic for collecting and interpreting research study (Creswell and Clark, 2007). The research design guides the research process. Therefore, it is critical to clearly define the research design and methodology to be used, based on the research purpose and research framework, to deal with the ‘*logical*’ problem and not with “*logistical*” problem” (De Vaus, 2002, p.9). The research design process is, in turn, guided by the researcher’s worldview, or research paradigm (Creswell, 2009), which represents a set of basic beliefs that defines the nature of the world and a range of possible relationships for the holder of the worldview (Guba and Lincoln, 1994). The research paradigms, in turn, are shaped by the research discipline and past experiences, which often leads the researcher to embrace a certain methodology for

implementing and interpreting the research. There are four generally accepted worldviews in social research: post-positivism, constructivism, advocacy/participatory and pragmatism (Creswell, 2009). However, the positivist approach has dominated contemporary management research, with an emphasis on quantitative methods for data collection and hypothesis testing (Johnson et al., 2006). In the context of mixed method research, three views have prevailed: the purist view, supporting a mono-methods approach that does not mix paradigms and methodologies; the situationalist view, arguing for the selection of certain views based on the situation; and the pragmatist view, which attempts to integrate both methods in one study (Onwuegbuzie, 2002).

This research is guided by the pragmatist research philosophy, which arises out of actions, situations and consequences rather than antecedent conditions. The pragmatists advocate that a false dichotomy exists between quantitative and qualitative methods and asserts that research is influenced not just by theory and hypotheses but also by observations, facts and evidence; hence, pragmatists choose both inductive and deductive approaches in order to get optimal outcomes (Onwuegbuzie, 2002). Pragmatic research allows for adoption of a flexible approach to investigate a phenomenon (Johnson and Onwuegbuzie, 2004) while accommodating an outcome-oriented enquiry method. Instead of focusing on methods, the researcher emphasises the research problem and assesses possible approaches to understand the problem. Hence, the pragmatic philosophy opens the doors for the application of a mixed method approach, where the inquirer draws from both quantitative and qualitative methods (Creswell, 2009).

After its introduction in early 1960s, the mixed method approach has since the 1980s gained acceptance and popularity (Onwuegbuzie, 2002); it retains its appeal for researchers (Tashakkori and Teddlie, 2010). The mixed method approach is a natural complement to traditional qualitative and quantitative research, as it adopts two research designs using the pragmatic philosophy – that is, the mixed *model* design and the mixed *method* design (Johnson and

Onwuegbuzie, 2004) – and has the potential to offer a powerful paradigm choice, beyond the qualitative and quantitative, that accomplishes balanced and useful research based on maximum information (Johnson, Onwuegbuzie & Turner, 2007), thus allowing for creative research strategies to be adapted based on the research questions and settings (Patton, 2002).

Within the area of TM, the need to adopt studies with mixed method designs to ensure greater accuracy and minimise mono-methods bias is advocated by (Dries et al., 2012, Al Ariss et al., 2014). Accordingly, this study employed quantitative and qualitative data collection methods to diversify the sources of information. The following section presents the details of mixed method research design.

### **3.2 Mixed Method Research**

The mixed method approach, with its associated pragmatist philosophical orientation, has gained popularity in the past 20 years, as it utilises the strengths of both quantitative and qualitative research (Teddlie and Tashakkori, 2009), due to a general consensus that mixing methods can be both appropriate and rigorous (Patton, 2002). Mixed method approaches have been adopted to better understand, explain or build on the results from studies that took one approach through the use of approaches (Creswell, 2009), and they have gained popularity owing to the increased repertoire of tools (Greene, Caracelli & Graham, 1989) and approaches (Johnson et al., 2007) available to researchers to explore a given phenomenon. However, the actual terms used to denote mixed method approaches has seen variations (Creswell et al., 2003), resulting in fewer definitions. In their definition, (Greene et al., 1989) describe the mixed method approach as research design that adopts, at the minimum, one quantitative and one qualitative method.

The origins of the mixed method literature in the social sciences can be traced back to (Campbell and Fiske, 1959), who proposed the classical ‘multi-trait–multi-method matrix’ to rule out the method’s effect in any study. The complexities of social sciences issues warrant different forms

of methodology to best appreciate the phenomenon under study (Creswell et al., 2003); hence, social science research has a distinct tradition of mixed method research, advocating the use of multi-methods as ‘complementary’ rather than as a rival (Jick, 1979), thus circumventing limitations of any single approach. While critics (Smith, 1983, Guba, 1990) have raised the issue of compatibility between quantitative and qualitative research, advocates of mixed method approaches point to compatibility, both at practice and epistemology levels (Howe, 1988).

Mixed method approaches support practical mandates to gain relevant information on phenomena rather than focusing solely on the purity of the method (Patton, 2002); they address the limitations of research designs that are over-reliant on any one research method for data collection and analysis – this over-reliance has resulted in growth in the area of hypothesis testing rather than developing new, rich explanatory theories (Deshpande, 1983). Hence, it is imperative for researchers to reduce over-reliance on any one method, not losing sight that research methodologies are mere tools to facilitate understanding and that there is a need to adopt versatile and balanced repertoires of research tools (Morse, 1991). Mixed method design offers an opportunity to uncover unique variances that may otherwise go undetected (Jick, 1979). The other key benefits of mixed method include the ability to simultaneously generalise from a population and gain deeper insights about the phenomenon under study, testing and modification of theoretical models based on respondent feedback (Hanson, Creswell, Clark, Petska & Creswell, 2005), instrument-building and triangulation (Creswell et al., 2004).

(Webb, Campbell, Schwartz & Sechrest, 1966) introduce ‘triangulation’ as the process of validation, where more than one method is used to validate the findings by ensuring that the observed variance is a result of the underlying phenomenon and not due to the methodology adopted for the study. In his seminal study on triangulation, (Denzin, 1970) advocates the ‘between-methods’, compared with ‘within-methods’, triangulation given the inherent limitations of a single paradigmatic approach to research. However, the goals of ‘maximising

strengths and minimising weaknesses' of each method needs to be approached with caution, to avoid the possibility of enhancing the weaknesses of both methods (Morse, 1991). The field of mixed method research has evolved with frameworks to guide research, including strategically combining the methods to produce complementary strengths and non-overlapping weaknesses (Johnson et al., 2007), and to serve the purpose of triangulation, expansion, complementarity, development and expansion (Greene et al., 1989).

Critics of the mixed method approach question its validity and trustworthiness, owing to issues such as the extent of integration of data (Bryman, 2007), inappropriate research structure and absence of well-established findings (Johnson et al., 2007). Another criticism involves challenges in selecting an appropriate research design from the plethora of options available. However, these limitations can be addressed by being familiar with, and adhering to, rules and assumptions inherent to each method (Morse, 1991) and ensuring logic and internal consistency of different methodologies while defining the inquiry modes and data collection strategies (Guba and Lincoln, 1988). Scholars of the mixed method have advanced several research designs and typologies to address some of these shortcomings. The following section provides an overview of mixed method research designs and a brief overview of select typologies. It concludes with the proposed research design for this study.

### **3.2.1 Research Design and Typology**

The decision to select a mixed method research design is associated with the research goals (Newman, Ridenour, Newman & DeMarco Jr, 2003), research objectives (Johnson and Christensen, 2008) and research purpose of the study (Greene et al., 1989). While no two mixed method studies are alike, due to their inherent complexity, researchers are guided by key design principles based on the philosophical and theoretical foundations of the study. The seminal work of (Greene et al., 1989) proposes seven key characteristics of mixed method designs: methods, phenomena, paradigms, status, and implementation of independence, timing perspective and

number of studies. Building further on these, (Creswell and Clark, 2007) propose key research principles, including type of study, design approach, reasons for mixing and interpretation, which guide a mixed method study. These research principles are summarised in Table 3.1.

Table 3. 1 – Mixed Method Principles

<b>Research principle</b>	<b>Options</b>
<b>Type of approach</b>	Fixed – predetermined and planned at the start of the study
	Emergent – based on the issues arising during the research study
<b>Design approach</b>	Typology-based approach emphasises classification of mixed method designs based on the research purpose and research questions
	Dynamic approach
<b>Reasons for mixing</b>	Clear articulation of reasons for combining two methods Typologies adopted frequently

By definition, mixed method research includes at least one quantitative and one qualitative strand (Creswell and Clark, 2007), where a strand represents the basic process of conducting a research using one methodology, and the nature of relationship between the quantitative and qualitative strands is guided by the research principles. The key design decisions related to strands are summarised in Table 3.2.

Table 3. 2 – Mixed Method Design Decisions

Design decision related to Strands	Options
Level of interaction between strands	Independent – quantitative and qualitative strands are distinct and mixing only when drawing conclusions and interpretation.
	Interactive – direct interaction between quantitative and qualitative strands; interaction may occur at different points and various ways
Relative priority and importance of strands	Equal – both methods play an equally important role
	Quantitative priority – secondary role of qualitative
	Qualitative priority – secondary role of quantitative
Timing of strands – order in which the data is used within the study	Concurrent – both strands implemented during a single phase of the research study
	Sequential – two distinct phases
	Multiphase – include multiple phases of sequential or concurrent
Mixing, combining or integrating the point of interface for strategies	Merging two datasets
	Connecting analysis from one dataset to data collection of other
	Embedding one form of data within larger design
	Binding data sets using a framework
Procedure for mixing of strands	Mixing during interpretation – drawing conclusions on learning from combination of two strands
	Mixing during data analysis – merging the two datasets using interactive strategy
	Mixing during data collection – results of one strand builds into the data collection of other strand
	Mixing during the design stage
	Embedded Theoretical framework

The above research principles may be combined in numerous possible variations. Thus, researchers face a tough decision around selecting an appropriate combination based on the research purpose of their study. In order to ensure a high-quality, rigorous and persuasive study, (Creswell and Clark, 2007) advocate the use of appropriate ‘typology’, as these provide a framework and logic for the study. Using the three dimensions of the research continuum – the extent of the mixing, time and emphasis – the authors defined six design typologies: convergent parallel, explanatory sequential, exploratory sequential, embedded, transformative and multiphase. Additional typologies developed by other methodologists such as (Leech and Onwuegbuzie, 2009) are also accessible. The following sections outline the typology and research design selected for this study.

### **3.2.2 Convergent Parallel Research Design**

Based on the research aims, this study adopted convergent parallel or concurrent research design, which is one of the oldest and most common approach across disciplines due to its numerous strengths and advantages. It is efficient and relatively easier to adopt due to its intuitive nature, and it builds on the strengths of the two methods independently. Additionally, this typology is deemed to be best suited to the pragmatic research paradigm, research goals and fit of key characteristics (Creswell and Clark, 2007), thus providing a complete understanding of the research phenomena based on the synthesis of complementary data.

Although commonly adopted, this method presents some unique challenges and limitations given that it deals with different samples and demands significant expertise and time, especially if both the methods are given equal weight. Another limitation pertains to the ability to arrive at a coherent interpretation of both the datasets, especially if the results do not converge, warranting additional data collection. Some researchers, however, perceive the absence of convergence as an opportunity for enriching the explanation (Jick, 1979) and these challenges can be minimised by not limiting the interpretation phase as only a mathematical activity, instead aiming to conduct interpretation in the context of current knowledge, adopting a well-considered process involving judgement, wisdom and creativity (Morse, 1991).

Based on the above review, the key characteristics of convergent parallel design were adopted for this study, as summarised in Table 3.3.

Table 3. 3 – Convergent Parallel Design

<b>Characteristics</b>	<b>Relevance to study</b>
<b>Typical paradigm foundation</b>	Pragmatism
<b>Purpose</b>	Need for a more complete understanding of the relationship between TM, JE, human capital and employee retention To corroborate the scale used for TM
<b>Level of interaction</b>	Independent – with higher priority given to quantitative method as compared to qualitative (QUANT + qual)
<b>Timing of strands</b>	Concurrent, yet separately
<b>Primary point of interface for mixing</b>	During interpretation, due to independent design
<b>Mixing strategy</b>	Separate data analysis and merging of the data in order to interpret the convergence or divergence of results from the two methods

In the current study, the purpose of the quantitative method was to explore and predict the relationship between the dependent variable (employee intention to stay) and the antecedent variables – TM, JE and human capital – and the qualitative method guided exploration and description of the phenomena of TM, JE and human capital. As these variables are in their development stages, their relationships with employee retention meant that they had meaning for the participants (Creswell, 2009).

The emphasis on deductive and inductive reasoning in a study is associated with the role of theory (Morse, 1991), which in turn determines the weight for the quantitative and qualitative research. In this study, due to the deductive role of the theory, based on an a priori theoretical framework, simultaneous triangulation of quantitative and qualitative methods was adopted, with quantitative research taking the precedence and complemented by the qualitative research. This is in line with the argument that quantitative and qualitative research take different weights based on the role of the theory and emphasis to ensure complementarity and completeness in both methods (Morse, 1991).

The next step is to determine the sampling scheme and sampling design. According to (Johnson et al., 2007), four distinct types of sampling schemes are available for adoption using the two-

dimensional model. For this study, the frequently adopted mixed method approach type 4, with non-random sampling, was adopted for both quantitative and qualitative components, as summarised in Table 3.4.

Table 3. 4 – Mixed Method Sampling Scheme

<b>Research goals</b>	To predict; add to the knowledge base; have a personal, social, institutional, and/or organisational impact; measure change; understand complex phenomena; test new ideas; generate new ideas; inform constituencies; or examine the past (Newman, Ridenour, Newman & DeMarco, 2003)
<b>Research objective</b>	Exploration, description, explanation, prediction or influence (Johnson & Christensen, 2004)
<b>Research purpose and research questions</b>	Triangulation, or seeking convergence of findings; complementarity, or examining different overlapping aspects of a phenomenon; initiation, or discerning paradoxes and contradictions; development, or using the results from the first method to inform the use of the second method; or expansion, adding breath and scope to a study (Greene et al., 1989)

If the goal of the study is to obtain insights into a phenomenon and not to generalise to a population, which is often the objective for the qualitative component of the research, a non-probabilistic purposive sample is selected to gain maximum understanding of the phenomenon (Onwuegbuzie and Collins, 2007), and ‘information rich’ (Patton, 1990) respondents are included in the sample. The sampling schemes in mixed method studies tend to be more complex compared with mono-method studies and typically involve distinctive linear steps: identification of study goal, research objectives and research propose; definition of research questions; and selection of research design, sampling design and sampling scheme (Onwuegbuzie and Collins, 2007).

This purpose of this mixed method study was to achieve ‘complementarity’ through qualitative and quantitative methods, and the sampling design was determined based on the time orientation (concurrent) and (multilevel) relationship between the two samples (Onwuegbuzie and Collins, 2007). In a concurrent design, the quantitative and qualitative research is conducted at the same time and the multilevel nature of the relationship involves the use of two or more sets of samples

extracted from different populations related to the study, involving purposive sampling (type 4). Based on these explanations, the quantitative study adopted survey-based responses from individual managerial employees, and the qualitative study adopted in-depth, semi-structured interviews with human resource (HR) managers, TM experts and business managers. Thus, the sampling model selection was tailored to meet the objectives of the study.

About 20% of previous TM studies adopted a mixed method design (Gallardo-Gallardo and Thunnissen, 2016). For example, (Bhatnagar, 2007) used a mixed method design to assess the relation between TM and employee retention. The following section outlines the role of the quantitative method in the study.

### **3.3 Quantitative Research**

Quantitative research is a positivist approach for testing objective theories through the examination of relationships amongst variables, using experimental or non-experimental designs, such as a surveys (Creswell, 2009), and underlies a deductive approach for testing hypothesised relationships amongst variables (Cavana, Delahaye & Sekaran, 2001). For the present study, the proposed conceptual model (see Fig. 2.5) outlined the nature of the research and the type of relationships being studied. These relationships have been established based on the review of relevant theories and extant studies, with the purpose of exploratory research, which aims to evaluate theories, find effects and explain variances by studying the relationships between the variables (De Vaus, 2002).

The critiques of quantitative techniques highlight their inherent limitations in distinguishing between ‘natural science’ and ‘social science’, the artificial sense of precision and accuracy of the measures, over-reliance on instruments and procedures, and the fact that analysis only presents a static view and ‘omits the relationship between people and realities’ (Bryman and Bell, 2011,pp.167-168). To minimise these limitations, quantitative researchers strive to provide

concrete answers to the research questions based on a scientifically conducted study and application of statistical tools and techniques (Cooper and Schindler, 2003).

Based on the epistemologically grounded beliefs of acceptable knowledge, a quantitative study exhibits four main preoccupations: measurement, causality, generalisation and replication (Bryman, 2007). Of these, generalisation from sample to population is associated with the survey strategy and involves measurement of variables (Creswell, 2009). The strength of the survey approach is its ability for collection, analysis and interpretation of relevant data, and that the survey can be administered either in a traditional pen-and-paper format or in an internet-based format. The internet-based survey method has several advantages, including reach; convenience; flexibility; rapid data collection; cost-effectiveness; ease of data entry, analysis and follow-up; confidentiality; access to specialised populations; and diversity of questions (Baruch and Holtom, 2008, Rea and Parker, 2012). However, conventional issues and challenges faced by users of internet-based surveys include declining response rates; mistrust; privacy or perceived spamming issues; lower response rates due to self-selection bias; and lack of interviewer involvement (Evans and Mathur, 2005, Rea and Parker, 2012). In this study, sufficient care was taken to address these limitations.

This research employed a cross-sectional method to study the relationships between the variables under consideration – TM, JE, human capital and employee intention to stay. A cross-sectional study involves data collection at a point in time as against a longitudinal study, which makes repeated observations of the same subjects to study the same phenomena over an extended period of time (Sekaran, 2006). Exploratory and descriptive studies are often cross-sectional – and many explanatory studies are also cross-sectional – while longitudinal studies are better suited for establishing cause–effect relationships and are usually adopted in three special types of research: trend study, cohort study and panel study (Babbie, 2012). Most field studies are conducted using cross-sectional data, due to limitations in effort, time and cost of collecting data

over a period of time. An issue with cross-sectional studies is the likelihood of non-response bias – that is, the difference between participants and non-participants that may lead to issues with the generalisability of the findings (Sedgwick, 2014). While the cross-sectional approach faces the problem of generalisation and may be affected by the respondent's disposition, it is possible to minimise these limitations by building on the results of extant research.

A review of empirical studies based on TM by (Gallardo-Gallardo and Thunnissen, 2016) report a higher prevalence of qualitative studies (39%) and a rise of quantitative (40%) and mixed design studies (19.7%), with TM scholars adopting descriptive studies (63.54%), while (Lewis and Heckman, 2006) assert that the majority of empirical research related to TM used cross-sectional designs. Other studies, such as those by (Bhatnagar, 2007), (Höglund, 2012), (Al Ariss et al., 2014), (Luna-Arocas and Morley, 2015) and (Barkhuizen, Diseko & Schutte, 2015), used cross-sectional designs, with only (Fernández-Aráoz et al., 2011) using a combination of both cross-sectional and longitudinal studies. Similarly, extant studies on JE have found support from both cross-sectional and longitudinal methods. Examples of cross-sectional studies include those by (Mitchell et al., 2001), (Sablinski, 2002, Sekiguchi et al., 2008), (Tanova and Holtom, 2008), (Hom et al., 2009) and (Bergiel et al., 2009), and longitudinal studies include those by (Lee et al., 2004), (Halbesleben and Wheeler, 2008) and (Cheng, 2014). The results from both types of studies are comparable.

The current research utilised the cross-sectional method due to the following considerations:

1. The main aim of the study was to examine the relationships between TM, JE, human capital and employee intention to stay. The focus of the study was not on the cause–effect relationship.

2. A longitudinal study would require actual employee turnover data, which is not readily available, as such data is considered confidential and sensitive by most organisations and is usually not accessible to researchers within the public domain.
3. Intention to stay was used as a proxy for actual voluntary turnover, as it has been shown to be negatively correlated with actual turnover (Tett and Meyer, 1993, Chew and Chan, 2008).
4. Follow-up data collection was not required for further analysis.

The empirical data for this research was collected through the administration of an internet-based survey, a copy of which is attached in Annexure 2. This research adopted the P4 typology approach with a dominant quantitative research design (Leech and Onwuegbuzie, 2009). The remainder of the section discusses the population and sampling strategy, unit of analysis, measurement of constructs, data collection and data analysis techniques.

### **3.3.1 Sampling Design and Procedure**

The objective of this study is to examine the relationship between TM, JE, human capital and employee retention in a uniform context; hence, its scope is limited to a single country and employees associated with knowledge-intensive organisations. The study rationale, along with the research gaps and the significance of selecting Singapore as the research setting, was elaborated in Chapter 2 (see section 2.6). In addition, research of this nature needs to minimise the interaction effects of other macro variables that are likely to arise in a multi-country study. Hence, a single-country study was planned to ensure collection of data in a relatively homogenous environment. The researcher is based in Singapore and is keenly involved in this topic, and geographical proximity resulted in easier access to possible respondents.

Sampling is an important step in research that permits the researcher to arrive at quality inferences from the underlying findings (Onwuegbuzie and Collins, 2007). As compared with

mono-method research studies, sampling is more complicated in mixed method studies, with the sampling scheme representing specific strategies adopted for selection of unit of analysis, while sampling design guides the framework for sampling, including number, type and size of sample.

Sampling decisions are related to the extent of generalisation that the researcher can draw upon from the study. Quantitative studies tend to make ‘statistical’ generalisations; qualitative studies arrive at ‘analytical’ generalisations that extend conclusions based on theory, not data. The choice of sampling scheme needs to be based on the type of generalisation expected from the study. The extent of generalisation that can be drawn by the researcher based on the findings of a mixed method study, known as *meta inferences*, is determined by the sampling plan (Tashakkori and Teddlie, 2003).

While the above considerations are important in determining appropriate sample size, the opinion amongst scholars is varied and diverse. Babbie (2012) argues in favour of representativeness, sampling distribution and permissible sampling error, while Cohen (1992) maintains the importance of effect size, statistical power and significance criteria in determining sample size. Statistical power refers to the conditional probability of rejecting the null hypothesis when the alternate hypothesis is true (Cohen, 1992) or to the sensitivity of the null hypothesis test to detect an effect when the effect is present and the recommended value of power in social science is 0.80 (Cooper and Schindler, 2003).

The views of scholars on selection of appropriate sample for quantitative and qualitative components of mixed method research show a dichotomous view, prescribing larger samples for quantitative components and smaller samples for qualitative components (Onwuegbuzie and Collins, 2007). However, smaller samples are suited for single-subject, exploratory research design. Further, for a causal-comparative design (Onwuegbuzie and Leech, 2004) suggest a

minimum sample size of 51 participants per group for one-tailed hypotheses and 64 participants for two-tailed hypotheses.

The quantitative data analysis technique used for this study is based on structural equation modelling (SEM). Within the SEM literature, there is a wide variation of views about the estimation and requirement of sample size. This can be partly attributed to one of the strengths of SEM methodology – that is, flexibility (Wolf, Harrington, Clark & Miller, 2013) – making it difficult to arrive at generalised guidelines for the requirements for a sample size. (Hair, Black, Babin & Anderson, 2010) recommend a minimum of 200 as the sample size to provide for a sound basis for estimation. In addition, (Tabachnick and Fidell, 2013) recommend that a sample of 200 is fair and 300 is good for the purpose of advanced statistical techniques such as SEM, with 200 being the ‘critical sample size’ that gives valid results while testing any model using common estimation techniques (Hoelter, 1983). Within the SEM methodology, the sample size is also linked to number of indicators per variable, and an increase in the number of indicators is likely to compensate for an overall smaller sample size yet preserve statistical power (Wolf et al., 2013). It is recommended that a comparable and similar sample from the extant studies be adopted in order to ensure reliability and generalisability (Sekaran, 2006).

### **3.3.1.1 Population and Sampling Frame**

The scope of this thesis is limited to knowledge-intensive firms in Singapore, as outlined in section 2.6.3. ‘Knowledge-intensive firms’ are defined as firms where ‘knowledge is accepted as the most important input’ (Starbuck, 1992). A sampling frame includes all the units in a given population. However, it may not be feasible to develop a sampling frame of the entire population, due to the nature of the population and the researcher’s access to it (Bryman, 2015). In such cases, the recommended alternative that leads to effective results is to create a subgroup that represents theoretically important characteristics, using a clustered approach (Gorard, 2003). For the purpose of this study, the sampling frame was developed based on the above definition

of knowledge-intensive firms (Starbuck, 1992). These firms share common characteristics of high-level knowledge intensity and interactivity in servicing their clients (Wong and Singh, 2004) and are characterised by a professional workforce (Von Nordenflycht, 2010). Common examples of knowledge-intensive firms include services related to management consultancy, accountancy, computer and information technology (IT), research and development, legal, and marketing and advertising (Miles, Kastrinos, Flanagan, Bilderbeek, Den Hertog, 1995).

Although the exact number of knowledge-intensive firms in Singapore is not available, their importance is reflected in the emphasis placed on them by the government and industry associations. Accordingly, 60 knowledge-intensive organisations in Singapore were identified based on publicly available information, based on their classification in one of their areas of business. The head of the HR department in these organisations were invited to participate in the study, and the survey questionnaire was circulated to the managerial employees in these firms. Out of these firms, 10 organisations gave consent to circulate the survey with their managerial employees.

The extant studies on TM report sample sizes ranging from 70 (Majeed, 2009) to 270 respondents (Bhatnagar, 2007), with (Tymon et al., 2010) reporting a big sample of over 4,811 respondents. Most reported studies either rely on qualitative data or use case study design (Gallardo-Gallardo and Thunnissen, 2016). The review of extant JE studies listed in Annexure 5 indicates sample sizes ranging from the lower ranges of 100 to a majority of between 200 and 300; few exceed very large samples (e.g. 9,277).

The average response rates of survey-based studies varies between (35.7%) for organisations and (52.7%) for individual respondents (Baruch and Holtom, 2008). The response rates of survey-based research studies on employee turnover in Singapore ranges from 13% (Khatri, 2000) to 16.1% (Barnard and Rodgers, 2000), with average response rates of 20%. Given the trend of

lower response rates in Singapore, and to satisfactorily meet the requirements of statistical inferences criteria, this study aimed to collect a total of 200 usable samples to provide sufficient statistical power for data analyses and interpretation. This sample size is in line with other studies in the TM and JE fields; further, studies that used similar sample sizes reported statistically significant results using SEM methodology (as listed in annexures 4 and 5).

### **3.3.1.2 Sampling Technique**

The sampling strategy adopted was non-probability, purposive, judgemental sampling, where the respondents met the criteria of managerial work experience in knowledge-intensive firms in Singapore. Respondents to the survey were included based on the nature of role performed and designations reflecting managerial positions. Within social sciences research, probability sampling is preferred as it eliminates any researcher bias in the selection of cases. However, in situations where probability sampling is not practical or feasible, non-probability, purposive sampling techniques are best suited (Creswell and Clark, 2007). This approach is also considered appropriate in situations where the sampling frames are unavailable, or the population is widely dispersed, making it unviable to collect a random sample.

In non-probability sampling, cases are not necessarily sampled to know more about the population but to extend and deepen the existing knowledge about the population (Uprichard, 2013). While non-probability sampling has its limitations of generalisability (Cooper and Schindler, 2003), this sampling strategy meets the research aim of discovering the extent of the phenomenon, not the 'true cross-section' within the researcher's limitations of time, cost and access to the population. The purposive sampling plan, though not considered perfectly representative, provides useful information about the population, as the cases are judged as 'typical' of the cases of interest to the researcher (De Vaus, 2013). Social sciences research continues face limitations in non-probability, purposive sampling: most studies are unable to utilise a random sample even though the inferential statistics are based on the assumptions of

random sampling (Onwuegbuzie and Collins, 2007). The approach described in section 3.3 led to an initial sample of 480 respondents being invited to participate in the study.

### **3.3.2 Unit of Analysis**

Unit of analysis are used to describe and explain differences while studying a phenomenon (Babbie, 2012), and represent the level of aggregation of the data collected during analyses (Sekaran, 2006). In social science research, individual people are the most typical unit of analysis, apart from examples such as organisation, departments, work groups or teams. Appointing individuals as the primary unit of analysis provides information and understanding of the attitudes and behaviours of individuals in relation to the research topic (Baruch and Holtom, 2008). While many past studies on TM report HR professionals as units of analysis, these are likely to represent the functional perspective of TM; however, it is equally important to understand the perspectives of employees who are the direct recipients of TM practices in the organisation (Cooke et al., 2014). Past studies on TM (23%) and JE use individuals as units of analysis (Gallardo-Gallardo and Thunnissen, 2016). Past research based on knowledge-intensive firms report the importance of individual employee perceptions on HR and TM practices on employee attraction and retention (Horwitz et al., 2003).

The scope of this thesis is managerial employees, who possess distinctive characteristics such as high aspirations and skills and who are in high demand in the job market. These factors are likely to lead to retention issues, as outlined in section 2.6.4. The literature defines the term ‘middle managers’ rather broadly; it is extended to managers located below top management and above first-level supervision in the hierarchy of organisation (Wooldridge et al., 2008), comprising both general line managers and functional designations. For this study, individual employees in middle management roles were considered as units of analysis in line with the research objectives of capturing individuals’ perceptions about TM, JE and intention to stay. Scholars have adopted individual employees as the unit of analysis while examining the

relationship between employee intention to stay and TM (Höglund, 2012) and employee intention to stay and JE (Lee et al., 2004, Karatepe and Vatankhah, 2014).

In this study, a survey research design was adopted to systematically reach a large and diverse population of respondents (Creswell, 2009). Survey research offers four key benefits for any cross-sectional research design: multiple cases, simultaneous data collection, quantifiable data and patterns of association (Bryman and Bell, 2011). The following sections provide an overview of the key constructs and the development of measures adopted in the survey instrument design.

### **3.3.3 Measurement of Constructs**

This section is composed of three parts: description of measures (including research and background variables), demographic factors and scale modifications.

#### **3.3.3.1 Research Variables**

The construction of measures is critical to any research study, since the constructs represent an unobservable dimension of behaviour and the complexity of measurement increases with higher abstraction (Nunnally, 1978). Constructs are required to demonstrate validity (content and criterion) and internal consistency (Hinkin, 1998). Owing to the cross-sectional nature of this study, both the independent measures (TM, JE and human capital) and the dependent variable (intention to stay) were measured at the same time, due to the challenges associated with a longitudinal study.

One of the key challenge to the survey methodology is Common Method Variance (CMV) (2006), causing a challenge related to validity for cross-sectional studies (Lindell and Whitney, 2001); hence, emphasis needs to be placed on reducing the effect of CMV (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Another source of common method bias arises due to multiple sources of responses for dependent variables (Avolio, Yammarino & Bass, 1991,

Podsakoff et al., 2003); however, the responses for this study were collected from a single source – managerial employees – so this issue was not significant. (Spector, 2006) argues that criticism about CMV in cross-sectional, self-reported studies is not warranted – since the measurement is affected by the methods – and recommends greater emphasis on measurement bias over CMV.

Common method bias is affected by the measures and measurement scale adopted for the study. One of the issues cited by (Marasi et al., 2016) on the use of JE measures is the issue of social desirability, or employees' tendency to keep quiet their participation in deviant acts, not allowing others (such as co-workers and/or supervisors) to know of their degree of engagement (Spector, 1992). To minimise any possibility of a socially desirable response about their intention to stay in self-report responses, the study was conducted in an anonymous manner and all the data was accessible only to the researcher. These arrangements were communicated to the respondents along with their consent for study, as recommended by (Paulhus, 2002). Anonymity of the data makes social desirability an unlikely problem, and employees are reported to be surprisingly honest in reporting high levels of workplace deviance in anonymous surveys (Bennett and Robinson, 2000).

Another source of common method bias is linked to measurement scales. This study adopted a five-point Likert scale for the independent and dependent variables, ranging from 'strongly disagree' to 'strongly agree', with some of the items in the JE-links dimension using a different range. The survey also contained some objective information from the respondents, such as their years of experience in the industry and organisation, and number of co-workers.

While it is commonly understood in theory and practice that the presence of measurement error cannot be completely eliminated in multivariate analysis (Hair et al., 2010), the research needs to adopt measures that meet the reliability criteria, representing the internal consistency of the indicators. In this study, the reliability and validity were evaluated using the plans proposed by

(Nunnally, 1978). The content validity, which represents the degree to which elements of an assessment instrument are relevant to and representative of the construct (Haynes, Richard & Kubany, 1995), thus provides construct validity.

Content, or face, validity is a subjective measure by experts about the measure; it is suggested that the development of measures is best done by use of well-established indicators that have been adopted by other researchers. This deliberate strategy of developing standard indicators is known as harmonisation, which results in several benefits: uniformity of definition of concepts, classification and coding of questions, tracking of changes and comparison with previous results (De Vaus, 2002). Majority of the measures adopted in this study were based on extant studies reporting acceptable reliability and validity. The measures were adopted to meet the requirements of the specific research objectives and research context, and new measures were developed where existing measures were unavailable. To determine the content validity of the measures, the questionnaire was reviewed by two academic researchers and three HR professionals. These measures (detailed in section 3.3.4) were evaluated for validity and reliability during the pilot testing phase to ascertain the psychometric properties of the measures. The measures were also assessed for convergent and discriminant validity (Spector, 2006) to determine the relationships between different hypothesised relationships in the structural model. Table 3.5 summarises the sources of survey items, and a brief explanation of measurement variables is provided below.

Table 3. 5 – Sources of Survey Item Measures

Section	Items	Source
A	Q 1 to 25	JE scale (Mitchell et al., 2001).
A	Q 26 to 33	Human capital – uniqueness and value (Lepak and Snell, 1999; 2002).
A	Q 34 to 38	TM (Fegley, 2006)
A	Q 39	Job satisfaction (Hackman and Oldham, 1975)
A	Q 40	Intention to stay (Chatman, 1989)
B	Section B	Background information – age, gender, education, experience, nationality, industry, designation, function, experience (Khatri, Fern, and Budhwar, 2001)

**TM** is conceptualised as the systematic practices adopted by firms in order to attract, develop, engage and retain key employees in strategic roles (Collings and Mellahi, 2009). The measure for TM program was based on the TM survey instrument by (Fegley, 2006) of the Society of Human Resource Management [SHRM] in the US. The society defines TM as (Fegley, 2006, p.23) the:

... implementation of integrated strategies and systems to increase workplace productivity by developing improved processes of attracting, developing, retaining and utilising people with required skills and aptitudes to meet current and future business requirements.

These measures were adopted in order to assess the relationship between JE and human capital. The items used in the survey questionnaire are listed in Annexure 2.

The **JE construct** is conceptualised as the combined forces that keep an employee from leaving their job (Yao, Lee, Mitchell, Burton & Sablynski, 2004). The focus of this study was limited to the on-the-job dimension of embeddedness, and hence the off-the-job, or community, embeddedness items were not included. The measures for on-the-job embeddedness are further divided into three dimensions: JE-fit, JE-links and JE-sacrifice. The JE scale does not use a

single-response format, and components in the JE-links dimension ask respondents to report objective indicators, such as the number of work teams they are involved in (Allen, 2006). Participants tend to be fairly accurate in reporting objective verifiable responses (Podsakoff and Organ, 1986), which reduces the likelihood that responses are merely the result of CMV. The measure for the on-the-job embeddedness dimensions – JE-fit, JE-links and JE-sacrifice – were taken from 22 items from the JE scale (Mitchell and Lee, 2001), as the instrument has been used in several studies that reported that the measures were sufficiently reliable and valid (Allen, 2006, Ng, 2010, Robinson et al., 2014). This composite measure has the advantage of theoretical richness due to the inclusion of both non-attitudinal measures and organisation and community embeddedness measures (Zhang et al., 2012).

The original JE measures by (Mitchell and Lee, 2001) are conceptualised as formative measures, while subsequent reflective scales were developed by (Crossley et al., 2007, Crossley et al., 2011, Clinton et al., 2012). Some concerns around adopting the formative scale are the possible irrelevant items being included or important items being excluded (Zhang et al., 2012), as well as the difficulty in applying standard psychometric tools, such as internal consistency and confirmatory factor analysis (CFA) (Purba et al., 2016). On the contrary, the limitations of the reflective measures include low predictive validity of the scale by Clinton et al. (2012) beyond its research setting. Hence, measurement of JE continues to be an area of development (Zhang et al., 2012), leading to suggestion by Purba et al. (2016) to consider the use of reflective measures of CFA. Thus, this researcher endeavours to extend the measure by adopting the original scale as a reflective measure, for three reasons: (i) to examine any variations in the results from previous studies (Cunningham et al., 2005, Halbesleben and Wheeler, 2008) and to expand the psychometric property of the JE measure, (ii) to maintain consistency with all the reflective independent and dependent variables used in the research framework and (iii) the limitations of

Crossley et al.'s (2007) measures of predictive validity (Heritage et al., 2016). The items used to measure JE are included in Annexure 2.

The **human capital** construct represents the skills, knowledge and experience possessed by employees that enhance their work productivity and performance (Becker, 1964). Past studies on human capital demonstrate a range of subjective, direct assessments and proxy measures adopted to assess this construct (Wright and McMahan, 2011). Hence, there is a need to adopt human capital measures by integrating the related concepts of human capital, human capability and organisation capability and to validate these measures through an empirical study. As discussed in section 2.5, the resource-based view (RBV) is a dominant theory of human capital (Barney, 2001). Accordingly, the human capital measure was assessed using human capital uniqueness and value measures developed by (Lepak and Snell, 2002), adopted from the HR architecture framework by Lepak and Snell (1999). The items used in the survey questionnaire are listed in Annexure 2.

**Job satisfaction** is an affective construct conceptualised as a weighted sum of job satisfaction owing to all the facets of the job (Wanous and Lawler, 1972). It is a widely studied work-related construct that has a negative relationship to employee behaviours such absenteeism and turnover (Koster et al., 2011). Past studies have reported positive relationships between TM and job satisfaction (Grobler and Diedericks, 2009, Gelens et al., 2014, Luna–Arocas and Morley, 2015). Other studies report positive relationships between JE, job satisfaction and employee retention (Mitchell, 2001), (Ramesh and Gelfand, 2010), (Clinton et al., 2012). The job satisfaction measure was operationalised by the use of a scale by (Hackman and Oldham, 1974), which was adopted to reflect overall job satisfaction. The items included in the survey for job satisfaction are listed in Annexure 2.

The **intention to stay** construct is a measure of an employee's desire to continue to be associated with their organisation, as a surrogate measure for actual turnover. Intention to stay is seen to

have an antecedent to employee retention (Cunningham et al., 2005), thus allowing an organisation to focus on practices that play a role in retaining employees, as information about actual turnover comes too late for managers to take any preventive action (Wheeler et al., 2010). Intention to stay is shown to be negatively correlated with actual turnover (Chew and Chan, 2008) and was operationalised by adopting a scale by (Chatman, 1989). The items included for intention to stay are listed in Annexure 2.

These different measures were assessed using a Likert scale, which is widely adopted in social science research. The scale was developed in 1932 to address the challenges of measuring attitudinal measures as quantitative measures for data analysis (Boone and Boone, 2012). Despite its prevalence, there is an ongoing debate on the number of response alternatives – that is, the effectiveness of a five-point scale versus a seven-point scale. Opinion varies between as few as two or three to as high as 25 being most appropriate, with seven being the most popular (Cox III, 1980). However, Matell and Jacoby (1971) argue an adequate number of items in the measure is more significant for overall reliability and validity than the number of steps in the scale. Several extant studies on TM report using five-point scales (Bethke-Langenegger et al., 2011); (Festing et al., 2013); (Barkhuizen et al., 2015), and studies on JE adopted five-point scales (Allen, 2006); (Harman et al., 2009); (Mai and Gu, 2012), all of which reported statistically valid results. Hence, the survey instrument for this study used a combination of five-point Likert scales, nominal scales for categorical variables and ratio scales for select measures of JE-links. Thus, the final survey instrument was designed to have a combination of different measures with varying reliability and validity. The following section presents the details of the demographic factors included in the survey instrument.

### **3.3.3.2 Demographic Factors**

Demographic information about respondents was gathered using single-item questions. The variables in the study included gender, age, highest level of education attained, designation,

industry and nationality. Past studies on employee turnover in Singapore have found these variables to be associated with the dependent and independent variables in the employee turnover and retention models (Aryee, Wyatt & Min, 1991, Khatri et al., 2001, Joseph et al., 2007).

Age and education levels explain unique variance in JE (Young, 2012). Previous studies indicate higher organisational links amongst older employees, thereby reducing turnover intention. Mitchell (2001) report the impact of gender in their study of JE and employee retention (Cunningham et al., 2005) included job position in the respondent's organisation to gain a complete picture of the interaction effect of JE and employee retention. Tenure is linked to turnover, with older employees having lower turnover intentions compared with those of newer employees (Griffeth et al., 2000).

#### **3.3.3.3 Scale Modifications**

The original scales in the survey instruments (Mitchell et al., 2001) were adopted to suit the research objectives. The off-the-job items related to JE were not included, as they were out of the scope of the research. The scale for TM items were modified to include a 'not aware' option, considering that the respondents were individual managerial employees who were the recipients of the TM policies and programs and not necessarily the decision-makers, so they may not have had access to some of the information. The following section outlines the details of the pilot study.

#### **3.3.4 Pilot Testing**

A draft survey questionnaire was prepared based on the preliminary information gathering and review of extant literature. The draft survey was reviewed and revised according to the university guidelines, and the final version was submitted for review and approval by the Human

Research Ethics Committee. The approved survey questionnaire was pre-tested to assess critical factors such as the questionnaire's clarity, comprehensiveness and acceptability.

According to Lenth (2001), sample size is an important consideration for any pilot study, and 20 to 40 valid responses is considered an acceptable range for a pilot study (Rea and Parker, 2012, Johanson and Brooks, 2009). Accordingly, 31 responses were collected. The pilot was conducted using convenience sampling (Creswell, 2009), as the focus of the pilot was on quality of questionnaire design and not necessarily statistical accuracy. Hence, the respondents who were managerial employees, were selected to meet survey criteria but not necessarily on a random sampling basis. The following section outlines the key findings of the pilot study for validity and reliability, which are considered indicators of the goodness of measures of any instrument (Sekaran, 2006).

#### **3.3.4.1 Validity**

According to (Messick, 1990), the validity of an instrument represents the integrated evaluative judgement of the extent to which the empirical evidence and theoretical rationale support the adequacy and appropriateness of the test scores and the extent of generalisation of the results that is possible based on the interpretation of the study results (Shavelson, 1988). Test validity has been traditionally classified into three categories: content validity; criterion validity, which is further split into predictive and concurrent; and construct validity (Shavelson, 1988). For the purpose of the pilot study, construct validity and content validity were studied.

Content, or face, validity is a measure of subjective agreement amongst experts or professionals on the ability of the scale to accurately reflect the construct under measurement and the subject matter under study (Sekaran, 2006). The survey instrument was independently reviewed by three senior HR professionals with substantial expertise in employee retention and TM and two academic researchers with expertise in questionnaire design.

Construct validity investigates the quality of measures and indicates the degree to which certain explanatory concepts account for the performance of the test (Shavelson, 1988). This was established through the review of extant studies to assess the quality and relevance of the measures and their ability to estimate the criteria under study, as outlined in the previous section. The measures and their sources are listed in Table 3.1, and lists of extant studies are in annexures 3, 4 and 5 respectively.

### 3.3.4.2 Reliability

The reliability of a measurement instrument is its stability and consistency for accurate and unbiased measurement over time by reviewing the various items with which the instrument measures a concept (Sekaran, 2006). The stability of measures is assessed using test–retest and parallel form reliability; test and consistency of the measure is assessed using inter-item consistency (Cronbach alpha) and split-half reliability. Cronbach’s alpha is used to measure the internal consistency; in general, a value of 0.70 and above is considered acceptable for internal consistency (Cortina, 1993). For the purpose of the pilot study, internal consistency tests using Cronbach’s alpha and split-half reliability were conducted.

### 3.3.4.3 Interpretation of the Reliability Tests

This section summarises the results of the internal consistency tests. The Cronbach’s alpha values for the scale items were calculated using Statistical Package for the Social Sciences (SPSS) 21. Results are summarised in Table 3.6.

Table 3.6 – Cronbach’s Alpha Value Measurement Scales

Scale	Cronbach’s alpha	No. of items
TM (self)	0.951	9
TM (org)	0.951	4
JE-fit	0.961	7
JE-links	0.892	4*
JE-sacrifice	0.873	9
Human capital	0.955	4
Job satisfaction	0.849	3
Intention to stay	0.852	4

\* Cronbach's alpha for the original scale 0.563, which is comparable to that reported in extant studies.

The Cronbach's alpha values for the scales were above the recommended value of 0.7 for all the measures in the pilot study, which is also supported by the results of the extant JE studies. The Cronbach's alpha value of the original scale of JE-links by (Mitchell et al., 2001) for the two samples under study were 0.65 for grocery and 0.62 for hospital, and in the meta-analysis by (Oyler, 2014) it was 0.89. Hence, the Cronbach's alpha levels were considered acceptable for the present study.

A Spearman-Brown coefficient of 0.8 or above indicates a high internal reliability (Bryman and Bell, 2011). The split-half reliability test was conducted using SPSS, and the Spearman-Brown coefficient was calculated for the scales. The results are summarised in Table 3.7.

Table 3.7 – Split-half Reliability – Spearman-Brown coefficient

Scale	Spearman-Brown coefficient
TM (self)	0.873
TM (org)	0.871
JE-fit	0.952
JE-links	0.872
JE-sacrifice	0.944
Human capital	0.879
Job satisfaction	0.865
Intention to stay	0.911

Based on the pilot study, the items tested, eliminated and retained are summarised in Table 3.8.

Table 3.8 – Number of Items Tested, Eliminated and Retained

Construct	Sub-dimension	No. of items tested	No. of items eliminated	No. of items retained
TM	Self	9	0	9
	Org	4	0	4
JE	Fit	7	0	7
	Links	12	8	4
	Sacrifice	9	0	9
Human capital	Value	4	0	4
Job satisfaction	-	3	0	3
Intention to stay	-	4	0	4

Prior studies on JE report variations in the survey items for the on-the-job links dimension. The open-ended nature of questions on the number of co-workers, teams and committees showed skew and higher kurtosis; hence, the four items of link have been reported in studies (Zhang et

al., 2012), and this study adopted the four items for link. The validity and reliability of the human capital measure contributes to calls by Wright and McMahan (2011) to develop appropriate measure for the concept of human capital. This study contributes to the development of human capital theory and measures by providing empirical evidence in the field.

Post the pilot testing, the survey instrument was circulated to a wider group of respondents for data collection.

### **3.3.5 Data Collection Procedure and Response Rate**

The data collection for the quantitative and qualitative research adopted a multilevel sampling approach (Creswell, 2009), with differing participants for the quantitative and qualitative components. The quantitative data was collected through an online survey that was distributed to the respondents with assistance from their respective HR departments.

The quantitative survey was administered using a self-response web survey, the use which is growing and prevalent, compared with traditional mail surveys (Buchanan and Hvizdak, 2009), and offers advantages such as access, speed and ease of administration in a cost-effective manner (Bryman and Bell, 2007). Critics of web-based surveys point to issues concerning research ethics – for example, anonymity, participant consent, privacy and data storage – and these issues needs to be ensured by the researcher (Buchanan and Hvizdak, 2009). The researcher shared the email survey links to 480 respondents (through their HR departments), accompanied by a cover letter stating the purpose of the study and process for survey completion followed by individual consent. The survey responses were collected using the Qualtrics website and were completely anonymous, with no compulsion to identify a name. The data was accessible only to the researcher in order to ensure unbiased and candid responses and the privacy of the respondents. The organisation had no access to any of the raw data or interpreted data.

In the first round of data collection, a total of 122 usable responses were collected. Three weeks after the initial email, a reminder email was circulated to all the participants. A total of 87 usable responses were collected in the second round. Thus, a total of 246 usable responses were collected, a response rate of 51.2%. Past studies based on employee surveys in Singapore reported mixed response rates, as low as 16% (Barnard and Rodgers, 2000) and as high as 67% (Lee et al., 2008), with an average of 20% (Horwitz et al., 2003), while Khatri (2000) reported that typical response rates in Singapore were around 15% for surveys relating to employee and human resource management (HRM) practices.

For the qualitative study, in-depth face-to-face interviews were conducted with senior HR professionals and business leaders from knowledge-intensive firms in Singapore. A detailed interview protocol (see Annexure 3) was prepared to guide data collection and data analysis and interpretation (Creswell, 2009). The detail of the qualitative methodology is shared in section 3.4. The following section covers details of non-response bias.

### **3.3.6 Verification of Non-response Bias**

Non-response bias exists when survey respondents differ in terms of demographic or attitudinal variables from those who did not respond within the sampling frame (Sax, Gilmartin & Bryant, 2003). Thus, non-response bias limits the understanding of how an entire sample would have responded, thereby limiting the generalisability of results from the sample to the population (Armstrong and Overton, 1977). While in general non-response rates have increased over the last decade (Couper, 2000), it is suggested that researchers tend to focus on increasing the response rate (Cooper and Schindler, 2003). It is challenging to estimate non-response bias, as the identity of the non-respondents may not be always known. Hence, in order to estimate the non-response bias, it is suggested that individuals who respond later in the survey administration period be treated as non-respondents (Sax et al., 2003).

The non-response bias was calculated by comparing the statistical significance of the early and late responses (Armstrong and Overton, 1977). The returned responses were split into two groups (Rogelberg and Stanton, 2007): (i) those received after the first wave and (ii) those received after the second wave of email invitations to complete the survey. The first group included 122 (49.5%) usable responses; the second group included 87 (35.3%) usable responses, later classified as late responses.

A set of 10 questions were randomly drawn from the questionnaire, and an independent sample t-test was conducted on each item to assess non-response bias. Table 3.9 illustrates the results. There is no significant difference between the early and late respondents, thereby indicating minimal non-response bias in the data collected for this study.

Table 3.9 – Assessment of Non-response Bias

<b>Item</b>	<b>Early response Mean (<math>\sigma</math>) N= 122</b>	<b>Late response Mean (<math>\sigma</math>) N= 87</b>	<b>T-value</b>
1. Sac1	3.74 (.991)	3.92 (1.02)	-0.1275
2. Sac4	3.50 (1.02)	3.57 (1.05)	-0.473
3. Link 1	3.71 (1.01)	3.69 (.973)	0.183
4. HC2	3.38 (.905)	3.57 (.902)	-1.471
5. HC4	3.47 (1.06)	3.70 (.895)	-1.643
6. JS1	3.35 (.990)	3.63 (.921)	-2.057
7. JS2	3.64 (.747)	3.79 (.856)	-1.377
8. TM2	3.80 (.863)	3.99 (.874)	-1.559
9. TM5	3.64 (.781)	3.74 (.785)	-0.979
10. ITS1	3.59 (1.127)	3.52 (1.15)	0.433

### 3.3.7 Analysis of Data

The quantitative data analysis technique adopted was SEM, which seeks to explain the covariance amongst a set of observed and latent variables that are specified based on prior theory and which inform the data collection. SEM is best suited for model and theory testing (McQuitty and Wolf, 2013) and combines regression and factor analysis techniques for testing of models (Tabachnick and Fidell, 2001). The data collected from the web survey was analysed using the

SEM technique to validate the conceptual research framework presented in section 2.7 and to test the hypotheses.

SEM is a second-generation multivariate technique wherein the hypothesised model is tested to ascertain the extent to which the variation in one variable corresponds to variations in one or more variables based on coefficient of correlations (Hair et al., 2010). The advantage of SEM is that it permits the measurement of several variables and their interrelationships simultaneously (Hoe, 2008). AMOS software (version 21) was adopted for testing the measurement model and structural model (details are included in Chapter 4).

The SEM family of analyses comprises two different mainstream methods of covariance-based (CB-SEM) and variance-based partial least square (PLS-SEM) approaches (Hair et al., 2012). These two classifications differ greatly in their underlying philosophy and the estimation objectives. While CB-SEM is a confirmatory approach, PLS-SEM is a prediction-oriented variance-based approach suited to exploratory research. In addition, PLS-SEM is a non-parametric test and can be applied to complex models with small to large samples – unlike CB-SEM, which is a parametric test requiring larger sample sizes.

This research adopted the confirmatory model, which starts with model specification on the basis of theory (Hair et al., 2010). The SEM techniques have been adopted for past studies on TM practices (Oehley and Theron, 2010, Kontoghiorghes, 2016, Luna–Arocas and Morley, 2015) and JE (Kismono, 2011, Karatepe, 2013a, Darrat et al., 2016); hence, despite its limitations, such as global fit assessment (Steiger, 2007), SEM has been used as a tool for testing the model (as detailed in Chapter 4). The following section provides as overview of the qualitative research methodology adopted in this study.

### 3.4 Qualitative Research

Qualitative research is an umbrella term for a vast array of non-statistical, data collection and analyses techniques – its proponent researchers often share a tacit view of rejection of methodological *monism* (Johnson et al., 2006). Qualitative research allows for exploring and understanding the meaning that individuals and groups ascribe to a social or human problem, with the inquiry form involving emerging questions and procedures, and data is typically collected in a participant setting, which allows the inquirer to adopt an inductive style (Creswell, 2009).

For the purpose of this thesis, the main research question for the qualitative component asked how TM, JE and human capital enhance the retention of managerial employees in knowledge-intensive firms in Singapore. This is in line with Jones et al.'s (2012) call for understanding managerial attitudes on TM and its outcomes through qualitative research.

The interest in alternative forms of research has been stimulated by a growing dissatisfaction with patent overemphasis on quantitative methods (Guba and Lincoln, 1994) and critiques about basic beliefs in the inquiry paradigms, summarised by three fundamental questions:

- i. Ontological question: What is the form and nature of reality and, therefore, what is it that can be known about it?
- ii. Epistemological question: What is the relationship between the knower and what can be known?
- iii. Methodological question: How can the inquirer go about finding what they believe can be known?

Elaborating the differences between quantitative and qualitative research, Smith (1983) raises three points: (i) the relationship between the investigator and investigated, (ii) the relationship between facts and values in the process of investigation and (iii) the goals of investigation. The focus of qualitative analysis is on transforming data into insights using guidance – as there are no fixed formulas, resulting in controversies due to the inquirer-dependent nature of the research. Thus, human factor is the fundamental strength and weakness of the qualitative

research, placing greater obligation on the analysts to monitor and report their analysis (Patton, 2002).

Most researchers accustomed with quantitative research find the concept of qualitative research unclear and perceive it as almost foreign or lacking sufficient substance – they content it is not real research. However, increasingly, qualitative research is gaining acceptance in larger areas of research (Labuschagne, 2003). Qualitative methods have ascended to a parallel level of respectability, and debates have shifted from quantitative versus qualitative to their methodological appropriateness (Patton, 2002). The resulting upside is flourishing debates amongst qualitative methodologists, leading to variations and developments in the field.

Issues around the reliability and validity of qualitative research have been raised. Critics of qualitative research point to the absence of an adequate rationale on data interpretation, especially for reliability and validity. However, it is important to understand that reliability and validity in qualitative research are conceptualised as trustworthiness, rigour and quality (Golafshani, 2003), governed by the researcher's lens and paradigm (Creswell and Miller, 2000) and that the concept of validity is represented by the extent of accuracy in representing participants' realities. The researcher can apply the concept of triangulation, which is a 'validity procedure where researchers search for convergence amongst multiple and different forms of information to form themes and categories in a study' (Creswell and Miller, 2000, p.126).

Another means of ascertaining research quality is the use of relevance, validity and reflexivity (Malterud, 2001). The term 'reflexivity' is used as a metaphor for 'knower's mirror' and describes the attitude of the researcher in systematically attending to knowledge construction in the given context.

Traditionally, qualitative research design has adopted five major strategies: biography, phenomenology, grounded theory, case study and ethnography (McCaslin and Scott, 2003). This

research adopted the phenomenological research strategy, which allows the researcher to identify the essence of lived human experiences about a phenomenon, as described by the participants (Creswell, 2009). Phenomenology was introduced by Alfred Schutz, who claimed that reality was socially constructed and not present for observation (Schutz, 1967, Schutz, 1970). On similar lines, Babbie (2012) explained that people describe their world not ‘as it is’ but ‘as they make sense of it’.

Another criticism about qualitative research is the ethical challenge around the potential impact of the study on participants, owing to the intervention effect of, and the issues related to, protecting participants’ confidentiality and data (Patton, 2002). The following sections provide details of the sample and data collection process.

### **3.4.1 Sample**

Determination of sample size in qualitative research studies is linked to several factors, such as the scope of the study, the nature of the topic, the study design and the quality of the data (Morse, 2000). While there is a common misconception that ensuring adequacy of sample size is not important in qualitative studies (Sandelowski, 1995), (Guest, Bunce & Johnson, 2006) argue that a minimum of 12 respondents is an adequate sample size for qualitative data collection. In general, a small sample size in qualitative research results the difficulty of achieving data saturation, theoretical situation or information redundancy, while a very large sample constrains deeper analysis (Sandelowski, 1995).

The guidelines for determining non-probabilistic sample size for qualitative methods are found to be lacking (Guest et al., 2006), and researchers typically rely on the concept of *saturation* – that is, the point at which no new data information or themes can be observed in data – and focus on the richness of data derived from detailed description rather than frequency and count. However, the challenge in applying the concept of saturation is that it provides limited guidance

on the estimated sample size prior to data collection. Hence, while saturation is critical for qualitative research, the rationale and principles underlying saturation and guidelines, or tests of adequacy for estimating the required sample size for saturation, need to be understood (Morse, 1995). In addition, qualitative research design needs to follow the key principles of saturation – namely, selection of cohesive sample, use of theoretical sampling, and avoiding gaps in theory through rich, full and complete data.

The validity and appropriateness of the qualitative methods sample is based on the extent to which participants have experienced the phenomenon and can articulate their experiences (Morse, 1991), and this can be ensured through the use of purposeful sampling, focusing on depth in a relatively smaller sample and selecting ‘information rich’ cases that illuminate the phenomena (Patton, 2002).

The respondents for the qualitative research component of this study were senior HR executives with TM backgrounds and business managers in knowledge-intensive firms in Singapore. A total of 11 respondents were interviewed using a well-defined interview protocol (Annexure 3) using purposive sampling, and these respondents were best suited to help understand the research context and research questions (Creswell, 2009). Up to 12 in-depth interviews were aimed for, with the exact number of the interviews conducted to be dependent on point of saturation (Glaser and Strauss, 1968). Within qualitative phenomenological research, interview methodology has been extensively adopted (Kvale, 1983) and continues to be one of the main data collection procedures (Englander, 2012). The following section presents the data collection and interview protocol adopted in this study.

### **3.4.2 Data Collection and Interview Protocol**

This research used interviews for data collection, as they provide in-depth information pertaining to participants’ experiences and viewpoints on the research topic. Interviews provide access to

the context for participants' behaviour, enabling the researcher to make meaning of participants' behaviour based on the meaning they make out of their experiences (Seidman, 2006). Of the three interview formats – that is, (i) informal conversational, (ii) general interview guide and (iii) standardised open-ended (Turner, 2010) – this research adopted a standardised open-ended interview format with highly structured wordings for the questions, with each participant being asked the same questions and invited to make open-ended responses (Turner, 2010).

The advantage of the interview format is that it allows participants to contribute as much information as they like, but it is also likely to limit the coding of data. Another criticism about interviews is that responses provide indirect information filtered through the views of respondents. Additionally, different respondents may have different abilities to perceive issues and articulate them, and the presence of the researcher may inspire bias (Creswell, 2009).

These criticism and challenges can be systematically addressed by (i) interview preparation, (ii) constructing effective research questions, and (iii) the actual implementation of the interview(s). It is important to bear in mind that, unlike a survey questionnaire interview, qualitative interviews are focused on making meaning and need to be guided by considerations such as selecting interviewees, developing rapport, the interview process, data capture and data analysis to ensure high-quality results (DiCicco-Bloom and Crabtree, 2006).

The interviews for this study were conducted in person in a setting and time convenient to the respondents, using recommended interview protocols and data recording procedures – that is, all the interviews were audio-taped with the permission of the respondent, transcribed and emailed to the respondent for their confirmation. Extensive notes were made during the interviews. The Interview protocol was developed to address the main research questions in this thesis (sec.14). The specific questions were guided by the conceptual framework (sec 2.7). Prior to commencement of data collection, the interview protocol was tested by conducting a trial

interview with a senior HR professional. The specific details of the interview protocol and data collection is further explained in (Chapter 5, sec5.1). The copy of the interview protocol is attached in Annexure 3. The following section provides an overview of the qualitative data analysis process.

### **3.4.3 Data Analysis Techniques**

The analysis of qualitative data were based on the non-linear process of noticing, collecting and thinking, characterised by iterative, progressive, recursive steps, where each step contains the entire process (Seidel, 1991). The qualitative interview data was analysed using a content analysis methodology (Neuendorf, 2001) to interpret the meaning associated by the respondents to the phenomenon under study. Content analysis is a research technique for the qualitative data that focuses on the characteristics of language, with attention to the contextual meaning of the text (Hsieh and Shannon, 2005). Critics of the content analysis point to issues related to reliability and validity of the content analysis (Morris, 1994), due to the ambiguity of word meaning and the qualifications and expertise of the coders. However, these issues can be addressed by using a set of procedures to make valid inferences (Weber, 1990) and using open-ended, text-based questions that measure the semantic content, including latent and manifest content (Cooper and Schindler, 2003). This concludes the details of qualitative research design and procedure adopted in this study.

### **3.5 Chapter Summary**

This study adopted a mixed method research design, with quantitative data collected from individuals in managerial roles through a structured survey and qualitative data collected from HR professionals and business managers from knowledge-intensive firms in Singapore. The quantitative survey was based on previous questionnaires in TM and JE studies. Data was collected via an internet-based survey using a cross-sectional study and in-depth interviews. The quantitative data were analysed using SEM with AMOS (version 21) software, and qualitative

data was analysed using content analysis. The subsequent chapters in thesis include the quantitative data analysis and findings (Chapter 4), qualitative data analysis and findings (Chapter 5) and conclusion (Chapter 6).



## **Chapter 4 – Quantitative Data Analysis and Hypotheses Test**

### **Introduction**

Chapter 3 elaborated the mixed method research design adopted for this study, which used quantitative and qualitative data. The quantitative research design – along with the details of data collection, pilot study and data analysis (section 3.3) – and the qualitative research design presented in section 3.4 were the basis of analysis for this study.

The findings of this empirical study are presented in two chapters: (i) Chapter 4 provides analysis and results of the quantitative research component and (ii) Chapter 5 details the key findings and summary of the qualitative analysis. This chapter presents the quantitative data analysis and findings, including data collection, data analyses and interpretation of results of the quantitative data, based on the methodology outlined in Chapter 3. The following section provides key descriptive statistics about the study sample for the quantitative analysis.

### **4.1 Sample Demographics**

The goal of this section is to provide an overview of the key characteristics of the study sample and the interpretation of the findings. The aim of this research study was to understand the relationship between talent management (TM), job embeddedness (JE), human capital and employee intention to stay in the context of managerial employees in knowledge-intensive firms in Singapore. The study of individual-level factors that determine intention to stay enables assessment of individual differences amongst employees, thereby permitting better investigation of decision factors that influence turnover or stay intention (Khattak, Hussain & Mehmood, 2012); hence, this study is based on individual perception with regard to TM, JE and human capital, with the individual employee as the unit of analysis.

#### **4.1.1. Data Collection and Response Rate**

The scope of this study was restricted to managerial employees working in knowledge-intensive firms in Singapore. The detailed information about the study population, sampling frame and sampling technique is outlined in section 3.3.1 and briefly covered in this section.

Starbuck (1992, p.715) stated that ‘knowledge-intensive firms’ meet the criterion of valuing ‘knowledge as the most important input’. Common examples of such firms include services related to management consultancy, accountancy, computer and information technology (IT), research and development, legal and marketing and advertising (Miles et al., 1995).

Accordingly, 60 knowledge-intensive organisations in Singapore were identified based on publicly available information on the basis of their classification in one of those areas of business. The researcher invited the human resources (HR) heads of these organisations to participate in the study. Ten organisations gave consent to circulate the survey to their managerial employees. The respondents for the study were identified by the participating organisations. All respondents were employees holding managerial or executive positions in organisations participating in the research study and were from diverse divisions of the organisations; participants had designations such as manager, director and vice president. The survey questionnaire was shared with the respondents via email. Survey data was collected using a self-administered online questionnaire, due to the higher response rate for populations with greater access to the internet (Kaplowitz et al., 2004).

The researcher shared the email survey to 480 respondents (through their HR departments). A cover letter stated the purpose of the study and the process for survey completion, followed by individual consent. Participation in the study was completely voluntary, and survey responses were anonymous – individual respondents were not identified. The survey design, collection and analysis was conducted in accordance with the research and ethics guidelines of the University

of Canberra (UC). Responses were collected using a standard online survey tool, and the raw data was accessible only to the researcher, in order to ensure unbiased and candid responses and respondents' privacy. The organisation had no access to any of the raw data or interpreted data.

In the first round of the data collection, 122 usable responses were collected. Three weeks after the initial email, a reminder email was circulated to all the participants. A total of 87 usable responses were collected in the second round. Thus, a total of 246 usable responses were collected, a response rate of 51.2%. Past studies based on employee surveys in Singapore reported mixed response rates, as low as 16% (Barnard and Rodgers, 2000) and as high as 67% (Lee et al., 2008), with an average of 20% (Horwitz et al., 2003), while Khatri (2000) reported that typical response rates in Singapore were around 15% for surveys relating to employee and human resource management (HRM) practices. Hence, it can be concluded that the response rate of 51.2% for this study was reasonably high and the data is representative. The following section summarises the findings for the key demographic attributes of the study sample.

#### **4.1.2 Respondent Profile**

The sampling frame for the study comprised managerial employees in knowledge-intensive firms, including management and IT consultancies, and high-technology companies. Participants' occupations included consultants, solution architects and engineers. Past studies on employee retention and turnover have reported gender (Sumner and Niederman, 2004), age, education, total work experience (Griffeth et al., 2000), industry and position occupied by the respondents to be of relevance in the analysis. In addition, the nature and duration of managerial experience was considered to be relevant for this study, as the extent of discretion and decision-making expected from senior managers is different from those in junior manager roles (Whitley, 1989). Key respondent profile data is summarised in Table 4.1 to Table 4.9 below.

Table 4.1 – Gender Profile

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	143	70.1
Female	61	29.9
Total	204	100.0

The sample was made up of both male (70.1%) and (29.9%) female respondents. Past studies on HRM practices and employee perceptions in Singapore have also included male (63%) and female (37%) respondents (Hee and Ling, 2011). A turnover study based on managerial employees (Stanton and Nankervis, 2011) reported a male to female ratio of 64% to 36%. According to national data on the socio-demographic composition of Singapore’s workforce, there are more men than women in professional workforce groups (Chan et al., 2000); this explains the higher percentage of male respondents. Thus, the sample detailed in Table 4.1 can be treated as representative of the population.

Table 4.2 – Education Profile

<b>Educational Qualifications</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Undergraduate	2	1.0
Graduate	86	42.2
Masters	102	50.0
Other	14	6.9
Total	204	100.0

The education profile of respondents summarised in Table 4.2 indicates that all but two survey respondents were at least college graduates, while 56% reported possessing a masters or other postgraduate qualification. The nature of the work in knowledge-intensive firms involves intellectual and analytical tasks (Alvesson, 2004), necessitating a higher education profile for employees, to ensure they have the competencies and skills required to undertake managerial roles in a highly specialised setup. Employees of knowledge-intensive firms are known to have higher levels of education (Sutherland and Jordaan, 2004). Thus, it can be inferred that the sample characteristics is representative of the desired education profiles.

Other demographic parameters that were considered include age, total work experience, total managerial experience and years of working in Singapore. These are summarised in Table 4.3 below. The age of respondents ranged from 30 years to over 46 years, with over 50% of the respondents in the age range of 30 to 45 years, and an average age of 37 years. The average work experience of the respondents was 14 years, while the actual work experience ranged between a minimum of four years to over 25 years. The managerial experience ranged from one year to 15 years, and the median experience was six years; hence, it can be inferred that the majority of the respondents were experienced employees with significant professional and managerial work experience. All the respondents were working in Singapore at the time of data collection, and 70% reported working in Singapore for four or more years; hence, it can be inferred that the respondents possess a fair understanding of the prevailing employment and HR practices in Singapore. As summarised in Table 4.3, the respondents are highly qualified and mature-age professional employees with substantial managerial work experience in Singapore; hence, they satisfy the requirements of this study and the sample can be treated as representative of the population. As such, data can be further considered for statistical and analytical purposes.

Table 4.3 – Other Demographic Characteristics

<b>Age (yrs)</b>		
<b>Age (yrs)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Up to 29	16	7.8
30–35	78	38.2
36–40	61	29.9
41–45	41	20.1
45+	8	3.9
Total	204	100.0
<b>Total Work Experience</b>		
<b>Total Work Experience (yrs)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
4–6	22	10.8
7–10	55	27.0
11–15	74	36.3
16–20	35	17.2
21–25	18	8.8
Total	204	100.0

<b>Total Managerial Work Experience</b>		
<b>Managerial Experience (yrs)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1–3 years	62	30.4
4–6	57	27.9
7–10	47	23.0
11–15	30	14.7
15+	8	3.9
Total	204	100.0
<b>Total Work Experience in Singapore</b>		
<b>Work Experience in SG (yrs)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1–3	60	29.4
4–6	53	26.0
7–10	43	21.1
11–15	36	17.6
16+	12	5.9
Total	204	100.0

#### **4.1.3. Other Characteristics**

As well as demographic details, respondents were asked about TM policies and practices adopted by their respective firms. As indicated in Table 4.4, more than half the respondents (57.4%) reported being part of organisations with a TM program, while 26% of respondents reported an absence of TM programs in their firms. This sample indicates a higher proportion of adoption of TM programs by firms in Singapore. This could be due to a shift in strategy from selective hiring towards talent development and retention due to tighter labour market conditions (Osman-Gani and Chan, 2009) and is in line with findings by Oladapo (2014) reporting increased adoption of TM programs in Singapore, to the extent of 60%.

Table 4.4 –Talent Management (TM) Program in Organisation

<b>Organisational TM Program</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	117	57.4
No	53	26.0
Not aware	34	16.7
Total	204	100.0

It is noteworthy that 16% of the respondents were not aware of their firm’s policy on TM despite being in a managerial role. This indicates inadequate employee communication policies adopted by knowledge-intensive firms in Singapore.

Table 4.5 captures the respondents’ inclusion status in a TM program. As discussed in earlier chapters, TM practices adopt either exclusive or inclusive approach to coverage of employees in TM programs, and open or selective communication strategies about TM programs. While a quarter of the respondents reported that they were ‘not aware’, the remaining respondents were aware of either their inclusion (41%) or exclusion (33%) in the TM program. Thus, it can be inferred that knowledge-intensive firms in Singapore adopt both inclusive and exclusive TM practices, with a higher preference for open communication policies.

Table 4. 5 – Inclusion in Talent Management (TM) Program

<b>Inclusion in TM Program</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	84	41.2
No	68	33.3
Not aware	52	25.5
Total	204	100.0

Another key feature of the TM program is identification of, and communication about, an employee’s status as part of a ‘high-potential’ group. A higher proportion of survey participants (46%) reported that they had been identified as a ‘high-potential employee’, while the remaining were equally distributed between either ‘not aware’ (27%) or ‘not identified as high-potential’ (27%), as indicated in Table 4.6. Thus, it can be inferred that within knowledge-intensive firms in Singapore a more prevalent practice is to communicate employees’ inclusion or exclusion into TM programs.

Table 4. 6 – Status as High-potential Employee

<b>High-potential Employee Status</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	94	46.1
No	55	27.0
Not aware	55	27.0
Total	204	100.0

Based on the sample data, TM is reported to have higher prevalence in Singapore. However, firms' practices of scope and communication vary, with a higher proportion reporting open communication to employees. These results are similar to those reported by Grobler and Diedericks (2009), Dries (2011) and Cooke et al. (2014) and partially support the argument in section 2.3.5, based on the extant TM studies, that TM practices vary widely, even in the context of an industry, such as knowledge-intensive firms and within a single country, pointing to the significance of this empirical study and its contribution to theory building. The discussion on statistical analysis is outlined in the following sections.

## **4.2 Data Screening**

As detailed in Chapter 3, survey data was collected using an online survey questionnaire. The online approach reduces socially desirable responses generated by face-to-face survey data collection (Fricker and Schonlau, 2002). However, a major limitation of self-administered online survey is response error, understood as the respondents making careless errors or lucky guesses (Hawkins and Coney, 1981). These are beyond the control of the researcher. The goal of this section is to outline the tools and techniques adopted for review of the quality of data collection and data treatment methods adopted, including data normality and outliers, to ensure the assumptions of multivariate analysis and prepare the data for assessment of measurement model and structural model fit.

### **4.2.1. Missing Data Analysis**

Data preparation is an important step taken prior to starting multivariate analysis. In order to ensure data quality, the responses were systematically reviewed and screened for any errors

using recommended methods such as treatment of missing data, descriptive statistics and treatment of outliers (Bryman and Bell, 2007). Missing data continues to be a pervasive issue in social science research (Baraldi and Enders, 2010). Most of the analytical procedures are designed to function with complete datasets (Graham, 2009), and any unplanned missing data can become an issue in establishing statistical validity (Enders, 2010). Treatment of missing data is based on two key assumptions that the researcher needs to address: extent of missing data and non-random nature of missing data (Hair et al., 2010). This section outlines the data entry procedures and missing data treatment adopted in this study.

The data for the study was scrutinised to ensure accuracy using a two-step approach. In the first step, all survey responses were checked for completeness (Hair et al., 1998). This was followed by use of descriptive statistics, including frequency distribution, mean and standard deviation. A total of 246 responses were checked for type of missing data and the extent of non-ignorable missing data. The analysis isolated 31 responses, with over 20% of missing data including either a complete section missing or careless information missing in different sections; these were identified for deletion from the initial analysis. Of these, nine responses contained missing data for some of the variables; these responses were identified and replaced using a maximum likelihood function (Hair et al., 1998, Little and Rubin, 2014, Allison, 2001, Enders and Bandalos, 2001).

The question pertaining to the ethnicity of respondent also resulted in a large amount of missing data. This could be due to two other questions related to nationality and residential status, which respondents may have been considered as duplication. A total of 209 usable responses were retained for further analysis. The following section outlines further statistical validation of data quality.

#### **4.2.2. Data Normality and Outliers**

It is recommended that survey data fulfil four critical statistical assumptions for multivariate analysis: normality, homoscedasticity, linearity and absence of correlated errors (Hair et al., 2010). However, most prevalent statistical procedures are based on assumptions of data normality, implying an underlying normal distribution of the variable (D'agostino, Belanger & D'Agostino Jr, 1990), assuming that the population from which it is taken is normal (Ghasemi and Zahediasl, 2012). Covariance-based structural equation modelling (SEM) requires assumption of data normality and sample size specification so as to draw accurate and reliable conclusions about the sample (Hair et al., 2011). In most cases, achieving univariate normality for all variables is sufficient, and the impact of normality diminishes when the sample size reaches 200 cases or more (Hair et al., 2010).

In order to assess normality, descriptive statistical analysis was conducted for the dependent and independent variables using mean, standard deviation, skewness and kurtosis scores. Skewness is the measure of asymmetry of the variable distribution, while kurtosis is the measure of peak or flatness of the distribution of a variable. A positive skew reflects that most of the data is below the mean, while a negative skew denotes that most of the data is above the mean. Kurtosis with a positive value (peakedness) indicates a peak greater than the normal distribution, while a negative value (flatness) represents a peak less than the normal distribution (Hair et al., 2010). The summary of the results is reported in Table 4.7.

Table 4.7 – Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
TM (Self)	204	1.50	5.00	3.8174	0.73908	-0.653	0.364
TM (Org)	204	1.00	5.00	3.6740	0.81155	-0.855	1.272
JE-fit	204	1.00	5.00	3.8487	0.74799	-0.670	0.308
JE-link	204	1.00	5.00	3.7635	0.80340	-1.111	1.620
JE-sacrifice	204	1.00	4.86	3.3375	0.67612	-0.366	0.000
Human capital	204	1.00	5.00	3.4571	0.71769	-0.235	0.151
Job satisfaction	204	1.00	5.00	3.6307	0.75434	-0.462	0.656
Intention to stay	204	1.00	5.00	3.6446	0.90492	-0.919	0.546
Valid N	204						

The variables with absolute value of skewness greater than three are considered highly skewed, while the variables with absolute value of kurtosis ranging between eight and 20 are classified as high (Kline, 2011). The results in Table 4.7 show there were no zero values of skewness and kurtosis for any of the variables. In addition, there were no variables with skewness values greater than three or kurtosis values greater than 10, indicating univariate non-normality. These variables were selected due to their relevance to the research questions. Hence, to minimise any effect of non-normality on statistical inference, further analysis was conducted since univariate normality, although essential, is not a sufficient condition for multivariate normality (Hair et al., 2010).

The presence of non-normality can be attributed to outlier cases – that is, observations with a *unique combination of characteristics* and distinctly different from other observations (Hair et al., 2010). Outliers are cases with extreme values or a strange combination of scores that results in distortion of statistical analysis (Tabachnick and Fidell, 2001). To assess outlier cases, the additional step of assessing the Mahalanobis distance  $D^2$  was conducted using Statistical Package for the Social Sciences (SPSS) (Hair et al., 2010). This value represents the distance between the observations from the mean centre in multidimensional space – a higher value indicates that observations are farther removed. However, the limitation of this approach is that it only provides an overall assessment and does not point to the specific variable that may be the cause of higher distance; hence, in order to identify the outliers, the case-wise diagnostic procedure

was adopted to identify the outliers using the threshold levels of 2.5 for  $D^2$  with a conservative level of significance of 0.001.

For the treatment of outliers, it is suggested that they be either removed or modified to reduce their influence on multivariate analysis outcome (Tabachnick and Fidell, 2013). The analysis highlighted five cases of outliers, and each of the five cases were individually reviewed to understand the reasons for extreme values. One potential reason for the outliers could be the respondents' diverse and non-linear perception about TM practice, JE and intention to stay. A review of these cases revealed that respondents who were part of a TM program may have a positive assessment of their fit but may not have high intention to stay, either due to their perceived relationship with their supervisors and/or the extent of sacrifice involved in a decision to quit. The retention or deletion of the outliers is based on the extent to which these are seen as representative of the population and the impact on generalisability of the results (Hair et al., 2010). Five outlier cases were identified, which represented a minor number out of the total 246 responses and large number of variables. Hence, exclusion of these outliers was deemed to have no direct effect on the generalisation of statistical analysis and interpretation. Therefore, these five cases were excluded from the dataset, with a total of 204 valid cases used for further analysis. This sample size adequately satisfies the criteria for SEM analysis – that is, eight independent variables and 37 items (Hair et al., 1998, Tabachnick and Fidell, 2001). The sample size (204) also meets the criteria based on number and strength of measures for each variable included in the study and model complexity (Iacobucci, 2010).

As outlined in this section, the 246 original responses – representing a response rate of 51.2% – resulted in a usable sample of 204 cases, which were the basis for the subsequent testing of the measurement model and structural model.

### **4.3 Assessment of Fit**

As a multivariate technique, SEM is based both on measurement and structural model, with a construct relationship defined on theoretical foundations. The assessment of measurement model fit is conducted using different statistical techniques. The overall process follows a two-step SEM process of testing the fit and construct validity of the proposed measurement model, followed by testing of structural theory (Hair et al., 2010). The following section provides an overview of the fit indices adopted in this thesis.

#### **4.3.1 Fit Indices**

SEM has emerged as a popular technique in social sciences, business, academic and management research for testing theories (McQuitty and Wolf, 2013). Its popularity can be attributed to its flexibility and ability to combine two multivariate procedures – factor analysis and multiple regression – using simultaneous maximum likelihood estimation technique adopting advanced software programs (Hair et al., 2010). SEM technique is based on the variates in measurement model and specified paths in the structural model. The indicators in the measurement model represent the constructs, and the structural model represents their correlational and dependence relationships. The SEM model compares estimated and observed covariance matrices to determine the extent of fit. In general, there are three different forms of SEM (McQuitty, 2004): measurement model (type 1), sequential form (type 2) and a combination of measurement and structural parameters in a single analysis (type 3). For the purpose of this study, the type 3 approach has been applied, since this approach presents complete parameter tests through a combination of measurement and structural parameters.

The starting point in SEM analysis is a model specification process that defines the relationships between different variables based on theoretical framework. The validity of measurement model is assessed by establishing the construct validity of the observed variables and goodness of fit

(GOF) measures (Hair et al., 2010). The SEM methodology does not specify any one single statistical technique for assessment of fit; rather a family of relevant measures are recommended, including analysis of covariance structure, regression and factor analysis, and the issue of model fit that captures the model that best represents the data reflecting the underlying theory (Hooper et al., 2008). GOF is a reflection of the extent of similarity of the observed (empirical) and estimated (theory-based) covariance matrices for the specified model.

There are several unique GOF measures that can be adopted based on the research design and model specification. These fit indices are classified into three broad categories: (i) absolute fit indices, such as chi square statistics, goodness of fit index (GFI), root mean square error of approximation (RMSEA), and standardised root mean square residual (SRMR), (ii) incremental fit indices, such as normed fit index (NFI), Tucker Lewis index (TLI), comparative fit index (CFI) and relative noncentrality index (RNI) and (iii) parsimony fit indices, such as adjusted goodness of fit index, and parsimony normed fit index (Barrett, 2007, Hair et al., 2010, Hooper et al., 2008). Absolute fit indices compare the fit between the theoretical model and observed data; comparative fit indices match the observed data with an alternative baseline model, usually a null model based on the assumption that all observed variables are uncorrelated. There is ongoing debate on the adequacy of fit indices, due to lack of consistent guidelines for different fit indices; hence, the GOF measure needs to be interpreted in the context of the research and a combination of different fit indices to assess the model fit (Hair et al., 2010).

Within the absolute fit indices, chi square ( $\chi^2$ ) represents the most fundamental statistical fit index that quantifies the difference between the covariance matrices for the observed variances (S) and implied variance ( $\hat{E}$ ) models. The difference between implied ( $\hat{E}$ ) and observed (S) is assessed using  $\chi^2$  value (typically  $\alpha=0.05$ ); the closer the value of these two, the better the model fit. Within SEM, a relatively smaller value of  $\chi^2$  (that indicates a larger p-value) is aimed for, as it indicates no statistical differences within the two matrices, implying a good fit between theory

and field data. The value of  $\chi^2$  is influenced by the sample size, number of specified or free parameters and the degree of freedom; hence, the GOF measure is sensitive to sample size and model complexity, where the degree of freedom represents the amount of mathematical information available to estimate model parameters. With a very large sample size, the chi square test increases in sensitivity and becomes insignificant; hence, in SEM, researchers look for relatively small  $\chi^2$  with a corresponding large p-value to indicate the absence of statistically significant difference between implied and observed models (Hair et al., 2010).

Given these properties of chi square, researchers prefer to use the normed chi square, where the value of  $\chi^2$  is divided by the degrees of freedom, providing a  $\chi^2$  measure per degree of freedom with an index of model parsimony (Holmes-Smith et al., 2006). A value of normed  $\chi^2$  between greater than 1 and less than 2 is considered a good model fit.

Although the  $\chi^2$  test provides a test for statistical significance, certain mathematical properties of  $\chi^2$  – impact of sample size and number of observed variables – result in trade-offs for researchers (Barrett, 2007). Hence, the  $\chi^2$  is often not used as the sole measure of fit. The GFI was introduced as an alternate fit that is not sensitive to sample size (Bollen, 1986). It does not have an associated statistical test – only guidelines of the possible range of 0 to 1, where a higher value, typically above 0.9, represents a better fit.

The incremental fit indices assess the model fit in comparison with an alternative baseline model, unlike the absolute fit indices. Some of the baseline fit indices include NFI, which compares the observed and implied models, ranging between 0 to 1, with a value close to 1 representing a good fit (Bollen, 1989). TLI values are not normed, and values that approach 1 represent a good fit (Tucker and Lewis, 1973). CFI, proposed by (Bentler and Bonett, 1980) is an improved version of NFI and is one of the most widely used indices; it assesses the relative improvement in the fit to the model by comparing it with the baseline model. The value of CFI

ranges between 0 and 1, with a CFI value above 0.9 considered good and above 0.95 very good fit (Bentler, 1990). The CFI measure is considered to be appropriate in an exploratory context, while RMSEA is considered appropriate for confirmatory context (Rigdon, 1996). These incremental fit indices allow for assessment of model fit and address the limitations of the  $\chi^2$  test (Bentler, 1990).

The complexity and variations in the different fit indices have attracted the attention of researchers due to the contentious and confusing nature of evaluative methodology (Barrett, 2007, Markland, 2007). Given the large number of fit indices and absence of a commonly accepted norm, due to contrary views, another absolute fit index that is commonly reported is RMSEA (Steiger, 1998), which represents the extent of model fit with the population rather than the sample used for estimation. A lower value of RMSEA represents a higher fit (Hair et al., 2010). The ability of RMSEA to combine and assess the variations between the observed model and population covariance is seen as its strength (Byrne, 2001). It is regarded as a highly informative fit index. Values equal to or less than 0.05 are considered good fit, and values higher than 0.08 indicate a reasonable fit (Bollen and Ting, 2000); however, Steiger (2007) argues in favour of a cut-off point of 0.70. The third set of fit indices include parsimony indices, which are best suited to comparing competing models; hence, they are not included in this study.

There are several examples of extant studies that have adopted SEM methodology and these fit indices to study the relationships between the variables included in this thesis. In their meta-analytical study of employee turnover, (Hom et al., 1992) report the adoption of the chi square and comparative fit indices NFI, incremental fit index (IFI) and CFI. (Oehley and Theron, 2010) study of TM using SEM also reported these fit indices. Several studies for JE and employee turnover adopted SEM and fit indices (Robinson et al., 2014, Allen et al., 2016).

The general guidelines for establishing an acceptable fit for a model include using multiple indices of different types (Hair et al., 2010). This would typically mean using three to four fit indices with at least one absolute fit index and one IFI, as it is not necessary or realistic to include all the possible fit indices generated in the report (Hooper et al., 2008). However, it is important for researchers to avoid the temptation to choose those fit indices that indicate the best fit for the data and the model. Table 4.8 summarises the fit indices, and the values that are proposed as acceptable, that are used in estimating model fit in this study.

Table 4.8 – Reported Fit Indices in this Study

Level of Model Fit	Overall Model Fit				
	Model Fit		Model Comparison		
Fit Measures	CMIN/DF	RMSEA	IFI	TLI	CFI
Recommended for further analysis if	>2.0	>0.08	<0.90	<0.90	<0.90
Acceptable scale for good and adequate fit	≤2.0	<0.06 (Reasonable fit up to .08)	≥0.90	≥ 0.90	≥ 0.90

Source: (Schreiber et al., 2006, Hooper et al., 2008)

These fit indices are used in assessing the initial measurement model in this study; confirmatory factor analysis (CFA) and SEM results are presented in the following sections.

#### 4.4 Measurement of Model Fit and Modification

The following section outlines the initial measurement model fit assessment for the eight latent variables specified and the adjustments required during the exploratory factor analysis (EFA) and CFA processes and is detailed under section 4.4.1. The SEM methodology equips the researcher to adopt powerful analytical tools and techniques based on the measurement model strategy for the study. A measurement model strategy is based on the outcomes expected by the researchers in studying the relationships between the latent constructs and within SEM. Three distinct measurement model strategies can be adopted: (i) confirmatory modelling strategy, which assesses the extent of fit of the observed data with the estimated model, (ii) a competing model strategy, which compares alternative models through overall model comparison and (iii) a

model development strategy, which emphasises improving a model through modification of the measurement model and structural model (Hair et al., 2010).

This study adopted a confirmatory measurement model strategy to assess the extent of fit, as SEM is a powerful confirmatory technique that allows the researcher greater flexibility over the forms of control placed on the items and factors when analysing the model (Worthington and Whittaker, 2006).

In contrast to the inductive approach of Exploratory Factor Analysis (EFA), in which the factors are derived from the statistical data without consideration of the researcher's theoretical expectations, even when available (Thompson and Daniel, 1996), CFA is a deductive statistical strategy to model the relationship between indicators that are measures of constructs and factors (Hoyle, 2000). Within the SEM technique, CFA is used to model the theorised directional relations between constructs to be tested. CFA is used to provide a confirmatory test of the measurement theory that specifies how the measured variables logically and systematically represent the constructs in the conceptual model and tests for unidimensionality of measure (Hair et al., 2010). Unidimensionality involves establishing that a set of empirical indicators relate to only one construct, is considered a logical and empirical necessity, and is done on the basis of the underlying theoretical framework (Bagozzi, 1981).

The verification of modification indices (MI) and standardised regression weights enables assessment of dimensionality of the measures and model fit using the AMOS output. The two common types of MI include factor loadings and error terms, calculated for every fixed parameter and between the items, providing evidence of significant covariance not explained by the model (Hair et al., 2010). MI are presented in three forms: (i) error covariance, representing significant covariance between two observed items not explained by a construct, (ii) significant paths between constructs that were not specified and (iii) cross-loadings, represented by

significant paths between observed items and constructs other than the construct to which the item belongs (McQuitty and Wolf, 2013). Since the MI are effectively the estimates of the extent of reduction in the  $\chi^2$  value due to addition of an error covariance or a path for model re-specification and re-estimation, they are scrutinised during model fit to determine the direction of modification.

The model modification process includes linking indicators to latent variables and changing from fixed to free, or vice versa, allowing or constraining correlations amongst measurement error or amongst latent variables (Hoyle, 2000). The CFA requires model identification, which is conducted by measurement of unknown parameters, such as factor loadings and path coefficient, and followed by model estimation. The model fit is subsequently assessed by examining the MI of different measures. It is recommended that the model is re-specified by deleting or adding a new path indicator if a model with better fit is desired (Gerbing and Anderson, 1988), as the changes in the parameters and model fit statistics result in a better model fit. This step is followed by simplification, refinement and modification of the measurement model for testing the theory and assessing the model fit (Saleh, 2006).

Both EFA and CFA are known to serve different purposes within SEM. EFA serves to determine data patterns and item correlations; CFA is used to assess the conformity of the hypothesised relations (Hair et al., 2010). EFA is considered more appropriate for scale development; CFA is preferred when testing the hypothesised relationships in the measurement models (Hurley et al., 1997). Critics of factor analysis question its lack of criterion variable to test the solution (Tabachnick and Fidell, 1996); however, Kline (2011) outlines the benefits of EFA and CFA and advocates conducting EFA followed by CFA, as do (Kline, 2011, Hair et al., 2010, Tabachnick and Fidell, 2013).

In this thesis, both EFA and CFA have been used, with EFA preceding CFA, a practice recommended in research settings that requires theory refinement before hypothesis confirmation (Henson and Roberts, 2006). EFA has been adopted for scale refinement purposes and CFA for hypotheses testing (Byrne, 2001, Byrne, 2016). The following section details the procedure for EFA and its outcomes.

#### **4.4.1 Initial Measurement Model Fit and Item Modification**

This section summarises the findings of initial model fit and modifications required to conduct the Confirmatory Factor Analysis (CFA). The modification indices (MI) represent the variances, covariances and regression weights and these were examined during the model fit evaluation. Such examination enables assessment of direction of modification and re-specification of model to ensure proper solution and model fit (Saleh, 2006). Chin and Todd (1995) suggest item deletion as an approach to provide acceptable model fit and in accordance, this study adopted an iterative process to finalise the item deletion and addition of new indicators to achieve a better model fit.

TM (Org) was measured using six items and initial inspection of inter-item correlation matrix indicated acceptable values for all six items with a composite reliability score of 0.799 (Table 4.12). The TM (self) construct was measured with eight items and the initial inspection indicated lower standardised regression weights for item 6 (.296) and item 7 (.288). The item 6 asked the respondents the role of TM in increasing the number of work teams that an employee is associated with. However, the formation of work teams in knowledge intensive firms are largely dependent on the nature of client project teams and resource allocation based on demand for skills within these teams (Swart and Kinnie, 2003). Hence, the respondents would not consider TM to play a significant role in increasing association with number of work groups, hence the item was identified for deletion. The item 7 queried the role of TM in attaining professional goals. While TM is projected to enhance professional goals of individual employees, Asplund

(2019) argue that conventional talent management may be less effective in increasing favourable attitudes and behaviours among employees in highly professionalized settings. The respondents of this study professional managerial employees in knowledge-intensive firms, and hence may not concur with this statement. Accordingly, these two items were deleted and resulted in improving the fit indices.

The JE (sacrifice) dimension had 10 items, and four items were identified as with lower standardised regression weight. These include JE sac1, sac2, sac 3 and sac4 and these four items from the original scale were further analysed. The wordings of item 1 (I have a lot of freedom on this job to decide how I do my job), item 2 (I feel that people at work respect me a great deal) indicates that both the items focus on the intangible benefits associated with their jobs while the other sacrifice related questions represented tangible parameters such as promotion (item 4), compensation (item 6), benefits (item 7) and future prospects (item 8). The item 3 was negatively worded (I would incur very few costs if I left this organization), and this may have contributed to the lower loading of item 4. Zhang et al. (2012) present an extensive review of issues with JE measures and argue that as a relatively new concept, JE measures face some limitations and consider that JE sacrifice item 4 to be conceptually ambiguous (I would sacrifice a lot if I left this job) (pg.3). Based on these reviews, the four items were deleted, and the action resulted in improving the fit indices.

The measures for the remaining constructs were adopted as per the original scale, requiring no further modifications. The other two JE measures - JE (fit) included 7 items with composite reliability of .786, JE (links) with 4 items and composite reliability of .736. The Human Capital measure included 4 measures with CR value of .714, job satisfaction 3 items (CR=.814) and intention to stay (4 item with CR=.902). This concludes the discussion on item modification.

#### **4.4.2 Exploratory Factor Analysis (EFA)**

The reliability and validity of the construct measures are assessed using EFA, followed by CFA. Through the reliability test, the observed variables are assessed for internal consistency using the inter-item correlations to decide inclusion or exclusion of measurement indicators in subsequent analysis. In this study, EFA was conducted on an ad hoc basis to assess the item scale, with greater emphasis on CFA findings.

EFA using principal component analysis (PCA) was conducted prior to the CFA in order to determine the set of variables sharing common variance/covariance characteristics defining the latent variables. Although there are mixed opinions about PCA (Costello and Osborne, 2005), it is a popular and default method of extraction in many statistical packages, including SPSS, and was originally formulated by Pearson (Wold, Esbensen & Geladi, 1987) with a primary objective of condensing information from large number of variables into smaller factors, with minimal information loss. PCA is able to assess the convergent and divergent validity of the scales (Jolliffe, 2011). Convergent validity is indicated when the measurement items load on its respective variable (Netemeyer, Bearden & Sharma, 2003); discriminant validity is evident when the measurement items do not load on components that they are not associated with (Hair et al., 2010). The required loadings should be more than 0.30; values above 0.50 are considered meaningful. It is suggested that the minimum sample size for PCA be at least 50 (Hair et al., 2010).

The sample size of 204 in this thesis fulfils the criteria specified by Tabachnick and Fidell (2001). The criteria used for testing the presence of correlations amongst the items included the Kaiser-Meyer-Olkin (KMO) indicator of adequacy being greater than 0.6 (Hair et al., 2010). Bartlett's test of sphericity (significance level less than 0.05) was used to test the correlations present amongst the items. The variation in KMO statistics was between 0 and 1, with a value of

0 indicating that the sum of partial correlations is large relative to the sum of correlations, rendering PCA to be ineffective, and a value closer to 1 indicating that the pattern of correlations is relatively compact, meaning the factor analysis should yield distinctive and reliable results. Bartlett's test of sphericity examines the correlation matrix and the null hypothesis that all the variables are non-collinear; therefore, a value of 0.05 or less indicates appropriate factor analysis (Robinson et al., 2014).

PCA was conducted for each scale. The rotation method adopted was Varimax rotation, in order to reduce the cross-loadings, as this method tends to give a clearer separation of factors (Costello and Osborne, 2005). The result of the PCA was reviewed for the pattern. All the items in each scale reasonably loaded on one component, with a loading value above 0.50. As such, the initial results support the convergent validity of the scales used in this study.

In the next step, PCA was performed simultaneously on all the scales. An a priori criterion was used to assign the number of factors to be extracted in the PCA, based on the theoretical framework underpinning this study and measures selected based on extant studies (Hair et al., 2010). Accordingly, eight factors were fixed for extraction (based on the measures validated earlier). The results indicated that all the items reasonably were loaded in a pattern that was indicated as acceptable in the literature, with the items belonging to each scale loading on that factor. However, select items in the JE scale were not loading significantly on their respective factors and were consistent with the findings of past studies (Purba et al., 2016), and some items indicated cross-loading on multiple factors. However, the problems of non-significant loadings and cross-loading had been anticipated, due to the large number of items used in the study.

EFA results are summarised in Table 4.9 below. The eight factors explained 65.5% of the total variance. The scree plot test showed three factors above the steep curve (Annexure 7). The data for the convergent validity is also summarised in Table 4.9, with the standardised regression

weights for most of the items reported to be above 0.5 and the average variance extracted (AVE) for each construct greater than 0.5 – both these parameters suggest further convergent validity. The table includes the reliability scores of the constructs, Cronbach’s alpha ( $\alpha$ ), with values greater than 0.70. The reliability scores ranged from 0 to 1; according to Gliem and Gliem (2003), the rule of thumb for reliability values for Cronbach’s alpha and their interpretation are excellent for  $\alpha > 0.90$ , good for  $\alpha > 0.80$ , acceptable for  $\alpha > 0.70$  and poor for  $\alpha > 0.60$ . As reported in Table 4.9, the reliability scores ( $\alpha$ ) for all seven constructs are sufficiently above the threshold  $\alpha$  value of 0.70.

Table 4.9 – Results of EFA

Factor	Items		Factor								AVE	Cronbach's Alpha
			1	2	3	4	5	6	7	8		
1. TM (Self)	tm8	Increases opportunity for professional growth in the firm.	.762								0.830	0.846
	tm9	Increases the prospects for continuing employment within the organisation.	.762									
	tm10	Benefits employee, making it difficult to consider leaving the organisation.	.775									
	tm11	Empowers employees to make decisions that impact their work.	.720									
2. TM (Org)	tm1	Creates a culture that makes employees want to stay with the organisation		.587							0.817	0.806
	tm2	Enhances ability of employee to utilize their skills.		.415								
	tm3	Enhances employee ability to feel valued at work.		.642								
	tm4	Enhances links with co-workers.		.650								
	tm5	Increases employee interactions with co-workers.		.666								
	tm12	It will influence employee decision to quit the organisation.		.595								
3. JE-fit	fit1	My job utilizes my skills well.			.744						0.825	0.902
	fit2	I feel that I am a good match for this company.			.745							
	fit3	I feel personally valued at work.			.632							
	fit4	I like my work environment.			.675							
	fit5	I fit with this organisation’s culture.			.613							
	fit6	I like the authority I have at this company.			.491							
	fit7	I like the responsibility I have at this company.			.719							
4. JE-link	link1	I have a strong connection with my colleagues who work with me.				.676					0.785	0.785
	link2	I get along well with my supervisor.				.710						
	link3	My coworkers are dependent on me.				.682						
	link4	I feel much attached to this organisation.				.663						
5. JE-sacrifice	sac5	My promotional opportunities are excellent here.					.740				0.944	0.802
	sac6	I am well compensated for my level of performance.					.767					
	sac7	I am well compensated for my level of performance.					.690					
	sac8	I believe the prospects for continuing employment with this organisation are					.715					



and Larcker, 1981, Hair et al., 2010). These values are summarised in Table 4.11, with constructs meeting convergent validity criteria (>0.50) (Campbell and Fiske, 1959).

Table 4.10 – Convergent Validity: Average Variance Extracted (AVE)

<b>Construct</b>	<b>AVE</b>
TM (Self)	<b>0.830</b>
TM (Org)	<b>0.817</b>
JE-fit	<b>0.825</b>
JE-sacrifice	<b>0.944</b>
JE-links	<b>0.785</b>
Human capital	<b>0.771</b>
Job satisfaction	<b>0.833</b>
Intention to stay	<b>0.853</b>

#### 4.4.4. Discriminant Validity

Discriminant validity criterion is met when the AVE of a construct is greater than the shared variance, represented as squared correlation of the construct with all other constructs in the measurement model. The other assessment criterion for AVE is review of MI to ensure a value of less than 4, indicating no cross-loadings (Hair et al., 2010). Apart from these two criteria, several fit indices – including the chi-square, normed chi-square, RMSEA and CFI – need to be considered to assess the model fit (these will be covered in subsequent sections). In order to assess discriminant validity, the correlations between construct measures were examined using the implied correlations matrix in the SEM technique by comparing the correlations between the factors and comparing the composite reliability (CR). Results are summarised in Table 4.12.

Table 4.11 – Discriminant Validity (Implied Correlation Matrix)  
(AVE scores are in boldface on the diagonal)

	<b>CR.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1. TM (Self)</b>	<b>0.792</b>	<b>0.830</b>							
<b>2. TM (Org)</b>	<b>0.799</b>	0.196 ***	<b>0.817</b>						
<b>3. JE-fit</b>	<b>0.786</b>	0.261 ***	0.087 *	<b>0.825</b>					
<b>4. JE-link</b>	<b>0.736</b>	0.12 **	0.295 ***	0.177 ***	<b>0.785</b>				
<b>5. JE-sacrifice</b>	<b>0.859</b>	0.240 ***	0.015 *	0.385 ***	0.119 *	<b>0.944</b>			

<b>6. Human capital</b>	<b>0.714</b>	0.221 ***	0.125 **	0.257 ***	0.128 **	0.436 ***	<b>0.771</b>		
<b>7. Job satisfaction</b>	<b>0.814</b>	0.412 ***	0.147 **	0.258 ***	0.120 **	0.301 ***	0.259 ***	<b>0.833</b>	
<b>8. Intention to stay</b>	<b>0.902</b>	0.480 ***	0.171 ***	0.304 ***	0.136 **	0.362 ***	0.264 ***	0.569 ***	<b>0.853</b>

Significance levels: \*\*\* 0.001, \*\* 0.01 and \*0.05 levels,  $\gamma$  non-significant, N=204; CR=composite reliability

To assess discriminant validity, it is recommended that CR statistics are higher than 0.70 (Hair et al., 2011). In this study, CR scores were compared with construct correlations (Table 4.12). The lowest CR score was 0.714 (human capital); all of the correlation coefficients were significantly lower than 0.714. Hence the discriminant validity of the measures is supported (Campbell and Fiske, 1959). Additionally, AVE values were above 0.70 and greater than the corresponding construct correlations (Table 4.12), thereby meeting the Fornell Larcker criteria for discriminant validity (Fornell and Larcker, 1981, Hair et al., 2010). The results in Table 4.12 indicate that the dependent variable intention to stay is significantly correlated with all the independent variables, and all the independent variables are significantly correlated to each other, with low to moderate coefficient scores, meeting the criteria of discriminant validity (Campbell and Fiske, 1959, Brackett and Mayer, 2003).

#### 4.4.5. Reliability

The reliability of a measurement instrument is its stability and consistency for ensuring accurate and unbiased measurement over the time in which the instrument measures the concept (Cortina, 1993, Sekaran, 2006). In order to determine reliability, both Cronbach's alpha values and Jöreskog's rho ( $\rho$ ) were calculated. A Cronbach's alpha value of >0.60 is considered to be acceptable for CR (Sijtsma, 2009). However, according to Chin (1998), the CR represented by Jöreskog's rho is a better measure of reliability. Table 4.13 details the reliability scores for the construct measures using both rho and alpha values. Both meet the specified threshold value criteria (Nunnally, 1978, Hair et al., 2010).

Table 4.12 – Reliability Scores of the Constructs

Construct	Jöreskog's Rho ( $\rho$ )	Cronbach's Alpha ( $\alpha$ )
TM (Self)	0.792	0.846
TM (Org)	0.799	0.806
JE-fit	0.786	0.902
JE-links	0.736	0.785
JE-sacrifice	0.859	0.802
Human capital	0.714	0.701
Job satisfaction	0.814	0.895
Intention to stay	0.902	0.793

The testing of construct validity and reliability was followed by an assessment of the measurement model, presented in the following section.

#### 4.4.6. Measurement of Model Confirmation

In SEM methodology, the quality of construct measures is assessed using the reliability and validity of the measurement instrument. This is conducted by assessing the model fit indices (Tabachnick and Fidell, 2013). The measurement model design is congeneric, meeting the criteria of unidimensional constructs and no covariance between and within the construct error variances, thus representing a sufficiently constrained model possessing good measurement properties (Hair et al., 2010). The test of unidimensionality includes assessments of GOF, model convergent validity with standardised factor loading  $>0.50$ , and reliability of the measures using Cronbach's alpha ( $\alpha > 0.70$ ) and the squared multiple correlation ( $SMC > 0.30$ ) (Hair et al., 2010, Bagozzi and Yi, 1988).

This thesis adopted a two-step SEM analysis to assess construct validity using the model fit indices (Tabachnick and Fidell, 2013). CFA, using AMOS, was conducted using all the measurement indicators for all constructs in order to validate the adequacy of the overall measurement. The relationship between each construct and their measured variables was investigated, in order to assess if the measures demonstrate a unique relationship to the associated construct they represent (Hair et al., 2010), using one-factor congeneric models.

These models are tested using the unidimensionality criteria of GOF, convergent validity (standardised coefficient factor loadings >0.50), reliability (Cronbach’s alpha >0.70) and item reliability (squared multiple correlations >0.30). This was followed by an investigation of the structural model to investigate the relationships between the constructs to assess the extent of match between the theoretically defined factors and actual data (Hair et al., 2010). Thus, the output from EFA and scale refinement was used as an input for the measurement model assessment, and the output of measurement model was used as input for the structural model.

The following section details the key findings related to model identification and model fit along with the CFA.

#### 4.4.5.1. Summary of Measurement Model

In order to assess the measurement model, the parameters studied included  $\chi^2$ , minimum discrepancy (CMIN) and RMSEA. The fit indices and values are summarised in Table 4.14.

Table 4.13 – Summary of Measurement Model

<b>Fit Indices</b>	<b>Overall Measurement Model</b>
X <sup>2</sup> (df)	618.626 (352)
CMIN/DF	1.757
IFI	0.912
TLI	0.896
CFI	0.910
RMSEA	0.061

The CFA model examined the initial 52 items; a total of six items with lower loadings were deleted to improve the fit indices. The review of the fit statistics in Table 4.12 justify the deletion of the six items from the construct measures, resulting in improving the other fit indices in the final CFA measurement model. The retained 46 items in the eight constructs exhibit parsimonious fit between the data and the measurement model.

The results indicate a reasonable fit between the measurement model and the data, based on the recommendations of Hair et al. (2010) – that is, normed chi square values of between 2.0 (Tabachnick and Fidell, 2007) and 5.0 (Hooper et al., 2008). The prescribed value of RMSEA is

<0.08, and the value of TLI fit index is specified to be <0.90 (reported value=0.896) (Tabachnick and Fidell, 2013). According to Kenny (2014), due to the highly correlated nature of CFI and TLI, either of the two fit indices can be reported by researchers. Thus, based on the above discussion of validity, reliability and measurement model, it can be concluded that the reliability and validity of the scales used in this model are adequately demonstrated and thus appropriate for further analysis of the structural model. The next section will discuss the results of hypothesis testing, followed by a discussion of findings.

#### **4.5. Structural Equation Model Analysis**

It is suggested that the initial CFA model specification be based on the theoretical conceptual model (Schumacker and Lomax, 2004). Accordingly, the conceptual model was developed based on employee turnover and retention and TM studies (Bhatnagar, 2007, Chitsaz-Isfahani and Boustani, 2014) and JE studies (Besich, 2005, Kismono, 2011, Karatepe, 2013c), wherein the path diagram represents the theoretical model by illustrating the relationships of the constructs with one another (Hair et al., 2010), and model identification was determined by estimating the strength of independent variables upon dependent variables using the observed variance and covariance (Hoyle, 2000).

Validation of a survey instrument consists of two basic validities: content and construct validity. Content validity is the subjective assessment of face validity of the measures based on evaluation of scales by an expert, which was done during the measurement development and pilot testing phase of the study (see section 3.3.3). The construct validity is measured using convergent and divergent validity and was assessed by review of inter-item correlations, standardised item loading and correlation coefficients in the CFA. As discussed earlier, all the construct measures were unidimensional, signifying both convergent and discriminant validity. Table 4.10 summarises CFA results and model fit.

Table 4.14 – CFA and Model Fit Summary

			Estimate (Factor Loading)	CR (T-value)	P
its1	<---	ITstay	.807	12.566	***
its2	<---	ITstay	.933	15.874	***
its3	<---	ITstay	.939	16.071	***
sac6	<---	JEsac	.824	12.581	***
sac7	<---	JEsac	.841	12.960	***
sac8	<---	JEsac	.738	10.723	***
sac10	<---	JEsac	.768	11.345	***
fit3	<---	FitM	.732	10.581	***
fit4	<---	FitM	.830	12.663	***
fit5	<---	FitM	.852	13.157	***
fit6	<---	FitM	.727	10.482	***
tm6	<---	TMmeasure1	.772	11.718	***
tm7	<---	TMmeasure1	.934	15.807	***
tm14	<---	TMmeasure1	.927	15.599	***
tm8	<---	TMmeasure2	.748	10.630	***
tm9	<---	TMmeasure2	.852	12.663	***
tm11	<---	TMmeasure2	.657	8.986	***
hc2	<---	HCM	.695	8.723	***
hc3	<---	HCM	.511	6.171	***
hc4	<---	HCM	.685	8.592	***
js1	<---	JObsat	.709	10.240	***
js2	<---	JObsat	.803	12.197	***
js3	<---	JObsat	.910	14.724	***
link3	<---	JELink	.521	6.569	***
link2	<---	JELink	.752	9.179	***

Note: Significance at P<0.001 level; CR=composite reliability

Model Fit Summary

Fit Indices	Overall Measurement Model
X <sup>2</sup> (df)	458.409(247)
CMIN/DF	1.836
IFI	0.921
TLI	0.902
CFI	0.920
RMSEA	0.017



relationships between TM, JE, human capital, job satisfaction and employee intention to stay (Fig. 1.0). The answer to the first research question and related hypotheses are elaborated in sections 4.5.1 to 4.5.9, while the answer to research question 2 regarding the mediating effect is presented in sections 4.5.10 and 4.5.11. The final research question, on the effect of high-potential employee status, is outlined in section 4.5.12. The section concludes with the discussion of the key findings. The summary of the structural model is presented in Table 4.15 below and indicates acceptable limits for the model parameters specified (Hair et al., 2010). The explanatory power ( $R^2$ ) of the model was 0.801.

Table 4.15 – Summary of Structural Model

Fit Indices	Overall Measurement Model
X <sup>2</sup> (df)	618.626 (352)
p	0.000
CMIN/DF	1.757
IFI	0.912
TLI	0.896
CFI	0.910
RMSEA	0.061

The recommended evaluation of the model is based upon an assessment of multiple indicators rather than any one indicator (Hair et al., 2010). The CMIN/DF ratio is commonly used to measure fit; however, there is no universally agreed upon standard for fit value (Kenny, 2014), and researchers have recommended a value lower than 3 (Hoe, 2008). A RMSEA value of about 0.80 or less is acceptable (Chen et al., 2008). The other fit indices – IFI, TLI and CFI – meet the reasonable fit criteria, with value greater than 0.90. Table 4.16 summarises the hypothesised path relationships and results.

Table 4.16 – SEM Output for Hypothesised Path Relationships in the Model

Hypotheses	Paths			Estimate (β)	SE.	CR.	P	Results *
H <sub>1a</sub> : TM (Self) is positively related to the JE-fit dimension.	TM (Self)	-->	JE-fit	0.919	0.188	4.894	***	Supported
H <sub>1b</sub> : TM (Org) is positively related to the JE-fit dimension.	TM (Org)	-->	JE-fit	-0.02	0.095	-0.213	0.831	Not supported

<b>H<sub>2a</sub></b> : TM (Self) is positively related to the JE-links dimension.	TM (Self)	-->	JE-link	-0.036	0.118	-0.303	0.762	Not supported
<b>H<sub>2b</sub></b> : TM (Org) is positively related to the JE-links dimension.	TM (Org)	-->	JE-link	0.814	0.131	6.23	***	Supported
<b>H<sub>3a</sub></b> : TM (Self) is positively related to the JE-sacrifice dimension.	TM (Self)	-->	JE-sac	0.245	0.098	2.494	0.013	Supported
<b>H<sub>3b</sub></b> : TM (Org) is positively related to the JE-sacrifice dimension.	TM (Org)	-->	JE-sac	0.002	0.032	0.076	0.939	Not supported
<b>H<sub>4a</sub></b> : TM (Self) is positively related to human capital.	TM (Self)	-->	HC	0.659	0.198	3.331	***	Supported
<b>H<sub>4b</sub></b> : TM (Org) is positively related to human capital.	TM (Org)	-->	HC	0.125	0.1	1.25	0.211	Not supported
<b>H<sub>5a</sub></b> : TM (Self) has a positive effect on job satisfaction.	TM (Self)	-->	Job sat	1.349	0.27	4.994	***	Supported
<b>H<sub>5b</sub></b> : TM (Org) has a positive effect on job satisfaction.	TM (Org)	-->	Job sat	-0.15	0.191	-0.783	0.434	Not supported
<b>H<sub>6a</sub></b> : TM (Self) is positively related to intention to stay.	TM (Self)	-->	ITS	1.056	0.253	4.178	***	Supported
<b>H<sub>6b</sub></b> : TM (Org) is positively related to intention to stay.	TM(Org)	-->	ITS	-0.047	0.134	-0.352	0.725	Not supported
<b>H<sub>7</sub></b> : JE-fit is positively related to human capital.	TM(Self)	-->	HC	0.659	0.198	3.331	***	Supported
<b>H<sub>8a</sub></b> : JE-fit is positively related to job satisfaction.	JE-fit	-->	Job sat	-0.06	0.112	-0.54	0.589	Not supported
<b>H<sub>8b</sub></b> : JE-links is positively related to job satisfaction.	JE-link	-->	Job sat	0.088	0.174	0.504	0.614	Not supported
<b>H<sub>8c</sub></b> : JE-sacrifice is positively related to job satisfaction.	JE-sac	-->	Job sat	0.133	0.498	0.268	0.789	Not supported
<b>H<sub>9a</sub></b> : JE-fit is positively related to intention to stay.	JE-fit	-->	ITS	-0.007	0.079	-0.084	0.933	Not supported
<b>H<sub>9b</sub></b> : JE-link is positively related to intention to stay.	JE-link	-->	ITS	0.031	0.121	0.255	0.798	Not supported
<b>H<sub>9c</sub></b> : JE-sacrifice is positively related to intention to stay.	JE-sac	-->	ITS	0.735	0.428	1.719	0.086	Not supported
<b>H<sub>10</sub></b> : Human capital is positively related to job satisfaction.	HC	-->	Job sat	0.179	0.205	0.872	0.383	Not supported
<b>H<sub>11</sub></b> : Human capital is positively related to intention to stay.	HC	-->	ITS	-0.164	0.147	-1.114	0.265	Not supported
<b>H<sub>12</sub></b> : Job satisfaction is positively related to intention to stay.	Job sat	-->	ITS	0.4	0.089	4.492	***	Supported

Results supported at significance level:  $p \leq 0.001$ ,  $p \leq 0.01$ ,  $p \leq 0.05$ ,  $p \leq 0.10$

Note: TM (Self)=Talent Management (Self), TM (Org)=Talent Management (Org), JE=Job Embeddedness, JE-fit=JE fit, JE-sac=JE sacrifice, HC=human capital, Job sat=job satisfaction, ITS=intention to stay

The SEM output was assessed based on the estimated path coefficient ( $\beta$ ) value with the CR (equivalent to t-value) and p-value. The standard decision rules of  $t\text{-value} > 1.96$  and  $p\text{-value} \leq 0.05$  were applied to determine the significance of the path between the independent variable and the dependent variable (Byrne, 2001), using the guidelines in Table 4.17 (Cohen, 2013, Bryman, 2015).

Table 4.17 – Hypotheses Testing – Significance Level

Significance Level	p-value	t-value
Positive	$p < 0.1$	1.65
Significant	$p < 0.05$	1.96
Highly significant	$p < 0.01$	2.59

The hypothesised relationships based on the key research questions and their results are discussed in the subsequent sections, starting with the first research question about TM and its relationships with other predictor variables.

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

#### 4.6.1 Talent Management (TM) and Job Embeddedness (JE)

This section summarises the findings related to the hypothesised relationship between TM and JE. As discussed in section 2.3.7.1, the TM construct was presented as TM (Self) and TM (Org), and the organisational embeddedness was represented by three dimensions JE-fit, JE-links and JE-sacrifice. The key area of exploration for research question 1 was the relationship between TM and JE dimensions and employee intention to stay, and to assess the differences, if any, for TM (Self) and TM (Org). Prior research by Tian et al. (2016) concluded that HRM practices aimed at enhancing ability, motivation and opportunity of employees are related to JE-fit, JE-links and JE-sacrifice dimensions. This thesis aims to test these relationships for TM

practices. A summary of the results of hypotheses tested for research question 1 is detailed in Table 4.18.

Table 4.18 – Summary of Results of Hypotheses Tested for TM

<b>Research question 1: How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?</b>			
<b>Research question 1(a): Do these relationships differ for TM (Self) and TM (Org)?</b>			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient $\beta$
H <sub>1a</sub>	TM (Self) is positively related to the JE-fit dimension.	Supported	0.919***
H <sub>1b</sub>	TM (Org) is positively related to the JE-fit dimension.	Not supported	-
H <sub>2a</sub>	TM (Self) is positively related to the JE-link dimension.	Not supported	-
H <sub>2b</sub>	TM (Org) is positively related to the JE-link dimension.	Supported	0.814***
H <sub>3a</sub>	TM (Self) is positively related to the JE-sacrifice dimension.	Supported	0.245**
H <sub>3b</sub>	TM (Org) is positively related to the JE-sacrifice dimension.	Not supported	-

The relationship between employee retention and TM continues to remain unexplored terrain (Narayanan, 2016). This thesis aims to address the research gap by establishing the relationship between TM (Self), TM (Org) and JE. The following section summarises the results of hypothesis testing for TM and JE dimensions.

#### 4.5.1.1 Talent Management (TM) and JE-fit

In this section, the findings of the two hypotheses related to TM (Self) and TM (Org) and JE-fit are discussed. H<sub>1a</sub> predicted TM (Self) and JE-fit to be positively related. The direct path coefficient between TM (Self) and JE-fit (estimated standardised  $\beta=0.919$ ,  $t\text{-value}=4.894$ ,  $p\leq.001$ ) indicates strong significant support for hypothesis. Thus, it can be inferred that higher perception of TM (Self) is associated with higher positive effect on the JE-fit dimension.

The JE-fit dimension represents employees' perceived compatibility, or comfort with the organisation, in terms of values, career goals and plans for immediate and future job demands (Holtom et al., 2006, Robinson et al., 2014). The findings of this study lend support to the theoretical assertion of TM theory that these programs are associated with the acquisition of relevant skills and capabilities that enhance employee perception of fit (Cappelli, 2008, Stahl et al., 2012). This result also supports person–organisation fit theory, as TM programs are seen to enhance employees' comprehensive notion of compatibility with multiple systems in workplaces

– for example, an individual’s personality, beliefs and values being compatible with those espoused by the organisation (Morley, 2007). Organisational investment in training and career development is reported to increase employee embeddedness and their intention to stay (Ferreira et al., 2017).

H<sub>1b</sub> predicted a positive relationship between TM (Org) and JE-fit. However, the hypothesis is not supported due to insignificant estimated standardised  $\beta$  value (–0.02). Thus, it is concluded that TM (Org) does not have a direct positive relationship with fit dimension of embeddedness. The results appear to be inconsistent with past studies that reported TM programs had a positive outcome on an organisation’s capabilities (Al Ariss et al., 2014, Cappelli and Keller, 2014). However, it is important to note that previous TM studies have in the main assessed the outcomes of TM programs from the perspective of organisations, not individual employees (Gallardo-Gallardo and Thunnissen, 2016). Hence, this result provides an important perspective on the differences in employee perception of TM program outcomes and acts to address the research gap that Festing and Schäfer (2014) pointed out.

These results indicate advancements in TM practices to cater to the changing role of employees participating in TM. Over time, TM practices have evolved (Lewis and Heckman, 2006) with greater strategic focus (Lewis and Heckman, 2006, Cappelli and Keller, 2017). This evolution has also changed the role of employees in the TM program, from being mere recipients of organisational intervention to being talented individuals who assess the outcomes of TM programs (Festing and Schäfer, 2014). In addition, this finding indicates that firms will need to balance the tension between developing firm-specific skills and employee expectations to develop skills that will make them more employable (Armstrong, 2006). The result lends supports to argument by Bethke-Langenegger et al. (2011) for TM programs to be designed to meet both organisational and individual outcomes.

The two significant managerial implications of these results can serve to guide executives and HR professionals in designing and implementing TM initiatives. Firstly, TM is a resource intensive and strategic initiative to enhance employee capabilities, skills, and retention. As such, it calls for investment of financial resources, and the time of senior executives and employees. Hence, it is critical to ensure that TM programs enhance on-the-job fit. Secondly, HR professionals need to be able to emphasise and communicate the strategic objectives and goals of TM program from an organisational perspective, to their employees, as it is possible that, in the absence of a ‘big-picture perspective’, employees may not fully appreciate the organisation’s TM goals. Open and proactive communication is also likely to alleviate any concerns that employees may have about the contrasting nature of the outcome expectations they hold and to build understanding about mutual obligations (Oladapo, 2014).

#### **4.5.1.2 Talent Management (TM) and JE-links**

In this section, the findings of two hypotheses related to TM (Self) and TM (Org) and JE-links are discussed. JE-links represents the formal or informal connections between a person and institutions, representing a network of relationships (Mitchell et al., 2001). The extent of links is directly correlated with greater embeddedness and sense of belonging (Guthridge et al., 2008), and external and internal links aid an employee’s personal development (Preece et al., 2013).

H<sub>2a</sub> predicted a positive relationship between TM (Self) and JE-links, but it is not supported since the results of the path coefficient between TM (Self) and JE-links is not significant ( $\beta = 0.02$ ,  $t\text{-value} = 0.303$ ,  $p\text{-value} = 0.762$ ). This finding is contradictory to the positive relationship between TM practices and links reported by Whelan et al. (2010) in their study of knowledge-intensive settings. According to (Hom et al., 2009), the value employees attach to links or professional networks is based on the employee’s relationship with the organisation and the importance of social exchange. Other studies on JE-links have reported a positive relationship between JE-links and employee outcomes such as retention (Bergiel et al., 2009) and employee

performance (Kiazad et al., 2015). The findings of this study further enhance our understanding of employee perceptions of the role of professional networks or links.

H<sub>2b</sub> predicted a positive relationship between TM (Org) and JE-links. The hypothesis is supported, with results indicating a significant path coefficient ( $\beta=0.814$ ,  $t\text{-value}=6.23$ ). This result supports the strategic role of TM practices in establishing formal and informal connections within teams and across organisations, and the idea that the quantity and quality of links enhances employee embeddedness (Zhang et al., 2012). It is common practice to set up special task forces or work groups comprising employees from different functions, business units and geographic locations as part of TM programs (McCauley and Wakefield, 2006). These teams are assigned critical projects or given special assignments that are closely aligned with the strategic requirements of the organisation and may require intense teamwork and collaboration, resulting in a higher possibility of establishing embeddedness and links.

The positive relationship is also associated with skill development and mentoring in TM. Skills and competency development programs for select employees are typically planned and implemented over an extended period of time, creating opportunities for these employees to interact with each other more frequently. Mentoring and coaching of these employees in the talent pool by senior executives creates additional opportunities for these employees to establish connections with their seniors and peers that would not be easily accessible to employees in the normal course of working. Thus, TM (Org) has a direct positive relationship with JE-links. The direct relationship between TM (Org) and JE-links reconfirms the effectiveness of TM programs in enhancing teamwork, as argued by Vivas-López (2014).

In conclusion, TM (Self) and TM (Org) demonstrate different relationships with JE-links. The bivariate relationships (Table 4.16) indicate that TM (Org) and JE-links are significantly correlated (.295,  $p\text{-value} .001$ ), and the value is highest for all variables. Thus, it can be inferred

the TM (Org) is more significant for JE-links compared with the other two dimensions (JE-fit and JE-sacrifice). These findings further extend our understanding of TM perception. The following section details the findings for the relationship between TM and JE-sacrifice.

#### **4.5.1.3 Talent Management (TM) and JE-sacrifice**

In this section, the findings for the two hypotheses related to TM (Self) and TM (Org) and JE-sacrifice are discussed. The JE-sacrifice construct represents the perceived emotional or fiscal loss experienced by an employee by leaving a job (Mitchell et al., 2001).

H<sub>3a</sub> predicted TM (Self) and JE-sacrifice to be positively related. The estimated path coefficient ( $\beta=0.245$ ,  $t\text{-value}=6.23$ ,  $p\text{-value}=0.001$ ) is significant, providing support for the hypothesis. Thus, it can be concluded that inclusion in TM programs and the tangible and intangible benefits derived are aspirational and highly valued by employees (Yarnall, 2011). This supports a claim by Bambacas and Kulik (2013) that employees associate the loss of development opportunities as a sacrifice, especially if they are being groomed for career advancement. Similar findings are reported where TM programs are seen as investments in enhancing employee capabilities (Cappelli, 1998) and making employees more marketable through skills enhancement programs (Höglund, 2012). Thus, the finding provides further empirical support to the assertion that TM practices and the benefits associated with participation in the TM program are viewed favourably by employees (Kiazad et al., 2015).

This result lends further support to the 'exclusive' TM paradigm adopted in this thesis (section 2.3). In the exclusive approach, access and enrolment to TM programs is typically restricted to a small group of critical or elite employees, who are selected through organisation-specific criteria, such as assessment of past performance, potential for future growth and seniority in role or organisation, reported as a common practice in several studies (Iles et al., 2010b, Thunnissen et al., 2013, Cappelli and Keller, 2014). It can be argued that the exclusivity of TM benefits

further strengthens employees' notion that a higher personal sacrifice is made if they are no longer part of the TM program (Kiazad et al., 2015).

H<sub>3b</sub> predicted a positive relationship between TM (Org) and JE-sacrifice. It was not supported, due to a statistically insignificant path coefficient ( $\beta=0.002$ ,  $t\text{-value}=0.076$  and  $p\text{-value}=0.939$ ), as shown in Table 4.16. In addition, the correlation between TM (Org) and JE-sacrifice is weakest (0.015,  $p\leq 0.05$ ) amongst all the variables, as seen in the bivariate correlation matrix (Table 4.12). These findings are contrary to those of studies that reported a positive relationship between HRM and TM practices and JE-sacrifice Allen (2006), Whelan et al. (2010), Zhang et al. (2012). In addition, the result challenges previous findings that sacrifice is the most significant of the three JE dimensions (Cunningham et al., 2005, Halbesleben and Wheeler, 2008, Kiazad et al., 2015).

The above findings extend our understanding of JE sacrifice by providing a nuanced understanding of employee perception of sacrifice from three different perspectives. The first possible explanation for the non-significant relationship between TM (Org) and JE-sacrifice could be that employees consider job stability, career advancement and tenure as their personal goals rather than organisational goals of TM programs (Ryan and Harden, 2014) and hence do not view the organisational sacrifice as significant. This result supports Farndale et al. (2014) argument that organisations and individual employees have different goals and expectations from organisations that instigate TM programs and that it is essential for firms to adopt a mutual benefit approach in designing strategic human resource management (SHRM) programs.

The second important consideration stems from the complex, multidimensional nature of employee perception of organisational benefits linked to individual differences theory (Chan and Drasgow, 2001). According to the theory, an individual employee's response and behaviour towards similar organisational investments differ based on their individual constructs, such as

personality, values and preferences. Furthermore, not all employees consider themselves to be the direct or sole beneficiary of organisational investments, such as training and development (Maurer et al., 2002). Keeping these points in mind, while organisations expect employees to reciprocate organisational investments (Khoreva et al., 2017), the employee response and participation is linked to their own motivation, belief in the benefit, performance and learning preference.

The final explanation is linked to the nature of TM programs, which continue to be very organisation and context specific. Hence, while the withdrawal of special benefits and status of being a member of the talent pool may result in perceived psychological losses, the extent of loss may be buffered due to employee perception that the TM program benefits are ‘non-portable’ (Ryan and Harden, 2014). According to Maurer and Lippstreu (2008), organisational investment in development results in varying employee commitment, depending upon their individual performance and learning preference. The employee perception becomes more critical in situations where development activities are firm-specific and not seen as promoting marketability (Maurer and Lippstreu, 2008).

Based on the above three arguments, it can be concluded that firms need to improve employee awareness and appreciation of organisational investments in TM. (Boswell and Boudreau, 2001) recommend firms align employee and organisational strategic goals by establishing better ‘line of sight’ for employees. These findings further extend the boundaries of TM theory by integrating individual differences theory and social exchange theory and the role of psychological contracts in understanding employee perception of sacrifice. The following section summarises the findings related to TM and JE based on six hypotheses, H<sub>1a</sub> to H<sub>3b</sub>.

#### 4.5.1.4 Summary of Findings

The results of the six hypothesised relationships between TM and the JE dimensions of fit, links and sacrifice are summarised in Table 4.19.

Table 4.19 – Summary of TM and JE Hypothesised Relationships

	<b>JE-Fit</b>	<b>JE-Links</b>	<b>JE-Sacrifice</b>
<b>TM (Self)</b>	H <sub>1a</sub> – Supported	H <sub>2a</sub> – Not supported	H <sub>3a</sub> – Supported
<b>TM (Org)</b>	H <sub>1b</sub> – Not supported	H <sub>2b</sub> – Supported	H <sub>3b</sub> – Not supported

The results lead to two key conclusions about TM and JE. First, the interaction effects between the two dimensions of TM (Self) and TM (Org) with the three JE dimensions (fit, links and sacrifice) are not uniform, indicating that these were perceived by the respondents differently, providing validity for the two-dimensional constructs of TM. JE-fit and JE-sacrifice are associated with TM (Self), while TM (Org) shared a relationship only with the JE-links dimension.

These results also validate that TM practices enhance employee embeddedness, similar to other HRM practices that are known to increase JE (Tian et al., 2014). The results were further examined based on the bivariate relationships between TM (Org) and JE dimensions reported in Table 4.11. According to the implied correlations matrix in Table 4.11, TM (Org) is moderately correlated with JE-fit (0.087,  $p \leq .05$ ) and JE-sacrifice (0.0015,  $p \leq .05$ ), while it is highly correlated with JE-links (0.295,  $p \leq .001$ ), supporting the findings reported by Zhang et al. (2012). It is important to note that the JE-fit and JE-sacrifice variables, are significant predictors of employee intention to stay (Chew and Chan, 2008, Robinson et al., 2014); hence, there is a possibility of sharing of covariance within the model.

In conclusion, this study makes following contributions:

- (i) addresses the call for empirical research (Oladapo, 2014) by studying relevance of TM programs for employees and organisations and testing the outcome of TM programs

beyond the often cited traditional benefits of employee attraction and retention, thereby contributing to the development of TM theory

- (ii) extends JE theory by empirically testing the three dimensions of JE (fit, links and sacrifice) for better understanding of their effect on employee retention (Coetzer et al., 2017) and extending to a wider national context (Ferreira et al., 2017).

These findings improve our understanding of TM and contribute to the extension of TM theory. Further implications of these results are discussed in section 6.2. The following section presents the results for TM and human capital.

#### **4.6.2 Talent Management (TM) and Human Capital**

Human capital is defined as the skills and capabilities the employees possess (Wright et al., 2001) and is categorised along the dimensions of *value*, based on the potential of human capital to contribute to an organisation's core competence, and *uniqueness*, based on degree of difficulty in replacing human capital (Lepak and Snell, 1999). This section presents the results of two hypothesised relationships between TM (Self) and TM (Org) and human capital.

H<sub>4a</sub> predicted a positive relationship between TM (Self) and human capital and was found to be statistically significant ( $\beta=0.245$ ,  $t\text{-value}=3.331$  and 99% significance level); thus, it can be concluded that adoption of a TM program results in employee perception that they are generating firm-specific human capital. This finding is consistent with results reported by Cappelli (2008), Collings and Mellahi (2009), Tarique and Schuler (2010) and Höglund (2012), supporting the theoretical assertion that TM programs provide systematic design and delivery of interventions that enhance organisational human capital.

Further, the relationship between TM (Self) and human capital is linked to the emergence of new employee dynamics that empowers individuals with greater control over personal talent and freedom to manage careers (Al Ariss et al., 2014). Concurrently, organisations are placing

greater emphasis on firm-specific, unique and value-enhancing human capital (Cappelli, 2009), leading to a shift in definition of talent to ‘talent at a specific time and place’ and placing greater demands on employees to meet organisational requirements (Cappelli, 2009, Cappelli and Keller, 2014), explaining employees’ greater receptivity to enhancing their skills through TM programs.

The hypothesised positive relationship between TM (Org) and human capital ( $H_{4b}$ ) was not supported, since the standardised estimates ( $\beta=0.125$ ,  $t\text{-value}=1.25$  and  $p\text{-value}=0.211$ ) were not statistically significant. This finding is contrary to the basic premise that TM represents investment in employee skills and capabilities based on the strategies and goals of organisations (Collings et al., 2015). The finding is also contrary to scholars’ arguments in favour of a positive relationship between TM and enhancement of human capital (Youndt and Snell, 2004, Iles et al., 2010a). However, Coff and Raffiee (2015) claim that most employees are reluctant to invest in skills that are very firm-specific, as they are perceived to reduce mobility across employers. The authors consider that the gap between the employee and organisational perception of firm-specific skills is paradoxical and an important consideration that needs to be addressed to ensure effectiveness of TM programs. The findings of this study provide empirical evidence for the claim by (Coff and Raffiee, 2015), by testing the relationship between TM (Org) and human capital, providing support to the argument that employees may face ‘investment dilemma’ when encouraged to invest in skills that are viewed as beneficial to organisation alone. This finding provides an important consideration to be reviewed within the TM literature.

Based on the above results, it can be concluded that the role played by TM in enhancing human capital is determined by employee perception of the nature of skills and that employee perception may be different from the organisation’s emphasis. Results are summarised in Table 4.20.

Table 4.20 – Summary of Results of Hypotheses Tested – TM and Human Capital

Research question 1(ii): How does talent management (TM) affect human capital? Research question 1(a)(ii): Does the relationship between talent management (TM) and human capital differ for TM (Self) and TM (Org)?			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient
H <sub>4a</sub>	TM (Self) is positively related to human capital.	Supported	0.659***
H <sub>4b</sub>	TM (Org) is positively related to human capital.	Not supported	-

The following section presents the findings on the relationship between TM and job satisfaction.

#### 4.6.3 Talent Management (TM) and Job Satisfaction

Job satisfaction is an affective construct associated with all the facets of a job (Wanous and Lawler, 1972). H<sub>5a</sub> predicted a positive relationship between TM (Self) and job satisfaction, which is supported with statistically significant values ( $\beta=1.349$ ,  $t\text{-value}=4.994$  and  $p\text{-value}=0.001$ ). Hence, a higher perception of TM (Self) will result in a corresponding increase in job satisfaction. This finding is consistent with the argument that TM programs lead to greater job satisfaction (Majeed, 2013), by supporting the strategic purpose of TM programs to equip employees with the necessary competencies to perform in their current and future roles. Additionally, being part of an exclusive group of employees in a TM program is viewed as a privilege, leading to higher employee satisfaction (Bethke-Langenegger et al., 2011).

Past HRM literature argues that a positive perception of organisational support, such as enhancing employee capabilities through HR practices, leads to greater employee commitment and job satisfaction (Allen et al., 2003). Lee and Bruvold (2003) claim that higher job satisfaction and employee retention was due to investment in employee development. As job satisfaction is a critical predictor of employee retention (Griffith, 2004), a positive relationship between TM (Self) and job satisfaction is likely to improve TM outcomes.

H<sub>5b</sub> predicted a direct positive relationship between TM (Org) and job satisfaction. However, this was not supported due to statistically insignificant values ( $\beta=-0.15$ ,  $t\text{-value}=-0.783$  and  $p=0.434$ ). This finding is contrary to the dominant view in HRM and TM literature, with scholars reporting positive relationships between development opportunities and satisfaction

(Schmidt, 2007, Vasudevan, 2014), career development and satisfaction (Chen et al., 2004) and succession planning and satisfaction (Hills, 2009).

The finding of this study indicates that not all development opportunities and support extended by firms are viewed favourably by employees, since the TM (Org) measure included several items associated with employee job satisfaction – for example, ‘increases opportunity for professional growth in the firm’, ‘benefits employees, making it difficult to considering leaving’. Thus, this relationship requires further investigation to identify other possible variables or conditions that influence employee perception associated with job satisfaction.

In conclusion, based on the two hypotheses, only TM (Self) and job satisfaction were positively related, as summarised in Table 4.21. These findings further enhance our understanding of employee perception of TM.

Table 4.21 – Summary of Results of Hypotheses Tested – TM and Job Satisfaction

<b>Research question 1(iii): How does talent management (TM) affect (iii) job satisfaction?</b>			
<b>Research question 1(a)(iii): Does these relationship between talent management (TM) and job satisfaction differ for TM (Self) and TM (Org)?</b>			
<b>Hypotheses</b>	<b>Statement</b>	<b>Supported / Not supported</b>	<b>Standardised Coefficient</b>
H <sub>5a</sub>	TM (Self) is positively related to job satisfaction.	Supported	1.349***
H <sub>5b</sub>	TM (Org) is positively related to job satisfaction.	Not supported	-

The following section presents the results for TM and employee intention to stay.

#### 4.6.4 Talent Management (TM) and Intention to Stay

H<sub>6a</sub> predicted a positive relationship between TM (Self) and employee intention to stay. The results were statistically significant ( $\beta=1.056$ ,  $t\text{-value}=4.178$  and  $p=.001$ ). Thus, it can be inferred that TM (Self) is positively related to employee intention to stay. This positive association of employee perception of TM and employee retention is reported by several extant studies (Bhatnagar, 2007, Kuvaas, 2008, Grobler and Diedericks, 2009, Tymon et al., 2010), providing support for the strategic role of TM programs in employee retention.

According to person–organisation fit theory, individuals continually assess fit between their personal values and organisational values while making their decisions about their employment (Ng and Burke, 2005). Hence, a positive association between TM and intention to stay indicates that TM programs create a perception on alignment between personal and organisational values. In addition, positive relationship between TM (Self) and intention to stay reflects alignment of organisational and individual personal goals that balances ‘mutual benefits’ (Farndale et al., 2014).

This result is also supported by the psychological contract theory of reciprocal obligations between employee contributions and employer inducement (Robinson et al., 1994). The psychological contracts are individual constructs and vary based on the extent of support or violation perceived by employee. Hence, when employees perceive support for self-development and career goals, they are likely to report greater stay intention. A positive relationship between TM (Self) and employee intention to stay provides further empirical validity for positive work-related outcomes of TM programs, which is desirable in tight labour markets and talent shortages.

H<sub>6b</sub> was not statistically significant ( $\beta=-0.047$ ,  $t\text{-value}=-0.352$  and  $p=-0.725$ ). Hence, it does not provide support to the predicted positive relationship between TM (Org) and employee intention to stay. The structural relation coefficient is negative and statistically insignificant.

This finding is contrary to the positive relationship between TM and employee retention found by Chitsaz-Isfahani and Boustani (2014). Further, according to an empirical study by Bhatnagar (2007), effective TM practices enhance employee retention. Christensen Hughes and Rog (2008) suggest that TM has a direct impact on recruitment, engagement and retention. Other facets of TM, such as work–life balance, also enhance employee retention (Deery and Jago, 2015). The

role of TM in retaining employees is more notable for employees who have been identified as critical (Meyers and van Woerkom, 2014).

This contradictory finding can be further scrutinised using the goal congruence framework, according to which employees constantly assess congruence between their career and personal goals with that of the organisational goals (Farndale et al., 2014). Employee behaviours are dependent on their perception of whether their goals complement or compete with organisational goals – their perception of complementarity is likely to enhance retention and vice versa. In practice, it may not be feasible for firms to guarantee complete goal congruence; hence, it is essential for HR professionals to pay closer attention to goal congruence during the design and implementation of TM programs and to implement effective communication strategies to reconcile and minimise any differences in perceptions. The managerial implication of this finding is that HR professionals need to focus on practices that strengthen work engagement and training and development (Hunter et al., 2008). In summary, while TM (Self) is related to employee intention to stay, a similar relationship for TM (Org) was not supported for this sample.

Table 4.22 – Summary of Results of Hypotheses Tested – TM and Intention to Stay

<b>Research question 1(iv): How does talent management (TM) and intention to stay?</b>			
<b>Research question 1(a)(iv): Does the relationship between talent management (TM) and intention to stay differ for TM (Self) and TM (Org)?</b>			
<b>Hypotheses</b>	<b>Statement</b>	<b>Supported / Not supported</b>	<b>Standardised Coefficient</b>
H <sub>6a</sub>	TM (Self) is positively related to intention to stay.	Supported	1.056***
H <sub>6b</sub>	TM (Org) is positively related to intention to stay.	Not supported	-

This section summarised the hypotheses related to the first research question:

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

The following section presents the findings for research question 2 and its associated hypotheses.

#### 4.6.5 JE-fit and Human Capital

Research question 2 explored the relationship between the JE dimension of fit and human capital, job satisfaction and intention to stay. Results are summarised in Table 4.23 below.

Table 4.23 – Summary of Results of Hypotheses Tested – JE-fit and Human Capital

Research question 2(i): How does job embeddedness (JE) affect human capital?			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient
H <sub>7</sub>	JE-fit is positively related to human capital.	Supported	1.056***

As outlined in section 4.5.1, JE-fit represents employees' perceived compatibility or comfort with the organisation (Holtom et al., 2006, Robinson et al., 2014). H<sub>7</sub> predicted a positive relationship between JE-fit and human capital. The SEM results ( $\beta=0.659$ ,  $t=3.331$  and  $p=.001$ ) support a statistically significant relationship between JE-fit and human capital; hence, it can be concluded that higher JE-fit will result in higher perception of human capital. This finding is consistent with the theoretical structure of JE-fit measures, which denote a cognitive match between employee perception of human capital and their jobs (Zhang et al., 2012). The positive relationship between JE-fit and human capital is supported by other studies. According to Holtom et al. (2005), the highly embedded employees represent enhanced human capital, as they possess significant tacit information and firm-specific knowledge. An employee's higher on-the-job fit enhances their ability to perform, thereby improving the quality of human capital (Halbesleben and Wheeler, 2008).

This result contradicts Ng and Feldman (2010) claim that there is a reciprocal relationship between JE and human capital. According to the authors, higher organisational embeddedness presents the potential risk of lower intensity and employee engagement in human capital development activities, as employees may become complacent due to lower desire to leave. The positive relationship between JE-fit and human capital indicates that the dimensions of JE interact differently with the predictor variable of human capital. There is scope for future studies to assess the relationship between the other dimensions of JE and human capital.

The following section presents the relationships between JE-fit, JE-links and JE-sacrifice and job satisfaction.

#### 4.6.6 Job Embeddedness (JE) and Job Satisfaction

The results of hypotheses testing for JE dimensions and job satisfaction are summarised in Table 4.24.

Table 4.24 – Summary of Results of Hypotheses Tested – JE and Job Satisfaction

Research question 2(ii): How does job embeddedness (JE) affect job satisfaction?			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient
H <sub>8a</sub>	JE-fit is positively related to job satisfaction.	Not supported	-
H <sub>8b</sub>	JE-links is positively related to job satisfaction.	Not supported	-
H <sub>8c</sub>	JE-sacrifice is positively related to job satisfaction.	Not supported	-

The three dimensions of JE-fit, JE-links and LE-Sacrifice and their hypothesised positive relationships with job satisfaction were not supported. All three hypotheses – H<sub>8a</sub> ( $\beta=-0.06$ ,  $t=-0.54$ ,  $p=0.589$ ), H<sub>8b</sub> ( $\beta=0.088$ ,  $t=0.504$ ,  $p=0.614$ ) and H<sub>8c</sub> ( $\beta=-0.06$ ,  $t=-0.54$ ,  $p=0.589$ ) – were found to be statistically insignificant. In addition, the structural relation coefficient is negative for JE-fit and job satisfaction and for JE-sacrifice and job satisfaction. Hence, it can be concluded that higher JE does not imply higher job satisfaction.

The results showing an insignificant relationship between JE and job satisfaction are inconsistent with several studies, including the pioneering study by Mitchell et al. (2001) reporting a significant positive relationship between on-the-job embeddedness and job satisfaction ( $r^2=0.60$ ). In addition, Mallol et al. (2007) report a significant relationship between JE and job satisfaction, based on their empirical study of bank employees in the US, while (Crossley et al., 2007) study of healthcare organisations showed similar results. Other studies (Felps et al., 2009, Harris et al., 2011, Swider et al., 2011, Smith et al., 2011) provide further support for this relationship.

The contradictory findings of this study further extend our understanding of the relationship between JE and job satisfaction. There are two possible explanations for the results. First is the possibility of higher embeddedness being viewed as a disadvantage by employees. This may be

caused by employee perception of being ‘stuck’ in a negative situation (Marasi et al., 2016), leading to lower job satisfaction. Second, several scholars have pointed to the limitations of current JE studies, owing to their predominant focus on Western countries (Holtom et al., 2008, Peltokorpi et al., 2015, Allen et al., 2016), and there is a possibility of results varying by national contexts. Past studies on employee retention and turnover in Singapore captures some unique characteristics of the workforce, such as high achievement and anxiety syndrome (Ang et al., 2000) that are known to affect employee attitudes and behaviours (Osman-Gani and Chan, 2009). Consequently, the unique national context of this study can be a possible explanation of contrary results.

In conclusion, these results further extend our understanding of the relationship between JE and job satisfaction by providing an alternative explanation that can be further examined in future studies. The following section presents the analysis of results between JE and employee intention to stay.

#### 4.6.7 Job Embeddedness (JE) and Intention to Stay

The main aim of this thesis was to determine the relationship between JE and employee intention to stay. The results of the hypothesised relationships are summarised in Table 4.25.

Table 4. 25 – Summary of Results of Hypotheses Tested – JE and Intention to Stay

Research question 2(iii): How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient
H <sub>9a</sub>	JE-fit is positively related to intention to stay.	Not supported	-
H <sub>9b</sub>	JE-links is positively related to intention to stay.	Not supported	-
H <sub>9c</sub>	JE-sacrifice is positively related to intention to stay.	Not supported	-

Three hypotheses were developed to test the relationship between JE and intention to stay. None was supported. The result for H<sub>9a</sub> (a positive relationship between JE-fit and intention to stay) was not statistically significant ( $\beta=-0.07$ ,  $t=-0.084$  and  $p=0.933$ ). H<sub>9b</sub> predicted a positive relationship between JE-links and intention to stay; the standardised estimates ( $\beta=0.031$ ,  $t=0.255$  and  $p=0.798$ ) do not support a direct positive relationship. H<sub>9c</sub> predicted a positive relationship

between JE-sacrifice and intention to stay; the standardised estimates ( $\beta=0.735$ ,  $t=1.710$  and  $p=0.086$ ) were not statistically significant.

Thus, the relationship between all three JE dimensions and intention to stay were not supported, contrary to the theoretical conceptualisation of JE as an aggregation of higher order forces that embed employees in their organisations (Mitchell and Lee, 2001). These results challenge the assumption that turnover and retention decisions are influenced by JE and are not limited to individual employee attitude and external job opportunities alone (Tanova and Holtom, 2008).

Several scholars report a positive relationship between organisational embeddedness and employee retention (Cunningham et al., 2005, Mallol et al., 2007, Dawley and Andrews, 2012, Lang et al., 2016), (Burton et al., 2010, Purba et al., 2016). While some of the studies report aggregate-level JE, it is conceptualised here as a composite of the three dimensions of fit, links and sacrifice, which have different effects on employees (Jiang et al., 2012b), generating different employee behaviours (Zhang et al., 2012). Hence, for the purpose of this thesis, each JE dimension and its effect on employee intention to stay has been studied separately. Results are discussed below.

Organisational fit is an important sub dimension of JE, and past studies have indicated a positive relationship between JE-fit and retention. According to Besich (2005), JE-fit is significantly related to employee stay intention. A similar argument is presented by Bergiel et al. (2009), who claimed employees had greater stay intention when they experienced higher job fit. (Robinson et al., 2014) recommend addressing the issues of employee retention by enhancing employee fit through training and career development programs.

However, the current study finding indicates that there is an insignificant relationship between JE-fit and employee intention to stay, thus contradicting the conclusions of the abovementioned studies. A similar result by Peltokorpi (2013) concluded that intention to stay is not related to

JE-fit. This finding provides evidence for the Deery (2008) argument that JE-fit may not necessarily predict intrinsic satisfaction and retention. Another possible explanation of the insignificant relationship between JE-fit and intention to stay is presented by Zhang et al. (2012), who argued that mere perception of human capital fit is not sufficient to enhance retention, since retention is determined by employees' strength of emotional attachment to their employers. The authors conclude that employees lacking emotional attachment demonstrate higher turnover intentions, even with higher job fit. These discussions provide additional insights to the JE-fit dimension, allowing HR professionals to consider the advantages and limitations of JE-fit as a retention tool.

JE-links was the second dimension of embeddedness and was insignificant in predicting employee intention to stay. The result contradicts several past studies arguing that higher perception of JE-links improves employee retention (Besich, 2005), (Allen, 2006). The finding also challenges the role of JE-links in enhancing employee social capital (Holtom et al., 2006) and lowering the desire to seek alternative job opportunities (Bergiel et al., 2009) to improve employee retention.

In contrast to the above arguments, some scholars present an inverse claim about JE-links enabling turnover. According to Bambacas and Kulik (2013), employees with more links have access to more career opportunities through their internal and external connections, thus leading to higher employee turnover. This interactional effect between organisational links and employee turnover decisions is supported by Peltokorpi (2013) study. However, (Coetzer et al., 2017) found an insignificant relationship between JE-links and turnover intention.

One of the main reasons for the mixed results for JE-links and retention may be the items measuring link dimension on the JE scale. Although JE-link items are based on objective information – such as the number of people in a work group, frequency of interaction and

dependence of co-workers (Allen, 2006) – most studies report high variation in responses for link items, with some studies not reporting all the items in the scale (Zhang et al., 2012). Second, (Coetzer et al., 2017) claim that employee retention is influenced by a combination of factors – such as quality of connection, workgroup cohesion – and, hence, retention cannot be determined by only the number of connections with co-workers. For the purpose of this study, only four of the link items were used for statistical testing, based on their reliability testing (as detailed in section 4.4.3). Based on the contrary results between links and employee retention, there is scope to further review the JE-links measure (Zhang et al., 2012).

The third hypothesis, connecting JE-sacrifice and employee intention to stay, was also found to be insignificant. This result is contradictory to studies reporting JE-sacrifice as a predictor of retention and turnover (Besich, 2005). According to Bergiel et al. (2009), sacrifices – such as switching costs, loss of colleagues and loss of accrued benefits – deter employee quit decision. Robinson et al. (2014) argue that greater sacrifice value reduces the intention to leave. Potential sacrifice prompts employees to assess the risk of them quitting and prompts them to reassess alternative job opportunities and eliminate those that are not worthy, thus enhancing employee retention (Halbesleben and Wheeler, 2008).

According to Cunningham et al. (2005), organisational sacrifice holds the strongest relationship with intention to stay, compared with JE-fit and JE-links, suggesting that JE-sacrifice may be the most important facet associated with intention to stay. However, this argument is not supported by the current study. This study result also negates the argument that employees stay in their jobs due to the ‘known devil’ mentality and uncertainty about future tangible and intangible losses (Kiazad et al., 2015). Hence, it can be inferred that employee retention cannot be addressed only by increasing employee perception of sacrifice, contrary to the recommendations of (Robinson et al., 2014).

In summary, JE is a complex construct that is influenced by individual, cultural and institutional factors (Peltokorpi, 2013) and organisational factors, such as size (Coetzer et al., 2017). This study assessed the relationships between JE-fit, JE-links and JE-sacrifice and employee intention to stay. It concludes that, while the JE dimensions are important organisational constructs, for the present sample, the relationships were not significant. The findings of the study address the call for research by (Jiang et al., 2012b) and (Zhang et al., 2012) through empirical investigation of embeddedness based on independent assessment of the three embeddedness dimensions. The implication of these findings is that HR professionals should design retention programs that influence employee perception of their fit, links and sacrifice, bearing in mind the interaction effect of these JE dimensions (Halvorsen et al., 2015). This concludes the analysis of hypotheses related to JE. The following section presents findings about human capital and employee intention to stay.

#### 4.6.8 Human Capital, Job Satisfaction and Intention to Stay

This section presents the findings of hypotheses related to human capital and its relationship with job satisfaction and employee intention to stay. The key results are summarised in Table 4.26.

Table 4. 26 – Summary of Results of Hypotheses Tested – Human Capital, Job Satisfaction and Intention to Stay

<b>Research question 2a(i): How does human capital affect job satisfaction?</b>			
<b>Research question 2a(ii): How does human capital affect employee intention to stay?</b>			
<b>Hypotheses</b>	<b>Statement</b>	<b>Supported / Not supported</b>	<b>Standardised Coefficient</b>
H <sub>10</sub>	Human capital is positively related to job satisfaction.	Not supported	-
H <sub>11</sub>	Human capital is positively related to intention to stay.	Not supported	-

H<sub>10</sub> predicted a positive relationship between human capital and job satisfaction. The SEM results ( $\beta=0.179$ ,  $t=0.872$  and  $p=0.383$ ) did not support the hypothesis. H<sub>11</sub> predicted a positive relationship between human capital and intention to stay, and it was not supported as standardised estimates ( $\beta=-0.164$ ,  $t\text{-value}=-1.114$  and  $p\text{-value}=0.265$ ) were found to be statistically insignificant. Both these results signify that human capital does not necessarily result

in higher job satisfaction or greater intention to stay, pointing to the complex relationship between human capital and employee perception.

Past studies by Bontis and Fitz-Enz (2002) and Moshavi and Terborg (2002) report a significant positive relationship between human capital and job satisfaction. In addition, human capital investment and job satisfaction is linked to positive outcomes such as individual job performance (Pil and Leana, 2009), team and firm performance (Harris and McMahan, 2008) and organisational innovation and growth (McGuirk et al., 2015).

Human capital has been reported to enhance employee retention. (Strober, 1990) argue that human capital investment leads to mutual interest of both parties in maintaining long-term employment relationship, enhancing employee retention and (Benson et al., 2004) maintain lowering of employee turnover due to human capital development.

However, the findings of this study are not consistent with theoretical explanations offered in the literature. Further examination of the insignificant relationship between human capital and employee outcomes points towards the following possible explanations. Employee perception of human capital is based on the nature and type of human capital. Most organisations place greater emphasis in developing firm-specific human capital to meet their strategic goals – however, employees may not regard these investments positively (Armstrong, 2006) and may have greater preference for generic skills. In this case, human capital investment may not create adequate employee satisfaction and retention. Further, although human capital is known to improve person–job fit, according to Zhang et al. (2012), this alone is not sufficient to guarantee employee satisfaction: it is necessary for employees to hold a positive emotional association with their firms in order to experience satisfaction. This argument is supported by Hollenbeck and Jamieson (2015), claiming that employee satisfaction is linked to both human capital and social capital.

Another factor that may prevent a positive outcome for human capital is general employee sentiment (Bontis and Fitz-Enz, 2002) and employee perception of being trapped in an unfavourable employment deal (Allen et al., 2016). This is likely to lower employee satisfaction and intention to stay. Lastly, employee perception may be affected by communication policies adopted by firms, as some firms choose not to explicitly communicate their human capital status with their employees (Campbell and Smith, 2010). However, closed communication policies may not result in employee satisfaction, instead a lack of awareness that lowers employee retention despite investment in human capital. Hence, it can be concluded that being part of a select group of unique and valuable human capital may not always lead to employee satisfaction. These findings and explanations further extend the boundary conditions that influence the positive relationship between human capital, job satisfaction and employee retention, thus contributing to development of human capital theory. The following section presents the findings related to job satisfaction.

#### 4.6.9 Job Satisfaction and Intention to Stay

H<sub>12</sub> predicted job satisfaction to be positively related to intention to stay and was statistically significant ( $\beta=0.4$ , t-value=4.492 and p=0.001). Thus, it can be concluded that higher job satisfaction would result in higher employee intention to stay. The bivariate correlations (Table 4.13) were highest for job satisfaction (0.569), amongst all the independent variables.

Table 4.27 – Summary of Results of Hypotheses Tested – Job Satisfaction and Intention to Stay

Research Q2: What is the relationship between job satisfaction and employee intention to stay?			
Hypotheses	Statement	Supported / Not supported	Standardised Coefficient
H <sub>12</sub>	Job satisfaction is positively related to intention to stay.	Supported	0.089***

The findings of this study are consistent with meta-analytical studies by Mobley (1977), (Mobley et al., 1979) also reported a significant positive relationship between satisfaction and retention. Job satisfaction enhances employee retention through its interaction with perceived desirability to move (Holtom et al., 2008). Job satisfaction is reported to enhance retention of

both managerial employees (Lam et al., 2001) and high-performing employees (Behera, Sahoo & Sundaray, 2011), the employee subgroups that is the focus of this thesis.

In the context of knowledge-intensive firms in Singapore, Horwitz et al. (2003) claimed that job satisfaction had a significant role in retaining individuals in the critical talent pool. The authors argue that knowledge-intensive firms usually compete for scarce talent and pay a premium to their employees; hence, the motivating factors shift to more intrinsic drivers that enhance job satisfaction and employee retention. According to Huang (2011), the drivers of job satisfaction vary significantly by the type of employee groups, and they argue that knowledge workers attach greater importance to motivating work characteristics compared with the blue-collar workforce. Studies of employee retention in Singapore by Chan and Morrison (2000) and Lee and Bruvold (2003) confirm the relationship between job satisfaction and retention. Hee and Ling (2011) argue that job satisfaction can be increased by HRM practices such as competitive compensation and task significance.

These arguments support the predictive role of job satisfaction in retention of high-potential managerial employees in the novel setting of knowledge-intensive firms in Singapore, thus making a contextual contribution to employee retention theory and literature. The managerial implication of these findings is that there is an opportunity for HR professionals to enhance employee retention by increasing employees' job satisfaction. Firms can influence managerial employees' job satisfaction by providing an improved workplace environment, peer group relations and training (Hunter et al., 2008). This concludes the analysis of findings for the main hypotheses. The following sections present results for the mediating effect of JE and human capital on employee retention.

#### 4.6.10 Mediating Effect of Job Embeddedness (JE)

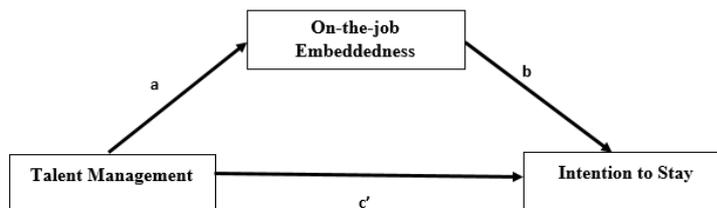
The results of research question 3, on the mediating effect of JE and human capital, are summarised in Table 4.28.

Table 4. 28 – Summary of Results – Meditating Effect of JE and Human Capital

Research Q 3: Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?			
Hypotheses	Statement	Note	Supported / Not supported
H <sub>13</sub>	Job embeddedness (JE) mediates the relationship between talent management (TM) and intention to stay.	JE-fit	Supported
H <sub>14</sub>	Human capital mediates the relationship between talent management (TM) and employee intention to stay.	-	Not supported

This study predicted the mediating effect of on-the-job-embeddedness on TM and employee intention to stay, as presented in Fig. 4.2

Fig. 4. 2 – Mediating Effect of Job Embeddedness (JE)



The standardised indirect effects, using two-tailed significance, are presented in Table 4.29.

Table 4. 29 – Mediating Effect – Standardised Indirect Effect

	TM (Self)	TM (Org)	HC	JE-Fit	JE-Link	JE-Sac	Job Sat	ITS
HC	...	...	...	...	...	...	...	...
JE-link	...	...	...	...	...	...	...	...
JE-sac	...	...	...	...	...	...	...	...
JE-fit	<b>.002***</b>	.348	...	...	...	...	...	...
Job sat	.385	.401	.690	...	...	...	...	...
ITS	<b>.025**</b>	.302	.448	.617	.955	.788	...	...

Note: \*\*\* p-value significant at 0.001, \*\* p-value significant at 0.01

HC=human capital, JE-link=job embeddedness links; JE-sac=job embeddedness sacrifice; JE-fit=job embeddedness fit; Job sat=job satisfaction; ITS=intention to stay

The findings indicate that only the JE-fit dimension mediates the relationship between TM (Self) and intention to stay, while the mediating effect was not supported for the other two dimensions of embeddedness – that is, JE-links and JE-sacrifice. This result indicates that TM practices are

likely to be perceived positively by employees who experience higher on-the-job fit, who in turn demonstrate higher intention to stay.

The mediating effect of JE on various employee outcomes has been reported by several scholars. These include the mediating effect of JE on work attitude and turnover intentions (Lee et al., 2004), newcomer socialisation and turnover (Allen, 2006), leader–member exchange and turnover (Harris et al., 2011), emotional exhaustion (Karatepe, 2013b), community embeddedness and job performance Andresen (2014), supervisor relationship and turnover (Purba et al., 2016) and task significance and turnover intention (Ferreira et al., 2017).

According to Tian et al. (2014), HRM practices that enhance employees' ability and job performance is mediated by employee embeddedness, while Hom et al. (2009) argue that JE mediates the employer–employee mutual investment relationship and employee turnover intentions. These findings imply that highly embedded employees are likely to perceive investments made by organisations positively and in turn, demonstrate a lower intention to turnover. The positive impact of HR practices lowers newcomers' intention to quit, and new employees who perceive higher fit, link and sacrifice in their new jobs are likely to have higher retention (Ghosh and Gurunathan, 2015). Thus, by validating the mediating effect on TM and employee retention, this study contributes to extending JE theory.

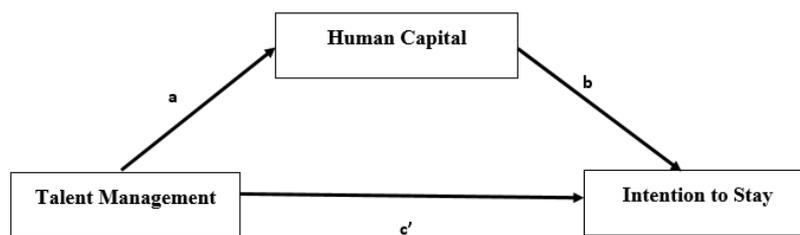
The second contribution of this finding is the empirical evidence for the claim by Gallardo-Gallardo and Thunnissen (2016) that employees may perceive differences between the benefits of TM programs accrued to the organisation and the benefits to its employees. This was reflected in the mediating effect of JE-fit on TM (Self) and intention to stay. However, a similar relationship was not supported for TM (Org). It is essential for firms to reduce this perception gap by balancing the organisational and individual goals of TM programs.

Lastly, when viewed in the context of knowledge-intensive firms, this result validates the greater disposition of managerial employees in knowledge-intensive firms to acquire and enhance relevant skills and competencies so as to maintain their ‘market appeal’ and distinguishing position (Paton, 2013). In conclusion, the managerial implication of these findings is that HR professionals should increase employee JE by putting in place HR and TM practices, to enable retention of talent pool.

#### 4.6.11 Mediating Effect of Human Capital

H<sub>14</sub> predicted that human capital mediates the relationship between TM and employee intention to stay.

Fig. 4. 3 – Mediating Effect of Human Capital



The results presented in Table 4.28 indicate that the mediating effect of human capital on TM and intention to stay is not supported. The mediating effect was conceptualised based on the call for understanding the so-called ‘black box’ of mediating mechanisms, through which the HRM practices drive performance and employee outcomes (Wright and McMahan, 2011). According to the SHRM literature, investment in employee development leads to higher human capital (Becker and Huselid, 2006), reducing negative employee behaviours, such as turnover. Human capital is reported to mediate the relationship between job satisfaction and employee performance (Moshavi and Terborg, 2002), leadership and organisational outcomes (Zhu et al., 2005) and effect of HR practices and organisational learning (López-Cabrales et al., 2011).

TM practices are known to influence organisational and individual outcomes, such as retention (Cappelli, 2008). However, there are limited studies on the specific process through which TM influences employee behaviours that eventually affect retention. In order to address this gap, the mediating effect of human capital on TM and employee intention to stay was tested. The result was that the hypothesis was not supported, indicating the necessity for further research to understand the complex relationship between human capital and employee outcomes (Wright and McMahan, 2011).

#### 4.6.12 Talent Management (TM) and High-Potential Employees

This section presents analysis of high-potential employees' perceptions of TM programs as part of research question 4, presented in Table 4.30. H<sub>15</sub> predicted that high-potential employee status would have a moderating effect between TM and employee intention to stay, such that the relationship would be stronger for high-potential employees than for those not identified as high-potential.

Table 4. 30 – Summary of Results of Hypotheses Tested –TM and High-Potential Employees

<b>Research question 4: To what extent does the relationships between talent management (TM), and employee retention differ based on the high-potential status of an employee?</b>		
<b>Hypotheses</b>	<b>Statement</b>	<b>Supported / Not supported</b>
H15	The relationship between talent management (TM) and intention to stay is stronger for high-potential employees.	<b>Supported</b>

In order to test this hypothesis, a multi group analysis was conducted using AMOS software using TM (Self) and TM (Org) as independent variables and intention to stay as the dependent variable. The interaction effect was studied using ANOVA analysis using SPSS. The multi group analysis of TM (Self) and TM (Org) and intention to stay indicates a statistically significant relationship only for TM (Self) for the both the high-potential group and the other group, with the value of the estimate being higher for the high-potential employee group. The model fit statistics, as shown in Table 4.31, were CMIN/df=1.425, IFI=0.955, TLI=0.945 and CFI=0.954, with RMSEA=0.054. The relationship between TM (Self) and intention stay was

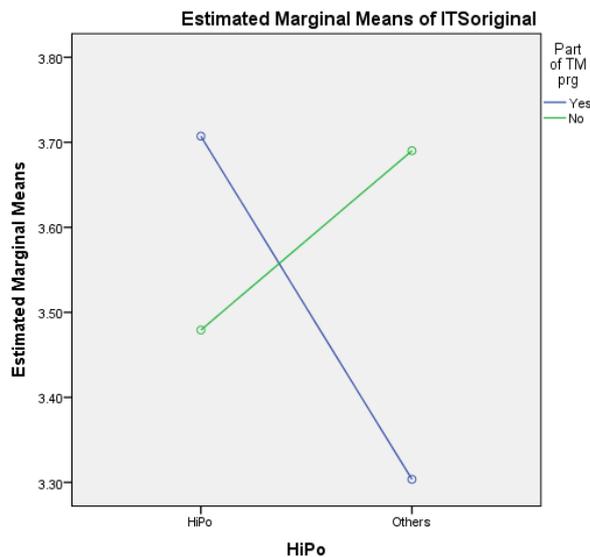
reported to be positive and statistically significant for both high-potential employees and the other employee group (results of hypothesis H<sub>6a</sub> are found in section 4.5.4).

Table 4. 31 – Multi group Analysis

High-potential Employees			Estimate	SE	CR	P	Conclusion
TM (Self)	--->	ITS	1.617	0.401	4.032	***	Significant
TM (Org)	--->	ITS	-0.108	0.141	-0.77	0.442	1.442
Other Employees			Estimate	SE	CR	P	Conclusion
TM (Self)	--->	ITS	1.457	0.416	3.5	***	Significant
TM (Org)	--->	ITS	0.177	0.265	0.67	0.503	1.503

The interaction effect was tested using ANOVA analysis. The results of the Leven’s test of equivalence indicate F-value=1.33, df=3 and p=0.265, which is not statistically significant, reflecting the homogeneity of variance. Hence, the main effect is not supported. However, the graph showing high-potential status and intention to stay (Fig. 4.3) points towards an interaction effect. Based on these results, conclusions can be drawn for three groups of employees: high-potential employees who are part of a TM program, high-potential employees who are not part of a TM program and other employees.

Fig. 4. 4 – Interaction Effect between High-potential Status and Intention to Stay



The analysis of interaction effect points towards variation in employee intention to stay based on the inclusion or exclusion of employees in a TM program. The mean score for intention to stay is different for high-potential employees who are part of TM programs, compared with other participants of TM programs who are not identified as high-potential, supporting the argument

that an exclusive approach to TM combined with an explicit communication strategy is likely to result in higher employee intention to stay (Cappelli and Keller, 2014). In their study of IT professionals in Singapore, Osman-Gani and Paik (2016) reported that investment in high-potential employees reduces intention to turnover. This result contributes in extending the TM theory by validating the Dries' (2011) results showing the positive effect of high-potential status and addresses Khoreva and van Zalk's (2016) call for research on the interaction effect of high-potential status on HRM practices and employee outcomes a newer setting of managerial employees in knowledge-intensive firms.

Lastly, this result indicates that high-potential employees who are not included in a TM program have lower intention to stay, compared with other employees who are not high-potential and not included in a TM program, as reflected in the lower mean score for intention to stay. This result validates Gelens et al. (2014) claim that high-potential employees' behavioural outcomes are determined by their perception of the procedural justice demonstrated by their employers. In addition, these employees value their career success (Maurer et al., 2002) and professional vitality (Stumpf, 2014).

These findings can be further explained based on talent–perception incongruence and its effect on employee perception (Sonnenberg et al., 2014). Talent–perception incongruence occurs when the senior management of the firm perceive an employee as 'talent' but the concerned individual is unaware – or the reverse situation, when an employee not held to be 'talent' by an organisation's executives believes that they are. These perceptual differences play an important role in employee assessment of fulfilment or violation of the psychological contract, affecting employee behaviours such as intention to stay. In order to avoid the negative consequences of talent–perception incongruence, it is important for HR practitioners to define and implement

talent communication strategies for employees. Such communication is considered even more crucial if the TM program is based on an exclusive approach.

The second consideration that affects the outcomes of TM programs is the justice perception held by high-potential employees (Slan-Jerusalim and Hausdorf, 2007). Justice perception is measured based on employee attitudes and behaviours towards organisational justice practices, covering both distributive and procedural justice – based on perceived fairness of the process and the actual outcomes (Gelens et al., 2014). Open communication and greater employee involvement is known to generate a positive perception of justice and greater acceptance of outcomes by employees (Sonnenberg et al., 2014). On the other hand, Marescaux et al. (2013) caution that differentiated HR practices may lead to negative employee perception and a feeling of professional setback.

In conclusion, the three subgroups of employees – high-potential employees included in a TM program, high-potential employees excluded from TM and the rest of the employees – demonstrate different perceptions and attitudes towards TM programs and intention to stay. This study contributes by empirically assessing these differences and contributing to TM and high-potential employee literature, as discussed. The practical implication for HR managers is to understand high-potential employees' expectations as they develop strategic TM programs (Winiarska-Januszewicz and Winiarski, 2014) and to consider TM communication strategies so as to signal positive talent–congruence between employees and organisations (Sonnenberg et al., 2014) for high-potential employees who are known to produce disproportionately greater outputs (Aguinis et al., 2012).

#### **4.7 Summary**

This chapter presented the results of the quantitative analysis of survey data using SEM. The hypothesised relationships were examined and reported, and eight hypotheses were found to be

statistically significant. The dependent variable intention to stay is directly influenced by TM (Self), JE-sacrifice and job satisfaction. In addition, a significant positive relationship was established between TM (Self) and JE-fit and JE-sacrifice. The predictor variable of TM (Org) resulted in a significant positive relationship with JE-links, while JE-fit and human capital were related. In the mediating effect analysis, only JE has a significant mediating effect on employee intention to stay. The effect of TM program was found to be stronger amongst employees identified as high-potential, compared with other employee groups.

The theoretical and methodological contributions these findings were discussed. This thesis adopted a mixed method research design. In addition to the survey data, qualitative interviews were conducted to gain richer and nuanced insight into the phenomenon of employee retention and the key predictor variables in the context of managerial employees. The findings and discussion of the qualitative component of the study will be summarised in Chapter 5, followed by a discussion and synthesis of key findings, conclusions and the contributions and implications of the study in Chapter 6.

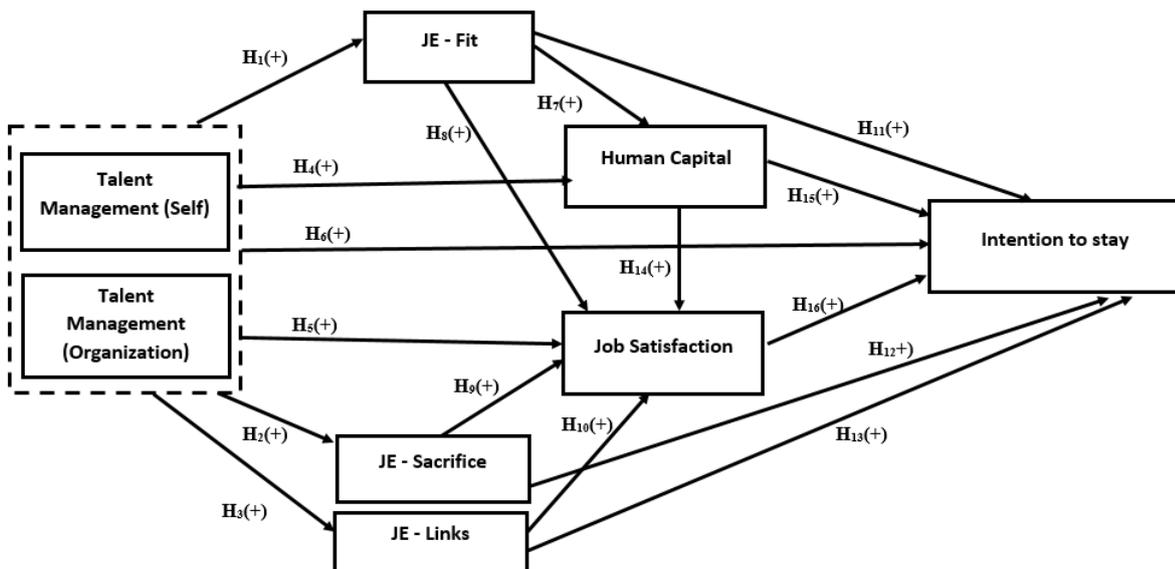


## Chapter 5 – Findings of Qualitative Data and Discussion

### Introduction

Chapter 4 captured quantitative data analysis and interpretation of the survey data, testing of hypotheses and inference. This chapter presents the findings from the qualitative data, building on the mixed method research study design outlined in section 3.2, to understand the relationships between talent management (TM), job embeddedness (JE) and human capital for managerial employee retention. The conceptual research model for the study is shown in Fig. 5.1 (replicated from Fig. 2.6).

Fig. 5. 1 – Conceptual Framework and Hypotheses



As part of the research design, 11 semi-structured in-depth interviews were conducted to understand participants' perspectives about the research questions and key theories. The initial section of this chapter presents a summary and interpretation of the in-depth interviews and is followed by the key findings and interlinkages based on the research framework. The subsequent sections include details on qualitative interview protocol (section 5.1), data collection and sample (section 5.2), respondent profile (section 5.3), qualitative data analysis (section 5.4),

findings of qualitative interviews (section 5.5), summary of qualitative data analysis (section 5.6) and synthesis of data (section 5.7).

### **5.1 Protocol for Qualitative Interview**

This study adopted a semi-structured in-depth interview method for data collection, a commonly accepted method for qualitative data collection (Creswell, 2013) found to be suitable for exploratory studies (Jacob and Furgerson, 2012). Personal interview is an effective means of understanding participants' experiences; further, the semi-structured interview format allows the researcher to maintain their position in the driver's seat with the necessary flexibility to probe and clarify, while ensuring both consistency in the way interviews are conducted and coverage of key points across all the respondents (Turner, 2010), with higher reliability of data collection through use of interview protocol (Cavana et al., 2001).

Development of an interview protocol is an important step to ensure the inclusion of the right questions to elicit valid, candid responses. An interview protocol also acts as a procedural guide for the interview, ensuring appropriate opening, closing and other details, such as informed consent (Jacob and Furgerson, 2012). The basic interview protocol outline was guided by the research framework and linked to research questions, and the final version was arrived at by review of variables and follow-up probes. The researcher conducted a trial interview to ascertain the flow of interview questions, ease of understanding of key terms and approximate duration so as to minimise any potential investigator biases (Chenail, 2011). Next, actual interviews were conducted using the interview protocol and audio recorded; the researcher also took notes.

Each respondent gave their voluntary consent, and adequate care was taken to ensure the participants' convenience in the selection of interview locations and times, which were also conducive for uninterrupted discussion and recording. The open-ended nature of the interview protocol facilitated an in-depth exploration of the participant's experiences, allowing for probing

and seeking examples for points that either were seemingly contradictory or required elaboration. The interview recordings were transcribed, and the participants were contacted to reconfirm missing information and make clarifications, where required. The following section outlines the data collection and sample details for the interviews.

## **5.2 Qualitative Data Collection and Sample**

The mixed method research design adopted for this study calls for the integration of quantitative and qualitative data collection and analysis in a single study (Creswell et al., 2004). The purpose of qualitative data was to explore the quantitative results and to understand the outliers or extreme cases better, to enrich the understanding of the research phenomena. The fundamental principle of such research design is mix methods, to ensure complementary strengths and non-overlapping weaknesses of both the methods (Johnson and Turner, 2003). The essence of qualitative research is to explore the *human* part of a story (Jacob and Furgerson, 2012) by adopting methods, such as interviews, which are powerful yet flexible enough to capture the voices of people and the manner in which they make meaning of their experiences (Rabionet, 2011). These details enable the advancement of more solid theory (Al Ariss et al., 2014). For the purpose of this study, the sampling strategy for the quantitative and qualitative component adopted the type 4 research approach specified by Onwuegbuzie and Collins (2007) (see section 3.2).

The sampling technique for the in-depth interviews was based on a non-probability purposive sampling method, as it offers the distinct advantage of the depth of information despite a relatively smaller sample size (Patton, 2002). In this approach, the researcher defines criteria for the selection of relevant participants, to ensure richness of information and insights about the research questions (Jacob and Furgerson, 2012). The power of purposive sampling is enhanced through the intentional selection of information-rich participants who are able to contribute to the understanding of the research phenomenon in the given research setting (Creswell, 2009).

How to determine the adequate sample size for qualitative study remains arguable, including some extreme views claiming that sample size is irrelevant (Sandelowski, 1995). However, sample size can neither be very small, which produces insufficient data, nor be very large, which affects the depth and rigour of analysis. Hence, adequate sample size is determined by the researcher's judgement, based on the extent and quality of data collected, the point of saturation (Mason, 2010), research objectives and research design (Onwuegbuzie and Collins, 2007). Thus, the researcher needs to safeguard a large enough sample to cover important information yet minimise repetition and ensure generalisability. Guest et al. (2006) suggest having eight to 12 participants in order to ensure an adequate sample size for qualitative data collection.

The central research question in this thesis investigated the relationship between TM, JE, human capital and retention of managerial employees in knowledge-intensive firms in Singapore. Hence, the key eligibility criterion was respondents' understanding of the phenomena and their associated challenges and practical implications. Accordingly, human resource (HR) managers, management consultants with substantial expertise in the area of TM, and senior business managers from knowledge-intensive firms in Singapore were selected as interview respondents. The procedure for data collection was initiated with a total of 14 respondents, and 11 interviews were completed. Since TM and JE are relatively newer concepts, these human resource management (HRM) practices are more likely to be formally introduced in larger organisations than small and medium firms (Youndt and Snell, 2004); accordingly, a higher proportion of respondents were selected from larger firms (seven of 11). To ensure a representative sample, care was taken to include respondents with relevant professional background and prior association with knowledge-intensive firms in Singapore from key sectors, including consulting, banking and technology, as per the definition (Starbuck, 1992). The researcher further ascertained participants' expertise during the initial screening. Upon completion of 11 interviews, the researcher concluded that no further new and meaningful information would be

revealed by the respondents; hence, no additional interviews were conducted. The following section outlines the respondents' profiles.

### 5.3. Respondent Profile

The respondents were HR professionals and business managers with experience in developing and/or implementing TM programs in knowledge-intensive firms in Singapore. The respondents for the qualitative study were different from those for the quantitative survey (managerial employees). This deliberate selection of two separate sets of respondents ensured the inclusion of different perspectives about the research phenomena through the lens of different stakeholders directly associated with the research topic, adding to the richness of the mixed method design. The sample represented a diversity of respondents in terms of gender, ethnicity, roles and industry sectors. Table 5.1 summarises the profile of the respondents.

Table 5.1 – Profile of Respondents (Qualitative Interviews)

S. No.	Respondent Category	Code No.	Brief Profile	Gender
1	Human Resource Professional	HR 1	Regional HR head of a large IT consultancy firm with over 18 years work experience in multiple countries.	Female
2		HR 2	Regional HR and talent head for a large multinational corporation. Expertise in design and implementation of TM programs across multiple countries.	Male
3		HR 3	CEO and head of a leading leadership and HR consultancy firm in the region. Experienced HR professional with close working association with government agencies and the business community. Participated in several workforce and skills committees for policy design in Singapore.	Male
4		HR 4	Head of HR (Singapore) for a large technology firm with specialisation in the telecom domain. Responsible for a broad spectrum of HR practices, including TM.	Male
5		HR 5	Assistant Vice President – Talent, Learning & Diversity for a large MNC in insurance industry. Responsible for design and implementation of TM, learning and development, and diversity for six countries in the region (including Singapore).	Female
6	Business Manager	BM 1	Research head for a prominent chamber of commerce, representing a large member group of multinational corporations and specialist firms in Singapore and region. Responsible for research, business insights liaison with government, business and member communities.	Male
7		BM 2	Regional head for Asia-Pacific region of specialist firm providing software products and consultancy related to business analytics. Experience in leading large project teams of specialists in the region and working closely with HR for TM and employee retention.	Male
8		BM 3	Managing director and CEO of three technology firms. Prior professional experience of over 22 years in multinational corporation in consultancy and software products. Passionate about mentoring and coaching professionals and guides the HR function in organisations.	Male
9		BM 4	Technology professional with over 20 years' experience across multiple geographies, experience of leading and managing large teams of specialists/consultants. Conducts regular career workshops and mentoring for young professionals and MBA students.	Male
10		BM 5	Business manager for multinational corporation with interest in software products and consultancy. Responsible for leading sales and pre-sales team of professionals related to IT security.	Male
11		BM 6	Senior banking professional with over 24 years of experience in Singapore and region. Responsible for leading and managing employees from different banking functions.	Male

In the coding process for the respondents, HR indicated professionals from the TM or HR field and BM indicated business managers. This enabled easy identification and categorisation of responses. The following section outlines the qualitative data analysis, method followed by the interpretation.

#### **5.4 Qualitative Data Analysis**

This study adopted a qualitative content analysis methodology, which is a systematic, rule-based process of analysing textual and verbal data (Schilling, 2006). This method puts the onus on the researcher to demonstrate knowledge, skills, vision and integrity, while conducting both the interview and the analysis process, to ensure valid outcomes from semi-structured interviews (Rabionet, 2011). This ensures the criteria of validity by assessing descriptive, interpretive and theoretical validity (Johnson and Turner, 2003). The data analysis process followed the ‘qualitative content analysis spiral’ steps recommended by Schilling (2006) and included (i) transcription of interview data into raw data, (ii) data condensing and structuring, (iii) category system development and (iv) analysis and interpretation.

There is a growing trend of adopting computer programs (such as NVivo) to aid qualitative research (Silver and Lewins, 2014). This approach offers both advantages and limitations (John and Johnson, 2000, Zamawe, 2015). While the most significant benefit is the ease of dealing with large amounts of qualitative data, the challenges include higher rigidity in data processing and greater demands on the researcher’s time. These limitations may lead to marginal incremental enhancement of the quality of data analysis. Another important consideration is the role of software in the qualitative data analysis process. Unlike in the quantitative research, where the software is used for data analysis, in qualitative research, software acts as an aid for data analysis (Zamawe, 2015), and the software should not be confused as the research methodology (MacMillan and Koenig, 2004). In addition, optimal usage and analysis using

computer-based programs require very large-volume and complex datasets (Creswell, 2013). Therefore, the researcher needs to review the decision to adopt any such software, by considering methodological issues rather than general trends. Considering all the above mentioned factors, this study did not adopt the use of any software. The researcher was able to conduct the analysis and arrive at interpretations through a systematic approach.

### **5.5 Findings of Qualitative Interviews**

This section presents the findings of the in-depth interviews conducted using the interview protocol (Annexure 2). The interviews were analysed based on the main dependent and independent variables adopted in the conceptual framework (Fig. 5.1), integrating theory and qualitative data interpretation. The primary aim was to understand the relationship between TM, JE, human capital and employee intention to stay and address the following research questions.

**Research question 1:** How does talent management (TM) affect (i) employee job embeddedness (JE), (ii) human capital, (iii) job satisfaction and (iv) intention to stay?

**Research question 1(a):** Do these relationships differ for TM (Self) and TM (Org)?

**Research question 2:** How does job embeddedness (JE) affect (i) human capital, (ii) job satisfaction and (iii) employee intention to stay?

**Research question 2(a):** How does between human capital affect (i) job satisfaction, (ii) employee intention to stay?

**Research question 3:** Do (i) job embeddedness (JE) and (ii) human capital mediate the relationship between talent management (TM) and employee intention to stay?

**Research question 4:** Do the relationships between (i) talent management (TM), (ii) job embeddedness (JE), (iii) human capital and (iv) employee retention differ based on the high-potential status of an employee?

As recommended by Green et al. (2007), the data analysis was started concurrently with the interviews, using the four steps of exploration and familiarisation with data: immersion, coding process, categorisation of codes, and generation of themes. These ongoing, interlinked steps of ‘testing of fit’ between data and analysis ensure rigorous and systematic analysis. The generated themes were integrated with the main variables in the conceptual framework to establish linkage between theory and data analysis.

The following section presents the main themes based on the independent variables and their categories, along with the salient points shared by the interviewees. These were interpreted to uncover the relationships between the independent variables and employee retention in the research framework. The key themes and their associated subcategories are presented in Table 5.2 below, and a sample qualitative data analysis is presented in Annexure 9.

Table 5. 2 – Key Themes and Subcategories

<b>Themes</b>	<b>Categories</b>
<b>Employee retention</b>	Employee retention in Singapore
<b>TM</b>	TM – objectives of TM programs
	TM (Self) and TM (Org)
	TM philosophy – inclusive versus exclusive
	TM philosophy – communication policy
	TM and employee retention
	TM – limitations and future opportunities
<b>JE</b>	Nature and JE
	JE-fit
	JE-links
	JE-sacrifice
	JE – TM and employee retention
	JE – limitations and future opportunities
<b>Human capital</b>	Role of human capital in knowledge-intensive firms
	Retention of human capital
	Human capital trends in Singapore
<b>Managerial employees</b>	Retention of managerial employees
<b>High-potential employees</b>	Retention of high-potential employees

The following sections details themes, subcategories and key findings that emerged from the interviews, beginning with employee retention and followed by other themes.

### 5.5.1 Employee Retention in Singapore

Singapore retains its premium position as a global destination for talent, ranking second in the Global Talent Competitiveness Index (Lanvin and Evans, 2016). This has resulted in a highly competitive labour market, with high attrition amongst managerial employees. Furthermore, participants did not expect this trend to reverse in the near future:

*Retention is going to remain a big problem in Singapore, we can see government interventions on foreign workforce, this is providing higher opportunities for local talent due to higher marketability (HR1).*

Singapore's unique position as a regional talent hub, attracting multinational corporations (MNCs) and firms and global talent, is linked to higher employee turnover:

*Singapore will continue to be an attractive destination for MNCs and start-ups, so demand for talent will always be higher than the supply (BM6).*

This trend was expected to continue due to the regional hubs being set up within Singapore:

*All the MNCs coming here are setting up knowledge hubs, you have then created this natural landscape for competition for these people. I see the demand outstripping supply (HR3).*

This trend is reported across industries:

*Singapore is coming up as a research hub for insurance, and this is resulting in higher competition for talent (HR5).*

Further, turnover rates are 7% to 8% per annum within insurance industry.

The next major cause of the talent shortage and tight labour market conditions was linked to changes in foreign workforce employment policies, which was reported as a major cause for

employee attrition. Demand for employees with niche skills or high-skilled workers has grown, especially in industries undergoing transformations, such as digital and smart nation initiatives:

*Our industry is undergoing major technology transformation, and this has a direct impact on employee retention (HR4).*

A shortage of talent was also cited:

*Smart Nation and other new technology initiatives are key for our organisation, but there is shortage of talent (BM4).*

Last, but not least, respondents pointed to a peculiar behaviour of Singapore's workforce, who have a reputation for job-hopping, usually for a nominal increase in salary. This behaviour offers employers limited opportunity to influence employee turnover:

*Employees here, particularly Singaporeans, were willing to jump from one job to another for miniscule amounts of money. The frustrating thing is that they don't even ask for money. They just say, 'I'm sorry, I'm giving my notice' (BM1).*

These discussions outline key challenges related to employee turnover in knowledge-intensive firms in Singapore. Most respondents view employee retention as a continual issue that requires effective management through effective HR practices:

*How you engage with them even further is going to be very important, because just promotions and salaries is not going to engage and retain them (HR2).*

### **5.5.2 Talent Management (TM)**

All the respondents were familiar with the topic of TM and its practices. The strategic nature of TM was a recurring theme highlighted by all participants:

*The purpose of TM is to focus on business-critical roles and ensure business continuity (BM2).*

The majority of respondents (nine of 11) reported that their respective firms had adopted TM programs and were conversant with the characteristics and expected outcomes of TM. These respondents were also involved in either the design or implementation of TM programs in their firms. Of the 11 respondents, only BM3 reported that their parent company was yet to formally implement its TM program in the Singapore office, while HR4 reported an informal TM program.

According to BM5, the strategic nature of TM warrants adoption of a formal program to ensure management focus and outcomes, calling for active involvement of both HR and line managers:

*Talent management is a formal program and both TM team and business managers are accountable, there is a very clearly defined annual plan (BM6).*

Another respondent emphasised the presence of TM programs for different workforce levels across the firm:

*Yes, we have a formal TM program that is implemented at three levels – country level, regional level and global level (HR5).*

Respondents also elaborated other procedural details:

*Four steps – identify, validate, career planning, develop and deploy .... famous nine-box matrix system is adopted (HR2).*

They also expanded the process for identification of employees for the talent pool:

*High-potential talent pool is refreshed annually – non-performers are removed and new employees are added to the talent pool (HR5).*

These findings are similar to those of the TM study in Singapore by Osman-Gani and Chan (2009) on the prevalence of TM programs in knowledge-intensive firms. These responses confirm TM as a strategic initiative by Singapore firms (Bethke-Langenegger et al., 2011). Design and implementation of TM practices require investment; hence, it is important for firms to have formal TM programs to gain sustained competitive advantage (Tarique and Schuler, 2010, Sparrow and Makram, 2015). The following sections present the findings for each subcategory related to TM.

#### **5.5.2.1 Objectives of Talent Management (TM) Programs**

The TM literature advocates alignment between HR strategy and business strategy (Cascio and Boudreau, 2016). However, the respondents displayed variations in practices. These differences were more evident within the two sample groups of HR and business managers. The HR professionals placed greater emphasis on TM as a strategic tool with a focus on employee development, retention and motivation:

*The primary goals of our TM program is to develop the leadership pipeline and people capabilities and to retain employees (HR5).*

*It is a system to motivate employees and to make them feel they are an important part of the organisation (HR2).*

*The whole thing is that 20% of your people are giving you that 80% of value, therefore you should design your HR practices to address business needs (HR3).*

On the contrary, the majority of the business managers viewed the TM program as a means to achieve business strategies through HR policies. Their key expectations of TM programs involved ‘*competitive advantage*’ (BM1), ‘*grooming business leaders for future*’ (BM6) and as a wider organisational initiative, and not just as HR programs.

*TM is not an HR initiative, it is everyone's business, it is a myth that TM is HR initiative* (BM2).

The next outcome of TM was linked to leadership development and grooming talent to meet constantly changing business requirements. One respondent said it was important to:

*... understand future business requirements and groom leaders for competencies and skills of future* (HR2).

Another respondent linked TM to development and retention goals:

*Develop leadership pipeline and people capabilities and to retain employees* (HR5).

The business managers emphasised ‘*hiring right talent*’ (BM5) and grooming leaders across the organisation. According to BM6, TM should provide necessary ‘*inputs for career development to enhance their capabilities for next two roles they will take up*’.

The third outcome focused on linkages between TM and employee retention. One respondent stated:

*We have a talent strategy that is primarily focused on defining a talent roadmap and retention* (HR4).

Another opined that TM was not only about retention, but extends to ‘*hiring right people and groom them for leadership roles and then retain them*’ (BM5). Some of the other outcomes expected of TM included ‘*employee motivation and aspiration for higher achievement*’ (BM3), enhancing employee engagement by making them feel ‘*an important part of the organisation*’ (BM6) and recognising ‘*contributions and ability*’ (BM3).

In summary, the primary objectives of TM programs were understood to be developing the talent and leadership pipeline (Collings and Mellahi, 2009, Iles et al., 2010b, Collings, 2014) and

employee retention (Oladapo, 2014, Deery and Jago, 2015, Sparrow and Makram, 2015, Khoreva et al., 2017). While the business managers associated TM to business strategy, most of the HR professionals focused mainly on talent practices, thus confirming the varied scope and goals of TM programs highlighted by Lewis and Heckman (2006). Additionally, the business managers urged HR managers to nurture a ‘talent mind-set’ within the organisation, going beyond a myopic view of TM as a set of mere systems and processes (Sparrow et al., 2013).

#### **5.5.2.2 TM (Self) and TM (Org)**

One of the main research aims of this study was to determine the perceptions of TM (Self) and TM (Org) held by different stakeholders of the TM programs. During the interview process, the respondents were familiarised with the concept of TM (Self) and TM (Org) adopted in the conceptual framework of this thesis, where TM (Self) represents the perceived benefits to the employee and TM (Org) stands for the benefits accrued to the organisation (section 2.3.7). The majority of the respondents confirmed TM (Org) as a primary concern of senior executives and HR professionals and not necessarily of the employees. These observations are similar to the findings of the quantitative survey findings associating TM (Self) and intention to stay (section 4.5.4). One respondent succinctly summarised the implication of this:

*Beyond being exclusive, talent management program needs to be personalized, if it is only organisation driven, then it is only half the story (BM2).*

The respondents were concerned about the lower importance attached by employees to the organisational goals of TM. However, they attributed several causes that influence employee perception. According to HR5, the ‘*outcomes of talent management programs are difficult to measure*’. In addition, individual employees may not be able to estimate the benefits of TM accrued to their organisations, due to ‘*limited access to business sensitive information*’ (BM1). These findings confirm the challenges associated with measuring the outcomes of TM programs (Silzer and Church, 2010, Nijs et al., 2014).

The second reason is linked to goal congruence and alignment between an employee's personal goals and their organisation's goals. Collings and Mellahi (2009) claim that employees who are aware of the organisational goals of TM and perceive them to be aligned with their own personal goals experience better goal congruence. However, in reality employees may not have clarity about specific organisational goals, and hence may consider TM (Self) as more critical as compared with TM (Org).

Lastly, respondents also felt that employee perception is determined by their personal experiences of the program. According to BM2, '*many organisations claim to invest in TM but treat employees as "expendable" even the most senior employees*'. Another factor influencing employees was perception of organisational justice. As argued by Gelens et al. (2014), employees are likely to have negative reactions irrespective of their goal congruence based on the perception of organisational justice. These findings of TM (Self) and TM (Org) are similar to the survey results and contribute in expanding the concept of TM beyond the traditional debates by focusing on critical dimensions of individual expectations of TM programs identified by Collings and Mellahi (2013).

### **5.5.2.3 Talent Management (TM) Philosophy – Inclusive Versus Exclusive**

Ongoing debate on TM philosophy pivots around the contrasting approaches of exclusive versus inclusive TM practices (Dries, 2013, Meyers and van Woerkom, 2014). The interview responses indicate that both types of TM practices are prevalent in Singapore. Firms favouring the inclusive TM approach apply a universal philosophy by not restricting selection to any specific group(s) of employees. Some companies '*identify talent across all levels of the organisation*' (HR2 and BM3) to expand their talent pool base, while other firms included their entire workforce in the TM program (BM6).

Contrary to this, respondents with an exclusive TM approach stressed the importance of relevant decision criteria for identifying employees for TM programs. These criteria were linked to the contributions of different roles or employees and their impact on organisational outcomes. This practice is comparable to the approach involving the identification of pivotal roles and key jobs, as suggested by Boudreau and Ramstad (2007). The differentiation of the workforce was seen as essential:

*The whole thing is that, 20% of your people add that 80% of value, and therefore you need to design your HR practices to address these 20% (HR3).*

Another explanation was offered by BM5. Citing the resource intensive nature of TM, he claimed:

*TM cannot be applicable to all the employees, it is not feasible to do justice to the investment and efforts unless one is focused (BM5).*

The interview and survey findings suggest that firms in Singapore adopt both exclusive and inclusive TM practices. The survey results (tables 4.4 and 4.5) indicate a greater preference for exclusive TM programs. These results are similar to Gallardo-Gallardo and Thunnissen (2016) findings. A few of the participants raised the issue of including employees in the TM programs beyond the traditional approach of full-time employees, such as those in the part-time workforce and specialist outsourced employees. In summary, while firms reported mixed approaches to TM, the participants recommend that TM debates include contemporary issues, such as the growth of non-traditional employment forms in organisations, and their impact on TM (Cascio and Boudreau, 2016). The following section covers key findings about communication policies adopted by firms.

#### 5.5.2.4 Talent Management (TM) Philosophy – Communication Policy

The second classic debate in the TM literature pertains to the philosophy on how to communicate with stakeholders about a firm's TM practices, with two distinctive approaches generally taken. One school of thought supports open, transparent communication to all stakeholders; the other favours selective communication, limited to a select group of decision-makers (Dries, 2013, Gelens et al., 2014). The interview data indicated that a firm's TM communication policy used to be linked to the firm's TM goals. The majority of respondents reported broad-based, open communication policies about TM, aimed at creating awareness about company expectations, program details, eligibility criteria, timelines et cetera:

*Communication is open and transparent – every employee receives information about the programs and personal goals (BM6).*

According to HR2, the communication policy on TM can be extended to sharing 'psychometric and leadership assessment with each employee'.

An open communication policy can have a motivating effect, both on high-potential and other employees:

*I have seen the positive effect where employees strive very hard to achieve recognition and inclusion into the talent pool (BM5).*

Within the talent literature, this is also known as the 'Pygmalion effect' (Eden, 1984), a phenomenon that raises employee performance by setting higher expectations.

Most respondents considered an open and transparent communication strategy as an essential ethical factor for creating justice perception amongst employees (Dries 2013). The respondents concurred that open communication was effective in generating employee involvement in the TM program (Yarnall, 2011). Although open communication was the preferred policy,

respondents were aware of the possible counterproductive outcomes of this approach. One respondent said open communication is ‘a double-edged sword’:

*For the employees who are part of TM program, it makes perfect sense to communicate.*

*For the others, it can have a negative effect and cause demotivation (BM5).*

Academics have presented similar arguments around the negative effects of communication, such as loss of motivation and engagement, employees feeling that they are a ‘non-talent’ amongst those not identified as part of the ‘talent pool’ (Gelens et al., 2014) and the crown prince syndrome amongst those who are identified as talent (Dries et al., 2008).

Contrary to the open communications approach, firms with selective or differentiated talent practices preferred to restrict their employee communication. According to HR4, it was kept ‘*informal, and limited to select employees*’. HR5 explained that the rationale of limited communication to high-potential employees was to avoid ‘*demotivation or discouragement to those who are not selected as part of the program*’. Both respondents viewed selective communication as essential to ensure the necessary buy-in and mutual commitment for the implementation of TM programs. HR managers need to adopt to newer communication channels, define their employee communication strategies, and ‘*leverage both traditional and web-based communication channels*’ (BM4), including social media, to reach a larger audience. These recommendations are similar to (Kaur et al., 2015) call to adopt social media and emerging communication tools for employee awareness and employer branding.

The qualitative and quantitative data results indicate higher levels of awareness amongst employees about TM programs and policies. According to the survey data (tables 4.4 to 4.6), 57% of the respondents were aware of their company’s TM programs and 47% were aware of their inclusion in the high-potential employee group. Hence, it can be inferred that knowledge-intensive firms in Singapore have a higher preference for open employee communication.

An interesting paradox was seen in the practices the firms followed. While employee selection for the TM program was based on an exclusive approach, the TM communication policies reflected an open, inclusive strategy, presenting an interesting and unique combination. According to Meyers and van Woerkom (2014), firms select a combination of TM strategies based on their workforce differentiation philosophy. However, the combination of exclusive talent approach and open communication represents a different combination of TM policy and can be due to the unique country and cultural context coupled with the highly competitive workplace environment in knowledge-intensive firms in Singapore, possibly to mitigate negative impact on employer branding and talent retention (Koh, 2003, Tarique and Schuler, 2010).

#### **5.5.2.5 Talent Management (TM) and Employee Retention**

All respondents considered TM to have a strong positive association with employee retention. Most respondents claimed an increase in employee retention linked to TM programs. According to BM4, *'talent management does help with employee retention'* and was effective in generating positive employee behaviours *'usually the new entrants want to participate and contribute'*.

BM3 said that TM programs enhance employee performance, leading to a *'positive impact on employee retention, especially in case of employees who are contributing'*. BM3 felt that high-performing employees were more motivated when included in the TM program. A similar conclusion was arrived at based on the survey findings, where H<sub>15</sub> predicted that high-potential employees included in TM programs would have greater intention to stay (section 4.5.12).

The aspirational value of being part of the TM was highlighted as *'highly valued by most of the employees'* (BM6). The survey results indicated similar findings: TM (Self) had a positive relationship with employee intention to stay (H<sub>6a</sub>), indicating that being part of the TM program led to employee retention. Another explanation that the sacrifice dimension of JE is linked to TM and retention. JE-sacrifice represents both the tangible and the intangible loss incurred by an

employee in their decision to quit. Both the survey results (H<sub>4a</sub>) and interviews confirm the association between organisational inducement and perceived sacrifice. Kuvaas (2008) argued that TM has a direct effect on employee reciprocal behaviour, leading to lower turnover intention.

However, not all the respondents concurred with TM leading to increased retention. One respondent said that, once a firm invests in developing its talent:

*It is very easy for them to step out and find another job anywhere. So, they become very marketable and it's easy for them to find jobs and command a little bit more (HR2).*

Scholars (Cappelli, 1998, Cooke et al., 2014) caution HR professionals to anticipate an increase in employee turnover when firms invest in marketable skills, especially in industry sectors that face higher demand and skills shortages.

Thus, the qualitative interview and quantitative data analysis confirmed the role of TM in enhancing employee retention in the context of managerial employees in knowledge-intensive firms in Singapore. This supports the central question in this thesis and claims by scholars (McDonnell, 2011, Collings, 2014, Gallardo-Gallardo and Thunnissen, 2016, Cascio and Boudreau, 2016).

#### **5.5.2.6 Talent Management (TM) – Limitations and Future Scope**

All the respondents were willing to discuss their views and shared candid suggestions on addressing the challenges faced in the design and implementation of TM programs. Most of them stressed the urgency of addressing these issues to fully leverage TM programs. BM2 said it was critical to address the challenges and issues related to TM, to avoid the risk of TM becoming '*more talk and less action*'.

The top concerns shared by respondents were the need for a strong TM strategy and an open mind-set. Some respondents expressed concern about the excessive hype around TM, resulting in firms adopting TM programs without the necessary strategy and resources in place. For instance, BM5 underlined the importance of a *'culture of investment in people, grooming talent'* and BM2 called for creating organisational culture that considers *'people as part of its DNA, else TM is a waste'*. Another strategic issue cited by respondents was the need for an integrated TM strategy rather than *'stand-alone programs that drive change management and create a talent culture'* (BM2). These observations are also reflected in TM literature that notes the importance of strategic intent for TM (Collings and Mellahi, 2013), commitment and support from top management (Majeed, 2009) and managing employee expectations of immediate outcomes (Reilly, 2008, McDonnell, 2011).

The second area of improvement respondents identified was implementation of TM programs. Interestingly, the participant's views were divided based on their roles. According to the business managers, the HR professionals do not always play the role of a strategic thinker and enabler while implementing TM programs:

*TM should not to be seen as a mere process – the HR professionals needs to see their role as responsible for creating different culture, and not just focus on HR processes* (BM2).

On the contrary, HR professionals expressed their frustrations and sought greater integration and support from business managers, lack of which is giving rise to the perception of being isolated:

*At times, people look at talent management in isolation to the business needs, think of TM as only HR initiative* (HR2).

The third limitation was the challenge of assessing the outcomes and effectiveness of TM programs. Respondents from the HR function expressed their constraints:

*The outcomes of talent management programs are difficult to measure, so we may not have the exact details (HR5).*

Similar views were shared by the business managers. BM6 said, *'TM programs are very rigorous and people are accountable for ensuring results,'* and highlighted the need to define *'effective measures or Key Performance Indicators (KPI)'*. These responses reflect an area for improvement identified in the TM literature. The importance of measuring both the macro-level (organisational) and micro-level (individual) outcomes of TM programs is stressed by Bethke-Langenegger et al. (2011), while others (McDonnell et al., 2010, Bethke-Langenegger et al., 2011, Sparrow and Makram, 2015) call for systematic assessment of the success of TM programs. Another area for improvement within the TM domain is effective implementation of TM programs (Abdul Hamid et al., 2011, Morley et al., 2015).

While discussing the future scope of TM, interviewees shared several suggestions. The majority of the comments reflected the disruptions within the industry and workforce and their impact on strategic TM. The first observation was about the critical role of employees in TM programs. According to the respondents, the individual employee is an important stakeholder in a TM program. Due to the changes in the industry, organisations are compelled to *'treat their employees as "internal customers"'* and, in the near future, firms will need to *'invest in "Employee Relationship Management" along the lines of Customer Relationship Management (CRM)'* (BM6). This will force organisations to customise their TM programs to suit both organisational and individual needs so as to retain key employees. To meet these requirements, BM2 urged HR managers to progress TM from *'standardised content and knowledge to more proactive and need-based approach to cope with business uncertainty'* and cautioned that

*'unless there is 1:1 individualisation of HR practices to meet personal goals, TM would remain a hype, bound to be a failure'.*

The second area was around investment in advanced technology to improve the effectiveness of TM programs. The adoption of technology is considered to be a critical differentiator within knowledge-intensive firms. However, the HR function was seen lacking in its adoption of advanced technology tools for employee-related services, such as *'adoption of advanced technology – big data analytics to enable informed decision-making'* (BM3). Respondent BM4 encouraged the adoption of *'social media and web-based platforms'* to enhance engagement with employees, especially employees from millennial generations.

Lastly, respondents identified the emergence of a *'shared economy was leading to new forms of employment model'* (BM2) and the need to develop TM programs that cater to different workforce models, including part-time, freelance or outsourced employees. In conclusion, despite prevailing issues and challenges, most respondents held optimistic views about the future of TM and its potential as a dominant approach for employee attraction, development and retention, provided the field embraces changes proactively (Cappelli and Keller, 2017).

#### **5.5.2.7 Summary**

This section summarised the interview responses about TM and related subcategories. While the respondents agreed on the strategic nature of TM, they also said TM needs to be renewed to retain its relevance in the changing employment and organisational contexts. This include the conceptual and theoretical development of TM, such as (i) addressing changing employment models, (ii) improving TM implementation and internal processes, (iii) developing measures to assess effectiveness and define accountability for outcomes, (iv) adopting technology-led talent analytics initiatives to ensure higher impact and return on investment of TM programs through (v) individualisation and customisation. These gaps point to potential areas for future research to

extend the field of TM. The following section presents the findings related to JE, another core theoretical concept of this study.

### **5.5.3 Job Embeddedness (JE)**

JE theory was a novel concept for all the respondents. This was anticipated, owing to the relative newness of JE theory in academia. All respondents were practitioners with limited access to published research. In addition, no JE-based studies have reported on Singapore. To familiarise respondents about JE, at the beginning of their interview each participant was given an overview of JE theory and its three dimensions of fit, links and sacrifice. The majority of the participants intuitively found JE theory to be relevant for employee attraction and retention. The following section summarises the key themes and categories related to JE.

#### **5.5.3.1 Nature and Relevance of Job Embeddedness (JE)**

There was general agreement amongst all participants about the inclusive and comprehensive nature of the JE concept, covering a range of critical work and non-work employee experiences. While most respondents had no prior exposure to JE theory or practices, there was agreement about two key aspects of JE. First was the relevance and importance of being embedded or enmeshed for an employee:

*Being more embedded in the organisation will certainly benefit both the company and the employee (BM4).*

Some felt that, even if the term ‘embeddedness’ was not formally used, the concept may have been adopted by firms:

*I think when a lot people talk about talent management, it's not just about skills. It's about what you're talking about, the linkages, the embeddedness (BM1).*

Second, embeddedness was perceived to enhance overall employee experience in the workplace, leading to greater engagement and retention of employees:

*This seems like an approach that makes an employee more 'vested' in the company and also enables higher retention. (BM6)*

Although none of the firms at the time of interview had specific policies and practices to enhance organisational embeddedness, the respondents concluded that many of the existing HR practices indirectly served the purpose of enhancing fit, links and sacrifice.

*To be honest, we have been doing some activities to enhance employee retention, but not with the intention of enhancing employee 'embeddedness'. However, the retention may be higher through embeddedness (HR4).*

In conclusion, JE was seen as an opportunity to potentially offer a larger basket of tangible and intangible benefits to employees, thereby catering to their individual preferences. Thus, the participants accepted that embeddedness was a relevant construct that organisations could adopt to influence employee perception and retention.

#### **5.5.3.2 Job Embeddedness (JE), Talent Management (TM) and Employee Retention**

The respondent's views on the interactional effects between TM, JE and employee retention can be summed up through two key themes:

- (i) JE as a broader and more holistic concept owing to a combination of fit, links and sacrifice dimensions. According to BM5, *'from what I understand about job embeddedness concept, it is certainly a more holistic way of looking at employee retention'* and it influences employee retention due to its expansive nature. *'I think that being embedded will certainly result in higher retention (BM3).*
- (ii) TM practices were understood to enhance organisational embeddedness. According to BM4, *'TM can certainly enhance fit and links, especially by linking people and forming teams.'* Similarly, HR2 placed greater emphasis on JE-fit as a strategic lever:

*Talent management is helping us improve fit, everything that we do, helps us to identify if the person fits into whatever roles that we want to put them into.*

On the contrary, others appreciated the role of JE in totality for knowledge-intensive firms:

*Retaining your knowledge workers when there's no fit, link or sacrifice is a very transactional way of retention versus if there is job fit and the person is creating his or her internal network, and the sacrifice could be either financial or could be intangible – that part is very under researched I feel (HR3).*

TM practices were perceived to have stronger impact on JE-fit and JE-links than on JE-sacrifice.

However, the impression about JE was a complex construct to implement, especially because it was felt that drivers of retention vary for different employees. Addressing person-specific requirements is possible *'only if it is personalized – not a cookie cutter approach or mass production approach – else it is only seen as a hype'* (BM2).

In summary, the responses indicate there is a positive association between TM, JE and employee retention, supporting the central question in this thesis. The following sections summarise the interview findings for JE-fit, JE-links and JE-sacrifice.

#### **5.5.3.3 Job Embeddedness – Fit (JE-fit)**

The participants were given an overview of the JE-fit dimension, and they agreed that fit was an important parameter for employee engagement. There was a positive association between TM and fit:

*Yes, the key objective of TM program is to enhance employee fit. We identify development plans based on future roles projected for the employee and skills and competency development needs (BM5).*

However, most of the participants perceived fit played a greater role during the recruitment and selection process, compared with employee retention: *'our hiring strategy lays emphasis on assessing employee fit'* (HR4). Assessment of fit included personality and character:

*If you have the right character, it becomes easier to make you fit into the job* (HR2).

Another benefit for fit was enhancing the firm's ability to attract talent:

*You want someone who really is excited about being in your organisation because of the fit* (BM1).

The second theme emerged as the linkage between fit and career development – an essential element of the TM process. TM played an important role in aligning employee skills for future roles:

*I agree that fit in the job is very important and career development is an important tool to ensure fit* (HR5).

HR2 linked stronger fit to skills development: *'fit is very important, with greater fit, it becomes easy to develop their skills'*.

The findings from the interviews indicate, that although the fit is considered important for career development and employee retention, it is perceived to play a greater role during the hiring process. These responses are similar to the results from the quantitative survey. H<sub>7</sub> predicted a positive relationship between JE-fit and human capital. In conclusion, JE-fit was a source of assessing person–job fit during the recruitment process and enhancing human capital through TM, but it was not a significant influence on an employee's decision to stay. These findings from the interview responses match the results of survey data that led to the rejection of H<sub>9a</sub>, which predicted a positive relationship between JE-fit and intention to stay. The study

findings extend the association of JE-fit beyond turnover intention and retention presented in past studies (Besich, 2005, Deery, 2008, Bergiel et al., 2009).

#### **5.5.3.4 Job Embeddedness – Links (JE-links)**

JE-links was considered one of the core characteristics of being embedded in an organisation. Most interview respondents underlined the growing adoption of a team-based approach in knowledge-intensive firms. This enables collaboration between specialist or cross-functional teams:

*Firms are moving towards collaborative teams, and social technologies are connecting people. One needs to be able work with diverse people (BM2).*

This shift towards team-based functioning demands employees establish internal and external links:

*Our company gives more importance to team objectives and performance, so I think links will be useful in creating professional connections (BM3).*

Respondents highlighted the growth of virtual teams. Working with geographically dispersed and diverse teams required the formation of formal and informal links:

*Links are vital since teams are geographically dispersed, hence important to build these links (BM2).*

According to HR2, TM programs were effective in enhancing employee links through the formation of special assignment groups and project teams comprising high-potential employees from different regions and departments. These teams are assigned critical, time-bound projects based on the strategic objectives of the firm:

*In one of our mid-level leadership development program, we had 25 people from 14 different nationalities, assigned to virtual projects (HR2).*

Respondents drew attention to the growing role of social technologies in enhancing professional links. In conclusion, most respondents agreed that organisational links enable employee performance and that these can be nurtured through TM programs, but that links by themselves cannot ensure retention. The views of the respondents are similar to those from the survey findings. H<sub>2b</sub> predicted TM (Org) had a positive relationship with JE-links. These findings refute past studies on organisational links and employee intention to stay (Mitchell et al. (2001) and the argument that the normative pressure exerted by team members and other colleagues results in higher intention to stay by (Maertz et al., 1996).

#### **5.5.3.5 Job Embeddedness – Sacrifice (JE-sacrifice)**

JE-sacrifice represents the perceived tangible and intangible loss incurred by employees while leaving an organisation. According to majority of the respondents, sacrifice is not the primary factor in an employee decision to stay or turnover, as the employees are more likely base their decision on more holistic parameters. Employees are concerned about several factors beyond sacrifice.

*I don't think beyond a point, sacrifice element plays on people's mind, they are more concerned about their performance and growth and if they are not being paid fairly, they tend to leave in any case (BM2).*

Another respondent echoed the view that most employees are constantly assessing external opportunities and their decision is based on several factors and are person-specific.

*While most people consider pay as an important decision factor, even job and team bonding plays a role in retention .... and employees usually think and evaluate external opportunities that they keep getting (BM4).*

Only one respondent believed that managing employee perception of sacrifice can enhance retention:

*In my view, intangible benefits, such as workplace camaraderie, happy work environment – these are aspects people value beyond just pay and incentives and by enhancing embeddedness there is a higher chance of retaining employees (HR5).*

According to the respondents, the main constraint is determining employee sacrifice perception, as it tends to vary based personal preferences and circumstances. Hence, sacrifice cannot necessarily avert employee decision to quit, but it may result in deferring their decision:

*Yes, this might delay an employee's decision to leave to some extent, especially the monetary sacrifice (BM5).*

Most respondents considered attrition to be a harsh reality that organisations and managers face; according to HR2, some attrition is *inevitable*. He stressed the necessity for firms need to adopt fair and competitive market practices to enhance employee retention:

*Would they want to stay if they pay them below the market? Probably not, because everybody wants to be treated fairly (HR2).*

According to the interview findings, the sacrifice dimension may result in delaying an employee quit decision; however, it may not necessarily prevent employee turnover. The findings are consistent with the quantitative survey results for H<sub>9c</sub>. Interestingly, they are also consistent with employee turnover studies that refer to the peculiar tendency of Singaporean employees to 'job-hop' for no apparent reason (Khatri et al., 1999, Osman-Gani and Chan, 2009, Barnard and Rodgers, 2000). Hence, the sacrifice dimension may not be seen as a significant determinant for employee retention.

However, these findings are contrary to those of several studies (Cunningham et al., 2005, Halbesleben and Wheeler, 2008, Kiazad et al., 2015) that claim a positive association between sacrifice and intention to stay, defying the conventional belief that resources are immobile due to switching costs, such as uncertainty and learning curve (Wright and McMahan, 2011). This study

contributes to further extending our understanding of the sacrifice dimension of JE theory and its linkage with contextual factors, thus adding to the drivers of managerial employee retention in knowledge-intensive firms in Singapore. The interview participants were probed on the possible limitations and areas for future growth for JE, and their comments are summarised in the following section.

#### **5.5.3.6 Job Embeddedness (JE) – Limitations and Future Scope**

Participants indicated two limitations based on their preliminary understanding of JE: (i) the need to ensure alignment between organisational and employee individual goals and (ii) the practical challenges in implementing, measuring and assessing JE theory.

The importance of balancing organisational and individual goals by maintaining flexibility was a critical consideration. One respondent questioned the extent to which:

*... retention strategy can be linked to individual motivation? Whether you call it embeddedness or link or connection or sacrifice (HR3).*

Another said the effectiveness of any program ‘*largely depends on employees – if they are not proactive and motivated, then these are not effective*’ (BM5). Employee involvement and communication were deemed essential.

When considering the issues related to JE implementation, BM5 admitted that ‘*JE may appear as common-sense, but may not be very easy to implement*’. The other issue with the concept of JE is a lack of benchmarks or norms to assess the extent of fit, links and sacrifice, as these can vary for individuals and by the types of firms and cultural settings. This was summarised in one respondent’s reflective observation as follows:

*I think this concept of embeddedness cannot be ‘prescriptive’ – extent of fit and minimum number of links etc. It needs to be a bottom up approach and cannot be thrust down by top management (BM5).*

In conclusion, while JE was viewed as a holistic way of strategising employee retention, there is a need to address the practical limitations of implementing it in the organisation. This is a concept that JE scholars can help to further develop. This section concludes the findings on JE. The following section presents the key findings related to the third core theory adopted in this thesis, human capital.

#### **5.5.4 Human Capital**

All interview respondents were familiar with the concept of human capital and its significance for knowledge-intensive firms. The majority of respondents considered human capital as a key lever for competitive advantage for firms. This was summarised as '*human capital is essential to grow business – good people means good company*' (BM4). Respondents said business leaders need to ensure '*getting right people and investing in them, making them more innovative*' (BM5) in order to meet customer expectations.

All the respondents anticipate human capital to dominate over other forms of assets. In particular, within the knowledge-intensive firms, employee skills and competencies will continue to demand a premium:

*Relevance of human capital will continue to increase, especially with technological innovations and customer demands* (BM6).

Apart from human capital, the nature and quality of human capital was equally critical, calling for greater investment in growth of human capital:

*Human capital grows with investment, and better human capital leads to better results* (BM3).

Owing to the strategic nature of human capital, respondents deemed a coherent strategy as essential for attracting talent and investments:

*Human capital is central – especially when we are approaching investors for funding, investors pay more attention to the people, even if you have good product and market opportunity (BM3).*

The participants stressed the identification of critical roles and skill-sets that form the core human capital, in order to ensure differentiated practices for the key roles. HR2 shared that *‘differentiation is based on specific experience profile and potential of the employees’*. Another respondent also considered demand and supply and the type of skills needed:

*We focus on employees who possess unique project knowledge and are in high demand from our clients (HR4).*

Lastly, some participants expressed that, due to excessive hype about human capital, many organisations tend to pay lip-service to, rather than implement, strong practices focused on human capital development:

*Too much ‘noise’ about human capital without any change in mind-set (BM2).*

Such management practices hinder growth and acceptance of the human capital approach and impact both organisations and individuals alike. In conclusion, to ensure credibility and acceptance of human capital, firms need to *‘include human capital in their balance sheets, and not continue to treat as a liability’* (BM2).

The interviews indicate a strong interest in the topic of human capital, due to its role as a key differentiator in knowledge-intensive firms. The following section outlines further key findings on the topic of human capital.

#### 5.5.4.1 Role of Human Capital in Knowledge-intensive Firms

All respondents viewed human capital as a critical success factor for knowledge-intensive firms, and there was a unanimous view that in the future firms would have greater reliance on human capital. Respondents highlighted the dynamic nature of human capital:

*Increasingly, firms will have fewer employees due to technology and automation, and these employees will need to constantly learn and acquire new skills (BM5).*

These changes were anticipated at country level as well:

*Our [Singapore] economy is now knowledge-based, moving away from mass production, making specific skills and knowledge critical (BM4).*

However, the definition of human capital and the process for identifying human capital varied across knowledge-intensive firms. For instance, human capital in one firm comprised 10–15% of the total workforce who occupy strategic roles based on criticality:

*Business-critical positions are defined based upon the combination of business impact and ease of replacement (HR2).*

In others, human capital consisted of *'those employees who are at the core of delivering business outcomes, and are the primary interface with the customers'* (BM2). Others associated human capital with strategic objectives and business growth: *'businesses are trying to achieve non-linear growth, and for this they rely on human capital (BM5).*

Despite these variations, the interview findings support the pivotal role of human capital in organisational performance and sustainability. The next section focuses on the issues and challenges faced in the retention of human capital.

#### 5.5.4.2 Retention of Human Capital

All respondents considered retention of human capital to be a top priority, but views differed on cause and extent of turnover. According to the respondents, human capital turnover has gained prominence due to various interlinked issues:

*Most employees leave for better growth – mostly better roles and opportunities (HR5).*

Further, aggressive hiring policies adopted by competitors were considered a major cause for attrition:

*Poaching good talent, so there is greater need to invest and nurture talent (HR5).*

Demographic factors also determine human capital attrition. Multigenerational workforces and balancing the expectations of employees across different age groups was a major concern for some, while others encountered retention issues for employees within specific age groups. According to HR2, retention was an *'issue with the younger workforce'*, while for BM5 the challenge was the *'millennial generation, as these employees are very focused on their personal growth – beyond just work-related development'*. On the contrary, HR3 viewed mid-career professionals aged 30–40 years as an issue, emphasising the urgency to redefine *'the employee value proposition of these group of employees'*, as their retention drivers may not necessarily be limited to *'only compensation as they are keen to understand the purpose of the business and their contributions'*.

Thus, human capital retention continues to be a priority for business and HR managers in Singapore. However, the complex nature of this issue demands strategic intervention, supporting this thesis's central argument in favour of a comprehensive framework for retention. The following section summarises the key findings related to the human capital trends in Singapore.

#### **5.5.4.3 Human Capital Trends in Singapore**

The unique setting of Singapore created both opportunities and challenges in attracting and retaining human capital. Singapore's strong reputation to attract new ventures as a preferred destination for businesses has direct impact on the demand for human capital, affecting employee retention. This has also led to new initiatives:

*Government is emphasising on continuous skills upgrade for the workforce, now the senior employees have opportunity to stay relevant and pass their knowledge and expertise to junior team members (BM3).*

Singapore is seen to have been established as a leading research hub for insurance industry:

*There is high competition and very high turnover rates, making human capital development and retention an important agenda (HR5).*

Thus, human capital and its retention continues to be a challenge in Singapore. The scope of this study was confined to managerial employees; the following section outlines the key findings about managerial employees.

#### **5.5.5 Managerial Employees**

Managerial employees were considered a critical work group, and most participants stressed their strategic importance. Managerial employees were described as the glue to ensure cohesiveness within the organisation:

*Middle managers are core members of any team and management invests in them with the hope that they will grow into the senior management team (BM4).*

These employees are responsible for '*motivating and retaining their teams*' (BM3). The managerial roles continue to be a critical link, despite the growth of 'flat' or non-hierarchical organisations that rely on team-based structures:

*Managerial employees are critical even in a flat organisation, as they are the link between top management and the rest of the organisation (BM5).*

While managerial roles were expected to remain indispensable, the respondents anticipated changes in the nature of their roles, especially within the decision-making process. One respondent predicted a radical change, with ‘*decision-making power shifting from managers to frontline employees (BM2)*. This view was echoed by another respondent, as de-layering of the management cadre has significantly affected the roles of mid-manager, who are required to focus on value addition rather than day-to-day operations:

*Today, customers can directly reach team members for service, so the managers need to focus on value addition rather than transactions (BM6).*

However, respondents unanimously agreed that most managerial employees either were not aware of these changes or failed to appreciate the urgency in adopting them. This could potentially result in managerial employees not acquiring the fresh skills and competencies required to deal with these changes. The respondents expressed anxiety about the risk faced by middle managers, as they are likely to become redundant:

*Managerial roles are seen as an additional layer in the decision-making process and, unless they add value, they will be seen as redundant (BM2).*

Another challenge was dealing with the managerial employees, mainly due to their perceived reluctance to adapt and change:

*Middle managers are a big challenge for firms across industries. Most of the mid-level managers are not willing to take larger responsibilities or step out their comfort zone (BM5).*

Further, such a perception could adversely affect professional reputation:

*Managers who are passionate are far and few, and this is a big issue (BM3).*

BM5 shared his observation that not many of the managers were ‘willing to take risks, try different things’. Owing to these perceptions, there was a caution:

*Although middle managers are link between top management, this is the weakest link in many firms (BM5).*

In summary, while most respondents acknowledged managerial roles as essential, their ability to adapt to changing circumstances was seen as a constraint, aptly summarised as follows:

*The future of middle managers is going to be tough, the most difficult part for them is to ‘unlearn and relearn’ and they need to be made aware of this (BM2).*

The findings of the interviews enhance our understanding of changes affecting managerial employees in knowledge-intensive firms in Singapore.

#### **5.5.5.1 Retention of Managerial Employees**

All respondents viewed the retention of managerial employees as a major challenge. Two recurrent challenges cited were (i) changing roles and expectations and (ii) limited career growth opportunities for managerial employees.

According to BM6, the organisational expectations of managerial employees are changing rapidly, placing sudden demands on managerial employees to adapt and change. Whereas once managerial employees were seen as administrators, they are now seen to have a role of enabling change.

*There are greater demands – to ensure innovation and change management, so managers need to inspire their teams rather than remain as administrators, else they will not be required (BM6).*

In order to meet these demands, managers need to acquire new capabilities or enhance their skills:

*Managers need to be retrained as they may have the experience, but not the required exposure to technology or new tools (BM2).*

The second factor affecting turnover of managerial employees was limited career growth opportunities available to them, due to changing organisation designs and flat organisational structures. Lack of growth opportunities, coupled with changing role expectations, led to *'frustration due to career plateau, and inability to keep their minds engaged'* (HR1). According to BM3, *'business and operations managers need to take active responsibility for retention of managerial employees'*, while middle managers themselves needed to *'unlearn'* some of their past experiences and acquire new skills (BM2).

Although the situation appears to be challenging for managerial employees, respondents were optimistic about managers' future roles:

*There are more opportunities for middle managers now than in past – increased trend of having different specialised career paths at mid-level, making it possible for managers to have a fulfilling long-term career in both management and specialist roles (BM6).*

Based on these findings, it can be concluded that organisations need to address middle manager retention by investing in their capabilities through systematic interventions, such as TM. The following section summarises the interview findings about a related topic, high-potential employees.

### 5.5.6 High-Potential Employees

The majority of respondents reported identification of select high-potential employees as a common practice in their industry, thus reflecting a great prevalence of workforce differentiation practices being adopted in Singapore. According to one respondent, in his industry:

*Many firms have differentiated HR policies and practices for management of high-potential employees (HR3).*

Referring to the example of the financial services industry, another respondent highlighted:

*Especially in Singapore, it is very common to have employees identified as high-potential, and to have talent management programs for these employee segment. (HR3)*

Most frequently cited selection parameters for identification of high-potential employees were linked to (i) individual performance – ‘*by default these are your 20% of your contributes 80% of the value point*’ (HR3), (ii) nature and type of role – ‘*mostly client facing roles, hence these employees are very critical to business outcome*’ (HR5) and (iii) criticality of the role for the firm’s success – ‘*it is a known fact that the difference between performance of a star employee and average employee can be as high as 20 times*’ (BM2).

Retention of high-potential employees was a challenge, particularly those with skills in high demand. Managing expectations was a key challenge in retaining high-potential employees:

*These guys expect a lot, very quickly, so managing their expectations is a very big concern (HR2).*

Many felt that most high-potential employees had unrealistic expectations about career growth and future opportunities. According to HR1, business and HR leaders face challenges in providing growth opportunities, due to external or organisational factors that are beyond their control:

*They are constantly looking for next significant growth from what they are learning*  
(HR1).

This respondent also said they demand greater attention and recognition within the organisation. These findings corroborate the results of H<sub>15</sub>, which predicts TM programs had a higher impact on retention of high-potential employees and can be linked to the sense of ‘justly earned entitlement’ that most high-performers are known to demonstrate (Aguinis et al., 2012).

In conclusion, the above discussion – based on the interviews with business and HR leaders – provides insightful details on the effects of TM, JE and human capital in relation to managerial employee retention. It can be inferred that in-depth interviews supported some of the hypothesised relationships in the conceptual framework and uncovered some new information about the phenomena. The following section provides a summary of the qualitative data analysis.

## 5.6 Summary of Qualitative Data Analysis

Based on the analysis of expert interviews, it can be inferred that retention of managerial employees in knowledge-intensive firms continues to be a significant challenge. The key variables in the conceptual model – TM, JE and human capital – were reported to influence employee retention. Managerial roles are projected to remain significant, but the nature of work, skills and competencies required will evolve due to macro-level changes in organisations. The summary of key findings based on the factors that influence retention of managerial employees is presented in Table 5.3.

Table 5. 3 – Summary of Retention Factors

<b>Variables and relationship</b>	<b>Retention Factors</b>	<b>Impact on Retention</b>
TM => employee retention	Systematic approach to identification, development and retention of key employees	Direct
	Alignment with organisational goals	Indirect
	Alignment with employees’ personal goals	Direct
	Prestige, recognition of performance and potential	Direct
	Career growth opportunities	Direct
JE => employee retention	Overall organisational embeddedness through – fit, links and sacrifice	Indirect
	Fit and retention	Direct

	Links and retention	Indirect
	Sacrifice and retention	Indirect
Human capital => employee retention	Role of scarce and critical resources	Direct
	Development of skills	Direct
High-potential => employee retention	Scarce and critical resources	Direct
	Impact of organisational performance	Direct
	Demand supply gap	Direct
	Alignment with employee personal goals	Direct
	Impact of TM	Direct
	Demographic factors	Indirect

Employee retention continues to be an issue in Singapore and is seen as an unavoidable reality. However, due to its negative impact, organisations are placing greater emphasis on design and implementation of strategies that enhance employee retention, and TM is seen as one of the key strategies to manage employee development and retention.

Most respondents (nine of 11) reported the existence of TM programs in their organisations, although TM policies varied across different firms, from differentiated to universalistic, exclusive to inclusive and open to closed communication, indicating heterogeneous TM practices. Overall, it can be inferred that most respondents preferred an exclusive approach to TM with an open communication philosophy.

Most respondents were well-versed with the strategic purpose, policies and practices related to TM and shared an optimistic view on the future growth of the TM field. However, HR managers found organisational support for TM practices inadequate and demanded greater involvement from leaders and business managers. On the other hand, business managers urged HR professionals to take up strategic roles in implementing TM programs.

Notwithstanding, there was a consensus amongst the respondents on the need to enhance the strategic impact and outcomes of TM programs. Specific areas suggested by the participants include (i) need to address changing employment models, (ii) balancing organisational and individual expectations from TM, (iii) improvement in internal processes of TM, (iv)

development of measures and accountability for outcomes and (v) adoption of technology-led talent analytics initiatives to ensure higher return on investment.

JE was a relatively new concept for all the respondents, but there was agreement that embeddedness could lead to improved employee engagement and retention. Although respondents appreciated the comprehensive and inclusive nature of JE, they did not see the three dimensions of JE – fit, links and sacrifice – to have a uniform impact on employee retention, contrary to arguments by (Zhang et al., 2012, Jiang et al., 2012b, Lee et al., 2014). While JE-fit and JE-links were considered to be possible predictors of employee retention, JE-sacrifice was seen as a hygiene factor rather than a differentiating factor, given the employee expectations of fair and competitive HR practices. Although these findings are different from those of other JE studies (Cunningham et al., 2005, Besich, 2005), they are consistent with employee turnover studies reported in Singapore (Osman-Gani and Chan, 2009, Osman-Gani and Paik, 2016) that refer to the peculiar turnover behaviour demonstrated by Singaporean employees.

Human capital management and retention was seen as a critical agenda in Singapore, particularly for knowledge-intensive firms, due to their over-reliance on the knowledge, skills and abilities of their skilled workforce (Puah and Ananthram, 2006, Stanton and Nankervis, 2011). The country's unique geopolitical and economic positioning has a significant impact on demand and supply of high-calibre talent pools, which is influenced by changing labour policies, making employee retention a major business issue. Most respondents saw TM programs as an effective strategy to motivate, develop and retain critical human capital. JE-fit was seen as an important lever to enhance the quality of human capital and indirectly influence employee retention.

Most respondents acknowledged the significance of managerial employees in organisations, who they said acted as the 'glue' connecting top management with the rest of the organisation and translated business strategy into outcomes. However, respondents expressed mismatch between

expected and actual performance and behaviours of middle managers, especially the ability to foresee and adopt changes. It was predicted that managerial roles would continue to remain crucial and evolve with impending changes.

Lastly, according to the respondents, high-potential employee identification and development was a common practice in knowledge-intensive firms in Singapore. The reasons for this could be a combination of higher prevalence of TM programs, nature and type of work associated with knowledge-intensive firms and higher employee turnover rates. In addition, respondents acknowledged the direct positive impact on performance contributed by high-potential employees; however, these benefits were also counterbalanced by the challenge of managing employee expectations on growth and career opportunities and retention.

### **5.7 Data Triangulation - Mixed Method Analysis**

The purpose of this mixed method study was to achieve complementarity by adopting both qualitative and quantitative methods in a single study. The sampling design was based on concurrent time orientation and multilevel relationships between both samples (Onwuegbuzie and Collins, 2007). Accordingly, the key findings from the qualitative and quantitative data are synthesised in this section, using the triangulation approach (a summary is presented in Table 5.4). Triangulation is the process of studying a problem using different methods in order to gain complete understanding of the central research phenomenon (O’Cathain et al., 2010). The results of the hypotheses testing (Chapter 4, sec.4.6) and the summary of qualitative data (Chapter 5, sec 5.6) were compared and classified using the guidance of convergence (agreement from both methods), complementarity (offer complementary information on the same topic) or expansion (if one method offers further explanation to results of another method) (Creswell, 2009). The following section presents the details of triangulation process involving convergence, complementarity and expansion to integrate findings of both approaches.

### 5.7.1 Data convergence and key findings

The extent of convergence between the quantitative and qualitative data was determined by examining the findings of Quant + Qual data. The purpose was to understand if both methodologies provided similar answers for similar research questions. This was done using three main research questions in this study: (1) What is the relationship between TM and JE, HC, and JS? (2) How does TM, JE, HC, and JS affect employee intention to stay? (3) Are these relationships different for employee with high-potential status?

Table 5. 4 - MM Results Demonstrating Convergence of Findings

Method	Quantitative	Qualitative
<b>Question</b>	<i>What is the relationship between TM and JE, HC, and JS?</i>	
<b>Answer</b>	Yes: TM has linkage with JE, however the relationship differs for the each of the JE dimension of Fit, Links and Sacrifice. TM has positive relationship with HC. JS is positively influenced by TM. Select dimensions of JE are linked to enhancing HC and JS.	Yes: ‘These are complex inter-related issues that needs to be addressed by organisations in a systematic manner to attract, retain and motivate employees’ ‘The drivers for motivation differ from employee to employee, and hence HR managers need to have a portfolio of programs to cater to different employee needs’
<b>Question</b>	<i>How does TM, JE, HC, and JS affect employee intention to stay?</i>	
<b>Answer</b>	Yes: TM (self) is positively related to JE-Fit. TM (org) is positively related to JE-Links. TM (self) is positively related to JE-Sacrifice. TM (self) is positively related to HC. TM (self) is positively related to intention to stay. JE-Fit is positively related to HC. JS is positively related to intention to stay.	Yes: ‘Talent management does help with employee retention and is effective in generating positive employee behaviours. ‘Being more embedded in the organisation will certainly benefit both the company and the employee’. ‘There is high competition and very high turnover rates, making human capital development and retention an important agenda’.
<b>Question</b>	<i>Are these relationships different for employees with high-potential status?</i>	
<b>Answer</b>	Yes: The relationship between talent management (TM) and intention to stay is stronger for high-potential employees.	Yes: Especially in Singapore, it is very common to have employees identified as high-potential, and to have talent management programs for these employee segment.

Based on the summary in Table 5.4, it can be inferred that the findings of the quantitative and qualitative studies largely converged for the key research questions as above. The study findings

indicate that both group of respondents (quantitative – employee, qualitative – HR & Business managers) concur that TM, JE and HC plays an important role in employee retention. However, these relationships are not uniform, given the complex nature of these programs and the individual differences amongst employees. This was also reflected in divergent results for hypotheses about TM (Self) and TM (Org) and other constructs such as JE, HC, JS and employee intention to stay.

### 5.7.2 Data complementarity and key findings

The findings of quantitative and qualitative data were examined to understand retention of managerial employees and the relationship with key criterion variables. The primary focus was determine if the different methods provided related answers to related questions (Aarons et al., 2012), with the analyses giving equal emphasis to both quantitative and qualitative analysis. The key questions under this approach were: (1) *Quantitative*: Does TM lead to higher intent to stay? *Qualitative*: What are the objectives of TM programs? (2) *Quantitative*: Does JE lead to higher intent to stay? *Qualitative*: What is the relevance of JE to employees and organisations? (3) *Quantitative*: HC is linked to higher employee intent to stay? *Qualitative*: What is the significance of HC for managerial employees in knowledge intensive firms?

Table 5. 5 - MM Results Demonstrating Complementarity of Findings

<b>Method</b>	<b>Quantitative</b>	<b>Qualitative</b>
<b>Question</b>	<i>Does TM lead to higher intent to stay?</i>	<i>What are the objectives of TM programs?</i>
<b>Answer</b>	Yes: TM (self) is positively related to employee intention to stay.	Yes: TM enhances retention. Yes: TM programs enhance employee performance, leading to a 'positive impact on employee retention, especially in case of employees who are contributing. No: So, they become very marketable and it's easy for them to find jobs and command a little bit more. Maybe: The outcomes of talent management programs are difficult to measure, so we may not have the exact details
<b>Question</b>	<i>Does JE lead to higher intent to stay?</i>	<i>What is the relevance of JE to employees and organisations?</i>
<b>Answer</b>	No: JE-Fit, JE-Links and JE-Sacrifice do not have a positive relationship with employee intention to stay.	Yes: Being more embedded in the organisation will certainly benefit both the company and the employee. Yes: This seems like an approach that makes an

		<p>employee more 'vested' in the company and also enables higher retention.</p> <p>Yes: It is certainly a more holistic way of looking at employee retention.</p> <p>No: JE may appear as common-sense but may not be very easy to implement.</p> <p>No: I don't think beyond a point, sacrifice element plays on people's mind, they are more concerned about their performance and growth and if they are not being paid fairly, they tend to leave in any case.</p> <p>No: JE can 'delay' turnover, but may not eliminate it.</p>
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Thus, adoption of mixed method strategy to study complementarity enables comparison of opposing views, if any, emerging from the two separate data sets. These findings indicate that TM and JE cannot be viewed as a universal solution for employee retention. While TM enhances employee ability, performance and motivation, some of the negative consequences include increased turnover due to greater employability of highly trained workforce. On similar lines, while JE was considered as a holistic approach to employee retention, the practical challenges in designing relevant programs and measuring their effectiveness was viewed as a problem.

### 5.7.3 Data expansion and key findings

The mixed-method strategy of expansion is beneficial in examining if one method provides answers to the questions raised by the other method (Aarons et al., 2012). This strategy was accomplished with one set of qualitative questions generating additional depth and insights into the results and meaning of the quantitative data as follows: (1) *Quantitative*: Does TM, JE, HC and JS lead to greater employee intention to stay? *Qualitative*: What are the challenges in retaining managerial employees in knowledge intensive firms in Singapore? (2) *Quantitative*: Does TM leads to greater employee intention to stay? *Qualitative*: What are the challenges and limitations of TM programs? (3) *Quantitative*: Does HC lead to higher employee intent to stay? *Qualitative*: What is the significance of HC for managerial employees in knowledge intensive firms? (4) *Quantitative*: High potential employees have different expectations from TM

program? *Qualitative*: What are the challenges associated with retention of high potential managerial employees in knowledge intensive firms in Singapore?

Table 5. 6 - MM Results Demonstrating Expansion of Findings

<b>Method</b>	<b>Quantitative</b>	<b>Qualitative</b>
<b>Question</b>	<i>Does TM, JE, HC and JS lead to greater employee intention to stay?</i>	<i>What are the challenges in retaining managerial employees in knowledge intensive firms in Singapore?</i>
<b>Answer</b>	The findings point to mixed results. The relationships differ between TM (Self) and TM (Org). The JE dimensions of fit, links and sacrifice and HC also indicate mixed results. JS is positively linked to employee intention to stay.	TM programs enhance employee performance and employee retention, especially in case of employees who are contributing. Lack of growth opportunities, changing role expectations, career plateau lead to frustration. Managerial employees are critical even in a flatter organisation, as they are the link between top management and the rest of the organisation. Poaching good talent is prevalent, so there is greater need to invest and nurture talent. Employee retention drivers may not necessarily be limited to compensation, they are keen to understand the purpose of the business and their contributions and growth.
<b>Question</b>	<i>Does TM lead to greater employee intention to stay?</i>	<i>What are the challenges and limitations of TM programs?</i>
<b>Answer</b>	The findings point to mixed results. The relationships differ between TM (Self) and TM (Org).	Need to avoid the risk of TM becoming ‘more talk and less action’. Excessive hype around TM is resulting in firms adopting TM programs without necessary strategy and resources in place. At times, people look at talent management in isolation to the business needs, think of TM as only HR initiative. The outcomes of talent management programs are difficult to measure, so we may not have the exact details. TM Programs need to be customised and individualised to ensure effectiveness. Greater need to adopt technology solutions to enhance TM programs.
<b>Question</b>	<i>Does HC lead to higher employee intent to stay?</i>	<i>What is the significance of HC for managerial employees in knowledge intensive firms?</i>
<b>Answer</b>	No: The relationship between HC and employee retention is not supported.	Yes: Our [Singapore] economy is now knowledge-based, moving away from mass production, making specific skills and knowledge critical. Yes: There is high competition and very high turnover rates, making human capital development and retention an important agenda. Yes: The millennial generation are very focused on their personal growth – beyond just work-related development. No: Too much ‘noise’ about human capital without any change in mind-set No: Most employees leave for better growth – mostly better roles and opportunities.

<b>Question</b>	<b>High potential employees have different expectations from TM program?</b>	<b>What are the challenges in retaining high potential managerial employees in Singapore?</b>
<b>Answer</b>	The relationship between TM and intention to stay is stronger for high-potential employees.	Singapore will continue to be an attractive destination for MNCs and start-ups, so demand for talent will always be higher than the supply. The phenomena of high potential employees is very common in Singapore and TM programs are common for these employee segment. It is a known fact that the difference between performance of a star employee and average employee can be as high as 20 times. These guys (high potential employees) expect a lot very quickly, so managing their expectations is a very big concern. How you engage with them even further is going to be very important, because just promotions and salaries is not going to engage and retain them.

The third strategy of expansion within the mixed method approach disclosed different views held by the two respondent groups on key topics of this study. The respondent group comprising of HR and Business managers viewed turnover of managerial employees as an important issue that could be minimised using TM as a strategic response. However, the quantitative survey findings of employees indicated a mixed response. Interestingly, there is convergence of views on the role of TM in high potential employee retention. The findings support the assumption that employees may not always concur with the organisational goals and benefits of TM programs. The following section presents synthesis of the mixed method data and key research questions.

## 5.8 Synthesis of Data

The in-depth interviews supported most of the theoretical assumptions in the conceptual model and, at the same time, partially disagreed or contradicted some of the hypothesised relationships and arguments. These are summarised in Table 5.5 below.

Table 5. 7 – Synthesis of Qualitative and Quantitative Data

Variables and relationship			Coding Matrix	Comments
TM	->	JE-fit	Converge	Partial agreement
TM	->	JE-links	Converge	Agreement
TM	->	JE-sac	Complementary	Partial agreement
TM	-->	HC	Converge	Partial agreement
TM	-->	ITS	Converge	Agreement
TM	-->	Hi-Po	Converge	Agreement
JE-fit	-->	HC	Complementary	Partial agreement

JE-fit	-->	ITS	Converge	Agreement
JE-links	-->	ITS	Converge	Agreement
JE-sac	-->	ITS	Contradict	Discrepancy
HC	-->	ITS	Converge	Agreement
Hi-Po	-->	ITS	Complementary	Partial agreement

Note: TM=talent management, JE=job embeddedness, JE-fit=fit, JE-sac=sacrifice, JE-links=links, HC=human capital, Job Sat=job satisfaction, ITS=intention to stay, Hi-Po=high-potential employees

The following section provides explanations for the findings on the key variables and their interpretation.

### 5.8.1 Talent Management (TM)

The relationship between TM and employee retention was confirmed by both quantitative and qualitative data. This thesis studied TM as an aggregate of TM (Self) and TM (Org), and these constructs were viewed as distinct by both the survey and interview respondents as reflected in their different relationships with variables in the conceptual model. These findings support Festing and Schäfer (2014) argument that employee expectations from TM programs continue to change and evolve. The qualitative data supports a shift from the traditional view of employees as recipients of TM programs benefits to a growing acceptance for employee involvement in design and implementation of TM programs. Hence, firms need to strike a fine balance between organisational perspective and employee expectations, balancing investment in firm-specific skills against employee desire to acquire generic, employable skills, so as to minimise tension between divergent expectations (Armstrong, 2006). In conclusion, the quantitative and qualitative results converge on effectiveness of TM to retain employees, in particular, high potential employees, provided TM programs cater to both organisational and individual employee outcomes, thus providing empirical support for Bethke-Langenegger et al. (2011).

### 5.8.2 Job Embeddedness (JE)

JE was a novel concept for all the respondents, yet despite its novelty, respondents were able to relate with job embeddedness theory and viewed it as a holistic construct that could lead to higher employee retention. The interview respondents acknowledged the complex nature of JE

construct and anticipated positive role of TM practices in enhancing employee embeddedness and retention. Remarkably, the qualitative data did not support the hypothesised relationship between TM and the three JE dimensions. While TM programs were seen to increase JE-Links by enhancing employee networks with different teams and work groups, TM was not projected to have similar effect for JE-fit and JE-sacrifice dimension. Interview respondents considered JE-fit to play an important role in the recruitment, rather than employee retention. Contrary to the hypothesised relationship, respondents felt that beyond a certain point, JE-sacrifice ceased to play a significant role in an employee turnover decision, thereby seen as a ‘delay inducing mechanism’. The findings of JE indicate a convergence of interview and survey data. These findings reconfirm the unique characteristics of employee turnover and retention in the context of Singapore, where employees are perceived to job-hop without consideration for sacrifice (Khatri et al., 2001, Osman-Gani and Paik, 2016). In conclusion, the synthesis of data validates the holistic nature of JE as an employee retention framework, however its complex nature points towards practical challenges and limitations faced by firms to effectively enhance embeddedness. The implications for these findings are further discussed in Chapter 6.

### **5.8.3 Human Capital**

Respondents acknowledged the critical role played by human capital in knowledge-intensive firms. Interview respondents reiterated the challenges faced in employee retention, citing demand and supply gaps, especially for niche skills coupled with competitive hiring practices and the peculiar characteristics of workforce in Singapore. Hence, all the respondents anticipate human capital to remain a critical force and considered TM and embeddedness to be effective in human capital enhancement and retention. These findings endorse Youndt and Snell (2004), (Yahya and Kaur, 2010) assertion of increased demand for a higher calibre workforce in the knowledge-intensive industry owing to demographic changes and technology transformation.

The implications of these findings and the relationships between human capital and other predictor variables are further examined in the following chapter.

## **5.9 Chapter Summary**

This chapter presented the findings based on the qualitative component of this mixed method study, based on in-depth interviews with 11 experts in HR and business roles. The findings reaffirm the central argument of TM and organisational embeddedness in enhancing employee retention. However, while most of the relationships in the conceptual models were supported, a few complementary and contradictory findings emerged based on synthesis of the qualitative and quantitative data. These include employee perception about TM (Self) and TM (Org) and the different effects of the JE dimensions of fit, links and sacrifice on employee retention. Chapter 6 will present the conclusions of this empirical investigation of employee retention, followed by the theoretical and managerial implications, limitations and future scope.

## **Chapter 6 – Conclusion**

### **Introduction**

This thesis presents findings of a study on employee retention using integrated framework based on talent management (TM) (Narayanan, 2016), job embeddedness (JE) (Ferreira and Coetzee, 2013) and human capital (De Vos and Dries, 2013) theories. The study aim was to answer main research questions on factors affecting managerial employee retention in knowledge-intensive firms in Singapore using a mixed method research design. Chapter 1 of this thesis introduced study background, key research questions and significance of the phenomena. A critical literature review enabled identification of relevant theories, constructs and current knowledge about the main dependent variable – employee retention. Based on the research gaps, a comprehensive conceptual research model was developed and presented in Chapter 2 (Fig. 2.5). In order to test the conceptual model, a mixed method research design was developed and presented in Chapter 3, consisting of quantitative survey data analysis and qualitative interviews. The survey data was analysed using structural equation modelling (SEM) in AMOS software. Chapter 4 summarised the findings of the hypothesised relationships. The qualitative study included in-depth interviews and data were analysed using content analysis, and the key findings were summarised in Chapter 5. This chapter summarises the research questions, provides an overview of key findings and their implications and presents the theoretical and practical contributions of this study. The chapter concludes by outlining study limitations and future research directions.

### **6.1 Summary of Research Questions and Findings**

Employee turnover and retention is a major disruptor for organisations and hence remains a topic of scholarly interest (Allen and Vardaman, 2017). Employee turnover research has evolved over the past seven decades, building upon the seminal work of March and Simon (1958), with

different models explaining the antecedents and consequences of employee turnover. However, in contrast to an earlier focus on the psychology of leaving, there is a growing interest in decoding the reasons that prompt employees to stay with their organisations (Hom et al., 2017). Against this backdrop, this thesis adopted TM (Collings and Mellahi, 2009) and JE (Mitchell et al., 2001) as the core theories to study the central phenomenon of employee retention.

Studies on TM, the first core theory adopted in this thesis, are largely focused on uncovering organisational perspectives of TM programs (Dries and Pepermans, 2007). However, employee perspective is argued to be an essential requirement in defining TM (Tucker et al., 2005), since employee buy-in plays a pivotal role in successful design and implementation of TM programs (Oladapo, 2014). However, such studies are limited and continue to be lacking (Dries and Pepermans, 2007, Gallardo-Gallardo and Thunnissen, 2016). To address this gap, the TM construct was conceptualised as a combination of TM (Self), to represent an employee's individual or personal assessment of TM, and TM (Org), for an employee's assessment of TM programs from an organisational perspective (Fig.2.1). Past TM studies are largely descriptive (Dries et al., 2012); hence, this study employed both quantitative and qualitative data collection methods to diversify the sources of information and ensure greater accuracy by reducing mono-method bias (Dries et al., 2012, Al Ariss et al., 2014).

The second core theory in this thesis was JE theory (Mitchell et al., 2001), which is a multidimensional construct representing the combined forces that enmesh an employee. These are represented as three dimensions of JE – fit, links and sacrifice (Fig. 2.3) – in both work and non-work situations. JE theory extends understanding of employee retention by going beyond the conventional focus on negative attitudes that prompt a person to quit. Organisational embeddedness has been reported to enhance employee retention in several settings (section 2.4); however, its relationship with TM and human capital (Moses, 2013) is explored further in this thesis in the context of managerial employees in Singapore.

Selection of Singapore as the research setting was motivated by the growing significance of knowledge economy and knowledge-intensive firms in this country (Alvesson, 2004, Popescu et al., 2016). Knowledge-intensive firms are known to rely on their human capital for growth and survival (Yalabik et al., 2017); however, retention of human capital continues to be a major threat for these firms (Irawati and Rutten, 2013, Delery and Roumpi, 2017). The issue is further aggravated as employees in knowledge-intensive firms are not easily substituted due to their specialist knowledge and skills (Stone and Deadrick, 2015). Hence, employee retention in the knowledge-based economy calls for a holistic approach by integrating relevant human resource management (HRM) and retention theories, as reflected in the conceptual framework (Fig. 2.5). Another peculiar characteristic of human capital is that its importance is linked to its 'value and uniqueness' characteristics (Lepak and Snell, 1999, Lepak and Snell, 2002). Contrary to general belief, human capital is not necessarily confined to top management alone, and middle managers who are responsible for executing business strategies are increasingly considered as essential organisational human capital (Ou et al., 2017). Hence, the scope of this thesis was the retention of managerial employees in knowledge-intensive firms in Singapore.

Primary data was collected from a cross-section of managerial employees in knowledge-intensive firms, resulting in 204 usable responses (response rate of 51.2%). Data was analysed using the SEM technique in AMOS. The model fit indices indicate reasonable fit (minimum discrepancy [CMIN]=1.757, incremental fit index [IFI]=0.912, Tucker Lewis index [TLI]=0.896, comparative fit index [CFI]=0.910 and root mean square error of approximation [RMSEA]=0.061). The results of hypothesised relationships were discussed in Chapter 4. Fifteen hypothesised relationships were tested, of which 10 were found to be statistically significant and theoretically acceptable. These findings indicate that the employee perception of TM (Self) and TM (Org) are distinct and the three dimensions of JE have different relationships with other predictor variables in the conceptual model. TM (Self) predicted JE-fit ( $H_{1a}$ ) and JE-

sacrifice (H<sub>3a</sub>) and was found to be positively related to human capital (H<sub>4a</sub>), job satisfaction (H<sub>5a</sub>) and employee intention to stay (H<sub>6a</sub>). However, TM (Org) was significantly related only to JE-sacrifice (H<sub>2b</sub>).

The three JE dimensions and their relationships with other variables indicate that only JE-fit was positively related to human capital (H<sub>7</sub>). The other relationships were not supported, which is contrary to reported studies. Job satisfaction was statistically significant in predicting employee intention to stay (H<sub>12</sub>), but the same relationship was not supported for human capital.

JE-fit partially mediated the relationship between TM and employee intention to stay (H<sub>13</sub>), while the mediating role of human capital was not supported (H<sub>14</sub>). In order to assess the effect of high-potential status on employee intention to stay, a multigroup analysis was conducted; results support that high-potential employees who are part of a TM program demonstrate greater intention to stay (H<sub>15</sub>), increasing the effectiveness of TM. In contrast, the study did not find support for the hypothesised positive relationship between TM (Org) and JE-fit (H<sub>1b</sub>), JE-sacrifice (H<sub>3b</sub>), human capital (H<sub>4b</sub>), job satisfaction (H<sub>5b</sub>) and employee intention to stay (H<sub>6b</sub>). In addition, the JE dimensions of fit, links and sacrifice were not significantly related with either job satisfaction (H<sub>8a</sub>, H<sub>8b</sub>, H<sub>8c</sub>) or intention to stay (H<sub>9a</sub>, H<sub>9b</sub>, H<sub>9c</sub>). The non-significant impact of TM (Org) and the JE dimensions was mainly due to the co-sharing of variances in the complex model. Based on these findings, a revised model was developed by excluding most of the non-significant paths but keeping theoretically most rational paths. This revised model was tested, and the results are shown in Appendix 10.

In order to extend the understanding of predictor variables and their inter-relationship with employee retention, 11 in-depth, semi-structured interviews were conducted with human resources (HR) managers and business managers from knowledge-intensive firms in Singapore. A purposive sampling technique was adopted to ensure information-rich respondents, and data

was collected using an interview protocol. The qualitative interview findings were examined using content analysis based on key themes and subcategories. Main findings are presented in Chapter 5. The findings from the quantitative and qualitative data were synthesised using data triangulation (sec 5.7) and key findings were presented in (sec 5.8). The qualitative analysis indicated convergence with most of the theoretical relationships in the conceptual model, while some of them introduced complementary findings and a few presented contradictory results, presenting new paths for further exploration, as summarised below.

All the respondents considered high-potential managerial employees to be a critical workforce group, and their retention was a significant issue for their firms. Respondents agreed with positive effect of TM on employee retention and enhancing the human capital through JE-fit dimension. While comparing TM (Self) and TM (Org), respondents concurred that employees were likely to emphasise upon TM (Self), since most employees are unawareness about organisational goals and outcomes of TM programs. Respondents highlighted the necessity of goal congruence and effective communication, to ensure that employees' value both personal and organisational perspectives. These findings are in line with recommendations by Bethke-Langenegger et al. (2011).

Most respondents considered JE as a novel concept, and a potential mechanism for employee retention. However, there was mixed support for the role of JE-sacrifice and employee retention. Contrary to reported studies, JE-sacrifice was perceived as "delaying" rather than "preventing" employee turnover, providing a fresh insight on the role of JE dimensions. In addition, the perception of sacrifice was considered to vary for every individual, based on their personal situations, and it could lead to different outcomes. Finally, pointing to the complex nature of JE, respondents questioned the feasibility of implementing effective HR practices for embedded employees. These insights offer new possibilities for the development of HRM practices for enhancing human capital and employee retention beyond those suggested by Tian et al. (2016).

The respondents confirmed increasing significance of human capital retention for the growth and sustainability of knowledge-intensive firms and considered TM and JE as effective means to enhance both the quality and retention of human capital.

The data from both the sources was further synthesised using the concept of triangulation (sec. 5.7), as the process of triangulation aids in complete understanding of the central research questions using different methods (O’Cathain et al., 2010, Fielding, 2012). The analysis was conducted using the threefold approach of convergence (sec.5.7.1), complementarity (sec.5.7.2) and expansion (sec 5.7.3) techniques (Creswell and Clark, 2007). The synthesis of data reaffirms the conceptualised relationships between TM, organisational embeddedness, human capital and employee retention. Although findings support the relationships, a few complementary and contradictory findings emerged. These include employee perception about TM (Self) and TM (Org) and different relationships between JE fit, links and sacrifice dimensions on employee retention. In conclusion, respondents considered high-potential managerial employee turnover to be a strategic priority, and these views were in accordance with the findings of the quantitative study. The following section outlines the key implications of these research findings.

## **6.2 Theoretical and Managerial Implications**

The research aim of this thesis was to understand the role of TM in enhancing employee embeddedness, human capital and retention in knowledge-intensive firms in Singapore through an empirical investigation. This was conducted through a cogent study of the antecedents of employee retention using the theories of TM (Collings and Mellahi, 2009), JE (Mitchell et al., 2001) and human capital (Lepak and Snell, 1999) and their interlinkages. The quantitative and qualitative findings of this study are reported in Chapter 4 and Chapter 5 respectively, and the theoretical and managerial implications are summarised below.

### **6.2.1 Theoretical Implications**

The conceptual model was designed to test the relationships between TM, JE, human capital and employee intention to stay. This section presents theoretical implications for each of the core theories.

#### **6.2.1.1 Talent Management (TM) Theory**

A significant contribution of this study was to test the outcomes of TM programs, beyond the traditional benefits of employee attraction and retention, addressing the call for research by Oladapo (2014). Accordingly, the conceptual model tested relationships between TM and JE dimensions, TM and human capital, TM and job satisfaction and TM and intention to stay, further extending TM theory by contributing to the understanding of consequences of TM for employees and organisations.

The majority of existing studies on TM are based on organisational perspectives; as a result, individual employee perspectives are largely absent (Dries and Pepermans, 2007). To address this gap, this thesis tested employee perceptions of TM as a combination of individual and organisational constructs – TM (Self) and TM (Org). The statistical analysis confirms the validity and reliability of TM (Self) and TM (Org) constructs (section 3.3.4). This finding extends the understanding of TM, and key implications are further discussed.

TM (Self) was associated with more positive outcomes than TM (Org). This finding is contrary to the social exchange theory premise (Cook and Emerson, 1987, Cook et al., 2013) that exchange relationships between organisations and employees generate mutual obligations (Cropanzano and Mitchell, 2005, Cook et al., 2013). The result also contradicts the argument of employees demonstrating favourable reciprocal behaviour towards organisational investment in talent development (Khoreva et al., 2017). These results can be further understood by reflecting upon employee expectations about TM program design and implementation. According to the

theory of individual differences (Chan and Drasgow, 2001), employee responses and behaviours towards organisational initiatives differ based on their psychological contracts (Rousseau, 1995). The employee responses are linked to individual constructs like personality, values, preferences and, resulting in varied employee responses to similar investments (Chan and Drasgow, 2001). Thus, findings from this study support the claim that TM programs are affected by individual and group differences (Korn, 2010) and highlight the importance of ensuing mutual benefits perspective by balancing individual and organisational goals while designing TM programs (Farndale et al., 2014).

The next contribution of this study was test of relationship between TM and JE, addressing the research gap identified by Coetzer et al. (2017). Results point to an irregular interaction effect between the two dimensions of TM (Self) and TM (Org) with the JE dimensions of fit, links and sacrifice. TM (Self) was significantly related to JE-fit and JE-sacrifice, while TM (Org) was highly correlated with JE-links, thereby confirming the role of TM practices in enhancing employee embeddedness, supporting arguments by Tian et al. (2014).

Lastly, while the study results support arguments by Collings and Mellahi (2009), (Cappelli and Keller, 2017) on the influence of TM practices on employee retention, the relationship was supported only for TM (Self), further extending the understanding between TM and employee retention. The positive association between TM (Self) and retention supports similar arguments by Bhatnagar (2007) and Christensen Hughes and Rog (2008). As discussed, the insignificant relationship between TM (Org) and intention to stay contradicts reported studies and provides additional insight on employee stay intention using the goal congruence framework (Farndale et al., 2014). According to the goal congruence framework, employees constantly assess alignment between personal and organisational goals – hence, effective TM programs need to offer goal congruence in their design and ensure proper communication to employees. The above empirical

findings extend TM relationships with JE and offer alternative explanations of employee attitudes and behaviours towards TM programs, thereby contributing to TM theory building.

#### **6.2.1.2 Job Embeddedness (JE) Theory**

The second core theory adopted in this thesis was JE based on three embeddedness dimensions – fit, links and sacrifice – addressing Jiang et al. (2012b) and Zhang et al. (2012) call for empirical study and independent assessment of the three embeddedness dimensions. Further, this study extends JE theory to the new national context of Singapore (Ferreira et al., 2017) and a particular industry context (knowledge-intensive firms).

The primary findings for the relationship between JE and employee retention contradict several studies, which reporting a positive relationship between the two variables (Cunningham et al., 2005, Mallol et al., 2007, Dawley and Andrews, 2012, Lang et al., 2016), since the relationships between all three JE dimensions and intention to stay were not found to be significant. These findings contradict the argument of JE as an aggregate, non-affective retention mechanism (Mitchell and Lee, 2001) and present different relationships between the three dimensions of JE and retention (Tanova and Holtom, 2008).

Amongst the three JE dimensions, JE-sacrifice is reported to have the strongest relationship with retention (Cunningham et al., 2005) and considered to be a major deterrent of employee turnover (Kiazad et al., 2015). However, in the current study, JE-sacrifice was not associated with employee retention, in both the quantitative and the qualitative analyses, indicating that JE-sacrifice may serve as a mechanism to delay attrition, not just as a retention tool. These insignificant relationships further validate the complex nature of JE and reaffirm that employee perception of JE is influenced by additional factors such as culture (Peltokorpi, 2013) and other organisational factors (Coetzer et al., 2017). These findings provide empirical evidence for Holtom et al. (2008) claim that perception of embeddedness and its role as a retention lever are

conceptually different in depending on the country and workforce characteristics (Holtom et al., 2008).

The next contribution of this study is based on the mediating role of JE. The results confirm TM and employee intention to stay are partially mediated by JE-fit, further extending the mediating role of JE beyond factors such as leader–member relationship and workplace outcomes (Harris et al., 2011), HRM practices and employee retention (Wheeler et al., 2010) and psychological contract and job performance (Sun et al., 2012). In addition, the study validates the significant relationship between JE-fit and human capital as argued by (Zhang et al., 2012). The result is consistent with past studies by Holtom et al. (2005) and Halbesleben and Wheeler (2008), which extended the relationship between JE and human capital. Lastly, the study recognises the differences in the manner in which people become enmeshed in an organisation (Mitchell, 2001) and the different interaction effects of the JE dimensions as a driver of retention programs (Halvorsen et al., 2015).

### **6.2.1.3 Human Capital Theory**

This thesis integrated core theories of TM and JE in an attempt to expand the boundaries of human capital theory. TM was found to enhance human capital, consistent with past studies by Cappelli (2008), (Collings and Mellahi, 2009), (Tarique and Schuler, 2010) and (Höglund, 2012). In addition, the findings support the role of JE-fit and human capital, thereby extending the human capital theory by testing a new antecedent. However, the findings did not support a positive relationship between human capital, job satisfaction and employee intention to stay. These findings are contrary to past outcomes reported by Bontis and Fitz-Enz (2002), Moshavi and Terborg (2002) and Benson et al. (2004). Hence, it can be inferred that human capital alone cannot guarantee employee satisfaction.

Past studies indicate that employee satisfaction is affected in the absence of positive emotional association (Zhang et al., 2012) or social capital at work (Hollenbeck and Jamieson, 2015). This study further extends the antecedents and consequences of human capital argued by Bontis and Fitz-Enz (2002).

Lastly, the study makes methodical contributions by testing the measure for the human capital construct. The quantitative study adopted a human capital measure based on ‘uniqueness and value’ by Lepak and Snell (2002), extended from the HR architecture framework (Lepak and Snell, 1999); the empirical analysis confirms the validity and reliability of the human capital measures (section 3.3.4). Thus, this study addresses Wright and McMahan (2011) call for research to develop and test human capital measures that integrate the concepts of human capital, human capability and organisational capability, thereby contributing to strategic human resource management (SHRM) literature.

#### **6.2.1.4 Knowledge-intensive Firms, Managerial Employees and High-potential Employees**

In addition to the three core theories mentioned above, this thesis explored three subtopics based on the research context: knowledge-intensive firms, managerial employees and high-potential employees.

Knowledge-intensive firms have seen consistent growth (Steel et al., 2002) over the past decade and are considered significant for Singapore’s sustainability and success (Chew and Ng, 2012). Knowledge-intensive firms are heavily reliant on human capital, resulting in a greater emphasis on addressing the challenges associated with employee retention (Kwon and Rupp, 2013).

Within knowledge-intensive firms, managerial employees have emerged as an important workforce group, acting as a ‘glue’ connecting top management and the rest of the organisation in achieving strategic objectives. By concentrating on managerial employees, this study addresses the gap in knowledge about the behaviour of this critical workgroup (Raes et al., 2011,

Ou et al., 2017), thus extending TM and retention research beyond the commonly reported studies on senior management.

The third key theme for this thesis was high-potential employees, known for their significant impact on firm performance (Cappelli and Keller, 2017), and the issues associated with their retention (Grossman, 2012). The turnover of high-potential employees is an important organisational issue (Festing and Schäfer, 2014, Krishnan and Scullion, 2017). This study contributes by integrating these three themes into a cogent study. The following section outlines the key managerial implications of this study.

### **6.2.2 Managerial Implications**

The findings of both the quantitative and the qualitative components of the study revealed important factors that can guide organisational practices to support employee retention. The study confirms the strategic role of TM in influencing employee retention and provides unique understandings about its interlinkages with JE and human capital. Based on the findings of the quantitative survey and qualitative analysis, key managerial implications are elaborated in the following section.

It is recommended that business and HR managers in knowledge-intensive firms adopt strategic TM programs to influence managerial employee retention. However, as discussed in earlier sections, the relationship between TM and retention is complex; hence, it is recommended that HR practitioners reflect on the strategic decisions within TM, including TM philosophy, while bearing in mind both the external factors (industry practices, government policies and employment trends) and internal factors (organisational resources and workforce characteristics). It is essential for decision-makers to evaluate the trade-offs of adopting specific TM strategies, especially for their high-potential employees (Jackson et al., 2014) to ensure optimal outcomes from TM programs.

Within TM, both the talent strategy and the communication strategy form the cornerstone policies that determine the effectiveness of TM programs. Based on the findings of this study, it is recommended that HR professionals adopt an exclusive talent strategy supported by an open communication policy to retain high-potential managerial employees in knowledge-intensive firms. The exclusive approach to TM caters to the psychological and social needs of the targeted employee group, who characteristically possess unique skills and capabilities that are in high demand in the employment market, while the open communication strategy minimises potential employee dissatisfaction due to lack of transparency (Meyers and van Woerkom, 2014).

The second recommendation of this study is to adopt HR programs that enhance employee embeddedness. This recommendation is based on study results reporting a positive relationship between TM (Self) and JE-fit and JE-sacrifice, while TM (Org) demonstrated a positive relationship with JE-links. HR practices that enhance embeddedness through fit, links and sacrifice dimensions offer two benefits. First, these HR practices cannot be readily substituted by tangible means, such as higher pay, and this shields the employees from attractive external job opportunities. In addition, these practices cannot be easily replicated by competitors, thus lowering the risk of employee turnover. To enhance employee perception of fit, TM programs that provide access to development opportunities – such as training, new projects or membership of special task forces – can be implemented. Employee workplace links and connections can be improved through internal job rotations, strategic projects and access to mentors. Organisations can also offer tangible benefits and rewards, such as career advancement opportunities linked to seniority and tenure, recognition of performance and potential, and membership to select organisational groups. Similarly, employee perception of intangible sacrifice can be increased by creating a positive work culture and environment, job stability, meritorious peer groups and employer branding.

However, while implementing HR programs that enhance embeddedness, it is important for HR professionals to bear in mind two associated challenges. The first challenge is that the degree of embeddedness is subjective and can vary across individuals based on personal preference, so the outcomes of the corporate initiative may not be uniform across all employees. The second challenge is related to the measurement of program effectiveness. These challenges can be addressed to a large extent by creating goal congruence between the organisation and its employees (Sonnenberg et al., 2014) and by greater individualisation of programs to meet individual needs.

The third implication for HR and business managers is the critical role of human capital in knowledge-intensive firms. It is essential to include strategic employee groups, such as managerial employees, in the definition of human capital (Raes et al., 2011, Ou et al., 2017). The study results indicate that TM and JE enhance human capital; hence, firms need to review these practices for their managerial employees. In addition, HR practitioners need to pay special attention to their employees who are identified as "high-potential", as their retention is a critical issue (Cappelli and Keller, 2017). The earlier recommendation of adopting TM programs with an exclusive approach and open communication is known to be valued by high-potential employees. Both the quantitative and qualitative results indicate that such a TM strategy results in higher intention to stay amongst high-potential employees compared with those not identified as high-potential.

The final implication of this study is the need for HR professionals to exercise caution in the implementation of TM programs and in enhancing employee embeddedness. HR practitioners must avoid the temptation to implement TM programs because they are popular or a 'management fashion' in the HRM field (Iles et al., 2010b). On the contrary, it is essential for HR practitioners to focus on their corporate strategy (Bethke-Langenegger et al., 2011) and their

talent strategy (Ashton and Morton, 2005) and to measure the effectiveness of TM programs (Stahl et al., 2012).

It is important for HR managers to constantly assess organisational climate and the employee–organisation relationship, as negative relationships are likely to increase opportunistic behaviour in employees (Kuvaas, 2008), resulting in employees overlooking the collective interest of their teams and organisations in favour of personal gains. Employee perception of organisational climate is essential in the context of organisational embeddedness, as a perception of being ‘stuck’ or embedded in an adverse work environment leads to negative outcomes for both employees and organisations (Allen et al., 2016). Another challenge associated with embeddedness is the difficulty in implementing JE as a concept, owing to its complex nature; scholars caution HR professionals to avoid treating JE as a panacea for employee retention (Marasi et al., 2016) and adopt JE dimensions based on a specific context. In summary, HR managers need to address employee retention at both strategic and tactical levels and proactively adopt emerging tools such as HR and talent analytics (Davenport et al., 2010).

### **6.3 Contributions of the Study**

This study aimed to contribute to theory building and extend the body of knowledge related to the core theories adopted in this thesis, and to make methodological and contextual contributions. The study adopted three core theories – TM, JE, and human capital – and their relationship with employee retention. The empirical study was conceptualised based on the core theories and conducted using appropriate statistical and analytical tools. The results indicate an acceptable level of fit to the data, thereby confirming its contributions. Based on the findings, the study claims to make new contributions to the field of employee retention, particularly to the retention of managerial employees in knowledge-intensive firms in Singapore. The main contributions of this study are summarised in Table 6.1 below.

The majority of existing TM studies are based on organisational perspectives of TM, with limited or no focus on individual employees' perspectives (Dries and Pepermans, 2007). Hence, an integrated TM construct based on both individual and organisational – TM (Self) and TM (Org), respectively – was developed and adopted. The statistical analysis confirms the validity and reliability of both constructs, thus making a unique contribution to understanding TM from an inclusive perspective. This study contributes to TM theory building by testing the relationships between TM and the newer constructs of JE and human capital, thereby addressing Oladapo's (2014) call for research by and extending TM theory beyond the traditional benefits of employee attraction and retention.

The next contribution of this study was addressing the research gap identified by Coetzer et al. (2017) through testing the relationship between TM and JE. The study results point to an irregular interaction effect between the two dimensions of TM (Self) and TM (Org) with the three JE dimensions of fit, links and sacrifice. While TM (Self) was significantly related to the JE-fit and JE-sacrifice dimensions, TM (Org) was highly correlated with JE-links, thus confirming the role of TM practices in enhancing employee embeddedness (Tian et al., 2014).

Further, the study results point to different interaction effects for the two TM constructs with JE, human capital, job satisfaction and employee intention to stay. Based on the analysis, TM (Self) was associated with more positive outcomes than TM (Org), indicating that organisational investment in employee development alone does not create positive mutual obligations (Cropanzano and Mitchell, 2005, Cook et al., 2013). In order to generate reciprocal employee behaviours (Khoreva et al., 2017), the TM program design needs to cater to employee expectations, based on their individual differences (Chan and Drasgow, 2001) and the psychological contracts (Rousseau, 1995). This view was also shared by the respondents of the

qualitative study, calling for more individualisation and customisation of TM programs so as to balance both the organisational goals and personal aspirations of employees.

This study provides empirical evidence of the impact of individual and group differences (Korn, 2010) on the outcomes of TM and the necessity of adopting a mutual benefits approach to balance individual and organisational goals (Farndale et al., 2014) in the design and implementation of TM programs. These results further extend our understanding of employee perception and behavioural outcomes of TM programs. The findings also highlight the linkages between TM theory and behavioural theories such as social exchange theory (Cook and Emerson, 1987, Cook et al., 2013) and goal congruence framework (Farndale et al., 2014), further extending the boundary conditions of TM theory.

This study made a methodological contribution through the adoption of a mixed method research design, compared with the largely descriptive approach adopted in TM research (Dries et al., 2012). Another distinctive point of this study is the selection of two relevant respondent groups for validation of the conceptual model. The respondents for the survey data were managerial employees, as the main aim of the study was to investigate relationships as perceived by individual employees, who are the direct recipients of TM programs. This is in contrast to most TM studies, which use HR professionals as the primary sources of data (Cooke et al., 2014). The respondents for the qualitative in-depth interview were HR and business managers who are the strategic actors in the design and implementation of TM programs (Makram et al., 2017). Thus, the synthesis of qualitative and quantitative data allowed the study to compare and contrast employees' perspectives with HR and business managers' perspectives, contributing to the development of a nuanced understanding of employee retention.

In conclusion, this study extended the understanding of employee retention through cogent research based on the relatively new theories of TM, JE and human capital in novel contexts of

country (Singapore), industry (knowledge-intensive firms) and workforce group (middle managers).

The second core theory, JE, was adopted for its ability to predict employee retention (Bergiel et al., 2009); (Burton et al., 2010, Purba et al., 2016), (Lang et al., 2016). However, the relationship between JE and stay intention was not found to be significant. The results indicate that JE cannot be universally considered an effective retention mechanism (Mitchell and Lee, 2001). JE has been reported as an effective anti-withdrawal mechanism (Lee et al., 2004) that buffers employee quit intentions (Burton et al., 2010); however, the results of this study indicate that employee decisions are complex and influenced by factors such as individual attitude and external job opportunities – over and above perception of embeddedness (Tanova and Holtom, 2008). Hence, it is essential to consider the interaction effect of JE dimensions while designing retention programs (Halvorsen et al., 2015). These findings further contribute to the conceptual development of JE and its interactional effect with the key variables.

Another strength of this study is the independent examination of the three JE dimensions – fit, links and sacrifice – as recommended by Jiang et al. (2012b) and Zhang et al. (2012). Amongst the JE dimensions, the results of both quantitative and qualitative data reflect that JE-sacrifice was not significantly associated with turnover, contradicting claims that sacrifice is the most significant deterrent of employee turnover (Cunningham et al., 2005), (Kiazad et al., 2015). The practical implication of this finding is that organisations need to expand their retention drivers beyond the traditional sacrifice measures, because of changing employment deals (Ramlall, 2004) and psychological deals based on talent identification (King, 2016). Further, JE-fit and its relationship with the two relatively new concepts of TM (Narayanan, 2016) and human capital (Zhang et al., 2012) were found to be significant. Thus, the assessment of the independent JE dimensions provides new empirical evidence, further extending the concepts of JE dimensions and their relationships with key employee outcomes.

The thesis also contributes in assessing the mediating role of JE by establishing the partial mediation effect of JE-fit on TM and employee intention to stay. This finding extends the mediating effect of JE beyond reported factors such as workload (Karatepe, 2013b), perceived conflict (Nosrati and Eslami, 2017), work–life balance (Thakur and Bhatnagar, 2017) and task characteristics (Ferreira et al., 2017).

Lastly, this mixed method study extended JE theory by making unique contextual contributions, including a novel national context (Singapore), as suggested by Ferreira et al. (2017). Further, the study explored JE in a distinctive industry (knowledge-intensive firms) and employee segment (high-potential managerial employees).

The final core theory in the framework was human capital theory, which is closely associated with knowledge-intensive firms (Ployhart and Moliterno, 2011, Irawati and Rutten, 2013, Suseno and Pinnington, 2017). One of the merits of this study is its empirical testing of human capital and employee outcomes, as recommended by Kryscynski and Ulrich (2015), through the integration of TM and JE theory. In addition, the study contributes by developing and testing the human capital measures based on a combination of human capability and organisational capability, as suggested by Wright and McMahan (2011). The human capital measures for this study were based on the value and uniqueness framework by Lepak and Snell (1999) and meet its reliability and validity criteria, further contributing to SHRM literature. In conclusion, this study makes several contributions in extending the generalisability of three core theories, as summarised in Table 6.1.

Table 6. 1 – Summary of Key Contributions

<b>Theoretical Contributions</b>	
<b>Core Theory</b>	<b>Comments</b>
<b>Talent Management (TM)</b>	TM theory building by testing relationship between TM, JE and human capital, extending the TM theory beyond traditional benefits of employee attraction and retention (Oladapo, 2014)
	Development and testing of an integrated TM construct based on combination of individual and organisational measures – TM (Self) and TM (Org) (Dries and Pepermans, 2007)

	Testing of relationship between TM and JE (Coetzer et al., 2017)
<b>Job Embeddedness (JE)</b>	Extension of JE theory by testing the relationship between JE and employee retention and explanation of contrary results
	Independent examination of three dimensions of embeddedness: fit, links and sacrifice, as recommended by Jiang et al. (2012b) and Zhang et al. (2012). The findings provide fresh insights about JE-fit and JE-sacrifice dimensions.
	Extending the mediating role of JE-fit with TM and employee intention to stay, consistent with studies by Holtom et al. (2005) and Halbesleben and Wheeler (2008)
<b>Human Capital</b>	Empirical evidence of relationship between human capital and employee outcomes through integration of TM and JE theory (Kryscynski and Ulrich, 2015)
<b>Contributions to Body of Knowledge</b>	
<b>Relationships</b>	<b>Comments</b>
<b>Employee retention</b>	Comprehensive framework for employee retention based on TM, JE, human capital and job satisfaction
	Impact of unique attributes such as employee status (high-potential) on employee perception of stay
<b>Methodological Contributions</b>	
Development and testing of TM measure based on individual and organisational – TM (Self) and TM (Org) – measures, addressing the research gap by Dries and Pepermans (2007).	
Development and testing of human capital measures based on a combination of human capability and organisational capability, suggested by Wright and McMahan (2011), using framework by Lepak and Snell (1999)	
Study based on mixed method research design with quantitative data from individual employees (Cooke et al., 2014) and qualitative data from HR and business managers	
<b>Contextual Contributions</b>	
Study of TM and employee retention in Singapore to extend the generalisability of TM and to expand the integrity and validity of the TM framework in different national and industry contexts covering a specific employee group (Gallardo-Gallardo and Thunnissen, 2016)	
Mixed method based research to extend JE theory to the novel national context (Ferreira et al., 2017) of Singapore and to explore the relationships in a different industry context (knowledge-intensive firms) and employee segment (high-potential managerial employees)	
Provide empirical evidence of firm-level HRM practices and their impact on middle managers' retention in Singapore (Krausert, 2014) by focusing on a specific employee group (Khoreva and van Zalk, 2016)	
Examine factors influencing high-potential employee retention (Festing and Schäfer, 2014, Krishnan and Scullion, 2017) by considering individual employees' viewpoints (Dries and Pepermans, 2007)	
Examine differences in perception and behavioural stay intention amongst employees designated as high-potential, compared with other employees (Gelens et al., 2015)	

## 6.4 Limitations of the Study

The aim of this study was to examine managerial employee retention – as with any research project, it has its limitations. This study attempted to examine select variables to assess the central phenomenon of employee retention. However, organisations tend to consider employee turnover data confidential due to the sensitivity associated with such data, and they are usually

not willing to participate in studies that require access to employee turnover data. Hence, it is necessary to bear in mind some important inherent limitations of this study and exercise caution while determining the extent of the generalisability of the study results. These are outlined below.

- The research design included only the organisational embeddedness dimension – excluding the off-the-job, or community, embeddedness dimension – as the primary focus of the study was practices that were within the scope of organisation. Past studies focusing on organisational practices report exclusion of community embeddedness (Besich, 2005, Ng and Feldman, 2009, Burton et al., 2010, Lev, 2012). Hence, the findings for community embeddedness need to be evaluated separately in future studies to determine the effect of overall embeddedness on employee retention.
- This study adopted intention to stay as a proxy for actual voluntary turnover (Tett and Meyer, 1993, Chew and Chan, 2008). In addition, a cross-sectional research design was adopted to address the challenges associated with a longitudinal study. A longitudinal approach is suitable for studies based on actual employee turnover data. However, such data is not freely available in the public domain, as most organisations deem it to be sensitive and confidential.
- The scope of the study was limited to a single country, Singapore, so as to ensure uniform context by reducing the diversity of responses and aiding data collection from representative respondents. The generalisability is also restricted, as participants represented managerial employees from select knowledge-intensive firms.
- The data was collected from individual managerial employees, and not from supervisors or HR departments; hence, it may not represent the complete picture of employee intention to stay. However, the perceptions of individual employees are essential in determining employee retention.

Notwithstanding these limitations, the research design led to a comprehensive understanding of factors determining managerial employee retention in knowledge-intensive firms in Singapore. The findings of the study provide guidance to HR professionals and business leaders to effectively manage employee retention through TM, JE and human capital management.

## **6.5 Future Research Directions**

The aim of this thesis was to examine employee retention via a comprehensive study, bringing together new constructs over and above those reported in extant studies. The study investigated the retention of managerial employees in knowledge-intensive firms in Singapore based on a mixed method research design. The synthesis of quantitative and qualitative data has provided several explanations of employee perception of intention to stay, as elaborated in the preceding sections, setting the groundwork for future research studies.

The findings confirm the interaction effect between the core theories of TM, JE and human capital theories on employee retention. However, some results indicated conflicting findings, most noticeably the relationship between TM (Org) and JE dimensions and intention to stay. Future studies can extend these theories and assess the relationships between these variables for other important employee outcomes, such as employee performance (Tian et al., 2016) and organisational citizenship behaviour (Holtom, 2016). In addition, future studies can assess these relationships based on alternate JE measures – for example, the global measure of JE by Crossley et al. (2007) – and compare the effect size of these relationships.

Second, this study developed the construct of TM (Self) and TM (Org) as two distinct measures to assess employee perceptions of TM. Future TM studies can adopt these to assess employee perceptions of TM and extend the understanding of the impact of individual differences on TM outcomes (Festing et al., 2013) and the influence of the mutual benefit perspective (Farndale et al., 2014) in the design and implementation of TM practices.

Third, the scope of this study was confined to managerial employees in knowledge-intensive firms, due to their critical role in determining organisational performance and sustainability. Knowledge-intensive firms continue to rely on their human capital as a differentiator (Eckardt et al., 2018). The SHRM and TM literature continues to stress workforce differentiation practices linked to criticality of human capital (Huselid and Becker, 2011). Hence, future research could identify other critical workforce groups that constitute a firm's human capital and validate the drivers for employee retention.

This study incorporated the views of individuals considered to be high-potential employees. Future studies can conduct comparative analysis using additional parameters for selection of employee groups – for example, gender, tenure and past performance – to further establish the impact of organisational initiatives on the retention of different employee groups. Several studies include an intention to stay as a proxy measure to assess employee retention, due to the challenges associated with adopting actual turnover measures. However, to further assess the relationship between stay intention and actual employee behaviours, future study designs could include actual employee turnover data using a longitudinal element to provide further support for causal relationships.

Finally, the phenomenon of high-potential managerial employee retention may be of significance in other country and industry contexts, and the results may vary based on factors such as nature of industry, talent demand and supply gaps, unemployment rates, maturity of HRM practices and cultural factors. Hence, future studies could assess the relevance of the conceptual model in a different country and industry context and further test the validity of these relationships.

## **6.6 Concluding Remarks**

This study was designed to address the central research question on employee retention and the role of TM, JE and human capital in enhancing employee stay intention. A comprehensive

model (Fig. 2.2) was developed and empirically tested based on a mixed method research design. The findings of the SEM analysis indicate adequate model fit and support for the majority of the hypothesised relationships. The synthesis of qualitative and quantitative data supported the findings of the survey data analysis. The mediating effect of JE-fit was consistent with the theoretical explanation, but the mediating effect of human capital was not supported. Thus, the model indicated a positive relationship between TM, JE, human capital and intention to stay. Contrary to the model specification, the three dimensions of JE – fit, links and sacrifice – did not present similar relationships with TM and employee intention to stay. Employee retention was related to JE-fit and JE-links, whereas the relationship for JE-sacrifice was not adequately supported.

The qualitative interview findings supplemented the quantitative results by presenting rich and nuanced interpretations of the main variables from information-rich respondents. The quantitative and qualitative findings largely converged and complemented one another, supporting the main research questions and relationship and establishing the significance of high-potential managerial employee retention in knowledge-intensive firms. However, the relationship between JE-sacrifice and intention to stay was not supported, challenging the dominant view of JE-sacrifice as a driver of employee retention to that of delaying employee quit decision.

Thus, the overall findings of the study further extended the core theories by testing these relationships in a new country context for a specific industry and workforce group. The thesis makes practical contributions by highlighting employee perception about TM programs. It provides guidance to HR professionals on a possible strategy for the design, implementation and communication of TM programs to enhance employee embeddedness and organisational human capital and thereby improve employee retention.

In concluding this thesis, it is appropriate to reflect that, notwithstanding the popularity and prevalence its core theories – TM (De Boeck et al., 2018), JE (Greene et al., 2018) and human capital (Boon et al., 2018) – scholars and practitioners admit that there is limited knowledge on the processes adopted by organisations that enable conception and actual implementation of TM programs to ensure strategic employee outcomes (Gallardo-Gallardo et al., 2017) for employees who are identified as talent and other employees (De Boeck et al., 2018). This study examined employee retention based on JE and human capital theories. Both these theories have the potential to provide an essential structure and framework for the design and implementation of TM programs, signifying the study's overall relevance and contribution.



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## **List of Annexures**

- Annexure 1 – University of Canberra (UC) Ethics Approval
- Annexure 2 – Quantitative Survey Instrument
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- Annexure 4 – Talent Management (TM) Extant Studies
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- Annexure 6 – Human Capital Extant Studies
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- Annexure 9 – Sample Qualitative Data Analysis
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## Annexure 1 – University of Canberra (UC) Ethics Approval



25 June 2013

**APPROVED - Project number 13-84**

Mrs Veena Jadhav  
Faculty of Business, Government & Law  
University of Canberra  
Canberra ACT 2601

Dear Veena,

The Human Research Ethics Committee has considered your application to conduct research with human subjects for the project **Job Embeddedness and retention of foreign managerial employees in Singapore**.

**Approval is granted until 1 January 2015, the anticipated completion date stated in the application.**

The following general conditions apply to your approval.

These requirements are determined by University policy and the *National Statement on Ethical Conduct in Human Research* (National Health and Medical Research Council, 2007).

<b>Monitoring:</b>	You, in conjunction with your supervisor, must assist the Committee to monitor the conduct of approved research by completing and promptly returning project review forms, which will be sent to you at the end of your project and, in the case of extended research, at least annually during the approval period.
<b>Discontinuation of research:</b>	You, in conjunction with your supervisor, must inform the Committee, giving reasons, if the research is not conducted or is discontinued before the expected date of completion.
<b>Extension of approval:</b>	If your project will not be complete by the expiry date stated above, you must apply in writing for extension of approval. Application should be made before current approval expires; should specify a new completion date; should include reasons for your request.
<b>Retention and storage of data:</b>	University policy states that all research data must be stored securely, on University premises, for a minimum of five years. You must ensure that all records are transferred to the University when the project is complete.
<b>Contact details and notification of changes:</b>	All email contact should use the UC email address. You should advise the Committee of any change of address during or soon after the approval period including, if appropriate, email address(es).

Please add the Contact Complaints form (attached) for distribution with your project.

Yours sincerely  
Human Research Ethics Committee

[www.canberra.edu.au](http://www.canberra.edu.au)

Postal Address:  
University of Canberra ACT 2601 Australia  
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Provider Number (CRICOS): 00213K

**Hendryk Flaegel**  
Ethics & Compliance Officer  
Research Services Office



## **Annexure 2 – Quantitative Survey Instrument**

**A questionnaire prepared for PhD Research Project**



**UNIVERSITY OF  
CANBERRA**  
AUSTRALIA'S CAPITAL UNIVERSITY

**Project Title - Impact of Job embeddedness and talent management on retention of managerial employees in knowledge-intensive firms in Singapore**

Study conducted by:

Veena Jadhav

PhD Fellow

**Your completion of this survey questionnaire is greatly appreciated.**

**All responses will be treated in strict confidence.**

If you have any questions about this research please contact through email:

\_\_\_\_\_

This research has been approved by the Committee for Ethics in Human Research of the University of Canberra. Any queries or concerns regarding the research can be directed to the Research and Compliance Officer at \_\_\_\_\_

Your participation in this study indicates your understanding of and consent to reply to the questionnaire.

# Impact of Job embeddedness and talent management on retention of managerial employees in knowledge-intensive firms in Singapore

## Project Aim

To aim of this research is to study the relationship between talent management programs, job embeddedness theory and employee retention for managerial employees in knowledge-intensive organizations in Singapore.

## General Outline of the Project

The Singaporean organizations are vying for the attraction and retention of talent to sustain their competitive advantage. This is also a key concern for knowledge-intensive industries and organizations, which employs a large majority of the total managerial workforce in Singapore. Organizations are trying to address the employee retention issue with various programs including talent management. This retention issue has been further complicated by the Global Financial crisis. This research aims to assess the effectiveness of job embeddedness and talent management in predicting employee retention in a Singaporean context.

## Who should answer the questionnaire?

The respondents for this survey will be individual employees who are working in Singapore in knowledge-intensive organizations in managerial positions. Knowledge-intensive organizations are business enterprises where knowledge is accepted as the most important input provided by employees.

## Survey administration

The complete survey is accessible via the online survey link. Your individual survey response will be included in the survey database and will be treated with strictest confidence and anonymity. Only aggregated results will be used in the study. Your participation is voluntary and request your participation for success of this research.

## Questions

The survey questions do not have any right or wrong answer and only require your opinion. Some of the questions may appear to be similar, but your response to all the questions will be useful in systematic research and drawing of valid conclusions. The scale item used for the question is:

1 – Strongly Disagree	2 – Disagree	3 – Neither disagree nor agree	4 – Agree	5 – Strongly agree
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## Confidentiality and use of data

All information collected from this research will be used for aggregate analysis without identifying individual or company name. This research has been approved by the Committee for Ethics in Human Research of the University of Canberra. Any queries or concerns regarding the research can be directed to the Supervisors –

Dr. Douglas Davies –

**Section A** – To what extent do you agree with the following statements? Please select the most appropriate number to reflect your judgement. The scale item indicates:

1 – Strongly Disagree	2 – Disagree	3 – Neither disagree nor agree	4 – Agree	5 – Strongly agree
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Question	Strongly disagree $\leftrightarrow$ Strongly agree				
	1	2	3	4	5
Q1. My job utilizes my skills well.					
Q2. I feel that I am a good match for this company.					
Q3. I like the members of my work group.					
Q4. I like my work environment.					
Q5. I fit in with this organization's culture.					
Q6. I like the authority I have at this company.					
Q6a. I like the responsibility I have at this company.					

Question	Strongly disagree $\leftrightarrow$ Strongly agree				
	1	2	3	4	5
Q7. I have strong connections with my colleagues who work with me.					
Q8. I get along well with my supervisor.					
Q8a. My co-workers are dependent on me for their work.					
Q9. I feel much attached to this organization.					
Q10. How many years have you been in your present position? (years / months)					
Q11. How long have you worked for THIS organization? (years / months)					
Q12. How long have you worked in the industry? (years)					
Q13. How many co-workers do you interact with on a weekly basis?					
a. In person, face-to-face (indicate number)					
b. Not in person, using technology or virtually (indicate number)					
Q14. How many co-workers are dependent on you for work?					
Q15. How many work teams (permanent work groups) are you a member of?					
Q16. How many committees (short term work groups) are you a member of?					

Question	Strongly disagree ← → Strongly agree				
	1	2	3	4	5
Q17. I have a lot of freedom on this job to decide how I do my job.					
Q18. I feel that people at work respect me a great deal.					
*Q19. I would incur very <u>few costs</u> if I left this organization.					
Q20. I would sacrifice a lot if I left this job.					
Q21. My promotional opportunities are excellent here.					
Q22. I am well compensated for my level of performance.					
Q23. The benefits are good on this job.					
Q24. I believe the prospects for continuing employment with this organization are excellent.					
Q25. I would sacrifice a lot if I left my job in this organization.					

Question	Strongly disagree ← → Strongly agree				
	1	2	3	4	5
Q26. Individuals in my organization have skills that would be very difficult to replace.					
Q27. Individuals in my organization are widely considered the best in our industry.					
Q28. Individuals in my organization are difficult to buy away from us for our competitors.					
Q29. Individuals in my organization are unique to our organization.					
Q30. Individuals in my organization have skills to develop products/ services that are considered the best in our industry.					
Q31. Individuals in my organization have skills that create customer value.					
Q32. Individuals in my organization have skills that are instrumental in creating innovations.					
Q33. My organization has a large proportion of employees who create customer value.					

Q34. Does your organization have a talent management program? Yes / No / Not aware
Q35. Is the talent management program a top priority for your organization? Yes / No / Not aware

Q36. Is the talent management program in your organization applicable to all the employees in your organization? Yes / No / Not aware

Q37. Are you part of the talent management program at your firm? Yes / No / Not aware

Question	Strongly disagree $\leftrightarrow$ Strongly agree				
	1	2	3	4	5
Q38. In my view, the Talent Management program in any organization –					
a. Creates a culture that makes employees want to stay with the organization.					
b. Enhances ability of employee to utilize their skills.					
c. Enhances employee ability to feel valued at work.					
d. Enhances connections with co-workers.					
e. Assists employee attaining their professional goals.					
f. Enhances employee skills for creating customer value.					
g. Creates employee skills unique to the organization.					
h. Increases the prospects for continuing employment within the organization.					
i. Is greatly valued by most employees.					
j. Is greatly valued by me.					

Question	Strongly disagree $\leftrightarrow$ Strongly agree				
	1	2	3	4	5
Q39. Please read through each statement carefully. Select the response that best describes you.					
1. Overall, I am satisfied with my current job.					
2. I am generally satisfied with the kind of work I do in my current job.					
3. Overall, I am satisfied with the roles and responsibilities of my current job.					

Question	Strongly disagree $\leftrightarrow$ Strongly agree				
	1	2	3	4	5
Q40. Intention to stay					

a. I will not prefer another more ideal job than the one I now work in.					
b. I have not thought seriously about changing organization since I began working here.					
c. I intend to stay in this organization longer.					
d. If I have my own way, I will be working for this organization three years from now.					

**Section B - Background Information –**

Please choose the answer that best describes you or your situation.

i. Gender	Male		Female	
ii. Age (in years)				
iii. Highest education level attained by you				
Undergraduate	Bachelor	Masters	Others (Please specify)	
iv. Total work experience (in years)				
v. Total work experience in managerial roles (in years)				
Viii. Are you identified as a ‘high potential’ employee in your organization?				
Yes / No / Not aware				
vi. When was the last time you changed your job? (Year and Month)				
vii. How long have you worked in Singapore? (years / months)				
viii. Your current Industry :				
ix. Your current Designation:				
x. Your current Department:				
xi. Has your employment been directly affected due to the Global Financial Crisis? Yes / No				
xii. Has your employment been directly affected by any of the previous economic downturns? Yes / No				

This is the end of the survey. Thank you for your participation. The results of this research will be available upon request.

**Annexure 3 – Qualitative Survey Instrument**  
A questionnaire prepared for PhD Research Project



**Project Title - Impact of Job embeddedness and talent management on retention of managerial employees in knowledge-intensive firms in Singapore**

Study conducted by:

Veena Jadhav

PhD Fellow

**Qualitative survey participation – who should respond?**

The respondents for this interview will be senior executives, department heads and consultants from the Human Resources profession in Singapore, who have experience in managing the HR function and have expertise in issues related to attraction, motivation, development and retention of managerial employees in knowledge-intensive organizations.

**Response coding:**

Code Number	
Name of the Company	
Designation	
Date of Interview	

If you have any questions about this research please contact through email:

\_\_\_\_\_

This research has been approved by the Committee for Ethics in Human Research of the University of Canberra. Any queries or concerns regarding the research can be directed to the Research and Compliance Officer at [H](#) \_\_\_\_\_

Your participation in this study indicates your understanding and consent.

## **Project Aim**

The aim of this research is to study the relationship between talent management programs, job embeddedness and retention for managerial employees in knowledge-intensive organizations in Singapore.

## **Benefits of the Project**

The information gained from the empirical research will be used to further refine the Job Embeddedness and talent management theories. This will guide HR practitioners in designing effective employee retention programs and provide insights to policy makers in Singapore regarding attraction and retention of managerial professionals in knowledge-intensive firms in Singapore.

## **General Outline of the Project**

The Singaporean organizations are vying for the attraction and retention of talent to sustain their competitive advantage. This is also a key concern for knowledge-intensive industries and organizations, which employs a large majority of the total managerial workforce in Singapore. Organizations are trying to address the employee retention issue with various programs including talent management. This retention issue has been further complicated by the Global Financial crisis. This research aims to assess the effectiveness of job embeddedness and talent management in predicting employee retention in a Singaporean context.

## **Survey participation – who should respond?**

The respondents for this interview will be senior executives, department heads and consultants from the Human Resources profession in services industries in Singapore, who have experience in managing the HR function for expatriate employees.

Dear Sir / Madam,

You have been invited to participate in this research which aims to study the relationship between talent management programs, job embeddedness theory and employee retention for managerial employees in knowledge-intensive organizations in Singapore. Knowledge-intensive organizations are business enterprises where knowledge is accepted as the most important input provided by employees.

The information gained from this empirical research will be used to further refine the Job Embeddedness and talent management theories and guide HR practitioners in designing effective employee retention programs and provide insights to policy makers in Singapore regarding attraction and retention of managerial professionals in Singapore.

In line with this, I am seeking information through this interview. The interview will take approximately one hour of your time and will be conducted at a time and place of your choosing.

The data collected from this interview will be treated in the strictest confidence and will be only used for the research anonymously, after your verification of the interview transcript.

This research has been approved by the Committee for Ethics in Human Research of the University of Canberra. Any queries or concerns regarding the research can be directed to the Research and Compliance Officer at

Thank you for your valuable co-operation in this research project,

Yours sincerely,

Veena Jadhav

Research candidate – PhD Fellow

Faculty of Business, Government & Law,

University of Canberra, Australia

Phone –

Email –

## Qualitative Interview Protocol

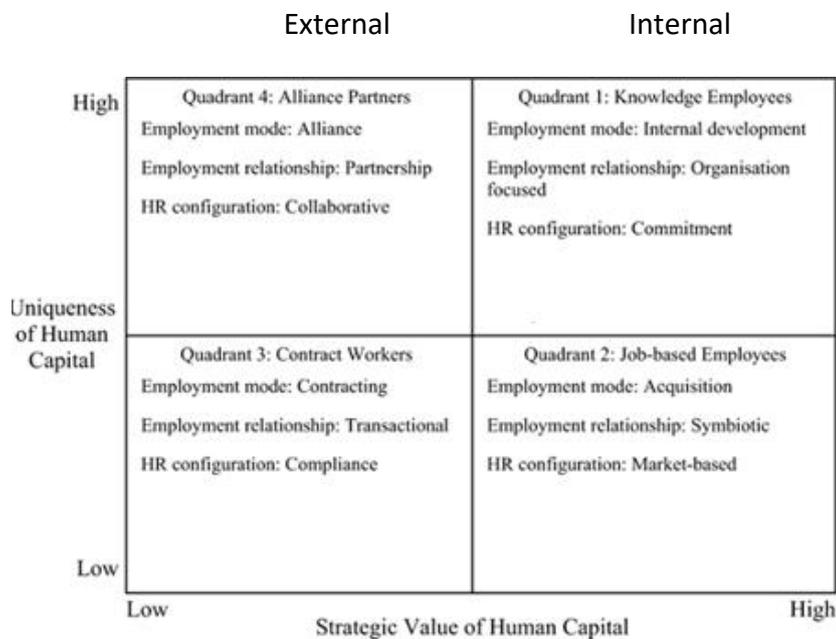
Q1. Please share the following details about yourself:

- a. Designation –
- b. Main role and responsibility
- c. Total experience in HR function (in years)
- d. Total experience with the current organization (in years)

Q2. Please share the following details about your organization:

- a. Industry sector –
- b. Total number of employees in your organization
- c. Total number of employees in your Singapore office
- d. Does your firm employ managerial talent in Singapore? Yes / No, if yes indicate the number.

Q3. Human Capital Composition of your firm - Please indicate your firm's human capital composition using the *uniqueness* and *value* framework illustrated below.



Source - LEPAK, D. P. & SNELL, S. A. 2002. Examining the Human Resource Architecture: The Relationships Among Human Capital, Employment, and Human Resource Configurations. *Journal of Management* 28, 517 - 543.

Q3a. What proportion of your total managerial employees can be categorized in Quadrant 1?

Q4. In your view, what are some of the major reasons for managerial employees to choose to leave an organization in knowledge-intensive firms in Singapore?

Q5. Is your organization facing the challenge of retaining managerial employees in Singapore? Please elaborate the extent and nature of challenges faced by your organization.

Q6. What are the practices adopted by your organization to retain managerial employees? What is the effectiveness of each of the retention practices you have identified?

Q7. How does your organization enhance employee 'embeddedness' within your organization?

Q7a. Are there HR practices that enhance employees 'fit' within the organization ("Fit" is an employee's perceived compatibility or comfort with an organization and with his or her environment")

Q7b. Are there HR practices that enhance employees 'links' within the organization ("Links" are "formal or informal connections between a person and institutions or other people")

Q7c. Are there HR practices that enhance employee 'sacrifice' within the organization ("Sacrifice" is the perceived emotional or fiscal loss from leaving a job).

- Are there policies that are likely to result in financial or non- financial sacrifice for employees when they leave your organization? Please share the details.

Q8. Does your organization have a formal talent management program? If yes, what are the objectives of the program? Note: Talent Management programs are practices adopted by firms to attract, develop, motivate and retain key employees.

Q9. Please describe the key features of the talent management program and share details.

- a. Are any of these especially targeted at managerial employees?
- b. Are any of these especially targeted at employees in quadrant 1 of the HR Architecture?

Q10. What are the parameters used by you to assess the effectiveness of your talent management program?

- a. How do you assess the effectiveness of your talent management program in retaining managerial employee? 5=Very high, 4=High, 3=Medium, 2=low, 1=very low, No formal assessment.

Q11. Are there any challenges faced by your organization in implementing employee retention practices targeted at managerial employees? Please describe the challenges and how your firm addresses these challenges?

Q12. How has the Global Financial Crisis impacted the retention of managerial employees in Singapore?

Q13. In your view, what are the major changes in employee retention and talent management practices post GFC that are likely to influence organizational policies and programs?

Q14. Please share any other comments or observations that you think is relevant for this research study.

Thank you.



### Annexure 4 – Talent Management (TM) Extant Studies

S. No.	Title	Res. Methodology	Sample size	Respondents	Country / Industry	Variables	Comments / Relevance / Future Scope
1	Bhatnagar, J., 2007	Mixed method longitudinal, survey, focus group interviews and exit interview data	Phase 1 - 272 Phase 2 - Qualitative analysis of exit interviews	BPO Employees	India – BPO – ITES	Employee attrition and engagement organizational culture, career planning, incentives and organizational support.	Attrition linked to organizational culture, career planning Impact of tenure on attrition – after 12 to 16 months Retention factors – quality of work, career growth, peer or relationships (links) Testing of employee engagement scale
2	Kuvaas, B., 2008	Survey - cross-sectional study	593 employees	Bank Employees	Norway – Bank	Turnover intention, employee-organisation relationship, developmental HR practices, work performance	Strong and direct negative relationship between developmental HR practices and Turnover intention Employee – organisational relationship mediates work performance Employee relationship with organisation determines the impact of developmental HR practices
3	Grobler, P.A. & Diedericks, H., 2009	Survey	14 employees	Hotel employees	South Africa – Hotel	HRM activities, TM, staffing, training and development, employee retention, communication, colure, policy and procedures	TM practices higher adoption rate Adoption of SHRM TM survey
4	Piansoongnern, O., & Anurit, P. 2010	Mixed method, cross-sectional, quantitative and qualitative study	Survey - 400 Interviews - 40	HR Professionals	Thailand – Across industries	HR practices, TM	TM is still a new and challenging HR issue in which the succession planning was recognised and utilised as the foundation of TM in both public and private organizations
5	Iles, P. Chuai , X. & Preece, D., 2010	Qualitative interviews, content analysis	Interviews	Managers from 7 different firms	China – Beijing – MNC	Themes – definition of TM and difference between TM and HRM	Three different perspectives are feasible with TM and firms need to adopt based on their business strategy
6	Tymon, W.G., Stumpf, S.A. & Doh, J.P., 2010	Survey research	4811 employees in 28 firms	Professional employees	India	Employee retention and satisfaction – four antecedents of intrinsic rewards: the social responsibility of the employer, pride in the organization, manager support, and performance management	Intrinsic rewards mediate the relationship between TM and retention TM practices influence employee satisfaction, even in challenging labour market environment
7	Bethke-Langenegger, P., Mahler, P. & Staffelbach, B., 2011	Survey – cross-sectional study	138 firms with TM programs	HR Professionals	Switzerland.	TM strategy, firm performance, HR outcomes – job satisfaction, performance motivation, commitment, work quality and qualification and trust	Promising association between TM strategy and outcomes, but cause and effect needs to be ascertained Need for future studies at workforce level Being part of a privileged group and getting attention and appreciation has a positive effect

8	Vaiman, V. & Holden, N., 2011	Qualitative interviews	3	HR Managers	Central Easter Europe	Identification of talent, expatriation issues, language competence, TM learning context, perceptions of foreign firms as employers	Culture and institutional characteristics influences TM Dark side of TM practices
9	Dries, N., Van Acker, F., & Verbruggen, M. 2012	Survey - case control method (only selected employees and control group)	941	High-potential employees and Average performers within the firm	Belgium – 12 firms across different sectors	Employer inducement – job security, organizational support, promotions, salary increases Employee attitudes – loyalty preference, organisational commitment, talent category, performance rating, career orientation, career satisfaction	Impact of TM on high-potential employees Employees identified as high-potential reported higher job security and salary increase but the loyalty preference did not differ from other groups Employee satisfaction is not assured only by high-potential status
10	Höglund, M. 2012	Quantitative, web-based survey, SEM	126	B-School alumni (Business professionals)	Finland	Skill enhancing HRM practices, talent inducements, obligations to develop skills and human capital	TM framework, HR practices and human capital Skill enhancing HRM has a direct positive relationship with human capital Mediating effect of talent inducement on HRM practices and human capital HC scale – two measures – widely considered as best and seen as experts TM as a specific dimension of HRM focusing on accrual of human capital
11	Stahl, G., Björkman, I., Farndale, E., Morris, S.S., Paauwe, J. & Stiles, P., 2012	Case study using Semi-structures interviews  Survey - web-based	33 MNC across 11 countries 263 responses	HR Managers and Business managers Survey - Employees	Multi-country	TM practices – staffing, T&D, appraisal, rewards, employee relations, leadership & succession HR delivery mechanism	Adoption of core guiding principles more effective as compared to best practices
12	Majeed, A., 2013	Secondary	100 firms	N.A.	Pakistan	BPR, talent pool, organization performance	TM mediates relationship between business process reengineering, talent pool development and organization performance ( $\Delta R^2 = 45\%$ , $\beta = 45\%$ , $P = 1\%$ ). Talent pool has positive, significant impact ( $p = 0\%$ , $\beta = 63\%$ , $R^2 = 40\%$ ) on TM.
13	Deepa, E., & Kuppusamy, S. 2013	Survey	200	Employees	India – Retail	Promotion, teamwork, talent review, top management support, incentives, creativity and encouragement	The employee satisfaction with TM is mixed in retail industry. Need for communication about TM practices to employees
14	Powell, M. et al., 2013	Mixed method Qualitative - focus group and interviews Quantitative - survey of employees	Survey - 556	TM managers Quantitative survey - NHS staff	UK – Healthcare	TM, process evaluation, exclusive talent strategy, employee satisfaction	Lack of clear evidence on ‘what works’ in TM, suggest an urgent need for robust evidence and summative evaluation of TM

15	Sparrow, P., Fardale, E., & Scullion, H., 2013	Case study, 2 organizations, qualitative interviews	26 interviews	HR function at Corporate, Country and Business level and international assignees	UK and USA – Banking and Professional services firm	Champion of processes role Guardian of culture role Manager of internal receptivity role Network intelligence and leadership role Impact of business model – centralization vs. decentralization	TM needs further empirical research conducted in a wider range of industrial settings and in firms based in a wider range of countries Dynamic relationship between business models and talent strategies are required The four CHR roles
16	De Vos, A., & Dries, N., 2013	Survey	306	HR Directors	Belgium	Human capital cluster, organisational outcomes, organisational accountability for career management, preference for inter-organisation mobility, no. of formalised career management practices, importance attached to continuity (retention)	Mediating role of human capital between continuity (retention) and career management practices HRA framework – uniqueness and value
17	Gelens, J. et al., 2014	Survey – SPSS	203	High-potential employees and matching population of non-high-potential employees	Belgium	High-potential employee identification, job satisfaction and work efforts, TM	Impact of exclusive practices on employee perception and attitudes High potentials and non-high potentials responded differently to workforce differentiation practices, and that these reactions were affected by the way people perceived them.
18	Chitsaz-isfahani, A., 2014	Survey, SEM	280	University staff	Iran	TM, organizational trust, employee retention, organisational trust is positive, succession planning, job experience, training, coaching, mentoring, career management	Support for hypothesised relationship between TM and employee retention, organisational trust, succession planning, succession planning, job experience, training, coaching, mentoring, career management
19	Fardale, E., Pai, A., Sparrow, P., & Scullion, H., 2014	Qualitative	N.A.	MNC employees	–	TM, individual and organisational goals, mutual benefits	Need to balance individual and organisational goals TM practices to balance mutual benefit of both parties Impact of psychological contract theory
20	Salih, A.A., 2014	Survey	350	Employees from three firms	Jordan – IT Industry	TM and reputation management	The TM dimensions – discover, inspire and transform - are significantly correlated and have a linear relationship TM and reputation management are significantly correlated and have a linear relationship

21	Cooke, F. L., Saini, D. S., & Wang, J., 2014	Qualitative survey	178 (110 Indian / 78 Chinese)	Non-HR Managers	China – India	Definition of talent, TM, challenges in implementing, TM schemes	TM issues are heavily influenced by institutional, cultural, industrial, organisational, and individual factors at different levels
22	Kontoghiorghes, C., 2015	Survey, SEM	Not specified	Employees	Two countries	Commitment, culture, motivation, satisfaction, TM, mediating effect assessment	Talent attraction and retention were predicted by high-performance organisational culture Talent attraction and retention linked to organizational factors including culture, creativity, open communications, effective knowledge management, and the core values of respect and integrity.
23	Barkhuizen, N., Diseko, E. and Schutte, N., 2015	Survey, SPSS	299	Teachers	Botswana – Education	TM, workforce planning, performance, talent commitment, retention	Application of TM practices in countries in African region, need for empirical research
24	Luna–Arocas, R. and Morley, M.J., 2015	Survey	198	Employees - public and private sector	N.A.	TM, talent mind-set competency, job satisfaction and job performance	Comprehensive institutional system of talent affects employee satisfaction and job performance
25	Ingram, T. and Glod, W., 2016	Qualitative	5 semi-structured interviews	Managers	Poland – Healthcare	TM, definitions, HRM practices, employee outcome	Specific TM practices suitable for health care industry Need to further develop concepts and definitions in TM
26	Khoreva, V., Vaiman, V., & Van Zalk, M. 2017	Survey / SEM	439	High-potential employees	Finland – MNC	TM, gender, employee attitudes, employee development, HRM, employee participation, psychological contracts	High-potential employees perceive TM practices to be effective Positive perception leads to commitment to leadership development by means of psychological contract fulfilment Reciprocation of organisational investment
27	Glaister, A. J., Karacay, G., Demirbag, M., & Tatoglu, E., 2018	Survey	198	Employees	Emerging market	HRM practices, TM (TM), firm performance, HRM/business strategy alignment	TM practices that enhances workforce networks and social capital TM mediates HRM practices and firm performance
28	De Boeck, G., Meyers, M. C., & Dries, N., 2018	Non-empirical literature	N.A.	N.A.		TM, employee outcomes, talent pool differentiation	Positive reactions to TM for affective, cognitive, and behavioural employee outcomes for employees identified as talent Also, evidence for negative affective reactions in employees identified as talents

### Annexure 5 – Job Embeddedness (JE) Extant Studies

S. No.	Author	Res. Methodology	Sample Size	Respondents	Country / Industry	Variables	Comments / Key findings / Future Scope
1	Sender, A., Rutishauser, L., & Staffebach, B., 2018	Survey	Two independent samples - 373 (China) & 268 (Switzerland)	Employees	China / Switzerland	On-the-job embeddedness, off-the-job embeddedness, turnover, job offer	Additive and buffering effect of JE On-the-job embeddedness reduced turnover intentions Different results in different country context
2	Hussain, T., & Deery, S., 2018		204	Self-initiated expatriate employees	UAE / Health care	On-the-job embeddedness, off-the-job embeddedness, shocks, turnover intention	Both on-the-job embeddedness and shocks predict turnover intentions. Off-the-job embeddedness moderated the relationship between shock and turnover intentions such that self-initiated expatriates were more likely to consider leaving their organisations when they were firmly embedded in their community.
3	Ferreira, I., Martinez, L.F., Lamelas, J.P., Rodrigues, R.I., 2017	Survey Multilevel analysis – Individual and hotel	525	Hotel employees	Portugal / Hotel	Job satisfaction, job characteristics, JE and turnover intentions.	Individual-level and the hotel-level of analysis Job satisfaction and JE fully mediated the relationship between different task characteristics (significance and identity) and turnover intentions Training and career development can increase perceived sacrifice
4	Coetzer, A., Inma, C., Poisat, P., 2017	Survey	549	Employees	South Africa / Mixed industries	JE, fit, links, sacrifice, work group cohesion, turnover intention	JE predicted turnover intentions in large organisations, but not in small organisations JE-Sacrifice perception stronger in smaller organisation as compared to larger firms Work group cohesion moderates the JE-turnover intentions relationship
5	Allen, D.G., Peltokorpi, V. & Rubenstein, A.L., 2016	Survey, SEM	Two independent samples - 597 (Japan) & 283 (USA)	Employees	USA and Japan	Abusive supervisor, organisational embeddedness, job insecurity, voluntary turnover	JE moderates impact of adverse work condition on turnover Embeddedness can encourage employee behaviours that favour organisation even in adverse conditions Abusive supervision was more positively associated with emotional exhaustion for those higher in JE
6	Lang, J., Kern, M. & Zapf, D., 2016	Longitudinal study, SEM, composite scale for JE	192	Employees	Germany	Proactivity, career satisfaction, JE, alternative job opportunities, voluntary turnover	Proactive but not career satisfied and embedded employees have higher turnover risk High levels of JE and in particular attractive career opportunities within the present organisation make staying more attractive for employees who are successful in their career Employees with higher embeddedness had a lower probability of receiving alternative job opportunities
7	Heritage, B., Gilbert, J.M. & Roberts, L.D., 2016	Survey	246	Academic Staff and Professional Staff	Australia / University employees	Turnover intention, role ambiguity, role conflict, job satisfaction, burnout, global JE	JE – comparison of two scales JE – criterion and incremental predictive validity for turnover While JE is one of the significant determinant of turnover, it does not replace other established predictors such as job satisfaction, burnout, perceived alternatives

8	Marasi, S., Cox, S.S. & Bennett, R.J., 2016	Survey, SEM, JE Global measure	353	Nurses	USA / Healthcare	Job tenure hours worked, age workplace deviance, organisational trust, JE	Lower trust and high embeddedness associated with workplace deviance as compared to high trust and low embeddedness Negative impact of retention efforts for employees lacking organisational trust may negatively impact employees JE Negative implication of embeddedness / being stuck
9	Ghosh, D. & Gurunathan, L., 2015	Survey	501	Manager	India / Financial services	HR practices, commitment-based HR practices, on-the-job embeddedness, intention to quit	Commitment-based HR practices (CBHRP) actively embed employees On-the-job embeddedness is negatively related to turnover intentions and mediates relationships between CBHRP and employees' intention to quit
10	Purba, D.E. et al., 2016	Survey, SEM (PLS)	471	Employees	Indonesia / Restaurant	Cognitive trust, affective trust, trust in supervisor, on-the-job embeddedness, turnover intention, voluntary turnover	JE mediated the relationship between trust in supervisor and turnover intentions Turnover intentions were positively correlated with actual voluntary turnover 15 months later Trustworthiness of supervisors affects the quality of the relationships between supervisors and employees Age was positively related to the links dimension of on-the-job embeddedness and off-the-job embeddedness Gender was positively related to trust in supervisor Full mediation by on-the-job embeddedness on trust in supervisor and turnover intention
11	Robinson, R.N.S et al., 2014	Survey, SEM, JE using reflective measure	327	Front line employees	Australia / Hotel	On-the-job embeddedness, off-the-job embeddedness, organisational commitment, intention to leave	JE scale – factor structure of the JE scale Embeddedness dimensions of organisational sacrifice and community links displayed a positive relationship with organisational commitment JE – organisational sacrifice was negatively linked to intentions to leave, while a positive relationship was found between community links and intentions to leave Opportunity for hotel organisations to increase the JE of their employees by increasing the perceived costs of leaving
12	Oyler, J.D., 2014	Meta-analysis + Survey	542	Part-time MBA students / Employees in Fin services	USA / Multigroup	On-job-embeddedness- fit, links, sacrifice off-the-JE - fit, links, sacrifice	Meta-analysis – individual dimensions of JE had differential relationships with job alternatives, JSB, intent to leave, and voluntary turnover Construct validity of the JE and suggests that both job satisfaction and the individual dimensions of organisational embeddedness should continue to be included in efforts to understand employee retention and turnover Issues with organisational and community links dimensions
13	Ryan, S. & Harden, G., 2014	Survey	800	Govt. Agency employees	USA / IT Industry	On-job-embeddedness - fit, links, sacrifice, gender	Organisational embeddedness is significantly different for males and females JE dimensions – individual differences based in gender
14	Cheng, C., 2014	Survey, longitudinal study	327	Sales staff	Life insurance	JE, sales training, sales performance, turnover	Sales training is partially associated with sales outcomes JE is positively related to sales performance and negatively related to turnover Predicting consequences for newcomers with below-mid-level sales, suggesting that JE effectively improves the sales of poor performers

15	Stumpf, S.A. 2014	Longitudinal study	388	Part-time MBA students	USA / Mixed industries	JE, objective career success, job mobility, subjective career success	Objective career success has positive influence on current JE on subjective career success, and a negative influence for past promotions, JE, and subjective career success on mobility one year later as people began to 'settle in' Objective career success contributes to embeddedness, yet those that move more often tend to keep doing so There were no differences or interaction effects based on gender or years of work experience
16	Murphy, W.M., Burton, J.P., Henagan, S.C. & Briscoe, J.P., 2013	Longitudinal / Survey	115	Employees	N.A.	Job insecurity, JE, intention to remain and job search behaviour.	Role of JE as a mediator between job insecurity and the withdrawal outcomes of intention to remain and job search behaviour JE fully mediated the relationship between perceptions of job insecurity and intention to remain and partially mediated job insecurity's relationship with job search behaviour
17	Peltokorpi, V., 201.	Qualitative – interviews	110	Employees, managers, executive search consultants	Japan	On-the-job embeddedness, voluntary turnover, cultural factors, institutional factors	Validation of JE theory in a non-US context (Japan) JE as a predictor for embeddedness On-the-job links and sacrifice were important
18	Karatepe, O.M., 2013	Survey, SEM - LISREL	143	Frontline employees	Nigeria / Hospitality	JE, perceived ethical climate, performance outcomes, extra-role customer service	JE as a mediator between ethical climate and job performance Higher embeddedness and positive perception of ethical climate results in higher performance
19	Ferreira, N. & Coetzee, M., 2013	Survey	355	HR professionals	South Africa / Services industries	Career adaptability, hardiness, JE, psychological career resources, psychosocial career meta-competencies, retention	Psychosocial career meta-competencies (self/other skills, career directedness, concern, control and confidence) significantly contributed to the participants' sense of job-embedded fit Perceptions of high compatibility between one' values, career goals and plans for the future with the larger corporate culture lead to higher JE, especially person–job-embedded fit A strong fit may have a positive effect on the retention
20	Karatepe, O.M., & Ngeche, R.N., 2012	Survey – time lag data collection	212 individual employees and 212 supervisor responses	Frontline employees and their supervisors	Cameroon / Hospitality	JE, job outcomes, work engagement	JE partially mediates the impact of work engagement on turnover intentions and job performance Confirmation of social exchange theory – job resources enhance employee stay intention
21	Lo, K.I.H., Wong, I.A., Yam, C.R., & Whitfield, R., 2012	Survey, SEM	337	Self-initiated expatriate (SE) employees	Macau / Hospitality	Home country community embeddedness (HomeCCE), host country community embeddedness (HostCCE), host country organisational embeddedness, JE, self-initiated expatriates	Host country – organisational embeddedness mediates SEs' HomeCCE and turnover intention and willingness to accept unsolicited job offers Negative interaction effect of HostCCE and HostCOE on willingness to accept an unsolicited job Different JE dimensions (HomeCCE, HostCOE and HostCCE) have various roles and can be seen as separate constructs which have different impacts on SEs' work attitudes and turnover decisions

22	Greene, J.V., 2012	Survey		Employees		JE, exchange relationships, individual attributes	Variance in individual attributes and impact on embeddedness Impact of exchange relationship on negative impact of JE Adverse consequences of negative embeddedness
23	Dawley, D.D. & Andrews, M.C., 2012	Survey	291 employees, 174 supervisors	Employees and their supervisors	USA / Manufacturing	Employees – organisational commitment, conscientiousness, negative affectivity, social exchange, economic exchange relationships, distributive fairness, supervisors' ratings of subordinates' task performance, contextual performance, counterproductive behaviour	Negative performance effect of JE Counterproductive behaviours due to JE Overlap between JE and Org commitment impact of connections in the notion of being stuck Emotion, attributions, and interpretation may influence embeddedness to produce adverse consequences for organisations
24	Smith, D.R., Holtom, B.C., & Mitchell, T.R., 2011	Survey	1839	Employees	USA / Air force	Job alternatives, JE, job satisfaction, organisational commitment, re-enlistment, retirement, turnover	Relationship between continuance commitment and organisational embeddedness Community embeddedness positively related to voluntary turnover
25	Crossley, C.D., Bennett, R.J., Jex, S.M., & Burnfield, J.L., 2011	Longitudinal study, Survey	318	Employees	USA / Healthcare	JE, turnover, intention to quit, job search	Development and testing of global measure for JE. JE predicted voluntary turnover beyond job attitudes and core variables from traditional models of turnover JE interacted with job satisfaction to predict voluntary turnover
26	Felps, W. et al., 2009	Qualitative – Focus group Quantitative – Survey	Site 1 - n = 8663 Site 2 - n = 234	Employees	USA / Recreational club and retail bank	JE – on-the-job and community, co-worker JE, co-worker job search behaviour, turnover intention	Co-workers' JE and job search behaviours explain variance in individual 'voluntary turnover' Individual-level factors influence turnover decisions
27	Halbesleben, J.R.B. & Wheeler, A.R., 2008	Survey, SEM, longitudinal study	Time 1 - 606, Time 2 - 573	Employees	USA / Across industries	Work engagement, JE, performance, turnover, intention to leave, decision to perform, decision to participate	On the JE shared unique variance with turnover intention Work engagement and embeddedness as two unique constructs Work engagement and embeddedness each shared unique variance with in-role performance and intention to leave

28	Tanova, C. & Holtom, B.C., 2008	Survey		Employees	Europe	Voluntary turnover, gender, age, income, higher education, relevant unemployment rate, job satisfaction, job search behaviour, absenteeism and embeddedness	Ease of movement and desirability of movement are important predictors of turnover, receives support JE explains a significant amount of variance above and beyond the role of demographic and traditional variables Turnover decision is linked to individual's attitudes towards work, actual opportunities in the labour market and also JE
29	Clinton, M., Knight, T. & Guest, D.E., 2007	Survey	21,574	Servicemen	UK / Armed forces	JE – organisational, job satisfaction, employability, intention to quit	Development of new JE measure – adequate psychometric properties, discriminant validity and convergent validity Limitation of global measure – reflective 7-item scale JEon (beta=-0.19; p<0.001) explained significant unique variance in intention to quit above and beyond commitment (beta=-0.14; p<0.001), job satisfaction (beta=-0.39; p<0.001) and employability (beta=-0.19; p<0.001)
30	Crossley, C.D. et al., 2007	Survey, longitudinal study, LISREL 8.5	306	Employees	USA	JE – composite and global, job satisfaction, job alternatives, intention to quit, turnover	Global measure of JE Staying is not obverse of leaving – that is an employee may continue with an organisation in order to maintain status quo - people become enmeshed / stuck in their jobs due to organisational and community forces Potential downside of JE -unfavourable job condition may lose motivation, result in counterproductive behaviour
31	Mallol, C.M., Holtom, B.C. & Lee, T.W., 2007	Survey	Bank 1= 189 Bank 2= 233	Individual employees	USA / Banks	Turnover, job satisfaction, organisational commitment, JE	JE – predictor of turnover, but also as a guide to managers on retention policies JE – on-the-job embeddedness predicts turnover, JE-community did not predict
32	Allen, D.G., 2006	Survey	222	Newcomer employees	USA / Financial Service Organisation	On-the-job, off-the-job, socialisation, turnover, retention	First study examining antecedents of Mitchell et al.'s (2001) JE construct Consider on-the-job and off-the-job embeddedness separately On-the-job embeddedness was negatively related to turnover Field theory – JE theory attempts to locate individuals within a network of forces Socialisation tactics enable organisations to embed new employees for the purpose of managing turnover
33	Holtom, B.C. & Inderrieden, E.J., 2006	Survey, longitudinal design	1898	GMAT Students	USA	Voluntary turnover, job satisfaction, JE, work attitude, employee loyalty	Increasing JE is likely to increase retention, attendance, citizenship and job performance Unfolding model – shocks and their role in quit decision Single most frequent shock experienced across professions is the unsolicited job offer People with high fit (either organisation, community, or both) receive an unsolicited job offer, there is a lower probability the jobs offered will exceed the current job in terms of values, goals, and strategies for goal attainment

34	Besich, 2005	Survey, SEM, LISREL	799	Employees	USA / Federal Agency	On-the-job embeddedness, turnover intention, job satisfaction, overall commitment, job alternatives	Predictive power of the JE model versus that of the traditional models of turnover The traditional model of turnover is comprised of job satisfaction, organisational commitment, and perceived job alternatives
35	Thomas W., Lee, T.R., Mitchell, C.J., Sablynski, J.P., Burton, B.C., Holtom, 2004.	Survey	Sample 1 - 809 Sample 2 - 422	Employees	USA / International Financial Institute	On-the-job, off-the-job embeddedness, voluntary turnover, job satisfaction, affective commitment, job performance	Challenges conventional wisdom that employees leave due to dissatisfaction and can be retained by money Staying and leaving involve very different psychological and emotional processes while the conventional wisdom links leaving to the extent of job satisfaction JE – factors that influence employee retention by considering non-work and non-affective Fit – higher perception of fit lowers the turnover intention; one size fits one Sacrifice – monetary sacrifices can be matched by competitors - hence organisations adopting more subtle sacrifices such as organisational environment, sabbaticals linked to longevity JE negatively related to intention to leave and actual quit JE – higher embeddedness results in buffering effect to shocks, i.e. employee is less likely to leave due to a precipitating event that may prompt quit decision role of JE in retention
36	Mitchell, T. R., & Lee, T. W., 2001,	Study 1 - qualitative Study 2 - quantitative - survey	Study 1 - 44 Study 2 - 229	Nurses, Public Accountants	USA	Unfolding model of turnover, JE, job alternatives, job offers as shocks, scripts, search and evaluation	People leave jobs in different ways (unfolding model's paths represent different psychological processes and activities) The processes involved in staying are different than the unfolding processes of leaving Staying seems associated with a sense of stuckness or JE. There are, moreover, non-affective and non-job-related forces that keep a person on the job.
37	Mitchell, T.R. et al., 2001	Study 1 - qualitative Study 2 - quantitative - survey	Study 1 =177 Study 2=809	Study 1 - Individual employees  Study 2 - Individual Employees	USA / Grocery store employees, hospital employees / Service centre employees	JE, voluntary turnover, desirability of movement (job satisfaction and organisational commitment), ease of movement (perceived alternatives and job search).	Pioneering study – negative relationship exists between being embedded in an organisation and intentions to leave as well as between embeddedness and actual voluntary leaving JE assesses new and meaningful variance in turnover that is in excess of that predicted by the major variables included in almost all the major models of turnover People who are embedded in their jobs have less intent to leave and do not leave as readily as those who are not embedded JE – higher order aggregate of forces of retention – totality of embedding forces that keep a person on the job rather than negative attitudes that prompt person to leave Formative construct

## Annexure 6 – Human Capital Extant Studies

S. No.	Title	Res. Methodology	Sample size	Respondents	Country / Industry	Variables	Comments / Relevance / Future Scope
1	Kehoe, R.R. & Collins, C.J., 2017	Survey, matched sample	128 units	Employees and Managers	N.A.	HR system, unit-level performance, commitment	Knowledge-intensive work / knowledge worker Targeted, relationship-oriented HR system is related to firm performance Positive relationship between the high commitment HR system and unit performance is mediated by employees' collective organisational commitment, firm-specific human capital and access to knowledge
2	Suseno, Y. & Pinnington, A.H., 2017	Qualitative – in-depth interviews	21	Partners, La firms	Australia	Knowledge intensity, low capital intensity and professionalised workforce, TM	Employee retention challenge in knowledge-intensive firms TM challenges – employee autonomy, knowledge acquisition, revenue and profitability Managing employee mobility, talent acquisition and retention, talent engagement, performance management and developing leadership capability.
3	Lin, C., Yu-Ping Wang, C., Wang, C.Y., & Jaw, B.S., 2017	Survey	183	Employees	Taiwan and Mainland China	Employee uniqueness, value, human capital management, organisational competitiveness	Human capital theory – value and uniqueness Development and deployment practices, such as training and job design, were conducive to increasing employees' value and uniqueness. Positive relationship between human capital and employee value Challenge of retaining unique employees
4	Bendickson, J. & Taylor, E., 2017	Quantitative data analysis	N>A.	Major League Baseball	USA	RBV, performance, organisational performance, employee turnover	RBV – impact of star performers on org outcomes Star performers positively affect – both employee and managerial levels Star performance amongst managers mitigates the negative effect of employee turnover on organisational performance Despite turnover, star employee performance is still a positive and significant predictor of organisational performance Impact of human capital – even during negative events
5	Tan, D., Rider, C.I., 2017	Secondary data analysis	Law firms - 2004-2013	Secondary data	USA	Labour turnover, management, competition (economics), employee retention, human capital, prestige	Human capital advantage – consequence of employee turnover Employee retention not unconditional strategic imperative Certain employee departures can enhance a firm's competitiveness in the market for human capital by signalling to potential employees that the firm offers a prestigious employment experience Increased rates of employee departures lead to increases in a firm's prestige when these departures are for promotions with high-status competitors.
6	Aryee, S., Walumbwa, F.O., Seidu, E.Y. & Otaye, L.E., 2016	Survey	N.A.	Employees	N.A.	High-performance work systems, Vroom's motivational framework, collective human capital, aggregated service orientation, service	HPWS related to collective human capital and aggregated service orientation, which in turn related to individual-level service quality Cross-level interaction effect of collective human capital and aggregated service orientation such that high levels of collective human capital and aggregated service orientation influence individual-level service quality

						quality	
7	Kaliannan, M., Abraham, M., Ponnusamy, V., 2016.	Qualitative	Focus group and structured interviews	Employees	Malaysia / SMEs	Human capital, TM, job satisfaction, personnel management, work environment, staffing and recruitment, training and development, rewards and recognition, and retaining practices	Gap between employees and employers in terms of expectations of TM practices Employee expectations – better training opportunities, remuneration and recognition Management transparency and open communication is essential Need to strategise their current HR practices to be relevant and effective
8	Krscynski, D. & Ulrich, D, 2015	Phenomenological study					Firm-specific human capital is important for a firm's competitive performance Employees must be able to evaluate which investments will yield firm-specific versus general human capital before making those investments Employees must have discretionary choice over their investments in firm-specific and general human capital
9	Massingham, P.R. & Tam, L., 2015	Survey	248	Employees	Australia / Public Service	Human capital, intellectual capital, psychological contract, strategic alignment, employee capability, employee satisfaction, employee commitment	HC1 (employee capability) and HC2 (employee satisfaction), had a direct positive relationship with the importance of work activity HC1 has a direct positive relationship with the pay HC3 (employee commitment) had a direct negative relationship with the importance of work activity SA (strategic alignment) with employees' capability and motivation; as well as employee capability and pay Inequities emerge in terms of employee commitment and value creation (work activity) and in the PC factors and pay
10	Lakshman, C. 2014.	Survey	N.A.	Employees	3 country analysis	Knowledge management, resource management, personnel management, performance management, human capital	Role of human capital and leader's knowledge in performance management Positive impact of managerial human capital on key processes of leveraging such capital
11	Kwon, K. & Rupp, D.E., 2013	Secondary data analysis	155 firms	N.A.	South Korea	High-performer turnover, firm performance, moderation effects, human capital, investment firm, reputation	Relationship between turnover and firm performance Human capital theory, social capital theory, and the cost–benefit perspective to high-performer turnover and firm performance relationship Negative impact of high-performer turnover on firm performance will be the strongest for reputable firms and for firms who invest less in human capital (e.g., selection, training, and incentive-based pay)

12	De Vos, A., & Dries, N., 2013	Survey	306	HR Directors	Belgium	Boundary-less careers, career management, human capital, protean careers, TM	The more importance organisations attach to continuity in light of their human capital composition, the more they will adhere to 'traditional' models of career management (i.e. strategic, paternalistic, bounded and formalised) Both threats of qualitative (value) and quantitative (uniqueness) human capital shortages were found to be important determinants of importance attached to continuity as a career management goal Careers serve strategic functions for organisations, to retain and engage individual career actors
13	Höglund, M., 2012	Survey	N.A.	Employees	N.A.	TM, psychological contracts, employees attitudes, human capital	HRM practices are positively related to employee-perceived talent inducements and that talent inducements fully mediate the direct relationship between skill-enhancing HRM and human capital Psychological contract obligations to develop skills partially mediated the relationship between talent inducements and human capital Differential treatment of employees based on criteria constituting talent can have positive effects on employee motivation and felt obligations to develop skills and apply these in service of the organisation
14	Manchester, C.F., 2012	Secondary data analysis	N.A.	Employee data analysis	N.A.	Human capital, training, employee retention	Employer sponsored general training programs increase employee retention 2 channels – type of workers and direct effect of workers 80% of the program's overall effect on retention comes through sorting
15	Crook, T.R., Todd, S.Y., Combs, J.G., Woehr, D.J. & Ketchen, D.J., 2011	Meta-analysis	66 studies	Human capital / firm performance studies	N.A.	Human capital, firm performance	superior human capital generate better firm-level performance Resource-based theory – 3 moderators Human capital relates strongly to performance, especially when the human capital in question is not readily tradable in labour markets Need for investment in programs that increase and retain firm-specific human capital
16	Jamal, W. & Saif, M.I., 2011	Survey – knowledge-intensive firms	316 employees and 16 executives	Employees and Managers	Pakistan	Human capital, firm performance	Impact of HCM on the performance of organisations Firm's HCM has a significant positive impact on organisational performance Strategy of investment in human capital and its management for competitive advantage at organisational and national level
17	López-Cabrales, Á., Real, J.C. & Valle, R., 2011	Secondary data analysis	Firms in innovation sector	N.A.	Spain	Human capital, HR strategies, learning organisations, Spain	Direct association of selection and appraisals practices and both dimensions of human capital with learning Developmental practices are associated with the value of human capital, Selection and appraisal practices are related to uniqueness Human capital is partially mediating the relationships between HRM practices and organisational commitment
18	de Guzman, G.M., Neelankavil, J.P. & Sengupta, K., 2011	Survey	377	HR Managers in 4 countries	India, Indonesia, Malaysia, and the Philippines.	Human capital, TM, personnel management, organisational structure	Human capital and its associated principles of TM are sound platforms on which to leverage a company's fundamental resources to attain corporate goals. Considerable differences between the current HR functions as practiced and the ideal HR functions Significant differences amongst countries, especially in areas such as strategic practices and the roles of HR managers.

19	Longo, M. & Mura, M., 2011	Survey / SEM	1117	Employees	Italy / Food products	Employee retention, job satisfaction, personnel management, industrial surveys, human capital, attitudes towards work, intellectual capital	Intellectual capital positively affects the job attitudes. Human capital and relational capital did not directly affect employees' job satisfaction and retention. Human capital fully mediated by structural capital. Two measures of HR management practices (communication and alignment) that positively influenced intellectual capital and also contributed to the improvement of employees' job satisfaction and retention.
20	Guthrie, J.P., Flood, P.C., Liu, W. & MacCurtain, S., 2009	Survey	N.A.	N.A.	Ireland	Work design, personnel management, labour turnover, competitive advantage in business, absenteeism (labour), human capital	RBV – traditional sources of competitive advantage - increasingly easy to imitate. Human capital and HR management may be an especially important source of sustainable competitive advantage. HPWS is associated with positive HR and organisational outcomes. Specifically, firms utilising higher levels of HPWS tend to have lower rates of employee absenteeism and voluntary turnover along with higher labour productivity and lower labour costs
21	Harris, C.M. & McMahan, G.C., 2008	Survey	N.A.	Players	USA / Basketball team	Resource-based theory, tenure, organisation's performance, role of HRs	Resource-based theory of the firm, the effect of tenure amongst employees on the coordination of activities and the organisation's performance, the role of HRs in integrating employees' various levels of knowledge, abilities, and skills to add value to the firm, and the heterogeneous aspect of jobs and the demand for labour
22	Groysberg, B., Lee, L.-E. & Nanda, A., 2008	Secondary data analysis	N.A.	Security Analysts performance	N.A.	Star performer, firm performance, firm-specific skills, portability	Star security analysts' who switched employers experienced an immediate decline in performance that persisted for at least five years This decline was linked to firm capabilities Firm-specific skills and firms' capabilities both play important roles in star analysts' performance. In addition, we find that firms that hire star analysts from competitors with better capabilities suffered more extreme negative stock-market reactions. hiring stars may be perceived as value destroying and may not improve a firm's competitive advantage
23	Rodwell, J.J. & Teo, S.T.T., 2008	Survey	N.A.	Senior Executives	Australia	Personnel management, performance evaluation, strategic planning, human capital	The relationships between employee commitment, customer demandingness, strategic HRM orientation and the adoption of human capital enhancing HR practices and overall performance Adoption of human capital enhancing HR practices (such as selective staffing, comprehensive training, and performance appraisal) to perceived organisational performance
24	Clarke, N., 2006.	Qualitative and quantitative data	N.A.	N.A.	Britain / Hospital	Organisational learning, employee training, human capital, training of medical personnel	Yet empirical evidence exists to support the view that HR policies are able to promote greater use of workplace learning methods within organisations The findings demonstrated the limited effects of HR policies in this respect These findings extend understanding of the complex interrelationships that potentially exist between HR policies, their outcomes and the mediating factors associated with policy implementation
25	Holtom, B.C., Mitchell, T.R. & Lee, T.W., 2006	Secondary data analysis	N.A.	N.A.	Multi-industry analysis	Employee retention, job satisfaction testing, incentives in industry, human capital, quality of work life	Attracting and keeping excellent employees is the first step towards investing systematically to build the human and social capital in an organisation JE – assist in forming retention practices that align with the organisation's strategy and culture. Stronger predictor of important organisational outcomes, such as employee attendance, retention and performance JE theory can be used to build human and social capital by increasing employee retention

26	Zhu, W., Chew, I.K.H. & Spangler, W.D., 2005	Qualitative and quantitative data	170 firms	N.A.	Singapore	Transformational leadership, human capital enhancing HRs management, organisational performance, sales, absenteeism	Human capital enhancing HRM fully mediates the relationship between CEO transformational leadership and subjective assessment of organisational outcomes and partially mediates the relationship between CEO transformational leadership and absenteeism
27	Benson, G.S., Finegold, D. & Mohrman, S., 2004	Survey	9439	Employees	N.A.	Human capital investment, employee retention, skill development	Insights from human capital theory – explain general skill development and promotion relate to voluntary turnover. Participation in tuition reimbursement reduces turnover while employees are in school Voluntary turnover increases when individuals earn graduate degrees but is significantly reduced if they are subsequently promoted
28	Barton, H., Delbridge, R., 2004.	Quantitative data analysis	18 auto firms	N.A.	USA & UK / Automobile industry	Employment practices, job skills, training, motivation, human capital	HR practices based on 'human capital' approach High-performance workplaces depend on 'high-skill' strategies that make better use of, and continuously develop, human capital
29	Moshavi, D. & Terborg, J.R., 2002	Survey	N.A.	Call centre	N.A.	Human capital, work, customer service, job satisfaction, performance	Role of human capital plays in explaining the job satisfaction and performance of contingent and regular CSRs (customer service representative) Contingent CSRs had less human capital but higher job satisfaction than regular workers Human capital mediated the relationship between work status and job satisfaction
30	Bontis, N. & Fitzenz, J., 2002	Survey	76	Senior Executives	Financial services	Intellectual capital, knowledge management, HRs, human capital	Antecedents and consequents of effective human capital management Effectiveness of an organisation's human capital capabilities, efficient allocation of resources with regard to human capital management Establishment of causal relationships between human capital management and economic and business results
31	Trevor, C.O., 2001	Longitudinal study	5506	Individual employees	N.A.	Voluntary turnover, individual attributes, ease of movement, human capital	Voluntary turnover – signalling and human capital perspectives with approaches emphasising job satisfaction and general job availability Effects of job satisfaction and unemployment rate on voluntary turnover were moderated by education, cognitive ability, and occupation-specific training
32	Hitt, M.A., Bierman, L., Shimizu, K. & Kochhar, R., 2001	Quantitative data analysis	93 law firms	N.A.	USA / Law and professional firms	Human capital, leverage, service diversification, geographic market diversification, firm performance	Direct and moderating effects of human capital on professional service firm performance
33	Snell, S.A. & Dean Jr, J.W., 1992	Survey	N.A.	Managers and Non-managers	N.A.	Human capital, JIT, AMT, TQ, HRs management	AMT was positively related to selective staffing, comprehensive training, developmental appraisal, and externally equitable rewards for operations employees and to selective staffing for quality employees TQ was positively related to these same HR practices in quality and was also related to the comprehensiveness of training for operations employees JIT was negatively related to selective staffing in operations and to performance appraisal in quality and positively related to staffing in quality







## Annexure 8 – SEM Model Fit Summary

### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	78	458.409	247	.000	1.856
Saturated model	325	.000	0		
Independence model	25	2930.689	300	.000	9.769

### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.064	.833	.781	.633
Saturated model	.000	1.000		
Independence model	.365	.269	.209	.249

### Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.844	.810	.921	.902	.920
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.823	.695	.757
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

### NCP

Model	NCP	LO 90	HI 90
Default model	211.409	155.080	275.561
Saturated model	.000	.000	.000
Independence model	2630.689	2460.838	2807.907

### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.712	1.251	.918	1.631
Saturated model	.000	.000	.000	.000
Independence model	17.341	15.566	14.561	16.615

### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.071	.061	.081	.001
Independence model	.228	.220	.235	.000



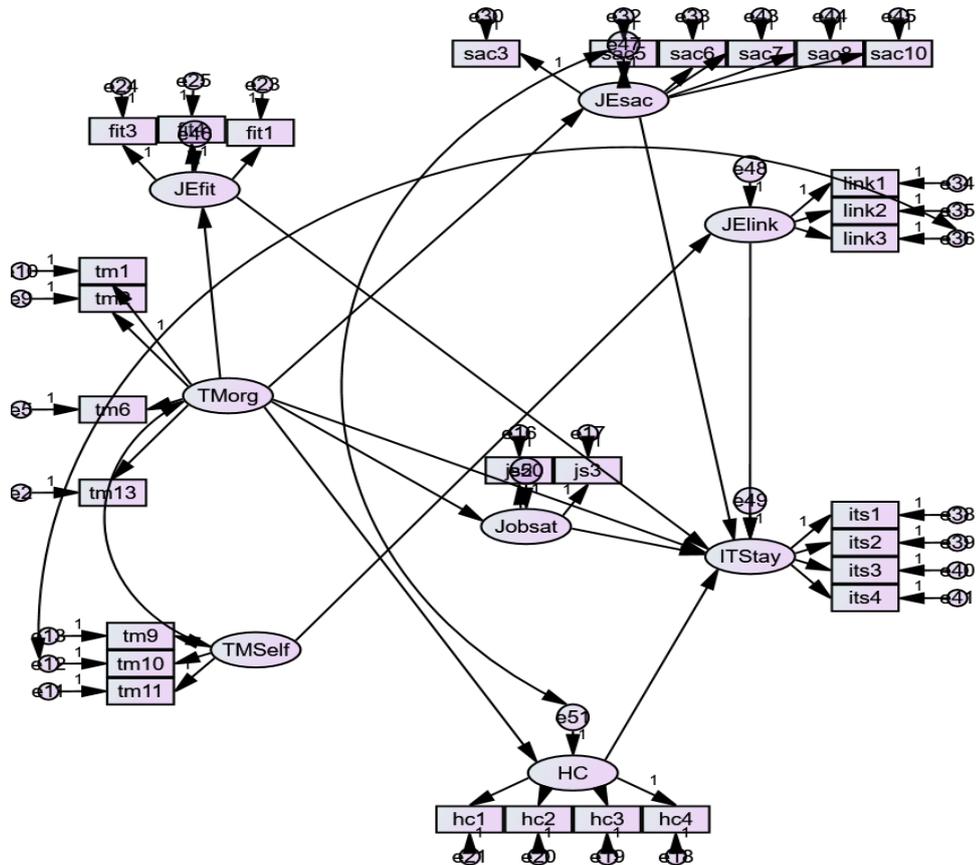
## Annexure 9 – Sample Qualitative Data Analysis

### Theme – Employee Retention – Current State in Singapore

Category	Subcategory	Respondent	Comments
Employee retention	Current State in Singapore	HR1	Yes, significant amount of attrition - over 20% is a norm. Higher challenge in Singapore
			This needs to be seen in the context of peculiarity of my business unit, combination of Investment Banking domain knowledge and Technology
		HR2	For the retention, usually we would not have a challenge at the senior level and or the mid-level, the challenge is usually at the junior level
		HR3	Short answer is Yes
		HR4	The average attrition rates in telecom industry is very high, however, in our firm, employee retention is not a critical issues currently. Our average employee turnover is about 20% p.a., which is lower as compared to the industry. I mentioned earlier, our employee retention is better than the industry norms.
		HR5	Yes, employee retention is a challenge, not just for my organization, but most organizations in Singapore. Our firm is into insurance sector, which is a highly competitive sector and poaching is a big challenge for all the player.
			Singapore is a research hub for insurance and there is high competition, and there is a high TO rate – 7-8% TO rate which is very high. Also, most of the roles are client facing, so these employees are in greater demand and competitors find it very easy to find and poach talent and employees find it easy to get new opportunities. So there is a high need for companies to nurture and retain talent.
		BM1	I do think it is a challenge here because there is such a tight labour market in Singapore, and there are restrictions on the number of foreigners you can bring in and the labour pool isn't growing , terribly quickly in Singapore
			Retention issues and how you can get and keep high-quality talent, people really worry about them - HR directors or business leaders or government affairs people
		BM2	This is a real challenge - across all industries and especially for the knowledge-based firms
			There is shift in generation, with gen X phasing out and the millennial workforce has very different expectation of how they are treated and the concept of tenure
		BM3	Employee retention is an issue, especially to maintain continuity of business since staff turnover causes cost of training and ramping up new employees
			Most companies have similar pay and benefits, so beyond a point, what makes an employee stay back is the culture of the company
		BM4	Currently my organization is not facing employee turnover issues as we are a lean team and all team members are working very closely
It depends on the career stages and also the industry, but my experience is that the younger employees are always looking for greener pastures while those who are experienced prefer stability			
BM5	Given the background of restrictions on hiring non-locals, shortage of skills in some areas (e.g. Technology / software) and the higher salary expectations of locals, employee retention is becoming as issue in Singapore		
	The challenge is not limited to SMEs, but even the larger firms are facing the same issues		
BM6	Talent retention is important issue, in Singapore and the emerging economies in SE Asia. In Singapore, the demand is more than the available talent pool and hence the chances of employee attrition is very high		
	Singapore has both domestic economy that is catered to by SME and GLCs and international / regional economy that MNCs are active in. This will continue and demand for talent will also continue		



## Annexure 10 – Revised Model



**Regression Weights: Revised Model**

	Estimate	S.E.	C.R.	P	Label
Jobsat <--- TMorg	1.441	.203	7.087	***	
HC <--- TMorg	.874	.172	5.083	***	
JEfit <--- TMorg	.933	.171	5.455	***	
JEsac <--- TMorg	.260	.099	2.614	.009	
JElink <--- TMSelf	.808	.124	6.521	***	
ITStay <--- TMorg	1.088	.262	4.156	***	
ITStay <--- Jobsat	.396	.087	4.533	***	
ITStay <--- HC	-.198	.146	-1.357	.175	
ITStay <--- JEfit	-.010	.078	-.124	.902	
ITStay <--- JEsac	.778	.439	1.773	.076	
ITStay <--- JElink	-.021	.068	-.306	.760	