EXECUTIVE SUMMARY

Knowledge sharing has gained lot of importance in recent years in the IT sector. However, though there is a lot of research on knowledge management, tacit knowledge sharing has rarely been studied in the IT industry literature. The purpose of this thesis is to analyse that whether the demographic characteristics of employees influence Tacit Knowledge Sharing behaviour (TKSb) and secondly what Human Resource (HR) practices and Knowledge Management (KM) tools IT companies should implement to motivate the employees to share their tacit knowledge with other employees. The HR practices taken for the study are: Training (On-the job and Off-the Job), Hofstede's dimensions (Individualism and Collectivism; Low and High Power Distance; Masculinity and Feminity; Less and More Uncertainty Avoidance) and Reward management (Monetary and Non-Monetary rewards). KM tools are categorised as Technology based KM tools and Non-Technology based KM tools. Highly prevalent On-the job training methods, Off-the Job training methods, Monetary rewards, Non-Monetary rewards, Technology based KM tools and Non-Technology based KM tools (six for each) have been identified through Delphi (experts from IT companies in India). For the study, TKSb has been divided into three forms: Organisation related Knowledge Sharing behaviour (OKSb), Project/Task related Knowledge Sharing behaviour (PKSb) and Skills related Knowledge Sharing behaviour (SKSb). The sample selected for data collection includes the employees of top 20 IT companies as per NASSCOM 2011-12. The employees of the most prominent five departments of IT organisations, i.e. HR, Sales & Marketing, Finance, IT and Operations are interviewed for the study. The convenience sampling method

has been used in the research study. Data for this study has been collected by means of questionnaire and has been evaluated using Structural Equation Modelling (SEM) with HR practices and KM tools as Independent variables and forms of TKSb, i.e. OKSb, PKSb and SKSb as Dependent variables.

Data analysis revealed evidence that there exists a relationship between the independent and the dependent variables; either positive or negative. The research has also identified the key Training methods, Hofstede's dimensions, Rewards and KM tools that IT companies should focus on, to enhance Tacit Knowledge Sharing behaviour of their employees. Furthermore, this study add to the literature by explaining the role of HR practices and KM tools as motivator or de-motivator for enhancing Tacit Knowledge Sharing behaviour of employees of IT companies in India.

CHAPTER 1

INTRODUCTION

1. INTRODUCTION

1.1. Knowledge and knowledge sharing: A way to Competitive Advantage

In 21st century, there is huge revolution in organisations like globalisation and emergence of information technology. In the words of Bhirud et al. (2005) and Malhorta (2000), "the success of knowledge management in the organisation depends on effective knowledge-sharing". The "resource-based view of the firm" given by Barney (1991), Penrose (1959), Rumelt (1991) and Wernerfelt (1984) has the advancement in the form of "knowledge-based view of the firm" (Grant, 1996; Kogut & Zander 1992; Spender, 1996; Teece, 1998), focuses on knowledge and assumes that knowledge as an asset, is the central driver for sustainable competitive advantage (Barney, 1991). Tuomi (2003) focused on the important paradigm shift due to this revolution in organisational success is knowledge sharing - the vital process of knowledge management. Knowledge sharing is considered as the deliberate practice of exchanging concepts, ideas, experiences, skills etc., that in turn creates new knowledge which if stored can be reused by other people (Bartol & Srivastava, 2002; Bhirud et al., (2005); De Vries, 2006; Jonassen, 1995; Malhorta, 2000; Merrill, 2000; Langan-Fox et.al. 2001; Polanyi, 1969). In today's competitive business environment, the importance of knowledge and knowledge sharing cannot be ignored. It is realised by the organisations that the knowledge of their internal customers i.e. employees are the organisation's asset (Nahapiet & Ghoshal, 1998) and after the retirement or separation of the employees, this asset or knowledge is also lost. In order to avoid the

loss of key resource and asset, i.e. knowledge, it must be transferred and retained across the organisation and retained for the effective functioning of the organisation. With the increasing importance of knowledge in the organisations, it is realised that it is imperative to generate, manage and share the knowledge within the organisations, to sustain competitive advantage (Boisot, 1998; Davenport & Prusak, 2000; Grant, 1996; Hussi, 2004; Cross & Baird, 2000; Teece, 1998).

Knowledge sharing is signified as the key for creating valuable knowledge and it aids in augmentation of employee's performance and productivity. It also adds values to employee's core competencies which enhances competitiveness of the organisations (Afiouni, 2007; Argote & Ingram, 2000; Dalkir, 2005) and hence advances organisational performance that in turn enhances organisational learning (Lesser & Storck, 2001; Argote, 1999), gaining competitive advantage (Argote & Ingram 2000) and harnesses innovation at organisational level (Powell et al., 1996; Baum & Ingram, 1998).

Today's organisations emphasise on managing knowledge that train the employees to perform more efficiently and effectively, helps the organisations in developing and implementing new strategies to achieve and sustain organisational goals (Hall & Sapsed, 2005; Kankanhalli, et al., 2005; Malhorta, 2000). But still there is a lack of knowledge sharing across the companies that leads to loss of critical knowledge (DePaula & Fischer, 2005; Gupta, et al., 2000; Jones, 2007; McAdam & McCreedy, 1999; Michailova & Husted, 2003; Riege, 2005) and therefore more research is required to be conducted on knowledge sharing patterns for enhancing organisational competitiveness and performance.

Knowledge being dominant, and a valuable asset for the organisations, is a foundation of their competitive advantage (Plessis, 2005; Srivastava, 2001). Therefore, it is important to halt knowledge hoarding among employees, as it can be a drawback for the organisation. On the other hand, it is important to enhance knowledge sharing and teamwork, as it can assist the organisation by storing the knowledge to remain within the organisation. In today's competitive scenario, job hopping is a common process (Kim & Lee, 2005) and when employees leave an organisation, they take valuable knowledge related to organisational functioning with them. Therefore, it is vital for the organisations to internalise their knowledge, experience and convert their tacit knowledge into organisational codified knowledge, so that organisations can utilise that codified knowledge, i.e. explicit knowledge even after that employee leaves the organisation.

1.2. Tacit Knowledge Sharing: An Overview

1.2.1. Forms of Knowledge: Explicit knowledge and Tacit knowledge

Knowledge is categorised as: Explicit knowledge and Tacit knowledge. Explicit knowledge is defined as "what can be embodied in a code or a language and as a consequence it can be verbalised and communicated, processed, transmitted and stored relatively easily" (Kikoski & Kikoski, 2004; Nonaka et al., 2000; Alwis & Hartmann, 2008). Being the traditional codified type of knowledge, explicit knowledge is collated in books, periodicals, mass media, guidebooks, databases, knowledge bases and information systems (Grant, 1996; Kikoski & Kikoski, 2004; Kogut & Zander, 1992; Nahapiet & Ghoshal, 1998; Nonaka & Takeuchi, 1995). Being public and most widely known it can be easily shared. In contrast, Tacit Knowledge can be defined as "Tacit knowledge is a kind of knowledge that cannot be codified, because it is based predominantly on

individual experiences. In an organisational context, it is composed partly of technical skills and partly of cognitive dimensions such as personal perspectives, beliefs, and mental models" (Small & Sage, 2006) or "Tacit knowledge is personal knowledge that people carry in their minds, making the knowledge difficult to access, extract and formalise as it is rooted in action, procedures, commitment, values and emotions etc" (Alexaki & Baptista, 2007). Tacit knowledge being eccentric form of knowledge, is less familiar. Tacit knowledge is not codified form and therefore cannot be transferred easily. Tacit knowledge is grounded on the experiences of the individual (for example: the skill of bicycle riding or face recognising) and therefore cannot be easily shared. It can only be assimilated if the expert or knowledge possessor is willing to share their experiences, skills, observations etc (Hall & Andriani,2002; Kikoski & Kikoski, 2004).

Knowledge is "owned" by the organisations as an asset. Knowledge can subsist in an organisation whether an employee is informed of its presence or not (Jones & Leonard, 2009). These can be the knowledge that has been accrued from existing and former employees and codify it in particular way to reserve it within the organisation itself. Explicit knowledge as codified can easily be shared and remains with the organisation. Conversely, tacit knowledge is not merely problematic to transfer and codify but it is also challenging to identify.

With all the contrasts, it is also analysed in the previous studies that tacit and explicit knowledge are "two sides of the same coin", consequently both types of knowledge are crucial for knowledge creation (Polanyi, 1966; Tsouka, 2005; Nonaka et al., 2000). Explicit knowledge deprived of tacit acumen swiftly mislays its significance. Knowledge is generated over the interfaces amid tacit and explicit knowledge besides either from one of them independently (Nonaka et al., 2000).

The Polanyi's phrase "we know more than we can tell" summarises the whole essence of tacit knowledge (Lee et.al., 2010).

1.2.2. Importance of Tacit Knowledge Sharing

Analysing the significance of tacit knowledge, it has been identified that competitive advantage can only be attained if organisations understand the importance of tacit knowledge of their employees, as explicit knowledge can be acknowledged by other organisations too. Therefore, organisations should focus on tacit knowledge sharing in their organisations. Tacit knowledge forms the learning curve like a trail that others can follow and gain competitive advantage (Kikoski & Kikoski, 2004). Levinson (2007) stated, "The challenge inherent with tacit knowledge is figuring out how to recognise, generate, share, and manage it". The importance of proximity in the course of relocating tacit knowledge from the dimension of the mind to the metaphor or language is unstated and therefore tough for competitors to imitate (Foos, et al., 2006; Kelley & Rice, 2002; Maskell & Malmberg, 1999; Patton, 2007).

1.2.3. Problems in Tacit Knowledge Sharing

Many researchers established that major chunk of the knowledge in any organisation is entrenched and blended in employee's minds, i.e it is tacit knowledge (Buckman, 2004; Mooradian, et al., 2006; Smith, 2001). Tacit knowledge being contrary to explicit knowledge cannot be shared easily through conventional tools (Kreiner, 2002). Tacit knowledge Sharing is challenging but the importance and significant value of tacit knowledge makes it worth the effort (Davenport & Prusak, 1998). However, the judgement of focusing merely on tacit knowledge and not explicit knowledge, in this study, can be vindicated by explanations cited by various researchers.

Tacit knowledge resides in employee's mind in the form of their skills, prior experiences and their familiarity with the organisation that also associated with their job. The explicit knowledge is formed only when tacit knowledge is codified and due to the challenging conversion of tacit to explicit knowledge, creation of innovative knowledge in organisations is also problematic (Baalen et al., 2005). The other problem is defined by Szulanski (2003) who debates on the ''stickiness of knowledge''. The facet of ''stickiness'' encompasses of all the people and tools employed in transformation process, i.e. the context of knowledge, the person who possess the knowledge (the knowledge source) and the person who is gaining knowledge (the knowledge recipient). It is described that ''stickiness'' will be relatively less when the alike context is shared, however it will be high when the sender and recipient of knowledge, work in diverse frameworks. This high stickiness is due to the reluctance of the knowledge possessor of not to share his knowledge due to the fear of mislaying possession or some opportunity/superiority or due the absence of rewards (Szulanski, 2003). Szulanski (2003) also discussed the various barriers that influence tacit knowledge sharing. The foremost barrier is the uncertainty of the tacit knowledge that is being shared as neither the possessor/sender nor the receiver find enough analogy. Another barrier could be the less ability of receiver to covenant with that uncertainty. And the last barrier as per Szulanski (2003) is the demanding associations amid sender and receiver.

Other barriers are like, lack of motivation that influences the willingness of the individual to share their tacit knowledge, the most. Along with motivation, the structure of the organisation appears to have indirect but significant influence on knowledge sharing (Hall & Sapsed, 2005). Pervasive unanimity is available in the literature that one of the reasons of unwillingness of the possessors to share their

knowledge is the negligence of human aspects and an overemphasis on the use of technology. No doubt that technology is needed to give platform for sharing but the foremost thing is to give motivation to employees to share their knowledge. Other motivating factors are the emotional or demonstrative factors also play a significant role in transference of tacit knowledge (Balthazard & Cooke, 2004).

1.3. Scenario of Knowledge Sharing in IT Sector in India

The Information Technology Association of America (ITAA) explains "Information Technology as the aggregate of all probable traits of information systems that doesn't only includes software and hardware but also the design, implementation, study and development of IT and management systems". The demand for IT services has increased substantially due to the easy availability and the extensive collection of IT products available in market.

The IT industry has developed as one of the most robust industries in the world and appeared to be a key basis for development and employment. In the words of Kamdar (2006), "IT is playing an imperative role in transforming India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs". As a result, India has the major chunk IT capitals of the contemporary world. The other distinguishing factors of IT sector are economies of scale and unquenchable demand of the customers and organisations. The IT industry helps in assisting the e-governance sector, service sector etc as it assures the easy accessibility to information improves operational efficiency and can also be utilised as a medium of skill formation (Prasanna, et al., 2014). But all this can happen with efficient and effective knowledge management system in IT companies. Now-a-days for Information

Technology organisations that are apprehensive towards executing knowledge management practices in their organisations, developing comprehensive methods and practices is a challenging job. Although there is abundant literature on knowledge management but it's on variety of industries and sectors and this available literature also often appear to provide inadequate, inconsistent, and conflicting outcomes on knowledge management practice (Krishnaveni & Senthil, 2008).

In IT sector, the importance of knowledge, specifically tacit knowledge, cannot be doubted. More will be Tacit Knowledge Sharing (TKS) in IT industry more will be the creativity which leads to innovative products. This further leads in gaining competitive advantage for the IT companies. But the willingness of IT employees, to share their tacit knowledge depends intensely on their experience, beliefs, viewpoints and perceptions as these influence their discernment about the business activities and their role in the organisation that in turn again influence their inclination towards sharing tacit knowledge (Basselier et al., 2001).

1.4. Background of the problem

Indian industries have invested heavily in IT systems (Peffers & DosSantos, 1996) as they identified that IT increases the productivity that in turn deliberates a crucial competitive edge (Banker, et al., 2005). They have also rotated a substantial percentage of their employees into "information workers [characterised as those] and implementing and manipulating information is their primary activity" (Davenport, 1997). Due to the transformation of workers into "information workers", the emphasis of research was primarily on the employee's perception on the emergence of IT sector. This became the prominent area of research due to encouraging insights of

accepting and using the IT. Due to the revolution in IT sector, socio-psychological theories of "Theory of Reasoned Action (TRA)" (Fishbein & Ajzen, 1975) and the "Technology Acceptance Model (TAM)" (Davis, et al., 1989) were selected to explain the importance of IT implementation at workplace. Therefore, to measure the accomplishment of IT projects, implementation of knowledge is analysed. A key motivation of this attention on creation of knowledge stemmed as in the new knowledge-based economy, the only sustainable source an organisation has, is knowledge; and not the customary factors of production (Carneiro, 2000; Drucker, 1993). As Tampoe (1996) observes, "Corporate success in today's economy comes from being able to acquire, codify, and transfer knowledge more effectively and with greater speed than the competition". With the advent of SECI Model (Socialisation, Externalisation, Combination, and Internalisation) by Nonaka & Takeuchi (1995), humans create knowledge and have progressed into the forefront of organisational and learning research. But, ascertaining the factors that motivates the employees to share their knowledge is still amongst the numerous captivating concerns of knowledge management with which researchers are contending.

Furthermost, knowledge is initially tacit, i.e., it subsists in individual's minds only and cannot be enunciated effortlessly. The challenge is to disseminate and reprocess this knowledge using a medium (Pfeffer & Sutton, 1999). The willingness to share the knowledge is the derivative of the enthusiasm or inclination towards sharing. Up to this point, the antecedent studies of the arena have almost assumed that employees are willing to share. Rare studies have underlined illustrations where organisations tried to motivate employees to share knowledge and rare have delved into the motivating factors (Milton, et al., 2010). Although, various theories of on-line collaboration;

methods for gathering, sharing, and managing electronic information; and contexts for using the information exist are available (Hutchins, 1995; Salomon, 1993). Still providing processes and proven methods to design and implement applications to facilitate knowledge management does not guarantee that the individuals in an organisation will use them (Szulanski, 2003). In other words, there is no assurance that knowledge sharing will actually occur. Although, employees or knowledge workers share their knowledge only when there are persuasive motivators that motivate them for the same. There is some research work available that discovered the motivational factors of knowledge sharing. The prevailing motivational theories describes that there are several anticipated extrinsic benefits (like modifying behaviour of employees and creating knowledgeable culture in the organisation) of the key motivators of knowledge sharing (Kerr & Slocum, 1987).

To complicate the issue further, motivators are very subjective factors – what works for one culture or age group, for example, may not work with another. In today's globalised economy, where business firms operate in multiple time zones and cultures, motivating workers to share knowledge is a socio-cultural challenge as well (Ralston, et al., 1997). Even within the US today, most workplaces have become culturally diverse to a greater or lesser extent, often by design, because multinational organisations appreciate the diversity (Saxenian, 2002). The effects of national cultural differences on the motivation to share knowledge are essentially unexplored. Another inevitable difference between knowledge workers is age. It is normal that workers in every workplace range in age but does a difference in age affect the willingness or motivation to share knowledge between workers? Human attitudes and behaviour change with age so it is logical that the motivation to share knowledge and

the actual sharing itself would differ between workers of different age groups. However, studies on this subject are few. While the field of knowledge management regards, knowledge sharing as equally beneficial and important everywhere, anecdotal evidence indicates workers in some industries perceive knowledge sharing as less important than others. Would these workers be less motivated to share knowledge as a result? The logical answer would be in the affirmative but again few studies have been conducted on this topic. All of these factors may affect workers' willingness to share knowledge. It is therefore timely to explore the affect of demographic factors and various HR practices on the motivation to share knowledge. Even Hibbard and Carrillo (1998) concluded that now, motivating employees for knowledge sharing is not a technology task but the organisation's culture challenge.

But just motivating the employee is not sufficient. Some channels should be available to the employees so that they can share their knowledge and without technology it is difficult to share knowledge (Hibbard & Carrillo, 1998). Within the boundaries of the organisation, Non-IT based tools can be used but they need to be supplemented with IT based tools. The reason behind this is, in today's globalised economy, the substantial barriers in capturing and sharing knowledge are the physical and temporal diffusions. For example, in MNC's, organisations are working in several countries and different time zones. This results in different working time for employees in different parts of the world (like the workday for American workers may only begin after the same workday is already over for the same organisation's Asian counterparts). In such situations, Technology based tools are inevitability required to eliminate barriers in knowledge sharing. Although initially it is perceived that IT infrastructure merely enable the employees to access and share the knowledge, but

later researchers are beginning to realise that the availability of Technology based and Non-Technology based tools itself may still affect the worker's motivation to share knowledge. The motivational factors that motivate employees to share knowledge is rare researched theme and the list of Knowledge Management tools that influences workers' motivation to share knowledge is sporadic researched theme. Therefore, in this thesis, the focus is on studying the role of HR practices and KM tools in enhancing tacit knowledge sharing of the employees of IT companies in India.

1.5. Need of the Study

Today's knowledge economy (OECD, 1996) demonstrates that knowledge sharing is of paramount importance for improving the efficiency of an organisation. There is significant documentation of theory and methodology for developing "successful" knowledge management systems in organisations (Allen, et al., 2007; Davenport & Prusack, 1998; Silver & Shakshuki, 2002). Studies detail how knowledge occurs and its value as a capital asset to the organisation (Conway & Silgar, 2002; Davenport, 2005; Nonaka & Toyama, 2007). Recent studies provide data that describes on individuals' perception of benefits that arise through knowledge sharing within organisations (Burton & Bailey, 2000; Sabherwal & Becerra-Fernandez, 2003). Despite the given benefits of knowledge sharing and management within organisations, there is still reluctance by many employees to share what they know and to build a learning organisation. Corporate managers and knowledge management experts ask, "Why don't individuals share knowledge more freely?"; "What are the motivators that motivate employees to share their knowledge?"; "What HR practices organisations should implement to enhance knowledge sharing behaviour?". Organisations today are complex and have numerous departments/ divisions which

often depend for work on each other. However, the workflow of one division of a complex organisation can often be upset by imprecise knowledge of what the other divisions are doing. The same work may even be duplicated by many divisions of the organisation as they may be unaware about each other work. Effective knowledge sharing reduces duplication and inefficiency. But the sharing of this codified knowledge is not just sufficient. Now-a-days, the organisations have realised the importance of tacit knowledge. But, employees do not share their tacit knowledge easily; hence, it is needed to clearly understand what motivates workers to share their tacit knowledge to increase organisational and individual performance. Correspondingly, there is a limited research on enablers of tacit knowledge as accumulating and transferring tacit knowledge is a challenging task (Fink, et al., 2014). This research study attempts to examine the HR practices that enhance TKS behaviour of employees in IT companies.

Motivators of knowledge sharing need to be complemented with the tools to share knowledge and therefore to analyse the tools that employees should use for knowledge sharing, It companies should keep in mind that now-a-days industries are accustomed with information technology (IT) to facilitate their business operations. Organisations dependent on required IT infrastructure or Internet and communication technology (ICT) for communications and transactions are investigating strategies for managing business processes. They are designing ways for IT to facilitate workflow and contribute to the skills required for mission-critical systems, and at the same time they must be mindful of decisions requiring their financial investments. This automation affects the basic communication within an organisation. Subsequently, the culture of the organisation is changing, depending on the way the business utilises IT

(Vecchio & Kyte, 2008). In today's dynamic environment Internet and communication technology (ICT) is seen to be an important enabler if not an outright motivator of knowledge sharing; therefore, this research study also identifies the key Technology based KM tools that if the access is given facilitate tacit knowledge sharing in IT companies. As virtual environment is also complimented by physical environment hence, fundamental Non-technology based KM tools are also covered in the study. To validate the need for this research beyond person experience and the available literature, Delphi technique has been adopted, which validates the variables taken for the study.

1.6. Research questions

Previous researches have studied types of environmental knowledge in organisations, consequences of knowledge sharing in administrations, affect of KM on organisational performance and role of HR practices in enhancement of knowledge sharing behaviour. Branzei, et al., (2000) identified two categories of knowledge related to the environment that exist in organisations. One of these two categories are specialised knowledge which generally lies in individual employees' mind i.e. tacit knowledge which is not easily documented or transferred and other is the one that is generalised knowledge and is documented organisational knowledge, known as explicit knowledge (Branzei, et al., 2000). The researchers found that the tacit knowledge had a greater positive affect on the organisational performance (Branzei, et al., 2000). Riege (2005) identified various factors that affects knowledge sharing and divided them as: individual, organisational and technological. Literature described the role of demographic factors in knowledge sharing but not for tacit knowledge sharing and specifically in IT companies. There are numerous studies that have examined the

HR practices and their affect on organisational performance, knowledge sharing but only a few previous researches have examined the role of HR practices on enhancement of tacit knowledge sharing behaviour of employees of IT companies in India. This gap in the literature give rise to the following research questions:

1. Do demographic variables affects TKS behaviour of employees of IT companies?

2. What HR practices need to implement to enhance TKS behaviour of employees of IT companies?

3. What Knowledge Management tools (Technology based and Non-Technology based) should be given access to the employees of IT companies to enhance their TKS behaviour?

1.7 Chapter Outline

Chapter 1: Introduction – This chapter comprises of introduction of the thesis by explaining the forms of knowledge, importance of knowledge sharing and TKS. It provides the details about why this study has been conducted by explaining in depth the need of the study. It also gives the gist of research questions to be analysed in the study.

Chapter 2: Literature Review – The chapter conveys an exhaustive review of the national and international studies of the HR practices, Knowledge Management tools, and the role of these on Tacit Knowledge Sharing behaviour. The existing literature related either directly or indirectly with the theme of the study has also been discussed. With the help of this chapter, i.e. Review of Literature and Delphi method the variables of HR practices (Training, Culture management (Hofstede's dimensions) and Reward Management), Knowledge Management tools and Tacit Knowledge Sharing behaviour have been identified and selected.

Chapter 3: Research Methodology – This section discusses the research design along with the conceptual framework presented in the study. The phases intricated in the research process are presented in the form of flow diagram and have been followed analytically to attain higher degree of reliability and validity. Research objectives are elaborated in detail to have clear idea that why these objectives have been framed. Various hypotheses are developed to analyse the research objectives. Subsequently, research design has been discussed in detail. In the end, the chapter explains the data collection method, sources of data and the research tool. The statistical tools employed to examine the hypotheses of the study have also been discussed under data analysis method.

Chapter 4: Data Analysis- This chapter highlights the results of the objectives preceded by the Confirmatory Factor analysis (CFA) carried out for the study. It demonstrates the descriptive statistics of the responses composed from the employees of IT companies taken for the study.

Chapter 5: *Conclusion-* This chapter concludes the analysis in detail thereby providing the major findings and recommendations of the study. The key outcomes from the analysis are summed up, and outline the future scope of the study. It also presents suggestive models on the three Human Resource Practices taken for the study and KM tools that IT companies should implement to enhance TKS behaviour of their employees that in turn helps to achieve competitive advantage.

References: The References of the material referred during the course of research is appended under this heading at the end of the thesis.

Appendix A: Questionnaire – It covers the questionnaire used to collect the responses during the study.

CHAPTER 2

LITERATURE REVIEW

2.   ANTECEDENT STUDIES

2.1   Knowledge sharing behaviour

Hansen & Hass (2007) defined knowledge sharing as "the provision or receipt of technical information, know-how and skills". Knowledge sharing encompasses of collaboration and communication amongst employees of the organisation (Cohen & Bailey, 1997; Faraj & Sproull, 2000).

Previous studies describe the differences, amid knowledge and information. For instance, Nonaka (1994) anticipates information as "a flow of messages" however knowledge is generated from information and is vetted from an individual's thoughts. Kogut & Zander (1992), Machlup (1980) and Zander & Kogut (1995) accept that information is part of knowledge however knowledge is higher than data, as knowledge comprises of data and information. On the other hand, Alavi & Leidner (2001), Bartol & Srivastava (2002), Huber (1991) and Makhija & Ganesh (1997), accentuate that the terms information and knowledge can be used interchangeably also, as knowledge is considered as information processed by individuals that embraces their thoughts, evidences, skill, and findings.

Knowledge sharing is defined by different researchers in several ways. Knowledge sharing takes place when an individual is willing to facilitate others in developing a new capability, skill or knowledge (Senge, 1994) and therefore can be demarcated as a vigilant activity that helps in knowledge transfer so that it can be used by others (Lee & Al-Hawamdeh, 2002). Simultaneously, Ipe (2003) defined "knowledge

sharing as the action of individuals in making knowledge available within the organisation". Conversely, Bartol & Srivastava (2002) observed that knowledge sharing is the sharing of organisation related information explicitly with the employees of that organisation. Van den Hooff et.al. (2003) and Al-Hawamdeh (2003) gave broader perspective of the definition of knowledge sharing and defined "knowledge sharing as a process where individuals exchange both explicit knowledge and tacit knowledge and collectively generate new-fangled knowledge". Knowledge sharing is a humanoid piece of work and is taken as significant action for an organisations (Ives, W. & Gordon, 2014).

The summary of all the definitions is that in organisations the major value of knowledge can be attained when it is shared, because knowledge sharing facilitates new knowledge creation that helps to increase job performance of the employees, enhance intellectual capital, revolutionise employee's as well as organisational competitiveness and reduce cost (Cohen & Levinthal, 1990; Zhang et al., 2006).

Knowledge sharing denotes the process of transferring information about a particular task and know-how that assist other people to unravel difficulties, create novel concepts, or implement strategies (Cummings, 2004; Pulakos, et al., 2003). The process of knowledge sharing can transpire either through written or oral communications, through interacting with various professionals, or codifying, establishing and apprehending knowledge for future use (Cummings, 2004; Pulakos et al., 2003). The terms "knowledge sharing", "knowledge transfer" and "knowledge exchange" have different meanings. Knowledge transfer includes the movement of knowledge between the knowledge possessor and the knowledge receiver, that may be

diverse components, divisions, or administrations and not individuals and execution of that knowledge by the receiver (Szulanski, et al., 2004). Although "knowledge exchange" has been used interchangeably with "knowledge sharing"; as knowledge exchange comprises of both knowledge sharing and knowledge seeking and therefore, to evaluate both knowledge sharing and seeking, the term "knowledge exchange" is used (Cabrera, et al., 2006).

There are various studies that have focused on factors which influence knowledge sharing. The organisational and technological factors are based on the organisational perspective for importance of knowledge sharing but individual factors are solely the factors of the employees that affect their willingness to share the knowledge.

2.2 Demographic profile and tacit knowledge sharing behaviour

Numerous research studies have observed the role of demographic variables in knowledge sharing. People having different genders, job ranks, experiences etc. show different attitudes towards knowledge sharing; some are knowledge seeker, but don't want to share their own knowledge and on the contrary, some are enthusiast to share their knowledge. Brief literature about the role of demographic variables in the knowledge sharing behaviour of employees of the organisations in various sectors with international evidence is discussed below.

Gender emerged as one of the significant demographic variable that influences intention to share knowledge. Bordia, et al. (2006) investigated that the men and women have different assessment criteria and apparent aids of knowledge sharing that influence their intent to share knowledge. Knowledge sharing occurs either directly between individuals or through a medium of an electronic KMS (Knowledge

Management System); in both the cases women exhibit higher perceived benefits of knowledge sharing than men. These findings suggest that women prefer to participate more in knowledge sharing activities than men. On the contradiction, Taylor (2004) reported that men use more of the knowledge sharing tools as compared to women. Lin (2006) examined the role of gender in knowledge sharing on the basis of instrumental ties (transactional in nature and involve an individual for collecting information, resources and opinions essential to complete a job) and expressive ties (include terminologies of personal affect like friendship or enmities) (Umphress et al., 2003) and comprehended that instrumental ties have more affect on knowledge sharing behaviour of women, whilst expressive ties have more affect on knowledge sharing behaviour of men.

Tenure also seems to significantly influence knowledge sharing behaviour. Bordia, et al., (2006) initiated that organisational tenure also have influence on knowledge sharing if employees are sharing it through face to face conversations, and not so when it gets shared using e-tools. Bordia, et al., (2006) and Watson & Hewett (2006) contended that tenure of the employees in a particular organisation is positively correlated to knowledge sharing behaviour as with the increase in tenure in an organisation, trust and commitment for that organisation also increases and both trust (Chowdhury 2005; Wang et al., 2007) and commitment (Van den Hooff & De Ridder 2004) are positively related to knowledge sharing behaviour. Another reason for the positive relationship between organisational tenure and knowledge sharing behaviour could be team tenure. Bakker et al. (2006) also accounted a positive correlation amid the years spent by an employee in a team and his knowledge sharing behaviour, and concluded that the more team members work together, the more they experience

effective commitment to the profession and with this increasing commitment they get engage in knowledge sharing behaviour more.

2.3   HR practices and tacit knowledge sharing behaviour

There are various HR practices that influence knowledge sharing. Jimenez-Jimenez, & Sanz-Valle (2012) shows a optimistic association between HR system and the knowledge management procedures. Agrawal et al. (2012) identifies several human resource management challenges faced by Indian software industry are managing human resources in globally distributed team, shortage of software professionals having sufficient knowledge and competencies, low-skilled nature of the work, lack of well-developed HR systems and processes, high employee turnover, lack of work-life balance, and the problems associated with the use of contract employees. Fong et al. (2011) investigated the association amid HR practices and Knowledge Sharing from the Malaysian industry and concluded that recruitment, collaboration, training, and appraisals, showed a constructive association with knowledge sharing. Algorta, & Zeballos (2011) analyse the best practices that need to be circulated as effective human resource practices to enhance knowledge management (KM). Tong et. al (2013) identified a sturdy association between HRM practices and knowledge management by outlining the way HR practices can augment the organisation's levels of knowledge attainment, distribution and implementation.

Training is giving information to employees to certainly advance the effectiveness and efficiency of organisations (Leard, 2010). Training allows organisations to perform more efficiently as it develops the employees to become new leaders (Noe, 2002). Training give benefit not only to the organisation but to the individuals too (McNamara, 2010); as

it generates the sense of belongingness among the employees. It helps in enhancing the skills of employees and making them knowledgeable, that develops the workforce professionally (Adams, 2002). Training has other benefits of increasing job satisfaction and enhancing the employee's motivation and morality that in turn helps in developing the innovative strategies and products and improving the process efficacies and reducing employee turnover (McNamara, 2010). Training also prepare the employees to accomplish the organisational objectives, to overcome the revolutionary challenges in the organisation and to work on new technology or project (Noe, 2002).

The theories of training are altering with changes in this dynamic world. It is apparent that with the increasing pace of management approaches existing for new leadership skills trainings, ancient training pedagogies are not appropriate. There are numerous things to communicate and learn while training, but with the traditional ways of training, it is not easy to execute and understand them. Moreover, it is also analysed that in learning actions like speech, understanding and codifying, the idea will be elapsed straightforwardly (Sogunro, 2004). The primary motive of training is to enhance the skills of employees, and therefore should be designed to reap these aids. These outmoded training methods might be formal or informal. The inappropriate trainings lead to conflicts among personnel and their administrations that influences organisational performance and efficiency (Sahinidis, 2008). Training helps the organisations in achieving their goals by enhancing the employees' job satisfaction, performance and commitment (Abbas, 2009).

It is alleged that training plays a vital role in enhancing the leadership qualities of the employees (Bennis & Nanus, 1997; Conger, 1992; Yang, 2007). With the increasing

pace of life in societies, the proportion of fluctuations in the organisations is also growing. To blend with these fluctuations, it is more challenging for organisations to develop meaningful and effective training programs (Lingham et.al., 2006). Training is the key means in organisations for knowledge attainment and skill development of employees (Ailar Rahimli, 2012).

Training can be defined as a procedure of evolving work-related knowledge and skills in employees to refine their performance analytically (Blanchard & Thacker, 2009). Caligiuri & Tarique (2004) also define training as a thoughtful, deliberate and organised procedure to change and develop knowledge, morals, attitudes, practices and skills through learning experiences of employees so that a set level of performance in the job can be achieved. The top-level employers can have a substantial influence on employees for the attainment, transmission, formation and implementation of knowledge and skills (Soliman and Spooner, 2000; Loosemore, et al, 2003). Using later acquisition, documentation, transfer, creation and application of knowledge of organisations, Frazis and Loewenstein (2005) has found that while the incidence of training is positively related both to knowledge levels and to knowledge growth. Their finding suggests that there is substantial congruousness in returns to training, and the acquisition, transfer, application knowledge.

Armstrong (2000) classified training methods as: On-the job methods and Off-the job methods. On-the job training methods can be defined as planned, structured and deliberate form of training methods that comprises of well-directed pedagogical involvements and where the workplace purposes as a place for training (Kuijer, 2007; Pacine, 2005). Off-the job training methods are those where focus is on the training given on the ways to solve the problems or task oriented activities, away from the

work place, to make the employees free from direct pressure of completing the jobs. (Khaksar et al., 2011; Pacine, 2005).

Apart from Training, various cultural factors that probably affect knowledge sharing has been recognised in antecedent studies. Tong et al. (2013) analysed the mediating effect of knowledge sharing amid organisational culture and job satisfaction. The synonyms of the term organisational culture supporting knowledge management (Mueller, 2012), are: "knowledge culture" (Oliver and Kandadi 2006), "knowledge-centred culture" (Janz & Prasarnphanich, 2003), and "knowledge-friendly culture" (Davenport et al., 1998).

The previous studies determined various results by investigating the association between learning culture and knowledge sharing. It is analysed that a climate that fortified new thoughts and helps the employees to learn from the failures was positively associated to effective knowledge sharing (Taylor and Wright, 2004). Hsu's (2006) findings too supported unremitting learning initiatives. Lee, et al. (2006), however, failed to discover a substantial association amid learning orientation of the organisation and their knowledge sharing behaviour. Ghobadi, & D'Ambra (2012) approved that the cross-functional cooperation directly influences effective knowledge sharing behaviours.

Bock et al., (2005) examined how the extrinsic motivators, social-psychological forces, and organisational climate act as determinants in developing the intention of employees, for knowledge sharing. Small and Sage (2006) projected that virtuous societal associations and a promising organisational culture enhances knowledge-sharing intentions. The organisational culture items like morals, standards, practices, have significant influence on individual's knowledge conception and distribution

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intentions (Ailar Rahimli, 2012; McLaughlin, 2010; Holton, 1996). Seyler et al. (1998) intellectualised that organisational climate including, peer support and supervisor sanctions are substantial predictor for enhancing motivation of knowledge transfer. Radaelli, et al., (2011) support intellectual capital contributing to facilitate Knowledge Sharing behaviours relationship; also indicate that it is fully mediated by organisational knowledge-sharing climate. Ali- Al, H. (2011) showed that there is a relationship between corporate culture and the affective, cognitive, and behavioural tendency of attitudes toward organisational change. Lee & Yu (2011) concluded that an organisation should create, and uphold, associations between employees to advance the sharing of knowledge in the organisation, that helps in forming organised knowledge databases for the organisation. Donate & Guadamillas (2011) and Carmeli et al. (2010) delivers evidence of a moderating effect of knowledge-positioned culture, and knowledge- positioned HR practices for knowledge investigation and manipulation. Mallett & Wapshott (2012) offers an in-depth qualitative research to present that greater degree of formality in the organisational culture influences knowledge sharing.

Trust as another element of organisational culture, is the vital point of each association within the organisation (Fox, 1974). Trust is demarcated as the act of becoming open to individuals grounded on the virtuous acknowledgement of the outcome of their deed (Gambetta, 2000). Trust has been verified as the utmost cost effective method for enhancing knowledge sharing within the members of the organisation as it leads to the propensity of higher cooperation and commitment (Dyer and Singh, 1998; Molm, 2003). Nonaka & Tekeuchi (1995) and Kalantzis & Cope (2003) determined that trust of employees among themselves enhances the process of

knowledge sharing; as the sender distinguishes the receivers to be truthful, trustworthy, and reliable. An organisational culture if accentuates trust eases the negative influence of apparent expenses on sharing as it leads to cooperative team perceptions (Bock, et al., 2005; Chiu, et al., 2006; Collins & Smith, 2006; Kankanhalli, et al., 2005; Liao, 2006; McKinnon, et al., 2003; Ruppel & Harrington, 2001; Willem & Scarbrough, 2006). On the other hand, an organisational culture accentuating competitive environment, creates a barrier to knowledge sharing (Schepers & Van den Berg, 2007; Wang, 2004; Willem & Scarbrough, 2006). Lin and Lee (2006) identified the factors like perceptions of the employers related to the advantage of knowledge sharing, compatibility to prevailing business process, and intricacy to inspire knowledge sharing, that have mediating effect between organisational culture and intent of the organisation to motivate employees for knowledge sharing. Various studies established both direct and indirect, but positive correlation of leadership (Singh, 2008; Farrell et al., 2005; Srivastava et al., 2006) and trust (Chowdhury, 2005; Dirks, 1999; Farrell et al., 2005; Kimmel et al.,1980; Renzl, 2008) with team knowledge sharing. Lin (2007) and Gian Casimir et.al., (2012) also discovered the mediating effect of trust on fairness, cooperativeness, communal grid associations that in turn leads to effective knowledge sharing among employees. Teh & Sun (2012) shows that job involvement and job satisfaction are definitely associated to employees' knowledge sharing behaviour. Though, organisational commitment has a adverse association with knowledge sharing behaviour.

Ardichvili et al., (2003) and Levin and Cross (2004) identified that online forum hampers employee's own inspiration to share knowledge. Levin and Cross (2004) operationalised the concept of knowledge transfer by using the term receipt of useful

knowledge. This term denotes the perceived receipt of knowledge (or information) that has a positive affect on the receiver's work. They describe trust as a multidimensional characteristic and examine its affect on weak ties in enhancing knowledge sharing. In their discussion of the elements of trust they cite McAllister (1995) as having demonstrated "empirically the importance of two types of trust". These were affect-based and cognition-based trust. However, they used a subset of these two dimensions in their empirical study, citing Mayer (1995). They suggest that benevolence (or institution based, according to Ardichvili et al., 2003), has a large effective component and that the second one, competence (or knowledge based, according to Ardichvili et al., 2003) has a large cognitive component, and then proceed to use these two as an operationalisation of the effective and cognitive domains. Their study, using a large survey based data collection, showed that both benevolence and competence-based trust have a positive influence on knowledge transfer. It also showed that trust is "a critical mechanism underlying the knowledge benefits of strong ties" (Levin & Cross 2004). The measurement of trust was based on the work of Johnson et al. and McAllister (1995), both of whom measured trust using a survey instrument.

In their qualitative study of inter-company knowledge sharing, Dyer and Nobeoka (2000) described the prevention of 'free-riders' as an important step to motivate participants to share knowledge. This can be viewed as a manifested form of benevolence based trust. The prevention was enabled due to the formal nature of the network studied: the participants had to officially commit to sharing relevant knowledge. The study did not suggest a surrogate or a way to measure the "free-riding' factor.

Cruz, et al. (2009) specified that employees share their knowledge actively when organisations provide them favourable working conditions that leads to their personal and professional development. The learning of Hauschild, et al. (2001) claimed that the utmost significant knowledge of the organisation is the knowledge that is embedded in the minds of its employees; i.e. their tacit knowledge. As this tacit knowledge is personalised in nature, it is imperative to discover that what motivates employees to share their tacit knowledge (Amar, 2004; Hauschild, et al., 2001).

A proportion of the research has focused on identifying and describing, empirically, the factors that affects knowledge sharing (Ardichvili et al., 2003; Burt 2004; Cross & Cummings 2004; Cummings, 2004; Dyer & Nobeoka 2000; Hansen, 1999; Hansen, 2002; Levin & Cross 2004; Owen-Smith & Powell 2004; Reagans & McEvily 2003; Stenmark, 2000). Among those factors, employees' commitment as well perform an immense role in flourishing the motivation to share knowledge and consequently, it is suggested to organisations to take measures to upsurge employee commitment (Hislop, 2003).

Self-managed teams give team members with decision-making authority that in turn increases the performance of the team (Erez, et al., 2002; Lawler, et al., 1995; O'Connell, et al., 2002; Sivasubramaniam, et al., 2002; Spreitzer, et al., 1999). It is also supported in literature that peer mentoring consents teams to be more effective and there is positive association between knowledge sharing and team performance (Faraj & Sproull, 2000; Hong et al., 2004).

Reward systems give an outline to the culture of the organisations as they influence communication, motivation, satisfaction, and membership (Lawler, E. E., 2008).

There is much empirical evidence that suggests that reward system being an indispensable attribute to employee engagement, affects their performance, as it encourages an employee to focus on their job and personal development to achieve competitive advantage (Maltz & Kohli, 2002, Furtado et al., 2009). A study by Saks and Rotman (2006) discovered that rewards either monetary or in the form of recognition are significant antecedents of higher levels of engagement as they make the employee feel appreciative. Kahn (1990) examined that regardless of the amount or kind of reward given by the organisation; it is employee's acuity of the advantages they get that affects their commitment towards the organisation. Therefore, to utilise the employee strength and knowledge, it becomes crucial for administration to present adequate norms of rewards for their employees. In line with the study, Loscocco (1990) and Mottaz, (1988) also concluded that more will be the pay satisfaction, more the employees will be committed to the organisation. However, Malhotra et al., (2007) who defined pay satisfaction as "Pay satisfaction is defined as the perceived satisfaction with pay for the work done, as well as the relative satisfaction with pay compared to that provided by other organisations" turn out with conflicting results that pay satisfaction may not have any relationship with the employee's commitment towards the organisation. Some studies even found the negative correlation between the two variables (Eby et al., 1999; Chiu et al., 2002; Yu et al., 2003).

The literature of knowledge management field speculated that rewards energise the knowledge sharing behaviour of the employees (Argote et al., 2003; Bock & Kim, 2002, Bock et al., 2005; Burgess, 2005; Cabrera & Cabrera, 2005; Cabrera et al., 2006; Zárraga & Bonache, 2003). Yet, contrary to common belief, the expected positive affect of tangible rewards often fails to materialise and may impede instead of encouraging the

development of knowledge sharing attitude of the employees (Bock & Kim, 2002; Bock et al., 2005; Cabrera et al., 2006). Research in psychology field (Deci et al., 1999; Frey 1994) additionally demonstrates that extrinsic rewards reduce intrinsic motivation; escorting towards the decreased exertion in the comparing movement.

Antecedent studies show that financial motivating forces are a mainstream implies for organisations to advance the knowledge sharing process (Cabrera et al., 2006; Kwok and Gao 2005; Kulkarni et al., 2006; Lin 2007) in contradiction to the belief of belief, Bock et al., (2005) who found the negative correlation between extrinsic rewards and knowledge sharing attitude of employees.

Administrative rewards have instituted to influence the inspiration to share knowledge (Alony, 2006). Bock & Kim (2002) and Dyer & Nobeoka (2000) identified financial incentives to persuade a negative influence on knowledge sharing and non-financial incentives enhances knowledge sharing crossways organisational borders. It is also contended that expected rewards can have a positive influence on knowledge sharing process (Gian Casimir et.al., 2012). The absence of an effective, reasonable and satisfactory reward system is a communal blockade to the procedure of knowledge sharing as with rewards employees may not be enthusiastic to share their knowledge (Constant et al., 1994; Cruz et al., 2009; Hansen et al., 1999; Huber, 2001; Pardo et al., 2007; Riege, 2007; Stevens, 2000; Szulanski, 1996; Voelpel & Han, 2005).

Undoubtedly, numerous organisations have used rewards to propel their employees for knowledge sharing and its influences on knowledge sharing are affirmed in various studies (Burgess 2005; Kwok and Gao 2005; Cabrera et al., 2006; Kulkarni et al., 2006). It is quoted in the literature of Cabrera et al., (2006) and Lin (2007) that

intrinsic rewards have an immense affect on the knowledge contribution of employees in the organisations, as the employees perceiving higher intrinsic rewards are strongly associated with the knowledge sharing process.

The rewards act as intercessions to persuade knowledge sharing and facilitate in developing a cooperative culture (Hansen, et al., 1999; Liebowitz, 2003; Nelson, et al., 2006) and therefore, absence of rewards as motivating forces has been recommended to be a real hindrance to knowledge sharing crosswise over societies (Yao, et al., 2007). In light of both social exchange and social capital theories, authoritative remunerates, for example, advancement, reward, and higher compensation have been demonstrated to be absolutely identified with the recurrence of knowledge contribution of the employees (Kankanhalli et al., 2005). Similarly, employees who recognised a more elevated amount of motivating forces to share and utilisation information are more inclined to knowledge sharing (Cabrera et al., 2006; Kulkarni et al., 2006). It is also found that an authoritative accentuation on performance based pay framework added to knowledge sharing (Kim and Lee, 2006).

Along with the presence or absence of rewards it is also examined in literature that how distinctive types of rewards influence knowledge sharing and established a finding that a cooperative or group-based reward system positively influence knowledge sharing between the team members, whereas a competitive or individual based reward system had the inverse influence (Ferrin and Dirks, 2003; Siemsen, et al., 2007; Quigley, et al., 2007; Taylor,2006) and therefore L. Weiss (1999) stressed the need to adjust the rewards as motivating forces for enhancing knowledge sharing.

Prior research has distinguished monetary rewards as a distinctive motivating force utilised by organisations to persuade employees to share their knowledge and locate the difficulty in knowledge hoarding (Bock et al., 2005, Hung et al., 2011). However, empirical exploration demonstrates no huge influence of monetary rewards on attitude towards knowledge sharing (Bartol & Srivastava, 2002; Bock et al., 2005; Hung et al., 2011) and recognised extrinsic rewards such as reciprocity and enhanced reputation (Kankanhalli 2005, Welschen et al., 2013) and verbal rewards as feedback and praise (Deci et al., 2001) as the motivating rewards for knowledge sharing.

The concept of knowledge sharing has been evolved in the last decade and researchers have explored it in diverse perspectives (Burke, 2011; Chen, et al., 2010; Ford & Staples, 2010; Koch, 2011; Matzler et al., 2011; Ogunseye et al., 2011; Sugarman, 2010). Numerous studies have been conducted on the role of rewards given by the employers in IT companies in knowledge sharing, but the in-depth investigation of the theme is under researched. Drawing upon the financial trade theory, social trade theory, and anticipation theory, there are predominant ways to deal with inspiration in the literature of knowledge management (Bock & Kim, 2002; Bock et al., 2005; Cabrera & Cabrera, 2005, Watson & Hewett, 2006); and in this manner, have not possessed the capacity to sufficiently clarify the association amid rewards and knowledge sharing and especially tacit knowledge sharing.

Tacit knowledge sharing being accepted as a positive strength for the survival of an organisation; provides the organisation with a competitive advantage (Lee, 2001). It also helps in strengthening organisational learning as it adds on to the knowledge base of the organisation which can be referred in future to increase organisational and

individual performance. Creative ideas, a form of tacit knowledge, can also help in innovation of new products or services (Boisot and Griffiths, 1999; Connelly and Kelloway, 2003; Hall, 2001; Prusak, 1999; Smith and Farquhar, 2000). These tacit novel ideas, if shared efficiently increase organisational learning. Tacit knowledge sharing also helps in tracking new skills which enable the organisation and the employees in shaping the organisational environment.

The emerging importance of tacit knowledge sharing for the accomplishment of knowledge management and organisational survival has been cited in the literature. It is not dubious to say that tacit knowledge remains stored in the minds of the employees in organisations and therefore, it is the foremost thing to study the factors that enhance Tacit Knowledge Sharing behaviour (TKSb) of employees? This study, therefore, aims at identifying the role of reward system that enhances the TKSb of employees of IT companies in India. Prior researches have demonstrated the mix results for the affect of rewards on knowledge sharing; but there is no literature on the relationship of rewards and tacit knowledge sharing and that so also explicitly in IT companies.

2.4 KM tools and tacit knowledge sharing behaviour

Nour-Mohammad Yaghoubi et al. (2011) concluded that in an organisation IT plays a dynamic part in institution of knowledge management and therefore is an integral component of knowledge management. Also, there is a positive and substantial association amid IT substructures and elements of knowledge management. On the contrary the study of Bock & Kim (2002) shows that there is no influence of IT infrastructure on knowledge sharing behaviour. Oye, et al. (2011) identified Technology as facilitators for knowledge sharing in an organisation. Ermine, J (2011) addressed the

problems associated to the design of relevant practices for knowledge management, analysing the specificity of knowledge creation by research organisations.

Many studies considered the affect of sharing knowledge across physical or organisational boundaries (Burt, 2004; Cross & Cummings 2004; Cummings 2004; Dyer & Nobeoka 2000; Hansen 1999; Hansen 2002; Owen-Smith & Powell 2004), but technology was not addressed as a factor affecting knowledge sharing in these studies. Bairi et al., (2011) contended that in IT services companies, there are innumerable strategic and technological critical factors that influence the achievement of KM programs. Zahedi et al. (2016) aimed at systematically identifying and synthesising knowledge sharing challenges and practices.

Technology will usually have a role in this kind of knowledge sharing, but it is observed that there is a scarcity of investigation into the role of technology in knowledge sharing networks (Reychav et al., 2013).

A good example of technology not improving, and even hurting knowledge sharing is described in a case study by Kautz (2005). In this case study, a document handling system was setup to support text-based project data. The knowledge stored in that system was often incomplete, as not all relevant documents were on the system. Searching documents was inconvenient and difficult, sometimes resulting in failure to find the relevant documents. Zhang et al. (2012) recommend that KM technologies are more noticeable on refining "Knowledge Sharing Visibility" in large department with routine tasks, and that low-level employees may have more optimistic behaviour on accepting communication tools on sharing knowledge.

Organisations can enhance knowledge creation and sharing through abundant developments that include R&D programs, encyclopedias and databases, interdepartmental sharing of best practices, providing training, giving access to intranets, and other technological tools (Boisot, 1998; Stewart, 1997; Szulanski, 1996). Virtual communities are another tool for knowledge sharing that helps to convert employee's knowledge into valuable organisational knowledge (Voelpel & Han, 2005).

Hara and Hew (2007), discovered that online communities are the most significant tool that nurses undertake to share their practical tacit knowledge. Yi (2006) analyses the strengths and weaknesses of both face-to-face and online transfer of tacit knowledge. Hildrum (2009) encounters the outmoded opinions concerning the incapability of technology to ease tacit knowledge sharing. Curran et al. (2009) studied virtual community as a tool for knowledge seeking and sharing among rural and urban clinicians and concluded that online social networks are the significant tool for sharing experience based tacit knowledge and explicit knowledge in the healthcare setting. Aljuwaiber, A. (2016) provides insights about the important role of CoPs in fostering knowledge-sharing within business organisations. It suggests that the influence of globalisation has encouraged many business firms to intentionally establish CoPs as a vital tool for knowledge management (KM) initiatives.

Orzano et al., (2008) accepted by using social tools, tacit knowledge sharing can be better facilitated as these tools enable interaction and sharing of knowledge among individuals. With the increasing popularity of social web, employees and organisations are extensively using Web 2.0 tools and therefore needs more examination (Hughes et al., 2009). Chatti et al., (2007) assess social media and other Web 2.0 tools as being a perfect fit with Nonaka's SECI model (socialisation, externalisation, combination, and

Internalisation) facilitating knowledge sharing. Nilmanat (2009) and Chennamaneni & Teng (2011) allied degree of tacitness of knowledge with communication media, predominantly Web 2.0 tools and recommended to use Web 2.0 tools for low to medium grades of tacit knowledge and high-richness media such as video conferencing and face-to-face communication for sharing of high grade tacit knowledge. Paroutis, & Al Saleh (2009) discovered that there are four key determinants if knowledge sharing is done using Web 2.0 technologies and these are: history of knowledge, result prospects, alleged management support and trust. Schwaer, et al. (2012) revealed that both formal and informal tools influence the willingness of employees to seek or share knowledge.

More recently, Murphy & Salomone (2013) premeditated that in online learning environment there is a strong the association between revealing individual distinctiveness and its influence on tacit knowledge sharing. Jarrahi & Sawyer (2013) also exhibited that the utmost effective podiums for sharing informal knowledge and innovative ideas within and across organisations are social web tools, predominantly communal ones. Though, their discoveries did not focus on tacit knowledge, but the factors acknowledged are extremely allied with the sharing of tacit knowledge (Gordeyeva, 2010). In the aforementioned studies, it is clear that researchers are still in dilemma that whether online web tools can enhance tacit knowledge sharing (Abidi et al., 2009; Dave & Koskela, 2009; Gordeyeva, 2010; Hsia et al., 2006; Lopez-Nicolas and Soto-Acosta, 2010; Steininger et al., 2010; Zheng et al., 2010). Panahi, S. et al. (2013) concludes that there are substantial theoretical evidences that support the belief that the use of social web tools eases tacit knowledge sharing.

Blogs as another tool for knowledge sharing, support sharing of tacit knowledge and their insights or experiences by forming a space that empowers every individual to

converse, proximately elucidate and codify their assessments in an approachable setting (Ardichvili et al., 2003; Chatti et al., 2007; Gordeyeva, 2010; Wan & Zhao, 2007). Blogs are also supportive in interacting and associating inside and crosswise organisations that permit employees to complement their opinions with multimedia files like images or audio-video demonstrations, which are essential for tacit knowledge creation and sharing (Jarrahi & Sawyer, 2013).

Wikis provide a collaborative space for tacit knowledge capturing and sharing escorted with social connections (Cress and Kimmerle, 2008) and are one of the finest illustrations of harnessing shared intellect (Chatti et al.*,* 2007; Gordeyeva, 2010). The social networking platforms helps in developing voluntarily based social communities of practice (CoPs), that enhance relationship among employees, endorse technical debates and are indispensable for sharing tacit knowledge (Chatti et al., 2007; Hildrum, 2009; Parker, 2011; Perez-Araos et al., 2007; Raisanen & Oinas-Kukkonen, 2008). The advent of social web technologies in forms of online social networks, blogs and wikis, also helps in sharing tacit knowledge as they are used extensively in organisations, (Abidi et al., 2009; Chatti et al., 2007; Dave and Koskela, 2009; Hsia et al., 2006; Khan and Jones, 2011; Lopez-Nicolas & Soto-Acosta, 2010; Marwick, 2001; Murphy & Salomone, 2013; Steininger et al., 2010; Zheng et al., 2010).

Although, IT (such as intranets, databases, e-mail, web pages, bulletin boards, and electronic forums) is a key enabler of knowledge management and a influential means for sharing knowledge (Ghazali et al., 2010; Mitchell, 2003; Song, 2001), still apart from IT based tools for knowledge sharing there are various other tools like manuals, conferences etc that drive the intention to share knowledge (Gian Casimir et.al., 2012).

CHAPTER 3

RESEARCH METHODOLOGY

3. INTRODUCTION

Slesinger and Stephenson (1930) defined research as "the manipulation of things, concepts or symbols for the purpose of generalising to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art."; and hence research is the novel input to the prevailing stock of knowledge, that expands knowledge base.

In other words, Research is "systematic inquiry to describe, explain, predict and control the observed phenomenon. Research involves inductive and deductive methods. Purpose of inductive research methods is to develop explanations by identifying the general principles, structures, or processes by analysing the observed phenomenon whereas purpose of deductive research methods is to validate the hypothesised principles through observations". (Babbie, 1998)

Research methodology is the methodical process that initiates with problem identification followed by collection of facts/data for that problem and then analysing it to draw the conclusion, that will be either the solution of the problem identified or convinced generalisation to formulate the theory. Since there are many facets of research methodology, by assessing research objectives suitable methodology has to be selected from a variety of alternatives available for research design; sampling, data collection and analysis techniques. Research methodology drives the researcher to the right pathway, from selecting the topic

and pursuing till recommendations. The importance of this chapter lies in the concept of right methodology that is the foundation of the entire research plan.

Hence, the main objective of this section is to illustrate the grounds for the choice of the research methodology and methods implemented to accomplish the research objectives of the study.

The chapter starts with the description of the problem statement, trailed by the proposed conceptual framework. Research objectives are elaborated in detail to have clear idea that why these objectives have been framed. Hypotheses of the study along with practical and theoretical significance of the study have also been discussed in this chapter. To achieve higher degree of reliability and validity, a systematic research process has been carried out and the steps involved in the research process are presented in the form of flow diagram. In the end, the chapter explains the research design by giving the clear idea of data collection method, sources of data and the research instrument followed by the summary of data analysis method.

3.1 Description of the Problem Statement

Historically, it has been considered in the organisations that the key source for generating and implementing knowledge is capital, raw material and labour. But with the advancement of knowledge management in this informational age traditional belief has been changed and now, knowledge has not only developed as the significant economic resource for the organisations to achieve competitive advantage; but has also as the essential element of all the activities in the society (Omotayo, 2015). Bonner (2000) conducted a survey and realised that more than

90 percent of the knowledge in organisations is the tacit knowledge, i.e. the knowledge embedded in employee's minds; and this tacit knowledge is the imperceptible in corporate resources (Smith, 2001). But only the presence of tacit knowledge is not enough; its sharing is imperative for organisational growth. To motivate the employees so that they share their tacit knowledge, organisations must implement practices which create an inherent desire in the minds of the employees for doing the same. In today's "knowledge-based" economy, effective HR practices are becoming increasingly important as the companies are facing the twofold challenge, as they need highly proficient employees and there is the scarcity of competent labour, (Audretsch and Thurik 2000, 2001). There are various practices that can be implemented in the IT companies, but it is important to identify those HR practices that contribute in motivating employees to enhance their Tacit Knowledge Sharing behaviour (TKSb) among themselves. Therefore, this study focuses on identifying the key HR practices that enhances Tacit Knowledge Sharing behaviour of employees of IT companies in India.

Motivation of employees to share their tacit knowledge is followed by giving them opportunities and laying down procedures to share their tacit knowledge. If they are no means to share their knowledge, then motivation alone will not create conducive environment to share knowledge. Thus, in IT companies the employees are provided with some tools, like Group Discussion, Brainstorming etc, to share their tacit knowledge. But, now-a-days, as more people are becoming technology savvy, it is important to complement this Non-Technology based tools with Technology based tools, like portals, videoconferencing etc to enhance the sharing of tacit knowledge among the employees of IT companies. Therefore, the current

research study also focuses on identifying the key KM tools that IT companies must provide to boost the tacit knowledge sharing process in their organisation. Hence the primary objective is defined as:

"To analyse the role of HR practices and KM tools in transfer of tacit knowledge of internal customers of IT companies in India".

It has been found that there is exhaustive literature on HR practices of IT companies but rare substantiation has been found on role of HR practices and KM tools for TKSb. It has also been found that IT companies appreciate the importance of knowledge sharing for achieving competitive advantage but focus is more on already codified ideas. Literature also suggests that creativity, which is an integral part of tacit knowledge of employees, is appraised in IT companies but not encouraged through HR practices.

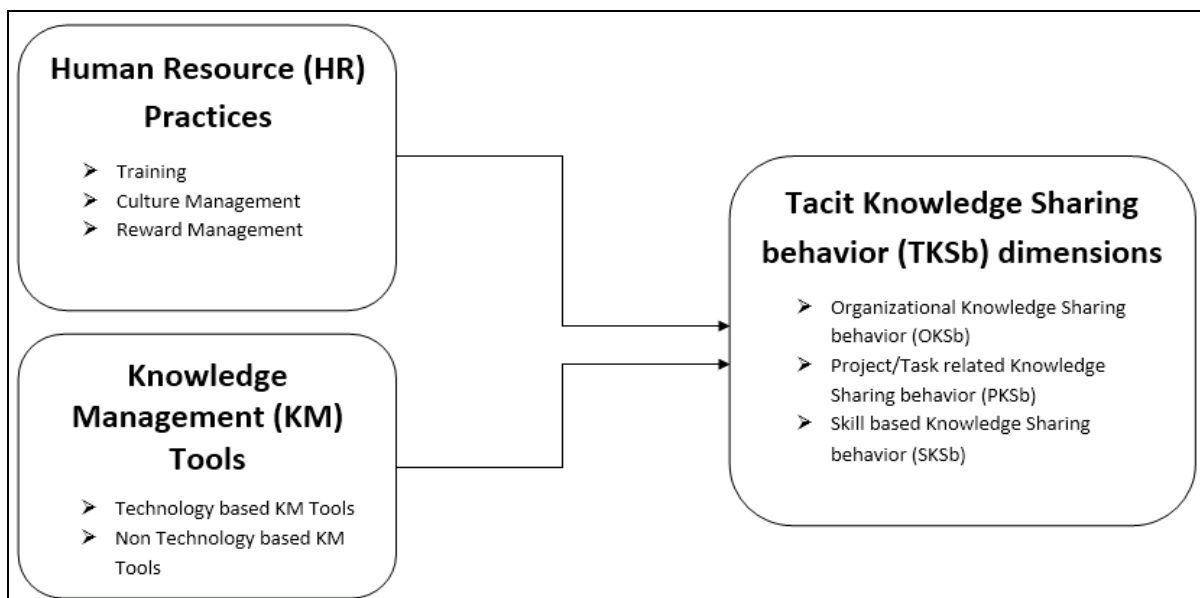## 3.2   Proposed Conceptual Framework for Tacit Knowledge Sharing behaviour (TKSb) Facilitators

Figure 3.1: Proposed Conceptual Framework for HR practices, KM tools and TKSb dimensions

3.3 Detailed description of HR practices in proposed conceptual framework

Various HR practices have been identified from exhaustive Literature Review (as shown in Fig 3.2). The identified HR practices from literature were given to the senior professionals in the IT companies in India, for ranking according to the importance of the practice in their respective organisations. From the analysis of the ranking given by professionals through Delphi technique, the HR practices that emerged as most prevalent HR practices being implemented in the IT companies include (encircled HR practices in Fig 3.2:):

a) Training

b) Culture Management

c) Reward Management

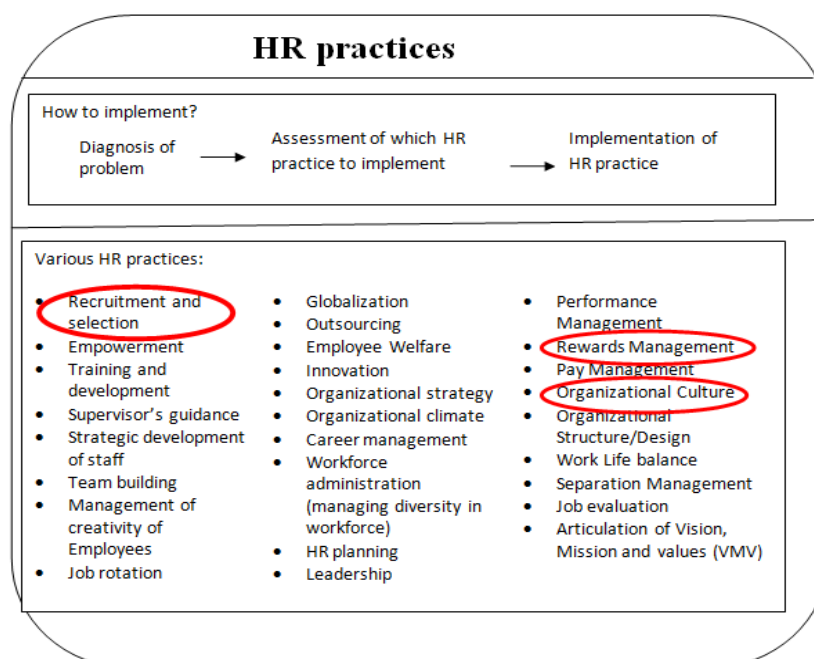Therefore, these HR practices are identified to analyse their role in knowledge sharing.

Figure. 3-2: HR practices identified from Literature Review

3.3.1 Detailed description of identified training methods

Training is **gi**ven in two forms: On-the Job and Off-the job. The senior HR professionals in IT companies were asked to identify the most prevalent On-the job training methods and Off-the job training methods, which are presented in Table 3.1:

Table 3.1: List of On-the job training methods and Off-the job training methods

On-the Job training methods	Off-the Job training methods
• Apprenticeship	• Audio-Visual/Programmed Instructions
• Coaching	• Case Study method
• Committee Assignments	• Classroom Lectures
• Internship	• Role Playing
• Job Instruction	• Simulation
• Job Rotation	• Vestibule Training

3.3.2 Detailed description of identified Culture Management (Hofstede's dimensions)

In the organisational culture, Hofstede's dimensions and their variables have been identified and examined in the study (Table 3.2):

Table 3.2: List of the Hofstede's dimensions with their variables

Individualism	• Independent working
	• Task prevails over relationship
	• Focus on Speaking one's own mind
	• Not accepting group's decision
Collectivism	• Team work
	• Accepting group decision
	• Problem solving in groups
	• Relationship prevails over task
Low Power Distance	• Sharing own ideas with top management
	• Sharing own ideas with peer members
	• Bottom up approach
	• Collaborative work environment and Less hierarchy
High Power Distance	• Top down approach

	• Employees reluctant to trust one another
	• More networks and alliances
	• No harmony between the powerful and powerless
Masculinity	• High competition between employees
	• Paranoid that someone else will take the job
	• Achievement orientation
	• Employees believe in competitiveness and acquisition of wealth
Feminity	• Feeling of security in sharing knowledge
	• Relationship orientation
	• Open discussions
	• Quality of life is an important characteristic of employee's value
Less Uncertainty Avoidance	• Willingness to take conscious risk
	• Not following the experts
	• Employees have less need for definite prognosis
	• No standard procedures
More Uncertainty Avoidance	• Efforts to avoid failure are higher
	• Adopting something new is taken as risky
	• Standard operating procedures in handling tasks are followed
	• Employees have strong need for definite prognosis

3.3.3 Detailed description of Reward Management

Most prevalent monetary and non-monetary rewards in IT companies have been identified through Delphi Technique and are as follows (Table 3.3):

Table 3.3: List of Monetary and Non-Monetary rewards

Monetary Rewards	Non-Monetary Rewards
• Allowances	• Children care benefits
• Annual increment	• Fringe benefits (movie tickets, mobile bills, discount coupons)
• Earn leave	• Flexible scheduling
• Honourarium	• Insurance/Medical benefits
• Incentives /Bonus	• Luxury benefits (house, chauffer driven car)
• Retirement benefits	• Paid vacation

3.4 Detailed description of Knowledge Management (KM) Tools in proposed conceptual framework

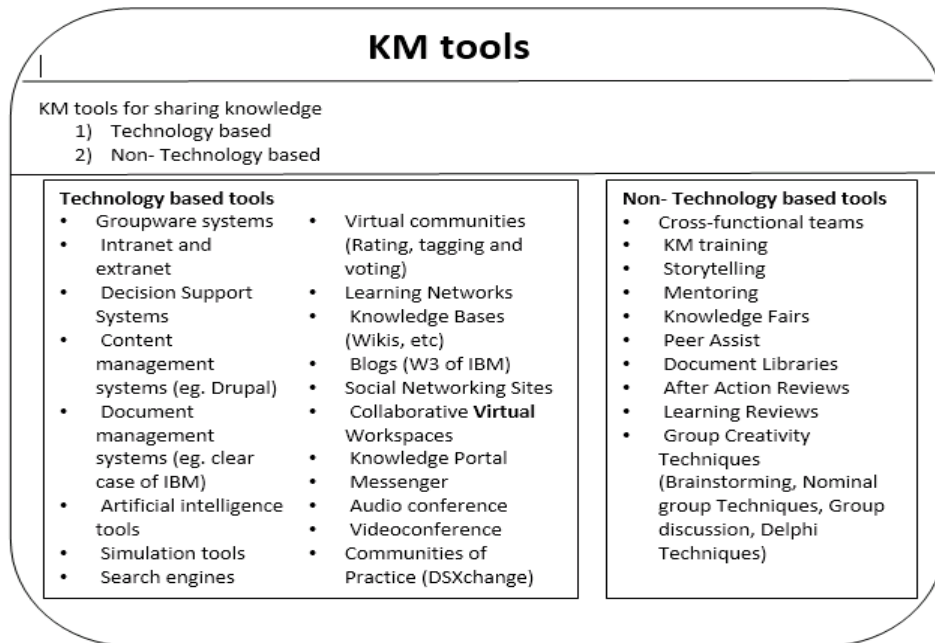The senior professionals in the IT companies were asked to rank the identified KM tools (Figure 3.3).

KM tools

KM tools for sharing knowledge
1) Technology based
2) Non- Technology based

Technology based tools		Non- Technology based tools
• Groupware systems • Intranet and extranet • Decision Support Systems • Content management systems (eg. Drupal) • Document management systems (eg. clear case of IBM) • Artificial intelligence tools • Simulation tools • Search engines	• Virtual communities (Rating, tagging and voting) • Learning Networks • Knowledge Bases (Wikis, etc) • Blogs (W3 of IBM) • Social Networking Sites • Collaborative **Virtual** Workspaces • Knowledge Portal • Messenger • Audio conference • Videoconference • Communities of Practice (DSXchange)	• Cross-functional teams • KM training • Storytelling • Mentoring • Knowledge Fairs • Peer Assist • Document Libraries • After Action Reviews • Learning Reviews • Group Creativity Techniques (Brainstorming, Nominal group Techniques, Group discussion, Delphi Techniques)

Figure 3.3: KM tools identified from Literature Review

From the analysis of the ranking given by professionals through Delphi technique, following are the most important KM tools implemented in IT companies (Table 3.4):

Table 3.4: List of IT based and Non-IT based KM tools

Technology based Knowledge Management tools	Non-Technology based Knowledge Management tools
• Blogs/K-logs • Collaborative workspaces • Content Management system (CMS) • Discussion forums • Groupware systems (like lotus notes) • Knowledge Portals	• Communities of practice • Cross functional teams • Group creativity techniques • Knowledge Cafes • Knowledge fairs • Mentoring

Therefore, these KM tools are chosen to analyse their role in knowledge sharing.

3.5 Detailed description of Tacit Knowledge Sharing behaviour proposed conceptual framework

To know the facets of Tacit Knowledge Sharing behaviour, again Delphi Technique has been used. From the discussion with the experts it is identified that there are three forms of Knowledge Sharing: Organisational Knowledge Sharing, Project/task Knowledge Sharing and Skill Knowledge Sharing. The variables of the three forms of Tacit Knowledge behaviour Sharing are shown below (Figure 3.4):
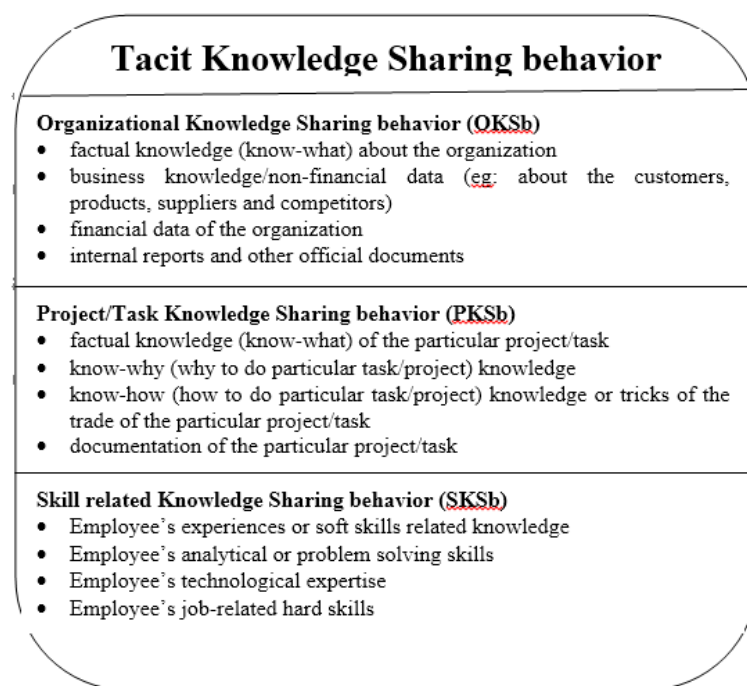

Tacit Knowledge Sharing behavior

Organizational Knowledge Sharing behavior (OKSb)
- factual knowledge (know-what) about the organization
- business knowledge/non-financial data (eg: about the customers, products, suppliers and competitors)
- financial data of the organization
- internal reports and other official documents

Project/Task Knowledge Sharing behavior (PKSb)
- factual knowledge (know-what) of the particular project/task
- know-why (why to do particular task/project) knowledge
- know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task
- documentation of the particular project/task

Skill related Knowledge Sharing behavior (SKSb)
- Employee's experiences or soft skills related knowledge
- Employee's analytical or problem solving skills
- Employee's technological expertise
- Employee's job-related hard skills

Figure 3.4: Forms of Tacit Knowledge Sharing behaviour (TKSb)

3.6 Research Objectives

The key purpose of the present research study is "*to analyse the role of HR practices and KM tools in transfer of tacit knowledge of internal customers of IT companies in India*". To achieve the above objective various research questions have been addressed, that are as follows:

1.   **To identify the role of demographic profile of employees of IT companies in India on enhancement of their Tacit Knowledge Sharing behaviour.**

Many antecedent research have reviewed the affect of demographic variables on knowledge sharing. People having different genders, job ranks, experiences etc show different attitudes towards knowledge sharing; some are knowledge seeker, but don't want to share their own knowledge and some conversely are enthusiast to share their knowledge. To enhance the knowledge sharing behaviour in organisations, it is imperative to analyse that employees of which demographic profile will be enthusiastic to share their knowledge; and therefore, the research study identified the role of demographic profile of employees of IT companies in India on enhancement of their Tacit Knowledge Sharing behaviour.

2.   **To identify the training methods to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.**

In the words of Leard (2010), "training is transferring information to organisation's members to positively improve the effectiveness and productivity of organisations". Training not only provides the organisations with valued employees to perform more efficiently but also helps in evolving innovative leaders (Noe, 2002). Training gives benefit not only to the organisation but to the employees too (McNamara, 2010); as it generates the sense of belongingness among the employees. It helps in enhancing the skills of employees and making them knowledgeable, that develops the workforce professionally (Adams, 2002). Training has other benefits of increasing job satisfaction and enhancing the employee's motivation and morality that in turn helps in developing the innovative strategies and products and improving the process efficacies and reducing employee turnover (McNamara, 2010). Training also prepare the employees to

accomplish the organisational objectives, to meet the revolutionary challenges in the organisation and to work on new technology or project (Noe, 2002).

Armstrong (2000) classified training methods as: On-the job methods and Off-the job methods. On-the job training methods can be defined as planned, structured and deliberate form of training methods that comprises of well-directed pedagogical involvements and where the workplace purposes as a place for training (Kuijer, 2007; Pacine, 2005). Off-the job training methods are those in which focus is on the training given on the ways to solve the problems or task oriented activities, away from the work place, to make the employees free from direct pressure of completing the jobs. (Khaksar et al., 2011; Pacine, 2005).

There are several On-the job methods and Off-the job methods; and it is difficult to implement each training method in the organisations and hence, IT companies implement some specific training methods in their organisation. But, merely giving training to the employees to increase their skills is not sufficient; it is also important to train them to share their tacit knowledge with other employees of the organisation. Therefore, the key training methods having correlation with the tacit knowledge sharing behaviour of the employees has been identified.

3.   **To identify the Hofstede's dimensions to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.**

Geert Hofstede developed Hofstede's cultural dimension's concept is an outline for explaining the communication among the people of different cultures. It explains the influence of the culture in a society on the moralities of its associates, and further the relation of their moralities to their performance. The initial Hofstede's theory proposed four dimensions: "individualism-collectivism; uncertainty avoidance; power distance

(strength of social hierarchy) and masculinity-femininity (task orientation versus person-orientation)" (Hofstede, 1980). The fifth dimension, "long-term orientation", has been later. The fifth dimension takes care of the other facets of values, that were not conversed in the initial theory. But for this study, the first four dimensions have been studied, to identify their role in tacit knowledge sharing behaviour.

4. **To identify the rewards to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.**

Achievements of the employees and improvement in their performance are significant activities of an organisation's performance management (Li et al., 2014). To create and reinforce a positive self-image in employees and to make them feel as valuable members of the organisation, appreciation in the form of rewards is mandatory (Driscoll & Randall, 1999). Organisation implement reward system to encourage employee's engagement and productivity and to increase their morale (Ferrin & Dirks, 2003). These rewards can either be monetary or non-monetary; for e.g., bonus, various facilities like additional time off etc. A corporate culture that rewards accomplishments inspire employees as they know that their organisation recognises their skills and praise their excellence on the job (Deci et al., 1999). With the increased importance of reward management in the organisations, it has also been studied in the current study as an independent variable.

5. **To identify the Knowledge Management (KM) tools to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.**

The Knowledge Management (KM) tools in organisations emphasise on the information's assimilation, understanding, and learning by the employees. Knowledge is firmly associated and related to the individual who generates it. As it is known that only

explicit knowledge can be stored and retained, it is important to codify tacit knowledge for further use. Therefore, Knowledge Management tools are required, to assemble, list, organise, and share tacit knowledge. To examine this, the key KM tools are identified and their role in tacit knowledge sharing of employees of IT companies in India is studied.

3.7 Hypotheses to be tested

In the words of Cooper & Schindler (2006) "A hypothesis is determined and is rejected or fails to be rejected based on the sample data collected". The Null Hypothesis (H0) "is a statement that there is no difference between the parameter and the statistics compared to it", however the Alternative Hypothesis (Ha) "is a statement that there is a difference between the parameter and the statistics" (Cooper & Schindler, 2006). In a research study, various hypotheses are developed on the basis of well-defined objectives. In the present study, hypotheses are developed with the dependent variable as Tacit Knowledge Sharing behaviour and independent variables as Training methods, Hofstede's dimensions, Reward Management and KM tools. Various statistical analyses are conducted to calculate the value of significance, on the basis of which hypotheses will be rejected or accepted. The hypotheses designed are as follows:

3.7.1 Hypotheses: Demographic variables

Ha_{1a}: There is significant difference between the gender of the employees of IT companies in India with regard to their Organisational Knowledge Sharing behaviour (OKSb).

Ha_{1b}: There is significant difference between the gender of the employees of IT companies in India with regard to their Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1c}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Skill Knowledge Sharing behaviour (SKSb).

Ha$_{1d}$: There is significant difference between departments of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{1e}$: There is significant difference between departments of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1f}$: There is significant difference between departments of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).

Ha$_{1g}$: There is significant difference between job rank of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{1h}$: There is significant difference between job rank of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1i}$: There is significant difference between job rank of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).

Ha$_{1j}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{1k}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1l}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Skill Knowledge Sharing behaviour (SKSb).

Ha$_{1m}$: There is significant difference between Overall experience of the employees in IT sector with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{1n}$: There is significant difference between Overall experience of the employees in IT sector with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1o}$: There is significant difference between Overall experience of the employees in IT sector with regard to Skill Knowledge Sharing behaviour (SKSb).

3.7.2 Hypotheses: Training methods

The training methods are categorised as On-the job training methods and Off-the job training methods, so there are different Hypotheses for both forms.

Ha$_{2a}$: There is significant difference between On-the job training methods and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{2b}$: There is significant difference between On-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{2c}$: There is significant difference between On-the job training methods and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{2d}$:   There is significant difference between Off-the job training methods andOrganisational Knowledge Sharing behaviour (OKSb).

Ha$_{2e}$:   There is significant difference between Off-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{2f}$:   There is significant difference between Off-the job training methods and Skill Knowledge Sharing behaviour (SKSb).

3.7.3   Hypotheses: Hofstede's dimensions

Ha$_{3a}$:   There is significant difference between Individualism and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3b}$:   There is significant difference between Individualism and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3c}$:   There is significant difference between Individualism and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3d}$:   There is significant difference between Collectivism and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3e}$:   There is significant difference between Collectivism and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3f}$:   There is significant difference between Collectivism and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3g}$:   There is significant difference between Low Power Distance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3h}$:   There is significant difference between Low Power Distance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3i}$:   There is significant difference between Low Power Distance and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3j}$:   There is significant difference between High Power Distance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3k}$:   There is significant difference between High Power Distance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3l}$:   There is significant difference between High Power Distance and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3m}$:   There is significant difference between Masculinity and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3n}$:   There is significant difference between Masculinity and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3o}$:   There is significant difference between Masculinity and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3p}$:   There is significant difference between Feminity and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3q}$:   There is significant difference between Feminity and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3r}$:   There is significant difference between Feminity and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3s}$:   There is significant difference between Less Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3t}$:   There is significant difference between Less Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3u}$:   There is significant difference between Less Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3v}$:   There is significant difference between More Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3w}$:   There is significant difference between More Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3x}$:   There is significant difference between More Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).

3.7.4 Hypotheses: Rewards

Ha$_{4a}$:   There is significant difference between Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{4b}$:   There is significant difference between Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).

Ha$_{4c}$:   There is significant difference between Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{4d}$: There is significant difference between Non- Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{4e}$: There is significant difference between Non- Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).

Ha$_{4f}$: There is significant difference between Non- Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).

3.7.5 Hypotheses: Knowledge Management (KM) tools

Ha$_{5a}$: There is significant difference between Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{5b}$: There is significant difference between Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).
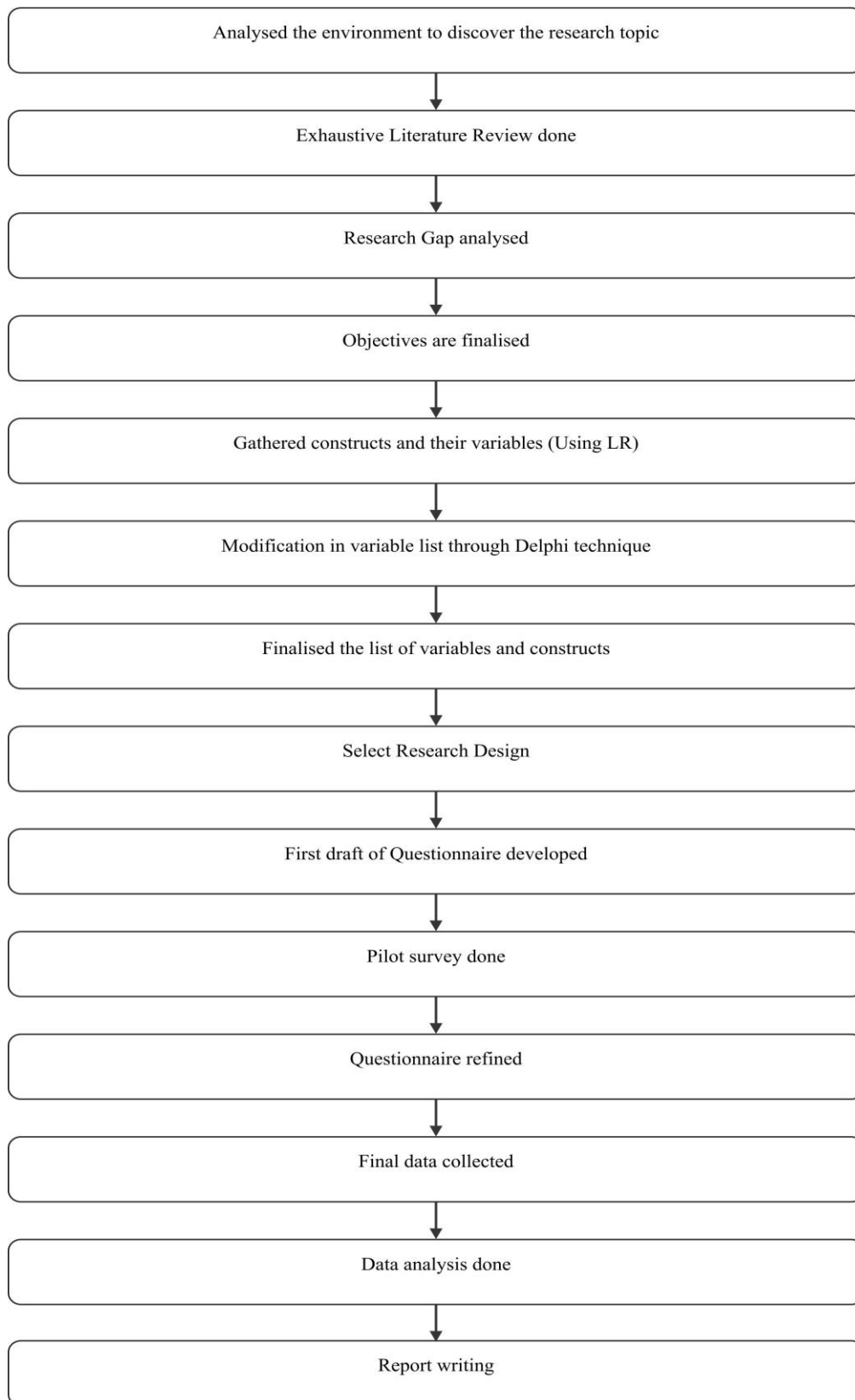
Ha$_{5c}$: There is significant difference between Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{5d}$: There is significant difference between Non-Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{5e}$: There is significant difference between Non-Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).

Ha$_{5f}$: There is significant difference between Non-Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).

3.8 Research Process

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│         Analysed the environment to discover the research topic    │
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│          Gathered constructs and their variables (Using LR)        │
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│          Modification in variable list through Delphi technique    │
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│             Finalised the list of variables and constructs         │
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│                      Select Research Design                        │
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│                         Report writing                             │
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3.9   Research Design

Burns and Grove (2003) outlined the definition of research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings". It is also defined as "a plan that describes how, when and where data are to be collected and analysed" (Parahoo, 1997). In the words of Polit et al., (2001), research design is "the researcher's overall steps for answering the research question or testing the research Hypotheses". This research study is an exploratory as well as descriptive research, as it identifies the key HR practices and KM tools that enhances Tacit Knowledge Sharing behaviour of employees of IT companies in India. The quantitative research methods have been implemented to analyse the research questions of the present study and to predict the generalise results, from the sample of employees of IT companies (Holton III & Burnett, 2005).

3.9.1   Universe and survey population

The universe of the research study entitled "*to analyse the role of HR practices and KM tools in transfer of tacit knowledge of internal customers of IT companies in India*" is aggregate of employees of IT companies of India, irrespective of their gender, designation, department, skills, overall experience and duration in the organisation.

3.9.2   Selection of the respondents

The respondents are the employees of IT companies ranked as top 20 by NASSCOM 2011-12. NASSCOM for several years has been positioning the Top 20 IT-BPO Export Companies, top 15 BPO Export Companies and Top 20 IT Employers grounded on an investigation led annually, in which fiscal and supplementary data has been collected from its participating companies and are ranked on the basis of the data

complied. These IT companies are those whose corporate headquarters are in India and have momentous India-centric delivery competences. These are:

1. Tata Consultancy Services Ltd

2. Infosys Ltd

3. Wipro Ltd

4. HCL Technologies Ltd

5. Mahindra IT & Business Services

6. MphasiS Ltd

7. iGate

8. Larsen & Toubro Infotech Ltd

9. Syntel Ltd

10. CSC, India

11. Polaris Software Lab Ltd

12. MindTree Ltd

13. Zensar Technologies Ltd

14. Infotech Enterprises Ltd

15. Hexaware Technologies Ltd

16. KPIT Cummins Infosystems Ltd

17. Honeywell Technology Solutions Lab Pvt Ltd

18. NIIT Technologies Ltd

19. 3i Infotech Ltd

20. Infinite Computer Solutions (India) Ltd

3.9.3   Sample Design and Sample Size

(i) Sampling method: The convenience sampling method is used in the research study.

(ii) Sample size: The formula for calculating sample size is:

$$n \; = \; \frac{N}{1 \; + \; N(e)^2}$$

Where 'n' denotes the 'sample size', 'N' is the 'population size', and 'e' is the 'level of precision'.

But as the here, N is infinite, the table develop by Glenn D. Israel (1992) is referred (Table 3.5)

Table 3.5: Sample size calculated by Glenn D. Israel

Size of Population	Sample Size (n) for Precision (e) of:			
	±3%	±5%	±7%	±10%
500	a	222	145	83
600	a	240	152	86
700	a	255	158	88
800	a	267	163	89
900	a	277	166	90
1,000	a	286	169	91
2,000	714	333	185	95
3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
100,000	1,099	398	204	100
>100,000	1,111	400	204	100

a = Assumption of normal population is poor (Yamane, 1967). The entire population should be sampled.

As per the Table 3.5 the sample size for this study is 400. Hence, 400 employees of above mentioned IT companies have been interviewed to elicit their views on the role of Training, Hofstede's dimensions and reward system on tacit knowledge sharing and to identify the key KM tools, which if given access in IT companies enhance sharing of tacit knowledge among employees.

3.9.4 Designing and Developing Questionnaire

The questionnaire has been developed in the following steps:-

Step 1: Identifying variables and developing first draft of questionnaire:

Before designing the survey instrument, the standard variables are collected from literature review and through Delphi method i.e. discussions with subject experts and experts of the industry. After collecting these standard variables, top 3 HR practices (Training, Hofstede's dimensions of culture and reward system), key KM tools and basic variables of tacit knowledge sharing are finalised as the constructs for the questionnaire. Then the first draft of the questionnaire is developed by consolidating the above finalised constructs and their variables; which was then followed by pilot survey.

Step 2: Pilot survey

Final data collection was preceded by a pilot survey with a sample size of 40 (10% of sample size) employees of IT companies. Qualitative analysis has been conducted on the data gathered in the pilot study from which validation has been made to carry on further investigation. Based on the suggestions and feedback of the employees there were minor changes in the questionnaire. All these steps helped in developing a robust questionnaire for the study.

Step 3: Reliability analysis

The reliability of the constructs of the present study is examined by using Cronbach' alpha to confirm the reliability of the data collected for further analysis. The rule of thumb, established that before using the instrument for final data collection, substantial sample should have the reliability of 0.70 or greater. This indicates that the higher will be the Cronbach's alpha, more will be the correlation between the variables and their indicators. Based on this, reliability value (Cronbach' alpha) of each construct is measured and found to be greater than 0.70 which ensures the reliability of the instrument (Cooper and Schindler, 2006; Cronbach, 1951; Fowler, 2002; and Iacobucci and Duhachek, 2003)

Step 4: Finalising the Questionnaire

On the basis of the feedback and suggestions given by respondents during pilot study, the questionnaire was refined and then administered. The finalised structured questionnaire consisted of 92 questions: 87 scaled questions (17 constructs) and 5 company and employee's demographics related questions which were divided into 17 constructs and 80 variables labelled as A1, A2, B1, B2 etc. The questionnaire includes:

a)   5 questions on demographic profile of employees

b)   19 questions on role and forms of tacit knowledge sharing in IT companies

c)   12 questions on training methods in IT companies

d)   32 questions on Hofstede's dimensions

e)   12 questions on monetary and non-monetary benefits provided by IT companies

f)   12 questions on KM tools provided by IT companies

The respondents were requested to give best judgement about the organisational reality on a Likert 5-point scale indicated as the following: -

1 - Strongly Disagree

2 - Disagree

3 - Neutral

4 - Agree

5 - Strongly Agree

There are some negative questions which have been incorporated in the questionnaire to avoid blind tick done by the respondents. The questionnaire is attached in Appendix.

3.9.5   Data Collection Method

The data has been collected from Primary sources as well as Secondary sources.

(i)   Primary sources: It includes the collection of the responses by sending the questionnaire prepared to the respondents, i.e. the employees of IT companies via scheduled interviews, surveys, and through email.

Interviewing Protocols

In face to face interview, employees were approached individually (employees of IT companies whose offices are located in Delhi/NCR) and brief explanation of the purpose of the study and of tacit knowledge was given to the respondents before interview. They were asked if they were willing to take part in the research. If they agreed, the one-page Study Information Sheet (attached in Appendix) was given to them which explained the purpose of the research, and assured them of

the confidentiality of their responses and their identities. Interviews were conducted at the workplace of the subject to give the interview a more formal environment.

For the employees of organisations located outside Delhi, questionnaires were sent through mail with the study Information sheet and brief description of the concepts. To further protect the anonymity of the subjects, all names of employees and organisations were replaced with code names (in uppercase) in data sheet.

(ii)   Secondary Sources: These are mainly used to identify and quantify the variables related to HR practices, KM tools and role of tacit knowledge sharing in IT companies. These sources include:

a)   Academic research journals and

b)   Websites of IT companies

c)   Publications of various IT companies

3.9.6   Data Analysis Variables and Statistical tests

a)   **Variables in the study:** The study involved three variables: two independent and one dependent. The independent variables are HR practices and KM tools and the dependent variable is Tacit Knowledge Sharing behaviour.

Independent variables: Independent variables of the present study are presented in Table 3.6 below:

Table 3.6: List of Independent variables

Dimensions	Independent Variables/ Constructs	Indicators
Training	On-the Job Training	• Apprenticeship • Coaching • Committee Assignments • Internship • Job Instruction • Job Rotation
	Off-the Job training	• Audio-Visual/Programmed Instructions • Case Study method • Classroom Lectures • Role Playing • Simulation • Vestibule Training
Hofstede's Dimensions	Individualism	• Independent working • Task prevails over relationship • Focus on Speaking one's own mind • Not accepting group's decision
	Collectivism	• Team work • Accepting group decision • Problem solving in groups • Relationship prevails over task
	Low Power Distance	• Sharing own ideas with top management • Sharing own ideas with peer members • Bottom up approach • Collaborative work environment and Less hierarchy
	High Power Distance	• Top down approach • Employees reluctant to trust one another • No harmony between the powerful and powerless • More networks and alliances
	Masculinity	• High competition between employees • Paranoid that someone else will take the job • Employees believe in competitiveness and acquisition of wealth • Achievement orientation
	Feminity	• Feeling of security in sharing knowledge • Relationship orientation

Dimensions	Independent Variables/ Constructs	Indicators
		• Open discussions • Quality of life is an important characteristic of employee's value
	Less Uncertainty Avoidance	• Willingness to take conscious risk • Not following the experts • Employees have less need for definite prognosis • No standard procedures
	More Uncertainty Avoidance	• Efforts to avoid failure • Standard operating procedures in handling tasks are followed • Adopting something new is taken as risky • Employees have strong need for definite prognosis
Reward System	Monetary Rewards	• Allowances • Annual increment • Earn leave • Honourarium • Incentives /Bonus • Retirement benefits
	Non-Monetary Rewards	• Children care benefits • Fringe benefits (movie tickets, mobile bills, discount coupons) • Flexible scheduling • Insurance/Medical benefits • Luxury benefits (house, chauffer driven car) • Paid vacation
KM tools	Technology based KM tools	• Blogs/K-logs • Collaborative workspaces • Content Management system (CMS) • Discussion forums • Groupware systems (like lotus notes) • Knowledge Portals
	Non-Technology based KM tools	• Communities of practice • Cross functional teams • Group creativity techniques • Knowledge Cafes • Knowledge fairs • Mentoring

Dependent variables: Dependent variables in this study are presented in Table 3.7 below:

<p align="center">**Table 3.7: List of Dependent variables**</p>

Dimensions	Dependent Variables/ Constructs	Indicators
Tacit Knowledge Sharing behavior	Organisational Knowledge Sharing behaviour (OKSb)	- factual knowledge (know-what) about the organisation - business knowledge/non-financial data - financial data of the organisation - internal reports
	Project/Task Knowledge Sharing behaviour (PKSb)	- factual knowledge (know-what) of the particular project/task - know-why (why to do particular task/project) knowledge - know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task - documentation of the particular project/task
	Skill related Knowledge Sharing behaviour (SKSb)	- Employee's experiences or soft skills related knowledge - Employee's analytical or problem solving skills - Employee's technological expertise - Employee's job-related hard skills

Statistical tests: Descriptive Statistics, Reliability Analysis, CFA, Structure Equation Modelling (SEM).

Software Used: Data analysis for the research study is done with the help of MS Excel, SPSS 21 and AMOS.

CHAPTER 4

DATA ANALYSIS

4. INTRODUCTION

Data analysis results are presented in this chapter. In the first section of this chapter demographic variables of the respondents are shown. In the second section, reliability and validity of the measurement models using Confirmatory Factor Analysis (CFA) are reported. In the further sections, analyses of various objectives are discussed.

4.1 Demographic Variables

Employees having different gender, job rank, experience etc. may show different attitudes towards knowledge sharing; some may be knowledge seeker, but don't want to share their own knowledge and on the contrary, some may be enthusiast to share their knowledge. To analyses this in-depth, the influence of each demographic characteristic on Tacit Knowledge Sharing behaviour is studied individually.

4.1.1 Gender

Table 4.1: Frequency of Gender of sample

	Frequency	*%*
Male	234	55.2
Female	190	44.8
Total	424	100.0
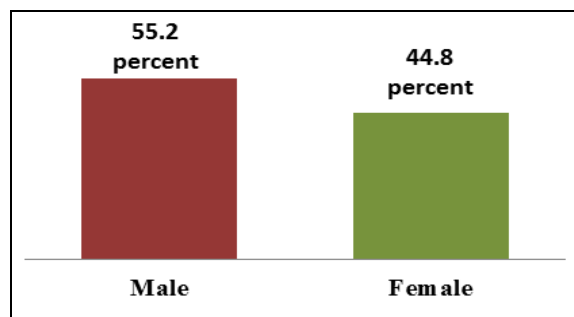
Figure 4-1: Frequency % of Gender of sample

Interpretation: After the analyses of sample for the gender statistics it has been identified (Table 4.1 and Figure 4.1) that males are approximately 55% and females are 44 %. Observing these statistics, it can be assumed that for gender the sample is legitimately balanced.

4.1.2 Department

Table 4.2: Frequency of Department of sample

	Frequency	*%*
Finance	79	18.6
Sales & Marketing	78	18.4
Operations	75	17.7
HR	98	23.1
IT	94	22.2
Total	424	100.0
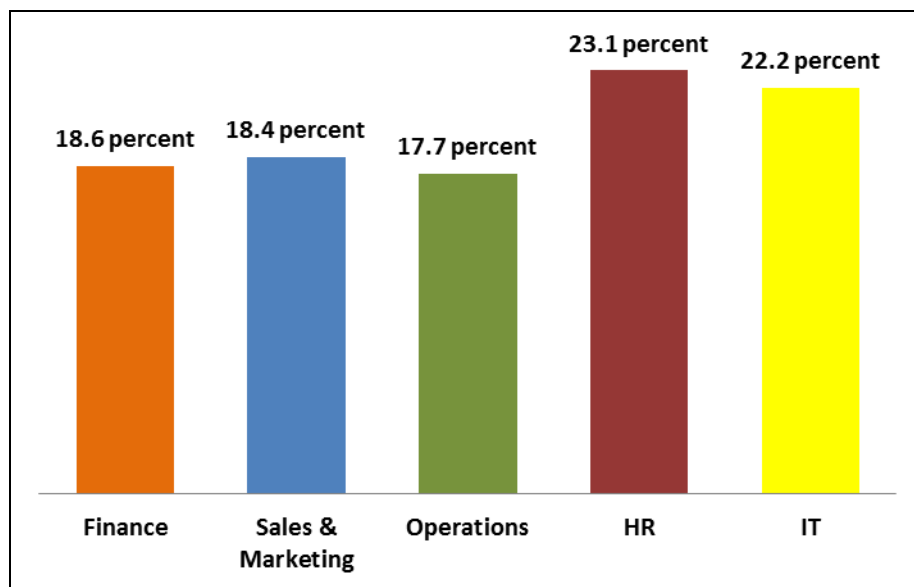
Figure 4-2: Frequency % of Departments of sample

Interpretation: For the present study, five core departments of IT companies are selected (using Delphi technique) to have the results. Out of these departments, it has been evaluated (Table 4.2 and Figure 4.2) that maximum respondents are from HR

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department (23.1%) and IT department (22.2%). It can easily be justified as the present study being more HR and IT oriented, the viewpoints of HR managers and KM managers are essential, but it cannot override the viewpoints of the employees of other departments.

4.1.3 Job Rank

Table 4.3: Frequency of Job Rank of sample

	Frequency	*%*
Lower level (LL)	135	31.8
Lower Middle Level (LML)	160	37.7
Upper Middle Level (UML)	129	30.4
Total	424	100.0
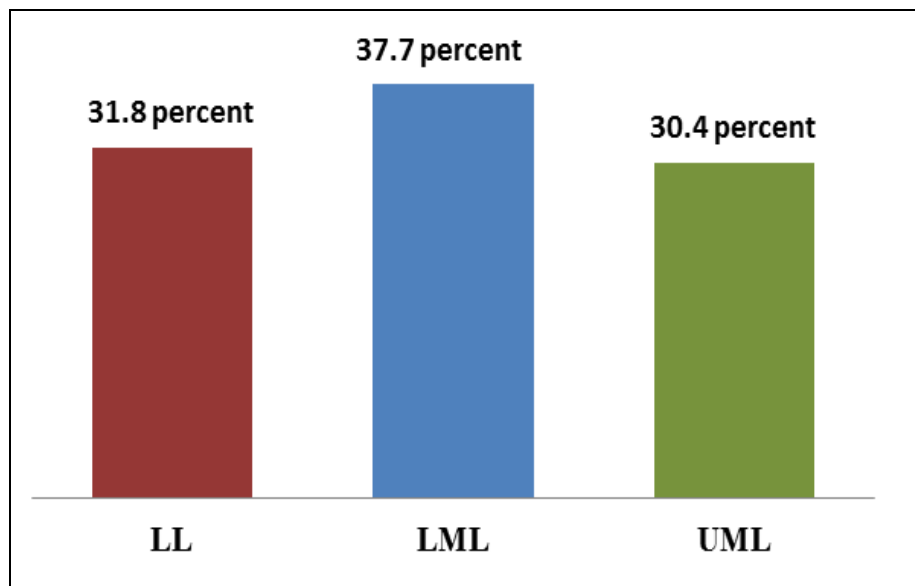
Figure 4-3: Frequency % of Job Rank of sample

Interpretation: The Job Rank of the employees of IT companies is divided (for present study) as the lower level employees, i.e. the employees of entry level Technical programmer or fresh graduated Engineer Trainees; lower middle level employees, i.e. the Senior Software/Technical Engineers or Team Leaders/Project Leaders/Technical Leaders; and upper middle level, i.e. the employees at managerial levels (Program

Managers/Practice Heads/Assistant General Managers). The high level employees i.e. the CEO's, Vice president, General Managers etc are not approached for the study as the study focus on the viewpoint of the employees of IT companies, who are directly affected from the HR practices of the organisations. It has been analysed (Table 4.3 and Figure 4.3) that maximum respondents are from LML (37.7%), although there are approximately same number of respondents, i.e. the employees from LL (31.8%) and UML (30.4%).

4.1.4   Duration in the present organisation

Table 4.4: Frequency of Duration of employees in their present organisation

	Frequency	*%*
<1 year	129	30.4
1 year to 2 year	138	32.5
2 year to 5 year	102	24.1
> 5 year	55	13
Total	210	100.0
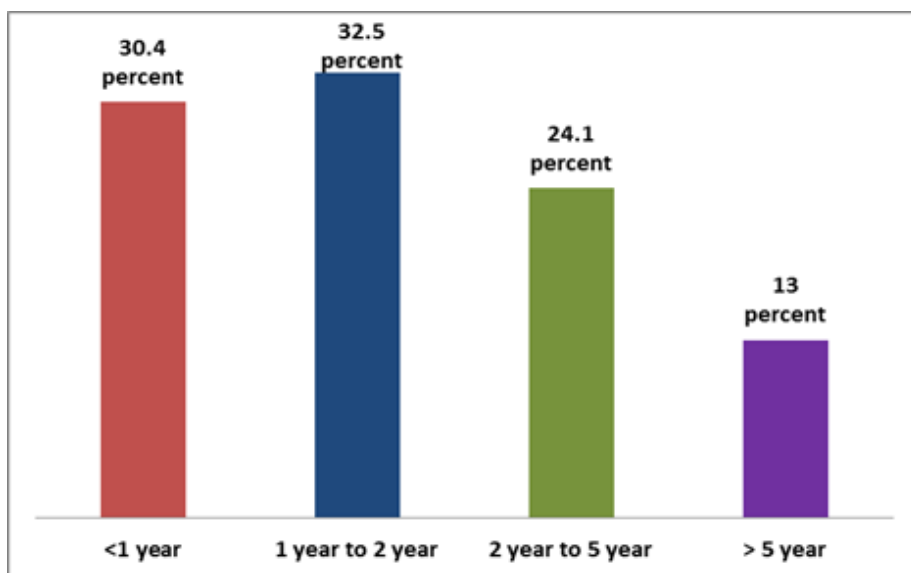
Figure 4-4: Frequency % of Duration of employees in their present organisation

Interpretation: While analysing the tenure of the respondents in their present organisations, it has been noted down (Table 4.4 and Figure 4.4) that maximum

respondents are those employees who have been serving their respective organisations for 1year to 2 year (32.5%).

4.1.5   Total Experience in IT sector

Table 4.5: Frequency of Total experience of employees in IT sector of sample

	Frequency	*%*
<1 year	22	5.2
1 year to 2 year	36	8.5
2 year to 5 year	98	23.1
>5 year	268	63.2
Total	210	100.0
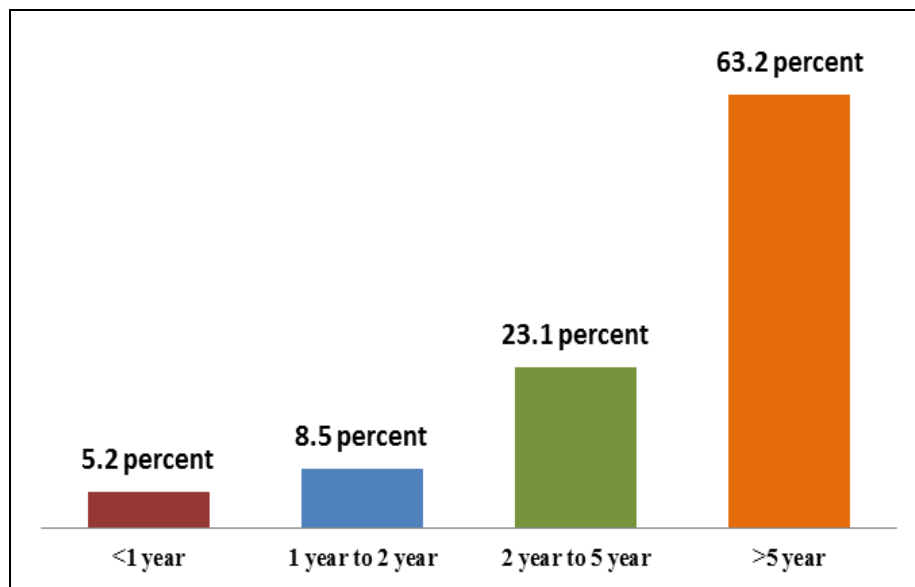
Figure 4-5: Frequency % of Total experience of employees in IT sector of sample

Interpretation: It is clear (Table 4.5 and Figure 4.5) that only 5% of the respondents are the employees with less than 1 year of total experience and the sample is representative of the employees whose total experience in IT sector is more than 5 years (approx 62%), irrespective of the organisations they have joined. This will make the results of the study more firm as viewpoints of much experienced IT employees is there

to analyse the objectives. These experienced respondents must have a deep understanding of the practices and tools that IT companies are implementing and are aware of the practices that an organisation should implement to make the employees feel as the part of the organisation, so there is less probability of response biasness. The responses and the suggestions of these employees make the study more significant and realistic for IT companies.

4.2   Confirmatory Factor Analysis (CFA)

Before analysing the data, measurement model is assessed by using CFA. CFA is "a model fit assessment and is generally used to determine how the model as a whole is consistent with the empirical data" (Diamantopoulos & Siguaw, 2000). After testing the questionnaire in pilot survey the questionnaire is used to collect the response from the respondents selected in the research study. The questionnaire includes various constructs along with their item variables. Questionnaire is supposed to have content validity as it approved by various experts but it is also required to check its construct validity with respect to convergent and discriminant validity of the construct. CFA is an advanced tool to check the convergent and discriminant validity of the construct. In other words, CFA provides better method for analysing the unit dimensionality (the extent to which one item of a construct measured only one single constructs). Confirmatory factor analysis (CFA) is a statistical technique used to validate the structure of the factor which is comprised of various observed variable. In the research study, the CFA is run through AMOS software. The CFA is also used to verify the structure of the items and their constructs. It allows the researcher to test the relationship between the observed measured variable and the underlined latent construct. Before designing the construct the researcher explores the theory behind it, goes through literature review of many empirical research works, conducted content analysis and finally decides the structure of the construct. The CFA in this sense is a technique which analysis the relationship and the validation of the construct.

4.2.1 CFA of Tacit Knowledge Sharing behaviour

Dependent Variable of the study is "Tacit Knowledge Sharing behaviour (TKSb)". To measure TKSb more clearly it has been divided into 3 constructs: "Organisational Knowledge Sharing behaviour (OKSb)", "Project/Task Knowledge Sharing behaviour (PKSb)" and "Skill Knowledge Sharing behaviour (SKSb)", or it can be said that these are three dimensions of TKSb. CFA of the three dimensions of TKSb is shown in Figure 4.6.
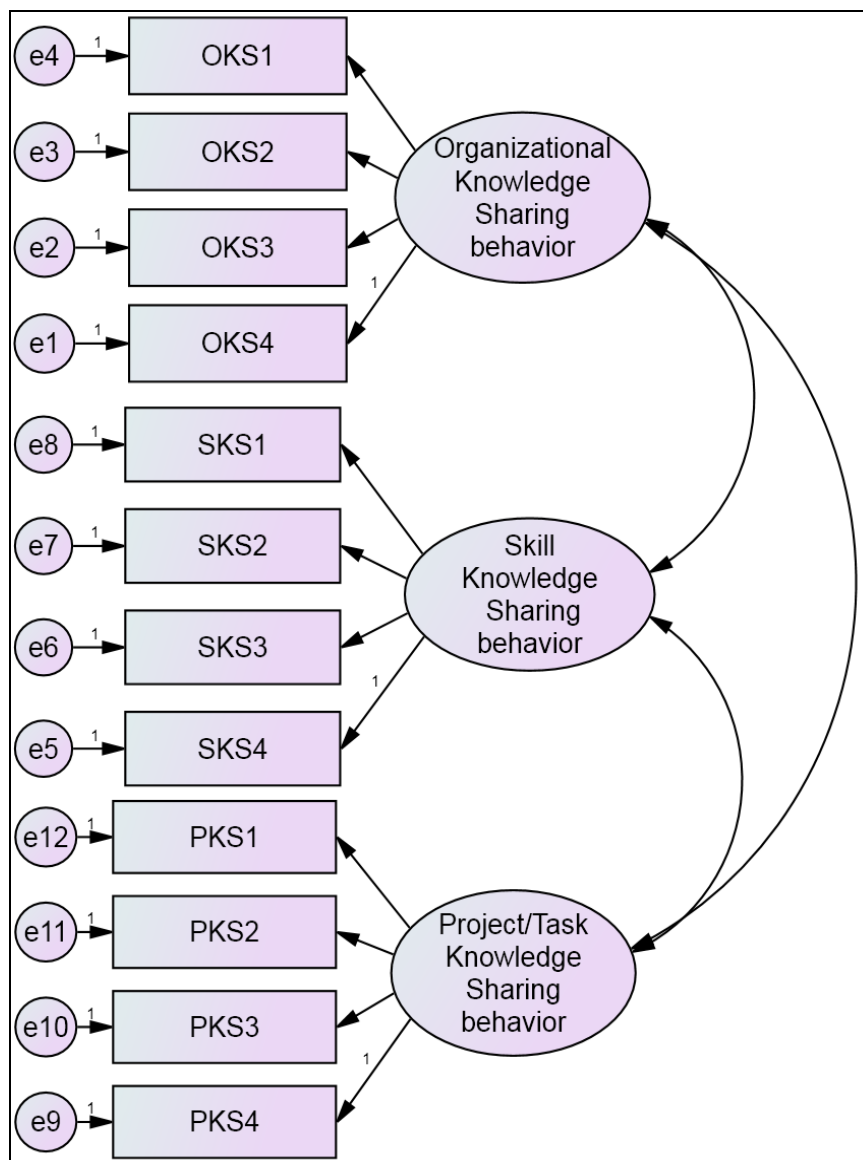
Figure 4-6: CFA of Tacit Knowledge Sharing behaviour

The details of the variables of the three constructs OKSb, PKSb and SKSB (the three dimensions of TKSb) are presented in Table 4.6.

Table 4.6: Variables of the constructs of TKSb

OKS1	Employees share business knowledge/ non-financial data with concerned department/person
OKS2	Employees share factual knowledge (know-what) about the organisation with concerned department/person
OKS3	Employees share financial data of the organisation with concerned department/person
OKS4	Employees share official reports and documents with concerned department/person
SKS1	Employees share their experiences or soft skills related knowledge with other employees of the organization
SKS2	Employees share their analytical or problem solving skills with other employees of the organization
SKS3	Employees share their technological expertise with other employees of the organisation
SKS4	Employees share their job-related hard skills with other employees of the organisation
PKS1	Employees share factual knowledge (know-what) of the particular project/task with other employees of the organization
PKS2	Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation
PKS3	Employees share know-why (why to do particular task/project) knowledge with other employees of the organisation
PKS4	Employees share documentation of the particular project/task with other employees of the organisation

The results of the CFA of TKSb are presented in Table 4.7.

Table 4.7: Results of the CFA of TKSb

	CR	*AVE*	*MSV*	*ASV*	*SKSb*	*OKSb*	*PKSb*
SKSb	0.913	0.723	0.445	0.324	0.851		
OKSb	0.921	0.744	0.214	0.209	0.451	0.863	
PKSb	0.913	0.726	0.445	0.330	0.667	0.463	0.852

The results indicate that

i.   Composite Reliability (CR) > 0.7,

ii.   Average Variance Extracted (AVE) > 0.5, and

iii.   Composite Reliability (CR) > Average Variance Extracted (AVE)

Hence, there are no Convergent validity issues

i.   Maximum Shared Variance (MSV) < Average Variance Extracted (AVE)

ii.   Average Shared Variance (ASV) < Average Variance Extracted (AVE)

Hence, there are no Discriminant validity issues

4.2.2   CFA of HR practices

CFA of the 12 constructs of HR practices with 56 variables is shown in Figure 4.7. The

details of the constructs and their variables are shown in Table 4.8.
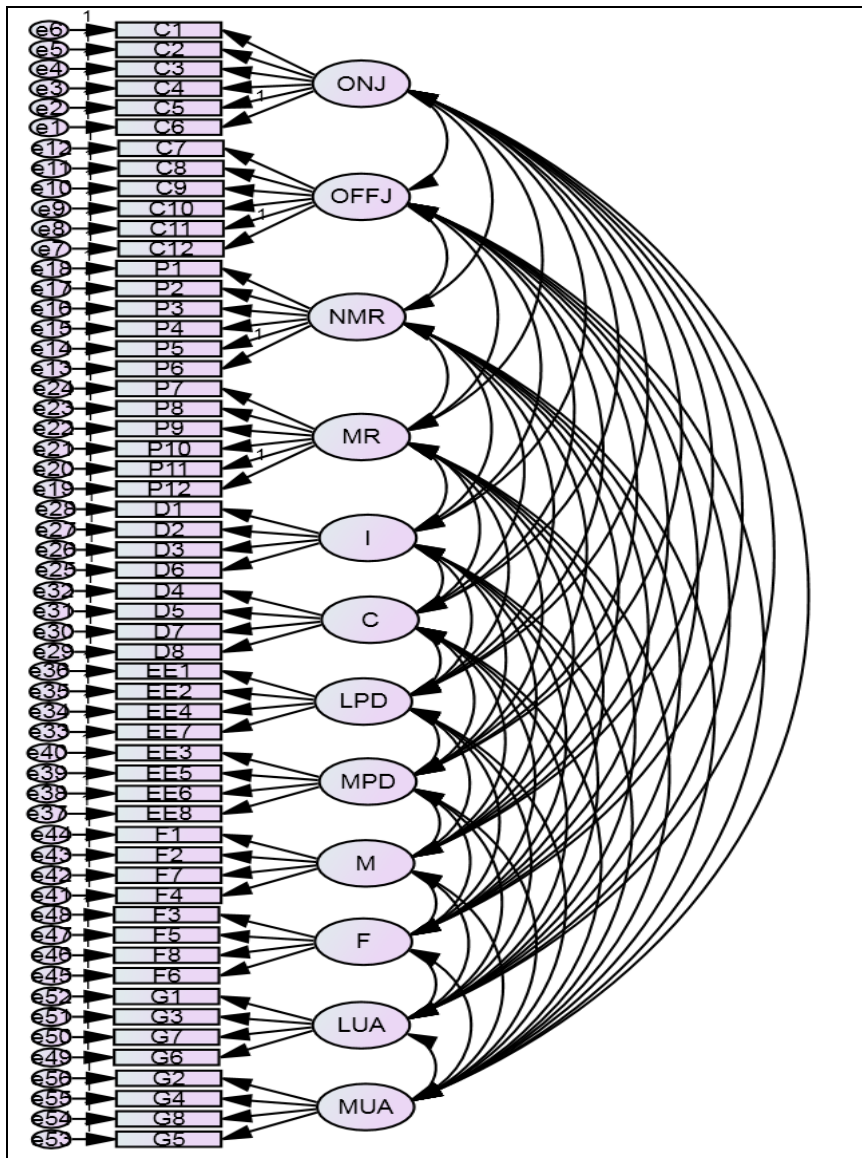
Figure 4.7 : CFA of HR practices

Table 4.8: Variables of the constructs of HR practices

ONJ	On-the job training methods
OFFJ	Off-the job training methods
NMR	Non-Monetary rewards
MR	Monetary rewards
I	Individualism
C	Collectivism

LPD	Low Power Distance
HPD	High Power Distance
M	Masculinity
F	Feminity
LUA	Less Uncertainty Avoidance
MUA	More Uncertainty Avoidance
C1	Job Rotation
C2	Coaching
C3	Job Instruction
C4	Committee Assignments
C5	Apprenticeship
C6	Internship
C7	Classroom Lectures
C8	Audio-Visual/ Programmed Instructions
C9	Simulation
C10	Vestibule Training
C11	Case Study method
C12	Role Playing
P1	Paid vacation
P2	Insurance/Medical benefits
P3	Children care benefits
P4	Luxury benefits (house, chauffer driven car)
P5	Fringe benefits (movie tickets, mobile bills, discount coupons)
P6	Flexible scheduling
P7	Earn leave
P8	Incentives /Bonus
P9	Allowances
P10	Honourarium
P11	Retirement benefits
P12	Annual increment
D1	Independent working is preferred.
D2	Task prevails over relationship

D3	Employees are focused on speaking their own minds
D4	Employees like to work in a team rather than by themselves.
D5	Accepting group decision is common practice.
D6	Not accepting group's decision
D7	Problem solving by groups gives better results than problem solving individually.
D8	Relationship prevails over task
EE1	Employees share their ideas with top management
EE2	Employees share knowledge with their peer members
EE3	Decision making is only top down
EE4	Bottom up approach is given importance
EE5	Employees are reluctant to trust one another
EE6	There is no harmony between the powerful and powerless
EE7	There is less hierarchy
EE8	There are more networks and alliances
F1	There is high competition between employees
F2	Employees get paranoid that someone else might take the job with their ideas
F3	Employees feel secure in sharing knowledge
F7	Employees believe in competitiveness and acquisition of wealth
F4	Employees are achievement orientated
F5	Employees are relationship oriented
F6	Open discussions are held
F8	Quality of life is an important characteristic of employee's value
G1	There is willingness to take conscious risk
G2	Efforts to avoid failure are higher
G3	Not following expert's opinion
G7	Employees have less need for definite prognosis
G4	Adopting something new is treated as risky
G5	Standard operating procedures in handling tasks are followed
G6	No standard procedures
G8	Employees have strong need for definite prognosis

The results of the CFA of HR practices are presented in Table 4.9.

Table 4.9: Results of the CFA of HR practices

	CR	AVE	MSV	ASV	LUA	ONJ	OFFJ	NMR	MR	I	C	LPD	MPD	M	F	MUA
LUA	0.965	0.873	0.137	0.041	0.934											
ONJ	0.938	0.715	0.099	0.026	0.160	0.846										
OFFJ	0.953	0.773	0.072	0.017	0.028	0.133	0.879									
NMR	0.971	0.849	0.203	0.060	0.109	0.089	0.017	0.921								
MR	0.954	0.776	0.203	0.070	0.370	0.227	0.015	0.450	0.881							
I	0.905	0.704	0.091	0.035	-0.138	0.121	-0.118	-0.272	-0.200	0.839						
C	0.912	0.724	0.166	0.059	0.156	0.203	0.269	0.303	0.280	-0.302	0.851					
LPD	0.918	0.737	0.166	0.056	0.276	0.314	0.207	0.247	0.318	-0.160	0.408	0.859				
MPD	0.901	0.694	0.110	0.045	-0.264	0.121	0.120	-0.332	-0.327	0.235	-0.145	-0.141	0.833			
M	0.900	0.695	0.064	0.019	-0.068	0.031	-0.050	-0.106	-0.202	0.129	-0.218	-0.090	0.253	0.834		
F	0.916	0.732	0.032	0.010	0.054	-0.032	0.146	0.179	0.092	-0.165	0.072	0.077	-0.005	0.092	0.856	
MUA	0.934	0.782	0.076	0.018	0.276	-0.099	-0.067	-0.235	-0.074	0.055	-0.114	-0.111	0.139	0.031	-0.046	0.884

The results indicate that

i.   Composite Reliability (CR) > 0.7,

ii.   Average Variance Extracted (AVE) > 0.5, and

iii.   Composite Reliability (CR) > Average Variance Extracted (AVE)

Hence, there are no Convergent validity issues.

i.   Maximum Shared Variance (MSV) < Average Variance Extracted (AVE)

ii.   Average Shared Variance (ASV) < Average Variance Extracted (AVE)

Hence, there are no Discriminant validity issues.

4.2.3   CFA of KM tools

For CFA to be implemented 3 or more than 3 constructs are needed. But, in the current research study, KM tools are divided into 2 constructs- Technology based KM tools and Non- Technology based KM tools. Therefore, it is not possible to apply CFA on KM tools. Reliability and Validity of the factors of KM tools is described in further section (Section 4.8.1 and 4.8.2) where KM tools are analysed as constructs. The list of the variables of the Technology based KM tools and Non- Technology based KM tools is the following (Table 4.10):

Table 4.10: Variables of the constructs of KM tools

T1	Discussion forums
T2	Blogs/K-logs
T3	Groupware systems (like lotus notes)
T4	Collaborative workspaces
T5	Content Management system (CMS)
T6	Mentoring
T7	Knowledge Cafes
T8	Knowledge fairs
T9	Group creativity techniques
T10	Communities of practice
T11	Knowledge Portals
T12	Cross functional teams

4.3 Analysis of Objective 1: To identify the role of demographic profile of employees of IT companies in India on enhancement of their Tacit Knowledge Sharing behaviour.

Demographic profiles of the employees have significant influence on their Tacit Knowledge Sharing behaviour. There are various studies that show that demographic variables have significant influence on knowledge sharing behaviour but all the results are contradictory (Ehigie & Otukoya, 2005; Kidder, 2002; Pangil and Nasurdin, 2008). The reason might be the studies have been done in different sectors. The studies that show the influence of demographic variables on knowledge sharing behaviour of IT companies are inconclusive. Moreover, that is no evidence that justifies the role of demographic variables on TKSb of employees in IT companies in India. To analyse the objective, hypothesis formulated is:

H0$_1$: There is no significant difference between the demographic characteristics of the employees of IT companies of India with regard to Tacit Knowledge Sharing behaviour (TKSb).

Five Demographic characteristics of the employees of IT companies in India are taken and are analysed individually for the three dimensions of TKSb i.e. OKSb, PKSb and SKSb. Analysis of the Demographic variables is shown in further sub-sections.

4.3.1 Role of Gender in enhancement of Tacit Knowledge Sharing behaviour dimensions of employees of IT companies in India

There is no doubt that male and female have different perceptions, belief, attitude and behaviour. Accepting this fact, the question arises that whether the gender has influence

on their tacit knowledge sharing behaviour also? To analyse the scenario of the affect of gender on tacit knowledge sharing in IT companies, it is hypothesised that:

Ha$_{1a}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{1b}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Project/Task Knowledge Sharing behaviour (PKSb).

Ha$_{1c}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Skill Knowledge Sharing behaviour (SKSb).

To analyse the above (Ha$_{1a}$, Ha$_{1b}$ and Ha$_{1c}$) hypotheses i.e. the relationship between the gender of the employees of IT companies and their TKSb, independent sample t-test (using SPSS) is employed and the results are presented in Table 4.11.

Table 4.11: t statistic of the relationship between Gender of employees of IT companies in India and their TKSb dimensions

Variables	*Group*	*Mean (SD)*	*t statistic*	*P value*	*Remarks*
OKSb	Male	2.98 (1.04)	-.708	.479	Alternate Hypothesis Rejected
	Female	3.04 (.96)			
PKSb	Male	3.09 (1.02)	-2.378	.001	Alternate Hypothesis Accepted
	Female	3.32 (1.01)			
SKSb	Male	3.04 (1.06)	-3.222	.018	Alternate Hypothesis Accepted
	Female	**3.37** (1.05)			

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For relationship between gender and knowledge sharing, the results are contradictive as some of the previous studies (Ojha, 2005; Chowdhury , 2005; Watson, S. and Hewett, 2006) accounted that gender did not have a substantial influence on knowledge sharing behaviour. Results of the research by Noorul Ain Baig and Wahecd (2016) also concluded that gender does not cause an affect on knowledge sharing, but his study focused on online knowledge sharing, irrespective of that knowledge is either tacit or explicit knowledge. On the other hand, some studies alleged that there is a significant difference between gender and Tacit Knowledge Sharing behaviour (Pangil and Nasrudin, 2008). The results of the present study (Table 14) show that there is no significant difference between the gender with regard to OKSb dimension of TKSb of employees of IT companies in India. But there is a significant difference between gender and SKSb and PKSb dimension of TKSb of employees of IT companies in India . The higher mean of female (3.37) shows that females contribute more skill related knowledge as compared to males (with the mean of 3.04). This is in contradiction to the study of Pangil and Nasrudin, 2008, who concluded that males are more eager to share knowledge as compared to females; but the reason for the contradiction might be that the study was focused on R&D employees only and present study is the analysis of all the employees of IT companies in India. The present result is supported by the studies of Lin (2006) and Miller and Karakowsky (2005) who believed thar females being more susceptible to instrumental ties and to prevail over the conventional occupational confronts by showing their skills and talent, are more willing to share and seek tacit knowledge as compared to males. Irmer et al., (2002) supported the fact being knowledge seeker women gain more benefits from knowledge sharing.

4.3.2 Role of Department of the employees in enhancement of Tacit Knowledge Sharing behaviour dimensions in IT companies in India

Various departments perform different functions, methodologies, processes etc. To perform their own specialised functions, they have different rules and procedures. Although now-a-days every department needs to be interdisciplinary, but more important is to combine the goals of all the departments so that the main objective of the organisation can be fulfilled. Having different processes, work values for each department also changes and that may influence their tacit knowledge sharing behaviour. To study this situation, it is hypothesised that:

Ha_{1d}: There is significant difference between departments of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha_{1e}: There is significant difference between departments of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha_{1f}: There is significant difference between departments of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).

To analyse the above (Ha_{1d}, Ha_{1e} and Ha_{1f}) hypotheses i.e. the relationship between the department of the employees of IT companies and their TKSb, paired sample One way ANOVA (using SPSS) is applied and the results are presented in Table 4.12.

Table 4.12: ANOVA results of the relationship between Department of employees of IT companies in India and their TKSb dimensions

Variables	Group	Mean (SD)	F statistic	P value	Remarks
OKSb	Finance	3.13 (1.00)	4.787	.001	Alternate Hypothesis Accepted
	Sales and Marketing	**2.62** (1.08)			
	Operations	3.02 (1.01)			
	HR	**3.25** (.88)			
	IT	2.96 (.99)			
PKSb	Finance	3.32 (1.00)	2.163	.072	Alternate Hypothesis Rejected
	Sales and Marketing	2.92 (1.05)			
	Operations	3.29 (1.04)			
	HR	3.16 (1.03)			
	IT	3.28 (.95)			
SKSb	Finance	3.22 (1.05)	0.735	.569	Alternate Hypothesis Rejected
	Sales and Marketing	3.01 (1.05)			
	Operations	3.22 (1.05)			
	HR	3.28 (1.08)			
	IT	3.21 (1.09)			

Analysing the results (Table 4.12) it has been concluded that there is significant difference between the departments of the employees of IT companies with regard to OKSb dimension of TKSb but there is no significant difference with

respect to PKSb and SKSb dimensions of TKSb. To analyse the difference between the departments with respect to OKSb, tukey (Post hoc) test is used and concluded that there is significant difference between HR department and Sales and Marketing department and between Sales and Marketing department and Finance department of IT companies of India. The descriptive statistics of the departments show that HR department shares more organisation related tacit knowledge, as it has the highest mean of 3.25. After HR department, it is the Finance department that always shares organisation related tacit knowledge with other departments or peer groups. Sales and Marketing department has the lowest mean of 2.62, illustrating that this department shares organisation related tacit knowledge very less. The reason behind this significant difference might be that HR department deals directly with the employees of the organisations and therefore they make the employees aware of each rule or policy of organisation. But Sales and Marketing department deals with the customers who are more interested in products or services of the organisations and reputation, brand image or market share of the organisation as compared to what happens inside the organisations and therefore, Sales and Marketing department shares less about the organisation or whatever is demanded by the customers.

4.3.3 Role of Job Rank of the employees in enhancement of Tacit Knowledge Sharing behaviour dimensions in IT companies in India.

In IT companies, employees have different designations and therefore for the study the job ranks are divided into three categories: Lower Level, Lower Middle level and Upper Middle Level. Lower level employees are those that are at entry level. They may be the fresh graduates or the employees who have just started

their career and are at entry level in the hierarchy. In IT companies, their designations are like software developer, junior test engineer, marketing researcher, salesman, management trainees etc. The lower middle level employees are those who have progressed in the hierarchy from entry level to above level. These employees act as team leaders or project managers to the lower level employees. Upper Middle level employees are the one who are experts in their area like HR managers, Marketing managers, Chief Marketing Officer (CMO), Chief Knowledge Officers (CKO). All these employees may have different perception on importance of sharing their tacit knowledge with other employees and therefore following hypotheses are formulated:

Ha_{1g}: **There is significant difference between job rank of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).**

Ha_{1h}: **There is significant difference between job rank of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).**

Ha_{1i}: **There is significant difference between job rank of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).**

To analyse the above (Ha1g, Ha1h and Ha1i) hypotheses i.e. the relationship between the job rank of the employees of IT companies and their TKSb, paired sample One way ANOVA (using SPSS) is applied and the results are presented in Table 4.13.

Table 4.13: ANOVA results of the relationship between Job Rank of employees of IT companies in India and their TKSb dimensions

Variables	Group	Mean (SD)	F statistic	P value	Remarks
OKSb	Lower level	2.97 (1.04)	0.096	.909	Alternate Hypothesis Rejected
	Lower middle level	3.01 (0.98)			
	Upper middle level	3.02 (1.02)			
PKSb	Lower level	**3.39** (1.00)	3.854	.022	Alternate Hypothesis Accepted
	Lower middle level	3.10 (1.00)			
	Upper middle level	**3.09** (1.03)			
SKSb	Lower level	3.25 (1.09)	0.734	.481	Alternate Hypothesis Rejected
	Lower middle level	3.11 (1.03)			
	Upper middle level	3.22 (1.07)			

The results of the present study (Table 4.13) show that there is significant difference between the job rank of the employees of IT companies with respect to PKSb dimension of TKSb but not with respect to OKSb and SKSb dimensions of TKSb. The study by Gumus (2007) showed that in Educational sector, designations of employees influence their knowledge assimilation and sharing. On the other hand, some contradictory results are given by Ardichvili et al., (2006) who found that job rank doesn't significantly influence knowledge sharing behaviour as both the top or middle managers are not interested in participating knowledge sharing activities. To analyse the significant difference between the Job ranks of employees with respect to TKSb, tukey (Post hoc) test is used and is apprehended that there is significant difference between the PKSb of lower level employees and upper middle and lower middle level employees. Although employees at lower middle level and upper middle level are

equally motivated or willing to share their Project related tacit knowledge but not as much willing as the lower level employees who have the highest mean of 3.39. So, it has been concluded that job rank of employees has no influence on organisation related and skill related tacit knowledge sharing but has significant influence on project related tacit knowledge sharing behaviour; where lower level employee share project related tacit knowledge more as compared to lower middle level and upper middle level employees of IT companies in India.

4.3.4 Role of Duration of the employees (in their present organisation) in enhancement of Tacit Knowledge Sharing behaviour dimensions in IT companies in India.

Duration the employees spent in a particular organisation may have significant influence on their TKSb. There can be various situations: one is more years the employees spent in an organisation, more trust is developed and their TKSb is enhanced. Other situation can be the newer the employee is in an organisation, more tacit knowledge he/she will share to have performance appraisals and once he/she reaches at good position their intention to share TKSb reduces. It might also be possible that duration the employees spent in a particular organisation may not have any significant influence on their TKSb. Therefore, to know the role of duration of the employees (in their present organisation) of IT companies in India on TKSb, following hypotheses are formulated:

Ha$_{1j}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Organisational Knowledge Sharing behaviour (OKSb).

Ha₁ₖ: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Project/Task Knowledge Sharing behaviour (PKSb).

Ha₁ₗ: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Skill Knowledge Sharing behaviour (SKSb).

To analyse the above (Ha₁ⱼ, Ha₁ₖ and Ha₁ₗ) hypotheses i.e. the relationship between the duration of the employees (in their present organisation) of IT companies and their TKSb, paired sample One way ANOVA (using SPSS) is applied and the results are presented in Table 4.14.

Table 4.14: ANOVA results of the relationship between Duration of employees (in their present organisation) of IT companies in India and their TKSb dimensions

Variables	*Group*	*Mean (SD)*	*F statistic*	*P value*	*Remarks*
OKSb	<1 year	3.25 (0.92)	7.045	0.000	Alternate Hypotheses Accepted
	1 year to 2 year	2.98 (0.99)			
	2 year to 5 year	2.99 (1.02)			
	> 5 year	2.52 (1.05)			
PKSb	<1 year	3.37 (0.93)	2.497	0.059	Alternate Hypotheses Rejected
	1 year to 2 year	3.03 (1.07)			
	2 year to 5 year	3.19 (1.02)			
	> 5 year	3.20 (1.03)			
SKSb	<1 year	3.35 (1.02)	1.579	0.194	Alternate Hypotheses Rejected
	1 year to 2 year	3.16 (1.06)			
	2 year to 5 year	3.13 (1.07)			
	> 5 year	3.02 (1.13)			

There are contradictory results in literature for the influence of duration of employees (in their present organisation) on their TKSb: Ojha (2005) documented in his study that organisational tenure has a negative significant relationship with knowledge sharing; but study by Keyes (2008) and Gumus (2007) indicated that tenure within the organisation had no affect on knowledge sharing. However other studies reported that organisational tenure has a positive significant relationship with knowledge sharing behaviour (Watson, S. and Hewett, 2006; Irmer et.al., 2002). All these contradictory results might be because that there is no significant difference between the duration of the employees (in their present organisation) with respect to Project/Task Knowledge Sharing behaviour (PKSb) and Skill Knowledge Sharing behaviour (SKSb), but with respect to Organisational Knowledge Sharing behaviour (OKSb), there is significant difference between the duration of the employees (in their present organisation), as shown in the results of Table 4.14. Study of Bordia, et al. (2006) documented that organisational tenure to be a good predictor of knowledge sharing when knowledge is shared interpersonally, although not so when sharing occurs through databases.

Analysing the significant difference between the duration of employees in their present organisation using tukey (Post Hoc) test it has been observed that employees present in the organisation for more than 5 years share organisation related knowledge the least as may be in 5 years they have become more professional and experienced and know what and how much about the organisation as compared to others. Employees that are new in organisation i.e. less than 1 year shares the most about the organisation might be they are on growth stage in the organisation and therefore eager to collect and share more about the organisation.

4.3.5 Role of Overall experience of the employees in enhancement of Tacit Knowledge Sharing behaviour dimensions in IT companies in India.

Overall experience of the employees also influences their TKSb in the organisation. In this also, there can be various situations: one is that more experienced employees may not share their tacit knowledge as they may think that they have achieved what they wanted and now no need to grill their mind anymore and less experienced being very vibrant share their tacit knowledge more to achieve their goals and appraisals. The other situation states that more experienced employees share their tacit knowledge more as they want to share the experiences and learning of their personal and professional life and less experienced employees share less as they have a fear that someone might take their job or career profession if they share their skills and learning. Further another situation can be that Overall experience of the employees might not have any influence on enhancement of TKSb of employees of IT companies. To analyse the above situations following hypotheses are formulated:

Ha_{1m}: **There is significant difference between Overall experience of the employees in IT sector with regard to Organisational Knowledge Sharing behaviour (OKSb).**

Ha_{1n}: **There is significant difference between Overall experience of the employees in IT sector with regard to Project/Task Knowledge Sharing behaviour (PKSb).**

Ha_{1o}: **There is significant difference between Overall experience of the employees in IT sector with regard to Skill Knowledge Sharing behaviour (SKSb).**

To analyse the above (Ha_{1m}, Ha_{1n} and Ha_{1o}) hypotheses i.e. the relationship between overall experience of employees of IT companies and their TKSb, One way ANOVA (using SPSS) is applied and the results are presented in Table 4.15.

Table 4.15: ANOVA results of the relationship between Overall Experience of employees in IT sector in India and their TKSb dimensions

Variables	*Group*	*Mean (SD)*	*F statistic*	*P value*	*Remarks*
OKSb	<1 year	2.67 (1.23)	3.849	0.010	Alternate Hypothesis Accepted
	1 year to 2 year	2.55 (0.99)			
	2 year to 5 year	3.07 (0.98)			
	> 5 year	3.07 (0.97)			
PKSb	<1 year	2.81 (1.17)	2.575	0.054	Alternate Hypothesis Rejected
	1 year to 2 year	2.89 (1.04)			
	2 year to 5 year	3.29 (0.95)			
	> 5 year	3.23 (1.02)			
SKSb	<1 year	2.71 (1.20)	3.219	0.023	Alternate Hypothesis Accepted
	1 year to 2 year	2.97 (1.07)			
	2 year to 5 year	3.39 (0.99)			
	> 5 year	3.18 (1.06)			

Bordia, et al., (2006) reported that knowledge sharing behaviour grows with professional tenure, but driven by a yearning to bestow to the development of the profession. This is verified by the present research also that overall experience of the employees has significant influence on OKSb and SKSb, but not on PKSb. This shows that no matter what the total experience is, the employees might or might not share their Project related knowledge as per the privacy and legal issues.

Analysing the significant difference between the overall experience of employees in IT sector using tukey (Post Hoc) test it has been observed that the employees

who are experienced in IT sector has enhanced OKSb, but employees with 1-2 years of experience in IT sector share the least organisation related tacit knowledge. Similarly, for SKSb, it has been identified that 2-5 years' experience employees share more skill related tacit knowledge to enhance their career and employees who have just started their career i.e. employees having total experience less than 1 year share very less skill related tacit knowledge, might be because of the hesitation of sharing being new in IT sector.

4.4 Analysis of Objective 2: To identify the training methods to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.

To analyse this objective, training methods are independent variables and forms of Tacit Knowledge Sharing behaviour acts as dependent variables. Training methods are classified as On-the job Training methods and Off-the job Training methods. Although there are various Training methods available in the literature review, for both On-the job Training and Off-the job Training, but for the present study only the most prevalent methods are taken. The most prevalent methods (6 for each: On-the job and Off-the job) that help in flow of knowledge from employees to organisation, are find out with the help of Delphi technique and these are as follows:

1) On-the job Training methods

    a) Apprenticeship

    b) Coaching

    c) Committee Assignments

    d) Internship

    e) Job Instruction

    f)   Job Rotation

2)   Off-the job Training methods

    a)   Audio-Visual/ Programmed Instructions

    b)   Case Study method

    c)   Classroom Lectures

    d)   Role Playing

    e)   Simulation

    f)   Vestibule Training

Before analysing the concept the constructs and their variables are described below:

4.4.1   Analysis of "Organisational Knowledge Sharing behaviour" as a construct

Organisational Knowledge Sharing behaviour (OKSb) is self-developed term refers to the sharing of all the types of information related to organisation. The types of information related to an organisation can be:

i.   The factual knowledge of the organisation, i.e. history, structure etc about the organisation.

ii.   Business knowledge/ non-financial data i.e. information about the customers, products, suppliers, competitors etc.

iii.   Financial data i.e. information about the expenditure, shares, investments etc.

iv.   Internal reports and other official documents.

As the study focuses on tacit knowledge sharing, there is an assumption that the sharing of above stated forms of organisational knowledge is not in codified form; but the knowledge of the organisation that is in the mind of the employee. These forms of

information about the organisation acts as variables of "Organisational Knowledge Sharing behaviour" construct. In the research study the above stated variables of OKSb are measured by using questionnaire method. The respondents were asked to provide the rating for all the four items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. The descriptive statistics as well as frequency distribution of the responses of all the four variables of OKSb are shown below in Table 4.16.

Table 4.16: Descriptive Statistics of the variables of the construct "Organisational Knowledge Sharing behaviour"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Employees share business knowledge/ non-financial data with concerned department/person	**3.62** (1.31)		134 (31.6%)	139 (32.8%)	43 (10.1%)	72 (17%)	36 (8.5%)
Employees share factual knowledge (know-what) about the organisation with concerned department/ person	3.46 (1.36)	0.920	122 (28.8%)	113 (26.7%)	84 (19.8%)	48 (11.3%)	57 (13.4%)
Employees share financial data of the organisation with concerned department/ person	3.38 (1.35)		103 (24.3%)	134 (31.6%)	62 (14.6%)	71 (16.7%)	54 (12.7%)
Employees share official reports and documents with concerned department/ person	3.52 (1.31)		135 (31.8%)	84 (19.8%)	118 (27.8%)	41 (9.7%)	46 (10.8%)

The results (Table 4.16) specify that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Organisational Knowledge Sharing behaviour. The highest mean score is found for the variable **"**Employees share business knowledge/ non-financial data". This indicates that most of the respondents agree on the statement that there is more sharing of business knowledge with concerned department/ person in IT companies. Also, this statement has lowest standard deviation indicating that there is high consensus in the responses with respect

to this statement. "Employees share financial data of the organisation with concerned department/ person" having the lowest mean indicates that financial information being very secretive and sensitive is shared very less in the IT companies. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Organisational Knowledge Sharing behaviour (OKSb).

Various forms of Organisational Knowledge Sharing behaviour as a construct consist of four items. The structure of the construct is shown in Figure 4.8.
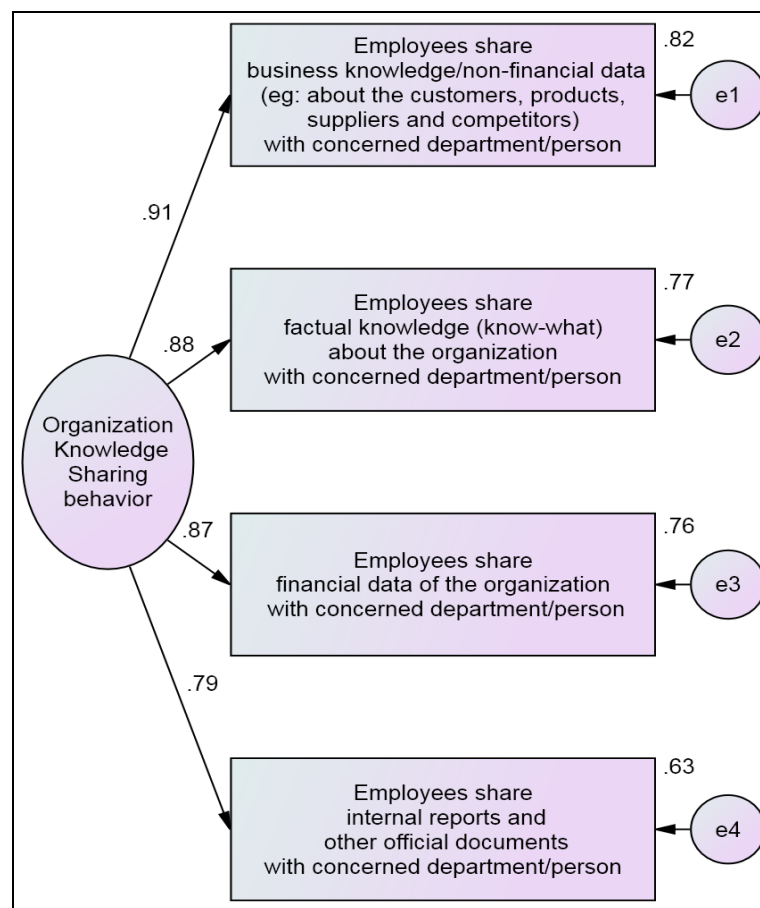
Figure 4.8: Structure of "Organisational Knowledge Sharing behaviour"

The results of the standardised regression weights of the construct are presented in Table 4.17.

Table 4.17: Standardised Regression Weights of "Organisational Knowledge Sharing behaviour"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R^2*
Organisational Knowledge Sharing behaviour (OKSb)	Employees share business knowledge/ non-financial data with concerned department/person	**0.905**	1.000				0.820
	Employees share factual knowledge (know-what) about the organisation with concerned department/person	0.879	1.010	0.039	26.123	0.000	0.773
	Employees share financial data of the organisation with concerned department/person	0.871	0.990	0.039	25.625	0.000	0.758
	Employees share official reports and documents with concerned department/person	0.791	0.878	0.041	21.306	0.000	0.626

The results (Table 4.17) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees share business knowledge/ non-financial data with concerned department/person" is highest. This indicates that 82% of the variance of the construct is represented by this variable. The results suggest that most of the

employees of the organisation share business knowledge/ non-financial data with concerned department/person.

The results also indicate that the item "Employees share financial data of the organisation with concerned department/person" has the lowest Standardised Beta; only 62.6% of the variance of the construct is represented by this variable. The probability values of all the measured variables are found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.18 indicates the Fitness Indices of the construct. The measurement indicators of overall model goodness-of-fit and badness-of-fit show the value of Comparative Fit Index (CFI) = 0.987 (greater than 0.9), Goodness-of-fit index (GFI) = 0.980 (greater than 0.8), Adjusted goodness-of-fit index (AGFI) = 0.902 (greater than 0.8), Normed Fit Index (NFI) =0.986 (greater than 0.9), Root Mean Square Error of Approximation (RMSEA)= 0.139 (smaller than 0.15), HI90= 0.201 (approximately equal to 0.2), LO90 = 0.086 (smaller than 0.2). The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.18: Fitness Indices of "Organisational Knowledge Sharing behaviour"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.987	0.980	0.902	0.986	0.139	0.201	0.086

4.4.2 Analysis of "Project/Task Knowledge Sharing behaviour" as a Construct

Project/Task Knowledge Sharing behaviour can be explained as the sharing of all the types of information related to a particular project or task. As the focus is on tacit knowledge, the types of tacit knowledge related to a particular project or task can be:

i. The factual knowledge (know-what) of the particular project/task, i.e. what is that project/task is all about.

ii. Know-why (why to do particular task/project) knowledge.

iii. Know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task.

iv. Documentation of the particular project/task

The above defined forms of Project/Task Knowledge Sharing behaviour acts as variables of "Project/Task Knowledge Sharing behaviour" construct and are measured by using questionnaire method. The respondents were asked to provide the rating for all the four items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. The descriptive statistics as well as frequency distribution of the responses of all the four variables of Project/Task Knowledge Sharing are shown below in Table 4.19.

Table 4.19: Descriptive Statistics of the variables of the construct "Project/Task Knowledge Sharing behaviour"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree 4*	*Neutral 3*	*Disagree 2*	*Strongly Disagree 1*
Employees share factual knowledge (know-what) of the particular	**3.65** (1.33)	0.913	153 (36.1%)	106 (25%)	69 (16.3%)	58 (13.7%)	38 (9%)

project/task with other employees of the organisation							
Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation	3.46 (1.35)		117 (27.6%)	125 (29.5%)	72 (17%)	58 (13.7%)	52 (12.3%)
Employees share know-why (why to do particular task/project) knowledge with other employees of the organisation	3.48 (1.24)		115 (27.1%)	97 (22.9%)	126 (29.7%)	50 (11.8%)	36 (8.5%)
Employees share documentation of the particular project/task with other employees of the organisation	3.51 (1.26)		111 (26.2%)	128 (30.2%)	91 (21.5%)	54 (12.7%)	40 (9.4%)

The results (Table 4.19) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Project/Task Knowledge Sharing behaviour. The highest mean score is found for the variable **"**Employees share factual knowledge (know-what) of the particular project/task with other employees of the organisation". This indicates that most of the respondents agree on the statement that there is more sharing of factual knowledge (know-what) of the particular project/task in IT companies. But this statement has second highest standard deviation indicating that there is high variability in the responses. In contrary "Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation" has the highest Standard deviation indicating that employees do not have consensus regarding the response of this statement. The reason might be that the employees of IT companies being insecure that in the competitive environment someone else might take the credit of completing the task, they do not share their tricks of doing a particular project/task with other employees. And the average standard deviation of this statement shows that there is average variability in the view of respondents. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Project/Task Knowledge Sharing behaviour. The frequency distribution of the variables

indicates that most of the respondents agree with all the statements of Project/Task Knowledge Sharing behaviour.

Above stated forms of Project/Task knowledge acts as variables of Project/Task Knowledge Sharing behaviour construct. The structure of the construct is shown in Figure 4.9.
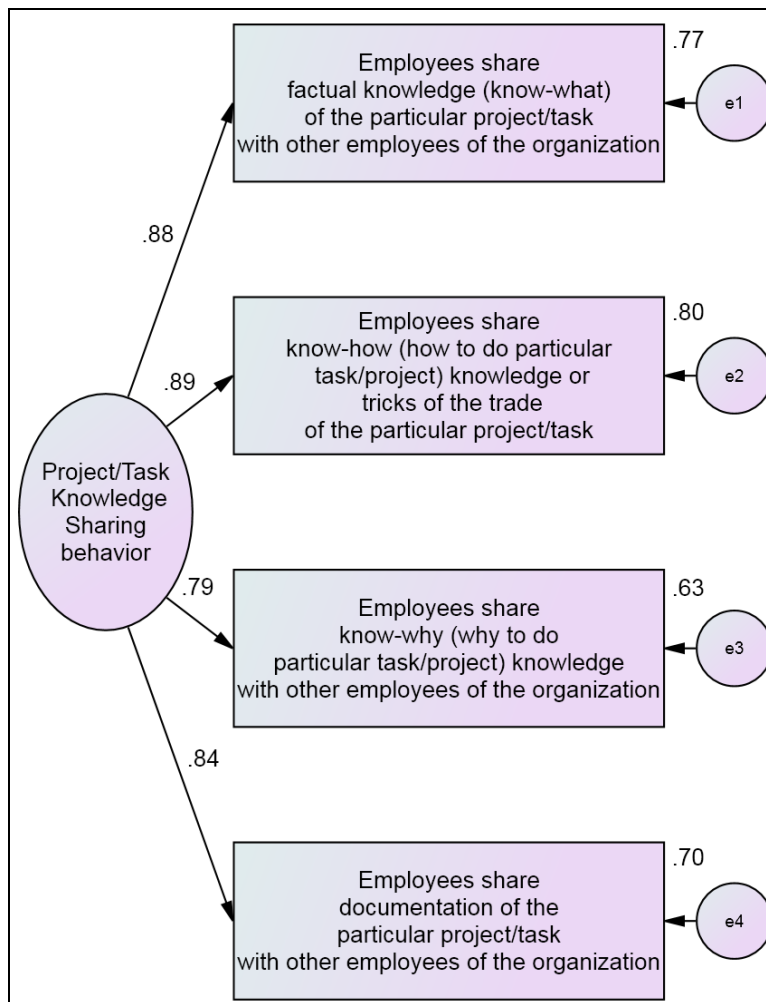
Figure 4.9: Structure of "Project/Task Knowledge Sharing behaviour"

The structure of the construct along with its variables is analysed and the results of the construct analysis are presented in Table 4.20. The results indicate the standardised and unstandardised regression weights along with the p value and squared multiple correlations.

Table 4.20: Standardised Regression Weights of "Project/Task Knowledge Sharing behaviour"

	Items	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
Construct: **Project/Task Knowledge Sharing behaviour**	Employees share factual knowledge (know-what) of the particular project/task with other employees of the organisation	0.877	1.000				0.770
	Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation	**0.895**	1.034	0.042	24.889	0.000	0.800
	Employees share know-why (why to do particular task/project) knowledge with other employees of the organisation	0.794	0.847	0.042	20.386	0.000	0.631
	Employees share documentation of the particular project/task with other employees of the organisation	0.838	0.909	0.041	22.323	0.000	0.702

The results (Table 4.20) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the convergent validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation" is highest. This indicates that 80% of the variance of the construct is represented by this variable.

The results also indicate that the item "Employees share know-why (why to do particular task/project) knowledge with other employees of the organisation" has the lowest Standardised Beta; only 63.1% of the variance of the construct is represented by this variable. The probability values of all the measured variables are found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.21 indicates the Fitness Indices of the construct. The measurement indicators of overall model goodness-of-fit and badness-of-fit show the value of CFI = 0.979 (greater than 0.9), GFI= 0.968 (greater than 0.8), AGFI = 0.839 (greater than 0.8), NFI =0.977 (greater than 0.9), RMSEA= 0.174 (slightly equal to 0.15), HI90= 0.234 (equal to 0.2), LO90 = 0.120 (smaller than 0.2). The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.21: Fitness Indices of "Project/Task Knowledge Sharing behaviour"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.979	0.968	0.839	0.977	0.174	0.234	0.120

4.4.3   Analysis of "Skill Knowledge Sharing behaviour" as a Construct

Skill Knowledge Sharing behaviour is self-developed term refers to the sharing of the skills of the employees that can be unique and exclusively developed or learned by some employees. As the study focuses on tacit knowledge sharing, these skills are not codified anywhere and are based on employee's own experience or learning. The types of the skills retained by the employees can be

i.   Their experiences or soft skills e.g. some specific methods of doing things.
ii.   Their analytical or problem solving skills.
iii.   Their technological expertise e.g. knowledge of particular software.
iv.   Their job-related hard skills e.g. Knowledge of how to do a particular activity of the job or a particular segment of job.

These forms of skill based knowledge acts as variables of "Skill Knowledge Sharing behaviour" construct. In the research study the above stated variables of Skill Knowledge

Sharing behaviour are measured by using questionnaire method. The respondents were asked to provide the rating for all the four items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. The descriptive statistics as well as frequency distribution of the responses of all the four variables of Skill Knowledge Sharing behaviour are own below in Table 4.22.

Table 4.22: Descriptive Statistics of the variables of the construct "Skill Knowledge Sharing behaviour"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Employees share their experiences or soft skills related knowledge with other employees of the organisation	**3.53** (1.37)		141 (33.3%)	102 (24.1%)	71 (16.7%)	62 (14.6%)	48 (11.3%)
Employees share their analytical or problem solving skills with other employees of the organisation	3.26 (1.29)	0.912	90 (21.2%)	99 (23.3%)	117 (27.6%)	66 (15.6%)	52 (12.3%)
Employees share their technological expertise with other employees of the organisation	3.35 (1.32)		103 (24.3%)	109 (25.7%)	96 (22.6%)	66 (15.6%)	50 (11.8%)
Employees share their job-related hard skills with other employees of the organisation	3.45 (1.32)		118 (27.8%)	112 (26.4%)	80 (18.9%)	72 (17%)	42 (9.9%)

The results (Table 4.22) indicate that the mean score of all the variables is greater than 3 suggesting the harmony in the responses for all the statements of Skill Knowledge Sharing behaviour. The highest mean score is for the variable **"**Employees share their experiences or soft skills related knowledge with other employees of the organisation" and lowest mean is of "Employees share their analytical or problem solving skills with other employees of the organisation". This indicates that most of the respondents have the same opinion, that employees of the IT companies mostly share their experiences or soft skills and are less interested in sharing their analytical or problem solving skills with other employees of the

organisation. But high Standard deviation of "Employees share their experiences or soft skills related knowledge with other employees of the organisation" is a sign of more variability in the responses and lowest Standard deviation of "Employees share their analytical or problem solving skills with other employees of the organisation" is a sign of predictability in the responses. The frequency distributions of the variables point towards that most of the respondents have consent with all the statements of Skill Knowledge Sharing behaviour.

Above acknowledged forms of Skill knowledge are the variables of the construct Skill Knowledge Sharing behaviour and the structure is shown in Figure 4.10.
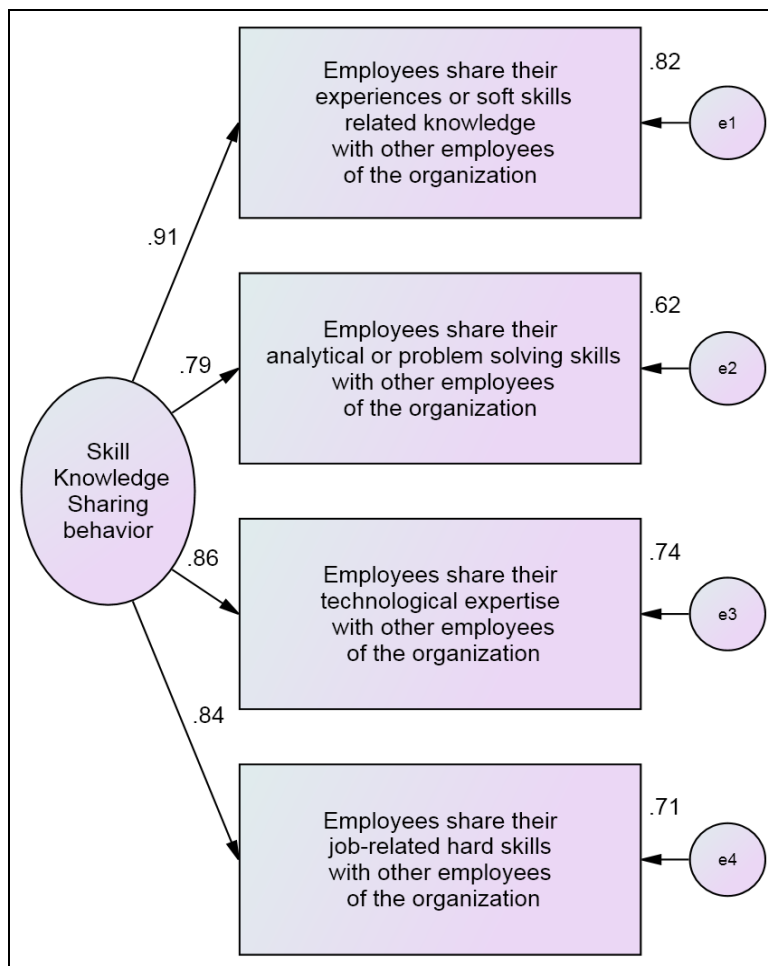
Figure 4.10: Structure of "Skill Knowledge Sharing behaviour"

The results of the standardised regression weights of the construct are presented in Table 4.23.

Table 4.23: Standardised Regression Weights of "Skill Knowledge Sharing behaviour"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
Skill Knowledge Sharing behaviour	Employees share their experiences or soft skills related knowledge with other employees of the organisation	**.906**	1.000				.821
	Employees share their analytical or problem solving skills with other employees of the organisation	.789	.818	.039	20.910	.000	.623
	Employees share their technological expertise with other employees of the organisation	.859	.909	.037	24.431	.000	.739
	Employees share their job-related hard skills with other employees of the organisation	.842	.892	.038	23.532	.000	.709

The results (Table 4.23) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees share their experiences or soft skills related knowledge with other employees of the organisation" is highest. This indicates that 82.1% of the variance of the construct is represented by this variable. During the research study, it has been observed that most of the respondents judged that mostly employees of the organisation share their experiences or soft skills related knowledge with other employees of the organisation.

The results also indicate that the item "Employees share their analytical or problem solving skills with other employees of the organisation" has the lowest Standardised Beta; only 62.3% of the variance of the construct is represented by this variable. The probability values of all the measured variables are found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.24 indicates the Fitness Indices of the construct. The measurement indicators of overall model goodness-of-fit and badness-of-fit show the value of CFI = 0.982 (greater than 0.9), GFI= 0.971 (greater than 0.8), AGFI = 0.855 (greater than 0.8), NFI =0.980 (greater than 0.9), RMSEA= 0.160 (less than 0.15), HI90= 0.221 (equal to 0.2), LO90 = 0.106 (smaller than 0.2). The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.24: Fitness Indices of "Skill Knowledge Sharing behaviour"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.982	0.971	0.855	0.980	0.160	0.221	0.106

4.4.4   Analysis of "On-the job training methods" as a construct

The various On-the job training methods acts as variables of "On-the job training methods" construct. In the research study the above stated variables of On-the job training methods are measured by using questionnaire method. The respondents were asked to provide the rating for all the six items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. The descriptive statistics as well as frequency distribution of the responses of all the six variables of On-the job training methods are shown below in Table 4.25.

Table 4.25: Descriptive Statistics of the variables of the construct "On-the job training methods"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree 4*	*Neutral 3*	*Disagree 2*	*Strongly Disagree 1*
Job Rotation	3.27 (1.41)		107 (25.5%)	99 (23.6%)	88 (21%)	55 (13.1%)	71 (16.9%)
Coaching	**3.25**		85	103	105	86	41

	(1.26)		(20.2%)	(24.5%)	(25%)	(20.5%)	(9.8%)
Job Instruction	3.41 (1.40)	0.937	134 (31.9%)	84 (20%)	76 (18.1%)	74 (17.6%)	52 (12.4%)
Committee Assignments	3.42 (1.32)		117 (27.9%)	95 (22.6%)	101 (24%)	61 (14.5%)	46 (11%)
Apprenticeship	3.27 (1.22)		86 (20.5%)	93 (22.1%)	131 (31.2%)	72 (17.1%)	38 (9%)
Internship	**3.52** (1.43)		1561 (36%)	84 (20%)	82 (19.5%)	40 (9.5%)	63 (15%)

The results (Table 4.25) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of On-the job training methods. The highest mean score is found for the variable **"**Internship". This indicates that as per the respondents (i.e. employees of IT companies) Internship training method is the most prevalent on-the job training method in IT companies. But along with highest mean this variable has the highest standard deviation too which indicates that there is high variability in the responses with respect to this variable. After Internship, other on-the job training methods that are highly implemented in IT companies are Committee Assignments and Job Instruction. "Coaching" having the lowest mean indicates that IT companies does not prefer to execute coaching method in their organisation and second lowest standard deviation indicates that there is very high consensus in the responses for this variable. The frequency distribution of the variables indicates that most of the respondents agree with all the variables of On-the job training methods indicating all these are implemented in IT companies either highly or rarely.

Various forms of "On-the job training methods" as a construct consist of six items. The structure of the construct is shown in Figure 4.11.
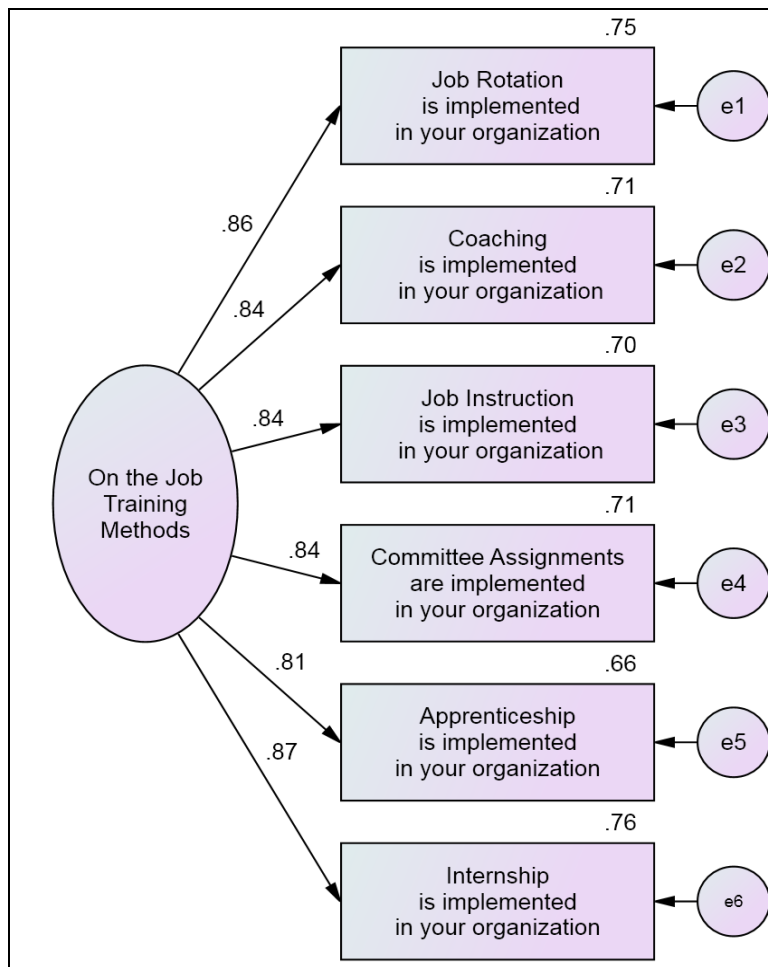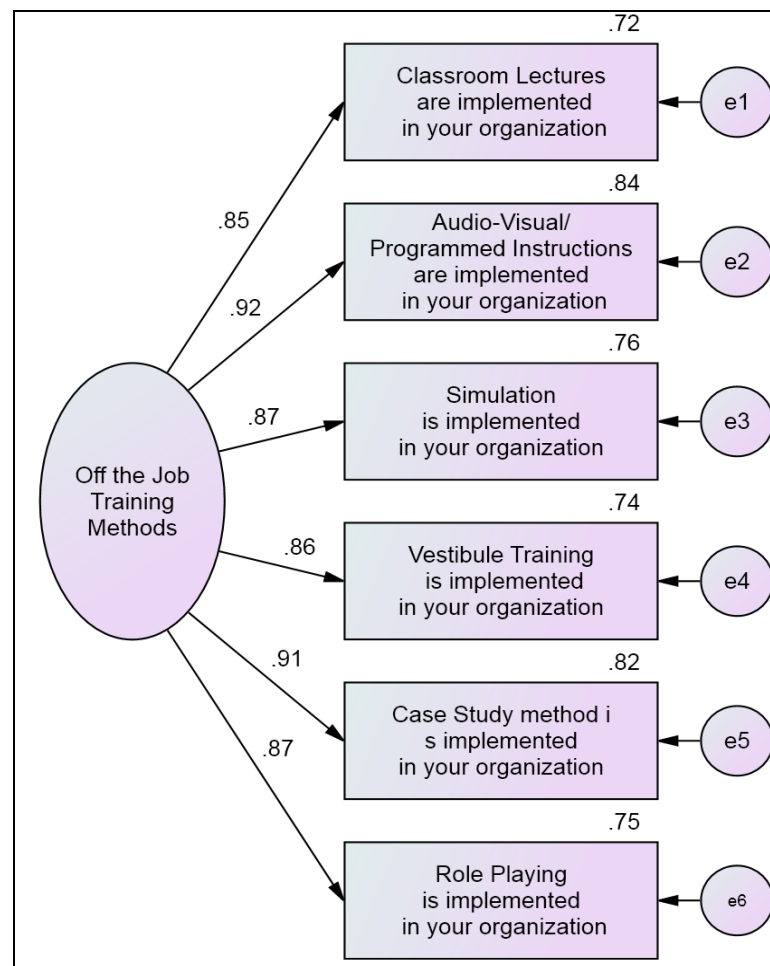
Figure 4.11: Structure of "On-the job training methods"

The results of the standardised regression weights of the construct are presented in Table 4.26.

Table 4.26: Standardised Regression Weights of "On-the job training methods"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
On-the job training methods	Job Rotation	0.864	1.000				.746
	Coaching	0.841	0.871	.039	22.496	.000	.708
	Job Instruction	0.839	0.969	.043	22.390	.000	.704
	Committee Assignments	0.842	0.915	.041	22.539	.000	.710
	Apprenticeship	0.814	0.818	.039	21.205	.000	.662
	Internship	**0.872**	1.028	.043	24.014	.000	.760

The results (Table 4.26) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Internship" is

highest. This indicates that 76% of the variance of the construct is represented by this variable. During the research study, it has been observed that most of the respondents believe that Internship method is the highly prevalent method in IT companies.

The results also indicate that the item "Apprenticeship" has the lowest Standardised Beta; only 66.2% of the variance of the construct is represented by this variable. The probability values of all the measured variables are found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.27 indicates the Fitness Indices of the construct. The measurement indicators of overall model goodness-of-fit and badness-of-fit show the value of Comparative Fit Index (CFI) = 0.992 (greater than 0.9), Goodness-of-fit index (GFI) = 0.981 (greater than 0.8), Adjusted goodness-of-fit index (AGFI) = 0.957 (greater than 0.8), Normed Fit Index (NFI) =0.988 (greater than 0.9), Root Mean Square Error of Approximation (RMSEA)= 0.064 (smaller than 0.15), HI90= 0.095 (smaller than 0.2), LO90 = 0.034 (smaller than 0.2). The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct "On-the job training methods" is ensured.

Table 4.27: Fitness Indices of "On-the job training methods"

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.992	0.981	0.957	0.988	0.064	0.095	0.034

4.4.5   Analysis of "Off-the job training methods" as a construct

The various Off-the job training methods acts as variables of "Off-the job training methods" construct. In the research study the above stated variables of Off-the job training methods are measured by using questionnaire method. The respondents were asked to provide the rating for all the six items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. The descriptive statistics as well as

frequency distribution of the responses of all the six variables of Off-the job training methods are shown below in Table 4.28.

Table 4.28: Descriptive Statistics of the variables of the construct "Off-the job training methods"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Classroom Lectures	3.32 (1.34)	0.953	107 (25.5%)	90 (21.4%)	114 (27.1%)	51 (12.1%)	58 (13.8%)
Audio visual / Programmed instructions	3.08 (1.38)		71 (16.9%)	130 (31%)	61 (14.5%)	79 (18.8%)	79 (18.8%)
Simulation	3.28 (1.48)		129 (30.7%)	76 (18.1%)	76 (18.1%)	63 (15%)	76 (18.1%)
Vestibule Training	3.33 (1.45)		136 (32.4%)	62 (14.8%)	98 (23.3%)	55 (13.1%)	69 (16.4%)
Case studies	3.44 (1.37)		134 (31.9%)	87 (20.7%)	72 (17.1%)	86 (20.5%)	41 (9.8%)
Role playing	3.21 (1.39)		101 (24%)	94 (22.4%)	82 (19.5%)	80 (19%)	63 (15%)

The results (Table 4.28) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Off-the job training methods. The highest mean score is found for the variable "Case studies". This indicates that most of the respondents agree that in their IT companies, case study method is implemented the most. On the other hand, "Audio visual / Programmed instructions" have the lowest mean which suggests that in the IT companies Audio visual / Programmed instructions are the least prevalent training methods. Both of these items have average standard deviation indicating that there is average variability in the responses with respect to these items. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Off-the job training.

Various forms of Off-the job training methods as a construct consist of six items. The structure of the construct is shown in Figure 4.12.

Figure 4.12: Structure of "Off-the job training methods"

The results of the standardised regression weights of the construct is shown in Table 4.29

Table 4.29: Standardised Regression Weights of "Off-the job training methods"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
Off-the job training	Classroom Lectures	0.850	1.000				0.722
	Audio-Visual/ Programmed Instructions	0.917	1.114	0.043	26.073	.000	0.840
	Simulation	0.873	1.137	0.048	23.776	.000	0.763
	Vestibule Training	0.860	1.098	0.047	23.127	.000	0.740
	Case Study method	0.906	1.089	0.043	25.471	.000	0.820
	Role Playing	0.868	1.058	0.045	23.537	.000	0.754

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The results (Table 4.29) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Audio-Visual/ Programmed Instructions" is highest. This indicates that 84% of the variance of the construct is represented by this variable.

The results also indicate that the item "Classroom lectures" has the lowest Standardised Beta; only 72.2% of the variance of the construct is represented by this variable. The probability values of all the measured variables are found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.30 indicates the Fitness Indices of the construct. The measurement indicators of overall model goodness-of-fit and badness-of-fit show the value of Comparative Fit Index (CFI) = 0.990 (greater than 0.9), Goodness-of-fit index (GFI) = 0.972 (greater than 0.8), Adjusted goodness-of-fit index (AGFI) = 0.936 (greater than 0.8), Normed Fit Index (NFI) =0.986 (greater than 0.9), Root Mean Square Error of Approximation (RMSEA)= 0.083 (smaller than 0.15), HI90= 0.113 (equal to 0.2), LO90 = 0.055 (smaller than 0.2). The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.30: Fitness Indices of "Off-the job training methods"

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.990	0.972	0.936	0.986	0.083	0.113	.055

4.4.6 Analysis of role of training methods in Tacit Knowledge Sharing behaviour (TKSb) dimensions.

The top management of an organisation need to motivate their employees and provide the right direction, so that their employees capture, reuse and share their knowledge, that results in evading errors, and gaining competitive advantage. For the current study, three dimensions of Tacit Knowledge Sharing behaviour (TKSb) have been taken. To study the influence of Training methods on all the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb following hypotheses are formulated and are tested with the help of Structural Equation Modelling (shown in Figure 4.13).

Ha$_{2a}$: **There is significant difference between On-the job training methods and Organisational Knowledge Sharing behaviour (OKSb).**

Ha$_{2b}$: **There is significant difference between On-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).**

Ha$_{2c}$: **There is significant difference between On-the job training methods and Skill Knowledge Sharing behaviour (SKSb).**

Ha$_{2d}$: **There is significant difference between Off-the job training methods and Organisational Knowledge Sharing behaviour (OKSb).**

Ha$_{2e}$: **There is significant difference between Off-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).**

Ha$_{2f}$: **There is significant difference between Off-the job training methods and Skill Knowledge Sharing behaviour (SKSb).**

Figure 4.13: Structural Equation Model of "Role of training methods in Tacit Knowledge Sharing behaviour (TKSb)"

The results of the analysis are presented in Table 4.31. The results indicate that the probability values of the influence of the On-the job training methods on PKSb and SKSb are less than 5 %. Hence with 95 % confidence level the alternate hypotheses that there is significant difference between On-the job training methods and PKSb and SKSb cannot be rejected. Thus, it is concluded that there exists significant influence of On-the job training methods on PKSb and SKSb in IT companies in India; but these methods do not have significant on OKSb. Similarly, for Off-the job training methods, the results indicate that the probability values of the influence of the Off-the job training methods on OKSb and SKSb are less than five %. Hence with 95 % confidence level, it

is concluded that Off-the job training methods have significant influence on OKSb and SKSb but does not influence PKSb.

The multiple squared correlations of 6.6 %, 5.1 % and 7.3 % represents that 6.6 %, 5.1 % and 7.3 % of the variations of the endogenous construct OKSb, PKSb and SKSb respectively, can be explained with the help of the variations in the exogenous constructs On-the job training methods and Off-the job training methods.

Table 4.31: Analysis of Structural Equation Model of "Role of training methods in Tacit Knowledge Sharing behaviour (TKSb)"

Exogenous Construct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
On-the Job training methods	Organisational Knowledge Sharing behaviour (OKSb)	0.061	0.058	1.207	0.228	0.066
On-the Job training methods	Project/Task Knowledge Sharing behaviour (PKSb)	0.206	0.190	3.963	.000	0.051
On-the Job training methods	Skill Knowledge Sharing behaviour (SKSb)	0.179	0.177	3.485	.000	0.073
Off-the Job training methods	Organisational Knowledge Sharing behaviour (OKSb)	0.249	0.245	4.880	.000	0.066
Off-the Job training methods	Project/Task Knowledge Sharing behaviour (PKSb)	0.093	0.089	1.816	.069	0.051
Off-the Job training methods	Skill Knowledge Sharing behaviour (SKSb)	0.202	0.208	3.966	.000	0.073

The goodness of fit indices (represented in Table 4.32) such as CFI (0.850), NFI (0.829) and RFI (0.808) are high and badness of fit indices RMSEA (0.118), LO90 (0.112) and HI90 (0.123) are low representing that the structural model is fit.

Table 4.32: Fitness Indices of "Role of training methods in Tacit Knowledge Sharing behaviour (TKSb)"

Fitness Index	*CFI*	*NFI*	*RFI*	*RMSEA*	*LO 90*	*HI 90*
Value	*0.850*	0.829	0.808	0.118	0.112	0.123

4.4.7 Identifying training methods that enhance TKSb

After analysing the role of on-the job training methods and off- the job training methods in TKSb, it has been recognised that both training methods have partially significant influence on TKSb. Now the question arises that which method is more significant and which is less significant that needs to be implemented to enhance TKSb of the employees of IT companies of India. To list the significant methods, Bivariate Regression is employed on each of the method (to avoid multicollinearity) and results for both on-the job training methods and off-the job training methods on are presented in Table 4.33 and Table 4.34 respectively.

Table 4.33: Bivariate Regression Model for On-the job training methods

Dependent Variable	Independent Variable	Beta Coefficient	Standardised beta	t statistic (p value)	F statistic (p value)	R^2
PKSb	Job Rotation	0.120	0.166	3.455 (.001)	11.938 (.001)	0.028
	Coaching	0.136	0.168	3.495 (.001)	12.217 (.001)	0.028
	Job Instruction	0.126	0.174	3.632 (.000)	13.194 (.000)	0.030
	Committee Assignments	0.109	**0.142**	2.945 (.003)	8.673 (.003)	0.020
	Apprenticeship	0.150	0.179	3.743 (.000)	14.013 (.000)	0.032
	Internship	0.137	**0.193**	4.044 (.000)	16.350 (.000)	0.037
SKSb	Job Rotation	0.124	0.165	3.427 (.001)	11.743 (.001)	0.027
	Coaching	0.135	0.159	3.319 (.001)	11.016 (.001)	0.025
	Job Instruction	0.104	0.137	2.851 (.005)	8.126 (.005)	0.019
	Committee Assignments	0.097	**0.121**	2.500 (.013)	6.252 (.013)	0.015
	Apprenticeship	0.185	**0.212**	4.456 (.000)	19.852 (.000)	0.045
	Internship	0.138	0.185	3.878 (.000)	15.037 (.000)	0.034

Table 4.34: Bivariate Regression Model for Off-the job training methods

Dependent Variable	Independent Variable	Beta Coefficient	Standardised beta	t statistic (p value)	F statistic (p value)	R^2
OKSb	Classroom Lectures	0.122	**0.163**	3.396 (.001)	11.532 (.001)	0.027
	Audio-Visual/ Programmed Instructions	0.171	**0.236**	4.983 (.000)	24.834 (.000)	0.056
	Simulation	0.150	0.221	4.653 (.000)	21.655 (.000)	0.049
	Vestibule Training	0.152	0.219	4.617 (.000)	21.316 (.000)	0.048
	Case Study method	0.155	0.211	4.444 (.000)	19.748 (.000)	0.045
	Role Playing	0.144	0.198	4.154 (.000)	17.258 (.000)	0.039
SKSb	Classroom Lectures	0.112	0.142	2.947 (.003)	8.683 (.003)	0.020
	Audio-Visual/ Programmed Instructions	0.152	0.199	4.175 (.000)	17.433 (.000)	0.040
	Simulation	0.138	0.193	4.035 (.000)	16.285 (.000)	0.037
	Vestibule Training	0.124	0.170	3.544 (.000)	12.560 (.000)	0.029
	Case Study method	0.164	0.211	4.443 (.000)	19.737 (.000)	0.045
	Role Playing	0.126	0.164	3.415 (.001)	11.659 (.001)	0.027

The results of the regression analysis indicate that the on-the job training methods as independent variables are identified to influence the PKSb and SKSb. The highest Standardised beta value of Internship (Table 4.33) implies that Internship (t=4.044) has the highest influence on project/task knowledge sharing. Similarly, Apprenticeship has the maximum influence on SKSb ($\beta = 0.212$, t = 4.456), which suggests that when Apprenticeship as training method is used in the organisation, more skill related knowledge will be shared by the employees. On the other hand, whereas Committee

assignments has the least influence on both PKSb and SKSb (β = 0.142, t = 2.945; β = 0.121, t = 2.500 respectively).

Similarly, the regression analysis for off-the job training methods (Table 4.34) demonstrate that Audio-Visual/ Programmed Instructions and Simulation has the highest influence on both SKSb (β = 0.199, t = 4.175 and β = 0.193, t = 4.035 respectively) and OKSb (β = 0.236, t = 4.983 and β = 0.221, t = 4.653 respectively) whereas Classroom Lectures influences OKSb and SKSb the least (β = 0.163, t = 3.396 and β = 0.142, t = 2.947 respectively).

4.5 Analysis of Objective 3: To identify the Hofstede's dimensions to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.

The role of culture in knowledge management practices and the role of the top management in fostering cultures that in turn encourage knowledge sharing behaviours are presented in various studies (Balthazard & Cooke, 2004, Brown & Duguid, 2000; Davenport, et al., 1998; DeLong & Fahey, 2000; Gold, et al., 2001, Gupta & Govindarajan, 2000; Hargadon, 1998; Hasan & Gould, 2001; Jarvenpaa & Staples, 2001, Schultze & Boland, 2000, Krogh, 1998). As per the study of Balthazard & Cooke (2004) and Gold, et al., (2001), encouragement to attain success in knowledge management practices can only be achieved by constructive culture. This is line with the study of Jarvenpaa & Staples (2001) who determined that Collectivism in organisational cultures leads to high echelons of knowledge sharing. These studies clearly show that culture has influence (either positive or negative) on knowledge sharing, but there is no evidence on role of culture on Tacit Knowledge Sharing behaviour. When it comes to culture, Hofstede's dimensions (1980) are the best known and therefore present study focuses on the influence of four Hofstede's dimensions (1980) on Tacit Knowledge Sharing behaviour.

As four Hofstede's dimensions have been taken for the study; each dimension is studied individually in further subsections.

4.5.1 To study the role of Individualism and Collectivism in Tacit Knowledge Sharing behaviour dimensions.

To study the individualism and collectivism dimension of culture on the employees few variables are taken and these are the measured items of the construct "Individualism" and "Collectivism", which are measured by using questionnaire method in the research study. The respondents were asked to provide the rating for all the items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree.

4.5.1.1 Analysis of "Individualism" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of Individualism is shown below in Table 4.35.

Table 4.35: Descriptive Statistics of the variables of the construct "Individualism"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Independent working is preferred.	3.22 (1.41)		96 (22.9%)	108 (25.7%)	86 (20.5%)	52 (12.4%)	78 (18.6%)
Task prevails over relationship	3.32 (1.38)		120 (28.6%)	74 (17.6%)	100 (23.8%)	72 (17.1%)	54 (12.9%)
Employees are focused on speaking their own minds	3.15 (1.31)	0.903	82 (19.5%)	98 (23.3%)	98 (23.3%)	86 (20.5%)	56 (13.3%)
Not accepting group's decision	3.27 (1.46)		118 (28.1%)	90 (21.4%)	74 (17.6%)	62 (14.8%)	76 (18.1%)

The results (Table 4.35) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Individualism. The highest mean score is found for the variable **"**Task prevails over relationship**"**. This indicates that most of the respondents agree on the statement that employees of their

organisations are more task oriented. Also, this statement has average standard deviation indicating that there is average variability in the responses with respect to this statement. "Employees are focused on speaking their own minds" having the lowest mean indicates that employees of IT companies are not focused on sharing their ideas, may be due to lack of empowerment or maybe they enjoy working in groups or teams rather than individually. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Individualism.

Various forms of Individualism as a construct consist of four items. The structure of the construct is shown in Figure 4.14.
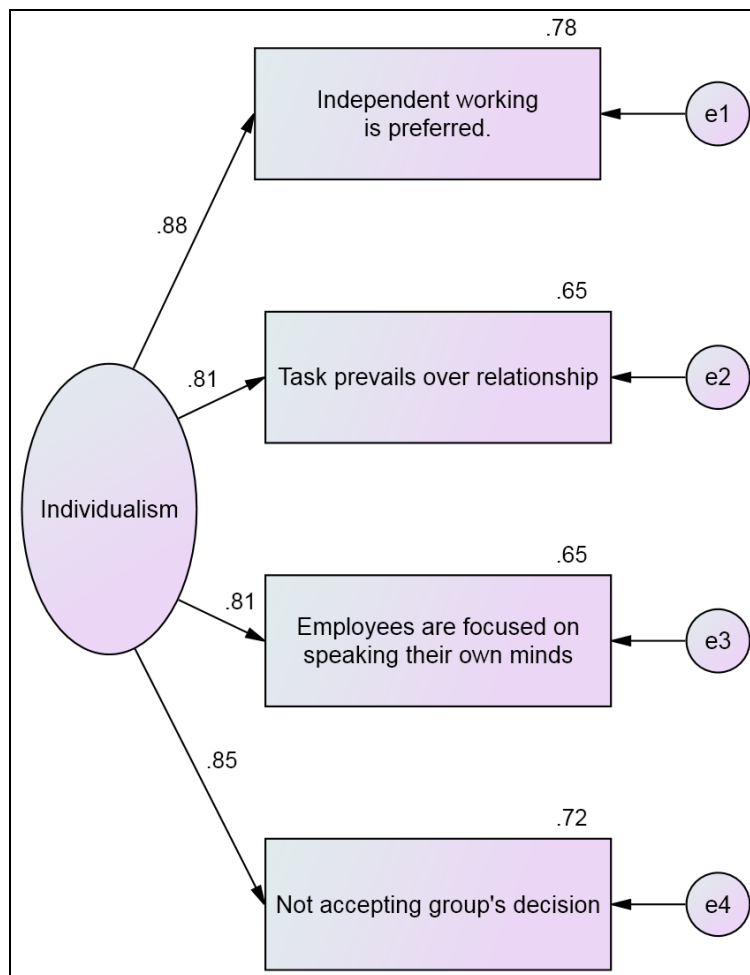
Figure 4.14: Structure of "Individualism"

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The results of the standardised regression weights of the construct are presented in Table 4.36.

Table 4.36: Standardised Regression Weights of "Individualism"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R^2
	Independent working is preferred	0.884	1.000				0.781
	Task prevails over relationship	0.809	0.895	0.043	20.661	.000	0.655
Individualism	Employees are focused on speaking their own minds	0.806	0.850	0.041	20.541	.000	0.650
	Not accepting group's decision	0.850	0.997	0.045	22.362	.000	0.723

The results (Table 4.36) suggest that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Independent working is preferred" is highest. This indicates that 78.1% of the variance of the construct is represented by this variable. The results also indicate that the item "Employees are focused on speaking their own minds" has the lowest Standardised Beta; only 65% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.37 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.37: Fitness Indices of Individualism

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.994	0.989	0.947	0.992	0.090	0.155	0.036

4.5.1.2   Analysis of "Collectivism" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of Collectivism is shown below in Table 4.38.

Table 4.38: Descriptive Statistics of the variables of the construct "Collectivism"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Employees like to work in a team rather than by themselves	3.32 (1.39)		118 (28.1%)	84 (20%)	94 (22.4%)	64 (15.2%)	60 (14.3%)
Accepting group decision is common practice	3.51 (1.19)	0.912	108 (25.7%)	110 (26.2%)	122 (29%)	50 (11.9%)	30 (7.1%)
Problem solving by groups gives better results than problem solving individually	3.39 (1.43)		128 (30.5%)	106 (25.2%)	48 (11.4%)	80 (19%)	58 (13.8%)
Relationship prevails over task	3.38 (1.29)		108 (25.7%)	104 (24.8%)	84 (20%)	88 (21%)	36 (8.6%)

The results (Table 4.38) suggest that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Collectivism. The highest mean score of the variable **"Accepting group decision is common practice".** This indicates that most of the respondents agree on the statement that there is common practice in IT companies that employees accept their group decision. Also, this statement has lowest standard deviation indicating that there is high consensus in the responses with respect to this statement. "Employees like to work in a team rather than by themselves" has the lowest mean which indicates that most employees in the IT companies like to work independently. The frequency distribution of the variables indicates that

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most of the respondents agree with all the statements of Organisational knowledge sharing.

Various forms of Collectivism as a construct consist of four items. The structure of the construct is shown in Figure 4.15.
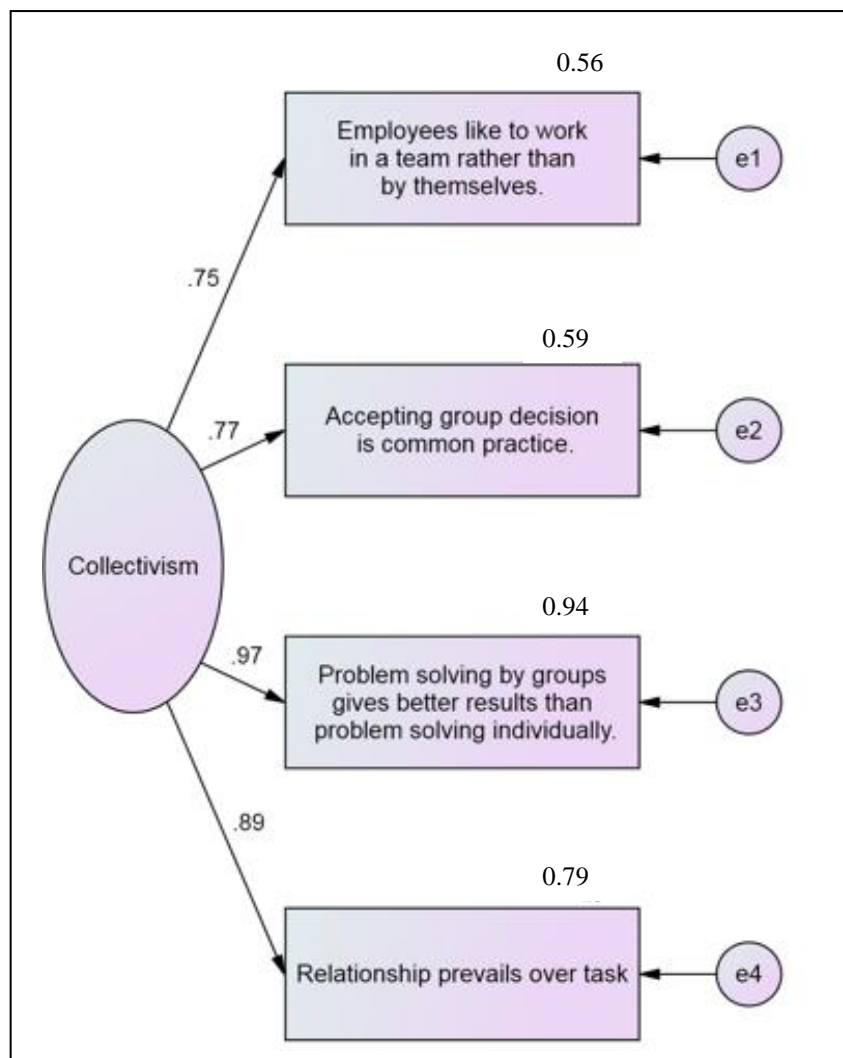
Figure 4.15: Structure of "Collectivism"

The results of the standardised regression weights of the construct are presented in Table 4.39.

Table 4.39: Standardised Regression Weights of "Collectivism"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R²
Collectivism	Employees like to work in a team rather than by themselves.	0.751	1.000				0.564
	Accepting group decision is common practice.	0.767	0.877	0.053	16.485	.000	0.589
	Problem solving by groups gives better results than problem solving individually.	0.972	1.333	0.063	21.046	.000	0.945
	Relationship prevails over task	0.886	1.099	0.056	19.513	.000	0.786

The results (Table 4.39) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Problem solving by groups gives better results than problem solving individually" is highest. This indicates that 94.5% of the variance of the construct is represented by this variable. The results also indicate that the item "Employees like to work in a team rather than by themselves" has the lowest Standardised Beta; only 56.4% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.40 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.40: Fitness Indices of "Collectivism"

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.951	0.929	0.644	0.950	0.275	0.220	0.334

4.5.1.3   Analysis of "Influence of Individualism and Collectivism on Tacit Knowledge Sharing behaviour dimensions"

The most challenging job in an organisation is the tacit knowledge sharing, as the organisation restrains the employees from sharing their insights. Therefore, it is vital for the organisations to comprehend the factors that influence the employees' willingness to share. The premier critical factor is the culture of the organisation (Ardichvili, 2008). Individualism and Collectivism being one of variables of the culture may likewise assume in enhancing or diminishing the employee's willingness to share their implied learning. Kim & Lee (2006) inspected the influence of organisational culture, on employee knowledge sharing proficiencies. Bhagat et al., (2002) and Alexandre Ardichvili et. al, (2006) examined that knowledge construction and sharing is different for individualistic and collectivistic cultures. Besides, the observational exploration recommends an absence of agreement on the influence of Individualism and Collectivism on particularly tacit knowledge sharing conduct. This gap prompts to the emergence of following hypotheses that are further tested with the assistance of structural equation modelling. The Figure 4.16 represents the theoretical hypotheses to be tested.

Ha3a: There is significant difference between Individualism and Organisational Knowledge Sharing behaviour (OKSb).

Ha3b: There is significant difference between Individualism and Project Knowledge Sharing behaviour (PKSb).

Ha3c: **There is significant difference between Individualism and Skill Knowledge Sharing behaviour (SKSb).**

Ha3d: **There is significant difference between Collectivism and Organisational Knowledge Sharing behaviour (OKSb).**

Ha3e: **There is significant difference between Collectivism and Project Knowledge Sharing behaviour (PKSb).**

Ha3f: **There is significant difference between Collectivism and Skill Knowledge Sharing behaviour (SKSb).**

Figure 4.16: Structural Equation Model of "Role of Individualism/Collectivism in Tacit Knowledge Sharing behaviour dimensions"

The results of the analysis are presented in Table 4.41

Table 4.41: Analysis of Structural Equation Model of "Role of Individualism / Collectivism in Tacit Knowledge Sharing behaviour dimensions"

Exogenous Construct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
Individualism	Organisational Knowledge Sharing behaviour (OKSb)	-0.257	-0.241	-5.311	.000	0.225
Individualism	Project/Task Knowledge Sharing behaviour (PKSb)	-0.204	-0.189	-4.033	.000	0.140
Individualism	Skill Knowledge Sharing behaviour (SKSb)	-0.212	-0.209	-4.255	.000	0.170
Collectivism	Organisational Knowledge Sharing behaviour (OKSb)	0.398	0.402	8.266	.000	0.225
Collectivism	Project/Task Knowledge Sharing behaviour (PKSb)	0.313	0.313	6.263	.000	0.140
Collectivism	Skill Knowledge Sharing behaviour (SKSb)	0.353	0.375	7.156	.000	0.170

The results suggest that the probability value of the influence of both, Individualism and Collectivism on the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb is less than 5 %. Hence with 95 % confidence level the alternate hypotheses that there is significant difference between the constructs Individualism and Collectivism and the TKSb dimensions: OKSb, PKSb and SKSb, cannot be rejected. Thus, it is concluded

that there exists significant influence of Individualism and Collectivism on OKSb, PKSb and SKSb in IT companies in India. But with the negative CR value of Individualism, it has been seen that Individualism has negative influence on OKSb, PKSb and SKSb. On the other hand, Collectivism has positive influence on the three dimensions of TKSb. The goodness of fit indices (Table 4.42) such as CFI (0.826), NFI (0.809) and RFI (0.779) is high representing that the structural model is fit. The multiple squared correlations of 22.5 % represents that 22.5 % of the variations of the endogenous construct OKSb can be explained with the help of the variations in the exogenous constructs Individualism and Collectivism. Similarly, multiple squared correlations of 14 % and 17 % represents that 14 % and 17 % of the variations of the endogenous construct PKSb and SKSb respectively, can be explained with the help of the variations in the exogenous constructs Individualism and Collectivism.

Table 4.42: Fitness Indices of "Role of Individualism/Collectivism in Tacit Knowledge Sharing behaviour dimensions

Fitness Index	*CFI*	*NFI*	*RFI*	*RMSEA*	*LO 90*	*HI 90*
Value	*0.826*	0.809	0.779	0.136	0.130	0.143

4.5.2 To study the role of Power Distance on Tacit Knowledge Sharing behaviour dimensions.

To study the influence of Power Distance in the organisation on Tacit Knowledge Sharing behaviour dimensions few variables have been taken and these are the measured items of the construct "Low Power Distance" and "High Power Distance", which are measured by using questionnaire method in the research study. The respondents were asked to provide the rating for all the items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree.

4.5.2.1   Analysis of "Low Power Distance" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of Low Power Distance is shown below in Table 4.43.

Table 4.43: Descriptive Statistics of the variables of the construct "Low Power Distance"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Employees share their ideas with top management	3.38 (1.24)		106 (25%)	94 (22.2%)	106 (25%)	92 (21.7%)	26 (6.1%)
Employees share knowledge with their peer members	**3.46** (1.44)		143 (33.7%)	92 (21.7%)	65 (15.3%)	66 (15.6%)	58 (13.7%)
Bottom up approach is given importance	3.42 (1.24)	0.918	112 (26.4%)	84 (19.8%)	125 (29.5%)	74 (17.5%)	29 (6.8%)
There is less hierarchy	3.31 (1.42)		108 (25.5%)	118 (27.8%)	68 (16%)	57 (13.4%)	73 (17.2%)

The result (Table 4.43) indicates that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Low Power Distance. The highest mean score is found for the variable **"**Employees share knowledge with their peer members". This indicates that most of the respondents agree on the statement that in IT companies there is more sharing of knowledge with the peer group either in the same or different department. Also, this statement has highest standard deviation indicating that there is high variability in the responses with respect to this statement. "There is less hierarchy" having the lowest mean suggests that IT companies have many hierarchical levels. This variable also has second highest standard deviation suggesting that there is high variability in the responses with respect to this statement. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Low Power Distance.

Various forms of Low Power Distance as a construct consist of four items. The structure of the construct is shown in Figure 4.17.
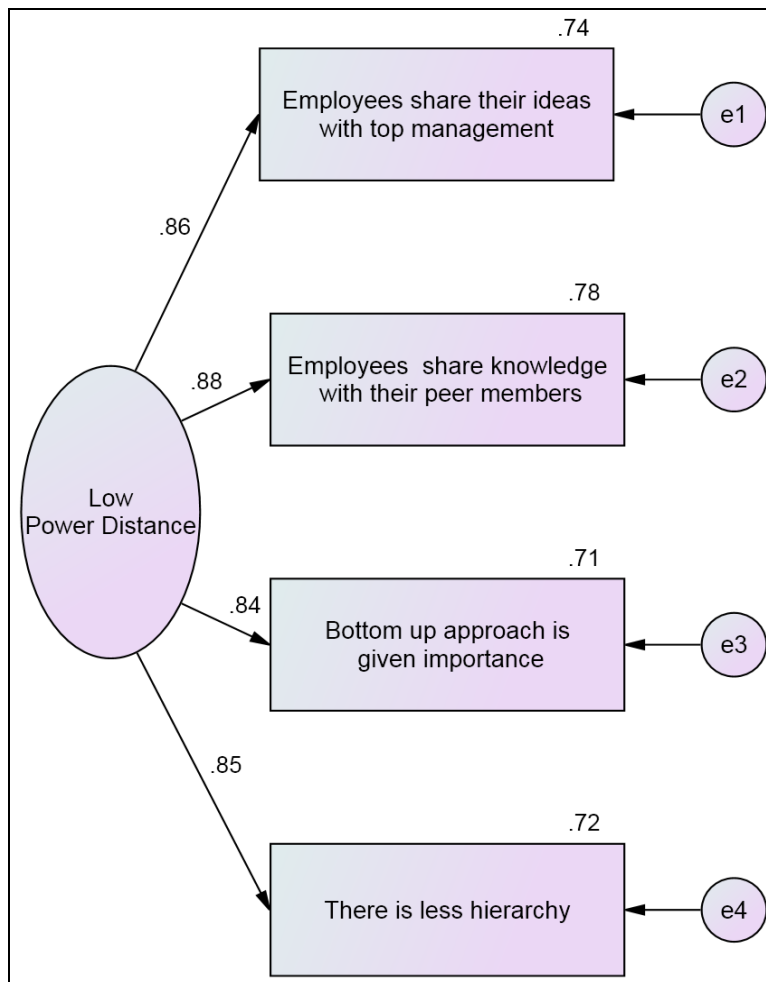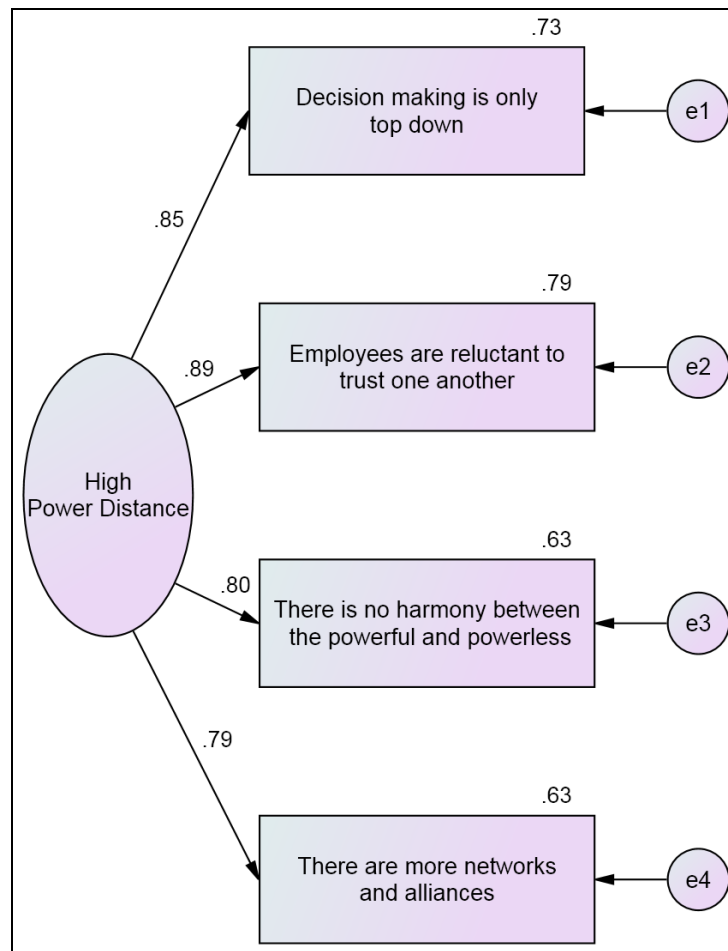
Figure 4.17: Structure of Low Power Distance

The results of the standardised regression weights of the construct are presented in Table 4.44.

Table 4.44: Standardised Regression Weights of "Low Power Distance"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R^2
Low Power Distance	Employees share their ideas with top management	0.861	1.000				0.741
	Employees share knowledge with their peer members	0.883	1.185	0.050	23.624	.000	0.779
	Bottom up approach is given importance	0.844	0.978	0.045	21.972	.000	0.713
	There is less hierarchy	0.849	1.131	0.051	22.173	.000	0.720

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The results (Table 4.44) suggest that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees share knowledge with their peer members" is highest. This suggests that 77.9% of the variance of the construct is represented by this variable. During the research study, it has been observed that most of the respondents believe that mostly employee share their knowledge with the peer members irrespective of the department, and the reason behind this may be the presence of various hierarchies in IT companies.

The results also indicate that the item "Bottom up approach is given" has the lowest Standardised Beta; only 71.3% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.45 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.45: Fitness Indices of Low Power Distance

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.970	0.952	0.762	0.969	0.210	0.269	0.155

4.5.2.2 Analysis of "High Power Distance" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of High Power Distance is shown below in Table 4.46.

Table 4.46: Descriptive Statistics of the variables of the construct "High Power Distance"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Decision making is only top down	3.10 (1.36)		90 (21.2%)	82 (19.3%)	98 (23.1%)	89 (21%)	65 (15.3%)
Employees are reluctant to trust one another	3.04 (1.45)	0.900	103 (24.3%)	68 (16%)	76 (17.9%)	99 (23.3%)	78 (18.4%)
There is no harmony between the powerful and powerless	2.94 (1.40)		74 (17.5%)	82 (19.3%)	110 (25.9%)	61 (14.4%)	97 (22.9%)
There are more networks and alliances	**3.14** (1.36)		95 (22.4%)	76 (17.9%)	114 (26.9%)	73 (17.2%)	66 (15.6%)

The results indicate (Table 4.46) that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of High Power Distance. The highest mean score is found for the variable, **"There are more networks and alliances"**. This suggests that most of the respondents agree on the statement that there are more hierarchies in the structure of organisation. Also, this statement has lowest standard deviation indicating that there is high consensus in the responses. "There is no harmony between the powerful and powerless" have the lowest mean indicates that respondents do not agree that in a critical situation the employers and the employees do not reach on consensus. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of High Power Distance.

Various forms of High Power Distance as a construct consist of four items. The structure of the construct is shown in Figure 4.18.

Figure 4.18: Structure of "High Power Distance"

The results of the standardised regression weights of the construct are presented in Table 4.47.

Table 4.47: Standardised Regression Weights of "High Power Distance"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R²
High Power Distance	Decision making is only top down	0.855	1.000				0.730
	Employees are reluctant to trust one another	0.886	1.103	0.049	22.587	0.000	0.785
	There is no harmony between the powerful and powerless	0.796	0.955	0.049	19.435	0.000	0.634
	There are more networks and alliances	0.793	0.926	0.048	19.303	0.000	0.629

The results (Table 4.47) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees are reluctant to trust one another" is highest. This indicates that 78.5% of the variance of the construct is represented by this variable.

The results also suggest that the item "There are more networks and alliances" has the lowest Standardised Beta; only 62.9% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.48: Fitness Indices of High Power Distance

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.998	0.996	0.992	0.997	0.000	0.085	0.000

Table 4.48 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

4.5.2.3   Analysis of "Role of Power Distance in Tacit Knowledge Sharing behaviour dimensions"

Power Distance may create a large gap between the employers and the employees. Davenport & Prusak (1998) and Hofstede (2001) in his study determines that lesser is the power distance more will be knowledge sharing, as lack of formal distance enables the knowledge to flow in both the directions. But there is no recent study that has studied the power distance as an obstacle or aid

to knowledge sharing especially tacit knowledge sharing. Therefore, to study this in IT companies, following hypotheses are proposed and are tested with the help of Structural Equation Modelling. (Figure 4.19)
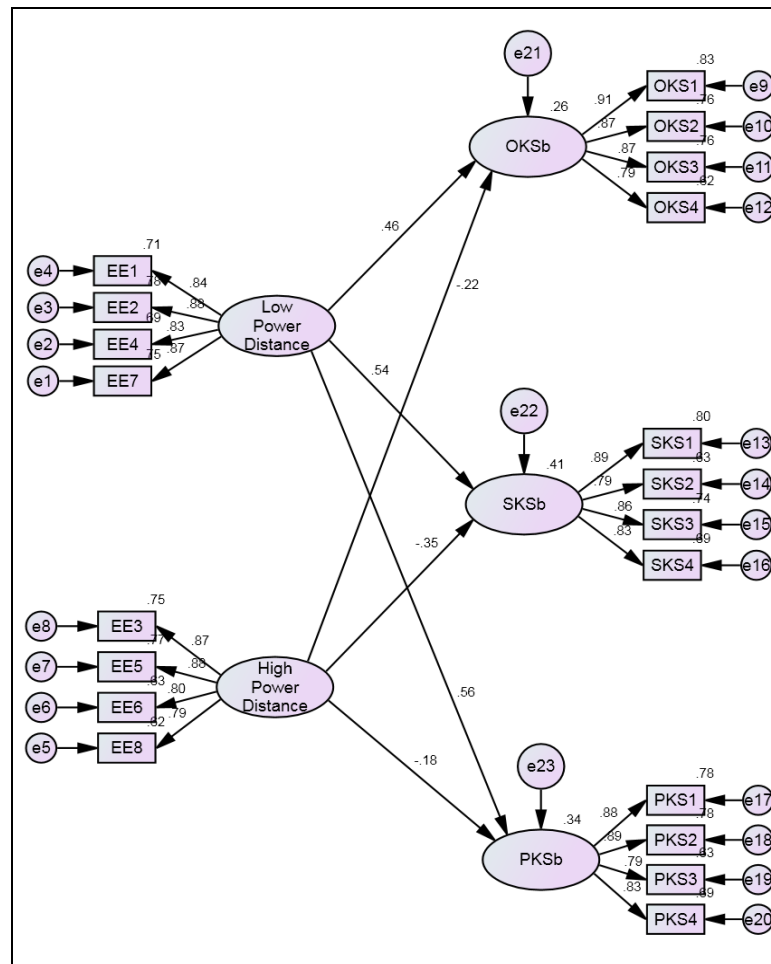
Figure 4.19: Structural Equation Model of "Role of Power Distance in Tacit Knowledge Sharing behaviour dimensions"

The Figure 4.19 represents the theoretical hypotheses to be tested.

Ha$_{3g}$: There is significant difference between Low Power Distance and Organisational Knowledge Sharing behaviour (OKSb).

Ha3h: **There is significant difference between Low Power Distance and Project Knowledge Sharing behaviour (PKSb).**

Ha3i: **There is significant difference between Low Power Distance and Skill Knowledge Sharing behaviour (SKSb).**

Ha3j: **There is significant difference between High Power Distance and Organisational Knowledge Sharing behaviour (OKSb).**

Ha3k: **There is significant difference between High Power Distance and Project Knowledge Sharing behaviour (PKSb).**

Ha3l: **There is significant difference between High Power Distance and Skill Knowledge Sharing behaviour (SKSb).**

The results of the analysis are presented in Table 4.49. The results indicate that the probability value of the influence of Power Distance (either low or high) on the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb is less than 5 %. Hence with 95 % confidence level the alternate hypotheses that there is significant difference between the constructs Low Power Distance and High Power Distance and the TKSb dimensions: OKSb, PKSb and SKSb, cannot be rejected. Thus, it is concluded that there exists significant influence of Power Distance on OKSb, PKSb and SKSb in IT companies in India. But with the negative CR value of High Power Distance, it has been seen that High Power Distance has negative influence on OKSb, PKSb and SKSb. On the other hand, Low Power Distance has positive influence on the three dimensions of TKSb. The multiple squared correlations of 25.7 % represents that 25.7 % of the variations of the endogenous construct OKSb can be explained with the help of the variations in the exogenous constructs Low Power Distance and High Power Distance. Similarly, multiple squared correlations of 34 % and 41.1 % represents that 34 % and 41.1 % of

the variations of the endogenous construct PKSb and SKSb respectively, can be explained with the help of the variations in the exogenous constructs Low Power Distance and High Power Distance.

Table 4.49: Analysis of Structural Equation Model of "role of Low Power Distance/High Power Distance in Tacit Knowledge Sharing behaviour dimensions"

Exogenous Construct	Endogenous Construct	Standardised Regression Coefficient	Unstandardised Regression Coefficient	CR	P Value	Squared Correlation
Low Power Distance	Organisational Knowledge Sharing behaviour (OKSb)	0.457	0.438	9.348	.000	0.257
Low Power Distance	Project/Task Knowledge Sharing behaviour (PKSb)	0.556	0.524	11.369	.000	0.340
Low Power Distance	Skill Knowledge Sharing behaviour (SKSb)	0.540	0.529	11.551	.000	0.411
High Power Distance	Organisational Knowledge Sharing behaviour (OKSb)	-0.220	-0.242	-4.597	.000	0.257
High Power Distance	Project/Task Knowledge Sharing behaviour (PKSb)	-0.176	-0.191	-3.863	.000	0.340
High Power Distance	Skill Knowledge Sharing behaviour (SKSb)	-0.346	-0.389	-7.555	.000	0.411

The goodness of fit indices (represented in Table 4.50) such as CFI (0.834), NFI (0.817) and RFI (0.788) are high and badness of fit indices RMSEA (0.134), LO90 (0.127) and HI90 (0.140) are low representing that the structural model is fit.

Table 4.50: Fitness Indices of "Role of Low Power Distance/High Power Distance in Tacit Knowledge Sharing behaviour dimensions"

Fitness Index	CFI	NFI	RFI	RMSEA	LO 90	HI 90
Value	0.834	0.817	0.788	0.134	0.127	0.140

4.5.3 To study the role of Masculinity and Feminity in Tacit Knowledge Sharing behaviour dimensions

To study the Masculinity and Feminity dimension of culture on the employees few variables have been taken and these are the measured items of the construct "Masculinity" and "Feminity", which are measured by using questionnaire method in the research study. The respondents were asked to provide the rating for all the items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree.

4.5.3.1 Analysis of "Masculinity" as construct

The descriptive statistics as well as frequency distribution of the responses of all the three variables of Masculinity is shown below in Table 4.51.

Table 4.51: Descriptive statistics of the variables of the construct "Masculinity"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
There is high competition between employees	**3.49** (1.23)		106 (25%)	124 (29.2%)	104 (24.5%)	54 (12.7%)	36 (8.5%)
Employees get paranoid that someone else might take the job with their ideas	3.45 (1.24)	0.901	96 (22.6%)	138 (32.5%)	88 (20.8%)	64 (15.1%)	38 (9%)
Employees are achievement orientated	3.44 (1.17)		89 (21%)	123 (29%)	130 (30.7%)	48 (11.3%)	34 (8%)
Employees believe in competitiveness and acquisition of wealth	3.45 (1.24)		103 (24.3%)	113 (26.7%)	124 (29.2%)	42 (9.9%)	42 (9.9%)

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The results (Table 4.51) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Masculinity. The highest mean score is found for the variable **"**There is high competition between

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employees". This suggests that most of the respondents agree on the statement that there is high competition between employees in IT companies. Also, this statement has average standard deviation indicating that there is average variability in the responses with respect to this statement. "Employees are achievement orientated" having the lowest mean indicates that employees believe in the fact that employees of IT companies are not achievement oriented, as they strictly need to adhere the deadline given to them for completing the project. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Masculinity

Various forms of Masculinity as a construct consist of three items. The structure of the construct is shown in Figure 4.20.
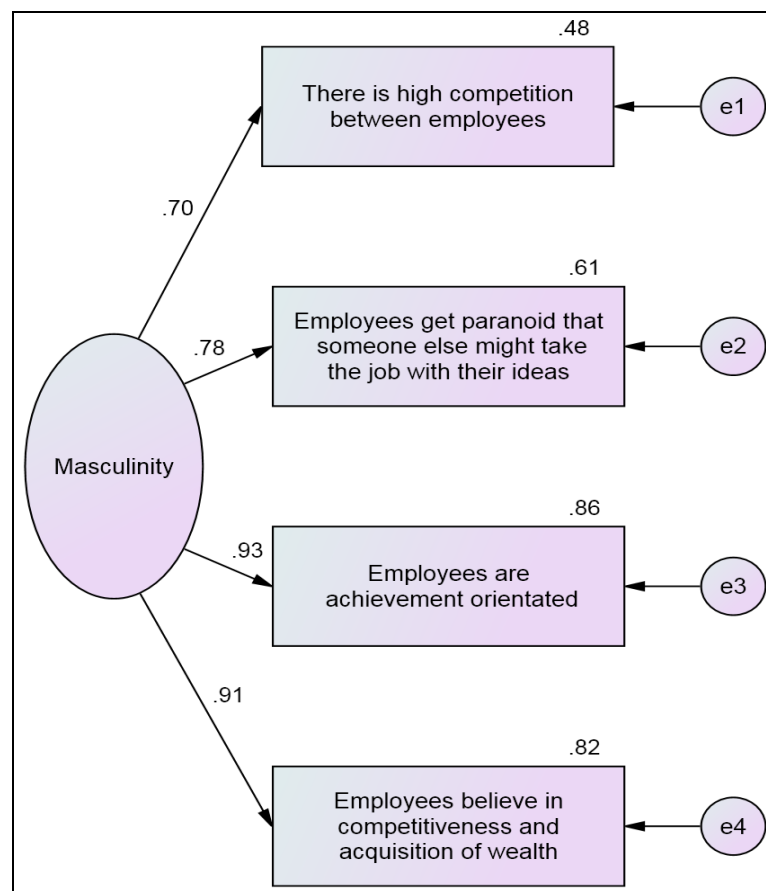
Figure 4.20: Structure of "Masculinity"

The results of the standardised regression weights of the construct are presented in Table 4.52.

The results (Table 4.52) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees are achievement orientated" is highest.

Table 4.52: Standardised Regression Weights of "Masculinity"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R²
	There is high competition between employees	0.695	1.000				0.483
	Employees get paranoid that someone else might take the job with their ideas	0.778	1.129	0.075	15.013	0.000	0.605
Masculinity	Employees are achievement orientated	**0.929**	1.273	0.073	17.473	0.000	0.863
	Employees believe in competitiveness and acquisition of wealth	0.908	1.311	0.076	17.229	0.000	0.824

This indicates that 86.3% of the variance of the construct is represented by this variable. The results also indicate that the item "There is high competition between employees" has the lowest Standardised Beta; only 48.3% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.53 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.53: Fitness Indices of "Masculinity"

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.946	0.930	0.648	0.944	0.215	0.234	0.221

4.5.3.2   Analysis of "Feminity" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of Feminity is shown below in Table 4.54.

Table 4.54: Descriptive Statistics of the variables of the construct "Feminity"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Employees feel secure in sharing knowledge	3.55 (1.20)		97 (22.9%)	163 (38.4%)	76 (17.9%)	54 (12.7%)	34 (8%)
Employees are relationship oriented	3.59 (1.19)		111 (26.2%)	134 (31.6%)	103 (24.3%)	46 (10.8%)	30 (7.1%)
Open discussions are held	3.46 (1.05)	0.909	70 (16.5%)	140 (33%)	154 (36.3%)	34 (8%)	26 (6.1%)
Quality of life is an important characteristic of employee's value	3.47 (1.16)		83 (19.6%)	149 (35.1%)	110 (25.9%)	48 (11.3%)	34 (8%)

The results (Table 4.54) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Feminity. The highest mean score is found for the variable **"**Employees are relationship oriented". This indicates that most of the respondents agree on the statement that in IT companies' employees are relationship oriented. The standard deviation is highest for "Employees feel secure in sharing knowledge "indicating the high variability in the responses. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Feminity.

Various forms of Feminity as a construct consist of four items. The structure of the construct is shown in Figure 4.21.

The results (Table 4.55) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Quality of life is an important characteristic of employee's value" is highest. This indicates that 90.9% of the variance of the construct is represented by this variable.
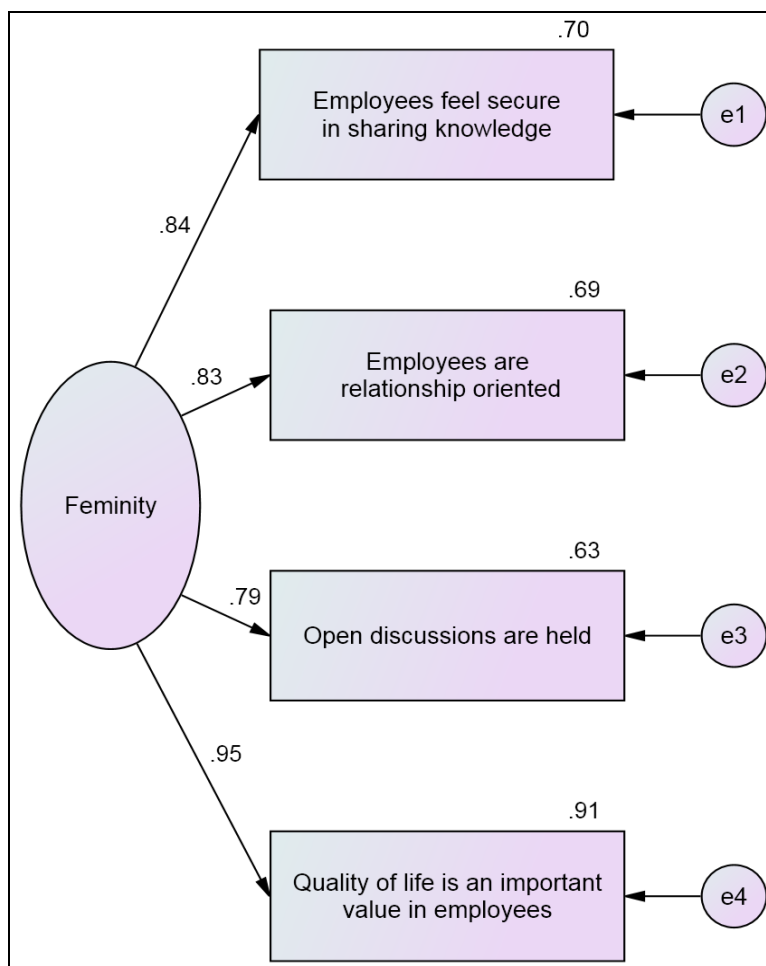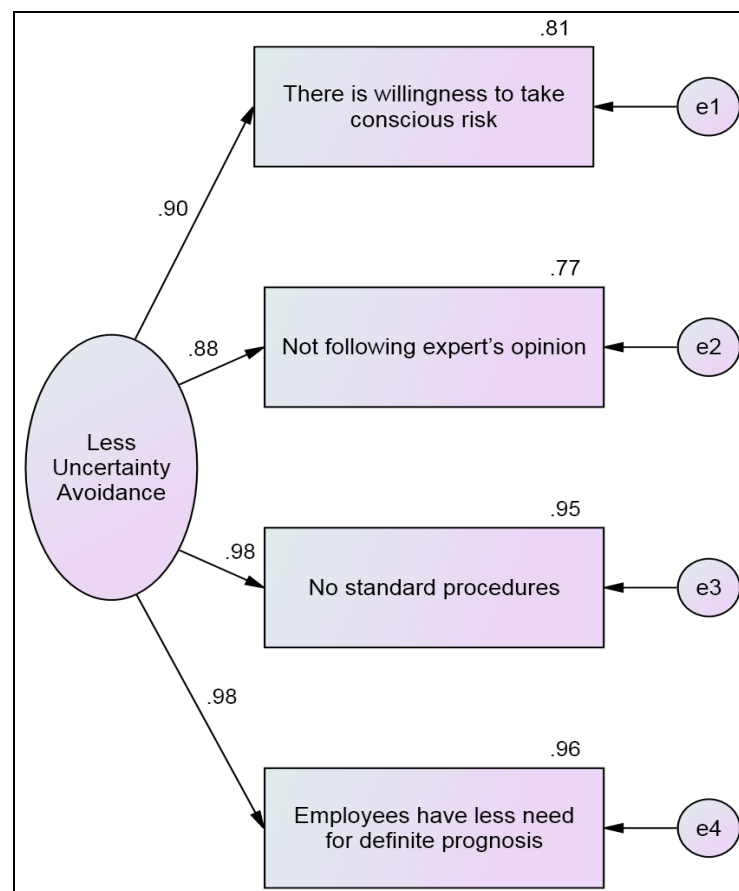

Figure 4.21: Structure of "Feminity"

The results of the standardised regression weights of the construct are presented in Table 4.55.

Table 4.55: Standardised Regression Weights of "Feminity"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R^2
Feminity	Employees feel secure in sharing knowledge	0.838	1.000				0.703
	Employees are relationship oriented	0.829	0.978	0.046	21.081	0.000	0.688
	Open discussions are held	0.794	0.830	0.042	19.701	0.000	0.631
	Quality of life is an important characteristic of employee's value	**0.953**	1.100	0.043	25.677	0.000	0.909

The results also indicate that the item "Open discussions are held" has the lowest Standardised Beta; only 63.1% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct representss the significant variance of the designed construct.

Table 4.56 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.56: Fitness Indices of Feminity

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.999	0.997	0.985	0.998	0.024	0.103	0.000

4.5.3.3 Analysis of "Role of Masculinity and Feminity in Tacit Knowledge Sharing behaviour dimensions"

Masculinity and Feminity may influence Tacit Knowledge Sharing behaviour of employees of IT companies. Ford & Chan (2003) and Rivera Vazquez et al., (2009) studied that masculine behaviour moderates the knowledge sharing but feminine behaviour escalates the knowledge sharing. But these studies were not focused towards IT companies and therefore to explore the circumstances in IT companies, following

hypotheses are proposed and are tested with the help of Structural Equation Modelling.

The Figure 4.22 represents the theoretical hypotheses to be tested.

Ha₃ₘ: There is significant difference between Masculinity and Organisational Knowledge Sharing behaviour (OKSb).

Ha₃ₙ: There is significant difference between Masculinity and Project Knowledge Sharing behaviour (PKSb).

Ha₃ₒ: There is significant difference between Masculinity and Skill Knowledge Sharing behaviour (SKSb).

Ha₃ₚ: There is significant difference between Feminity and Organisational Knowledge Sharing behaviour (OKSb).

Ha₃q: There is significant difference between Feminity and Project Knowledge Sharing behaviour (PKSb).

Ha₃ᵣ: There is significant difference between Feminity and Skill Knowledge Sharing behaviour (SKSb).

Figure 4.22: Structural Equation Model of "Influence of Masculinity/Feminity on Tacit Knowledge Sharing behaviour dimensions"

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The results of the analysis are presented in Table 4.57. The results indicate that the probability value of the influence of both Masculinity and Feminity on the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb is less than 5 %. Hence with 95 % confidence level the alternate hypotheses that there is significant difference between the constructs Masculinity and Feminity and the TKSb dimensions: OKSb, PKSb and SKSb, cannot be rejected. Thus, it is concluded that there exists significant influence of Masculinity and Feminity on OKSb, PKSb and SKSb in IT companies in India. But with the negative CR value of Masculinity, it has been seen that Masculinity has negative influence on OKSb, PKSb and SKSb. On the other hand, Feminity has positive influence on the three dimensions of TKSb. The multiple squared correlations of 10 % represents that 10 % of the variations of the endogenous construct OKSb can be explained with the help of the variations in the exogenous constructs Masculinity and Feminity. Similarly, multiple squared correlations of 13.8 % and 5.6 % represents that 13.8 % and 5.6 % of the variations of the endogenous construct PKSb and SKSb respectively, can be explained with the help of the variations in the exogenous constructs Masculinity and Feminity.

Table 4.57: Analysis of Structural Equation Model of "Role of Masculinity/Feminity in Tacit Knowledge Sharing behaviour dimensions"

Exogenous Construct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
Masculinity	Organisational Knowledge Sharing behaviour (OKSb)	-0.270	-0.296	-5.329	.000	0.100
Masculinity	Project/Task Knowledge Sharing behaviour (PKSb)	-0.171	-0.185	-3.453	.000	0.138
Masculinity	Skill Knowledge Sharing behaviour (SKSb)	-0.161	-0.185	-3.130	.002	0.056
Feminity	Organisational Knowledge Sharing behaviour (OKSb)	0.164	0.235	3.267	.001	0.100
Feminity	Project/Task Knowledge Sharing behaviour (PKSb)	0.330	0.463	6.440	.000	0.138
Feminity	Skill Knowledge Sharing behaviour (SKSb)	0.173	0.259	3.360	.000	0.056

The goodness of fit indices (represented in Table 4.58) such as CFI (0.822), NFI (0.804) and RFI (0.773) are high and badness of fit indices RMSEA (0.137), LO90 (0.131) and HI90 (0.144) are low representing that the structural model is fit.

Table 4.58: Fitness Indices of "Role of Masculinity/Feminity in Tacit Knowledge Sharing behaviour dimensions"

Fitness Index	CFI	NFI	RFI	RMSEA	LO 90	HI 90
Value	*0.822*	0.804	0.773	0.137	0.131	0.144

4.5.4 To study the role of Uncertainty Avoidance in Tacit Knowledge Sharing behaviour dimensions.

4.5.4.1 Analysis of "Less Uncertainty Avoidance" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of Less Uncertainty Avoidance is shown below in Table 4.59.

Table 4.59: Descriptive Statistics of the variables of the construct "Less Uncertainty Avoidance"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
There is willingness to take conscious risk	**3.37** (1.41)		132 (31.1%)	76 (17.9%)	92 (21.7%)	66 (15.6%)	58 (13.7%)
Not following expert's opinion	3.31 (1.42)		104 (24.5%)	122 (28.8%)	74 (17.5%)	48 (11.3%)	76 (17.9%)
No standard procedures	3.32 (1.41)	0.964	120 (28.3%)	90 (21.2%)	86 (20.3%)	64 (15.1%)	64 (15.1%)
Employees have less need for definite prognosis	3.34 (1.42)		124 (29.2%)	90 (21.2%)	80 (18.9%)	66 (15.6%)	64 (15.1%)

The results (Table 4.59) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Less Uncertainty Avoidance. The highest mean score is found for the variable "There is willingness to

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take conscious risk". This indicates that most of the respondents agree with the statement that employees are willing to take the risk, but due to the customer oriented projects they are not empowered to. Also, this statement has lowest standard deviation indicating that there is high consensus in the responses with respect to this statement. "Not following expert's opinion" having the lowest mean indicates that employees of the IT companies do not want to follow expert's opinion and try to do something innovative and creative. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Less Uncertainty Avoidance.

Various forms of Less Uncertainty Avoidance as a construct consist of four items. The structure of the construct is shown in Figure 4.23.

Figure 4.23: Structure of Less Uncertainty Avoidance

The results of the standardised regression weights of the construct are presented in Table 4.60.

Table 4.60: Standardised Regression Weights of "Less Uncertainty Avoidance"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
Less Uncertainty Avoidance	There is willingness to take conscious risk	0.900	1.000				0.810
	Not following expert's opinion	0.876	0.978	0.035	27.769	0.000	0.768
	No standard procedures	0.975	1.085	0.029	37.865	0.000	0.951
	Employees have less need for definite prognosis	**0.980**	1.100	0.029	38.544	0.000	0.961

The results (Table 4.60) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees have less need for definite prognosis" is highest. This indicates that 96.1% of the variance of the construct is represented by this variable.

The results also indicate that the item "Not following expert's opinion" has the lowest Standardised Beta; only 76.8% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.61 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.61: Fitness Indices of "Less Uncertainty Avoidance"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.970	0.932	0.762	0.969	0.188	0.141	0.109

4.5.4.2   Analysis of "More Uncertainty Avoidance" as construct

The descriptive statistics as well as frequency distribution of the responses of all the four variables of More Uncertainty Avoidance is shown below in Table 4.62.

Table 4.62: Descriptive Statistics of the variables of the construct "More Uncertainty Avoidance"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree 4*	*Neutral 3*	*Disagree 2*	*Strongly Disagree 1*
Efforts to avoid failure are higher	3.25 (1.26)		87 (20.5%)	98 (23.1%)	121 (28.5%)	72 (17%)	46 (10.8%)
Adopting something new is treated as risky	3.33 (1.25)		73 (17.2%)	154 (36.3%)	91 (21.5%)	54 (12.7%)	52 (12.3%)
Standard operating procedures in handling tasks are followed	**3.51** (1.34)	0.936	123 (29%)	121 (28.5%)	78 (18.4%)	52 (12.3%)	50 (11.8%)
Employees have strong need for definite prognosis	3.40 (1.35)		109 (25.7%)	123 (29%)	76 (17.9%)	62 (14.6%)	54 (12.7%)

The results (Table 4.62) indicate that the mean score of all the variables are greater than 3 suggesting the agreement of the respondents for all the statements of More Uncertainty Avoidance. The highest mean score is found for the variable **"**Standard operating procedures in handling tasks are followed". This indicates that most of the respondents

agree with the statement that employees of IT companies follow standard operating procedures to handle the tasks. But, this statement has high standard deviation indicating that there is high variability in the responses with respect to this statement. "Efforts to avoid failure are higher" having the lowest mean indicates that the employees of the IT companies, follow standard operating procedures, and make full effort to avoid the failures in their task. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of More Uncertainty Avoidance.

Various forms of More Uncertainty Avoidance as a construct consist of four items. The structure of the construct is shown in Figure 4.24.
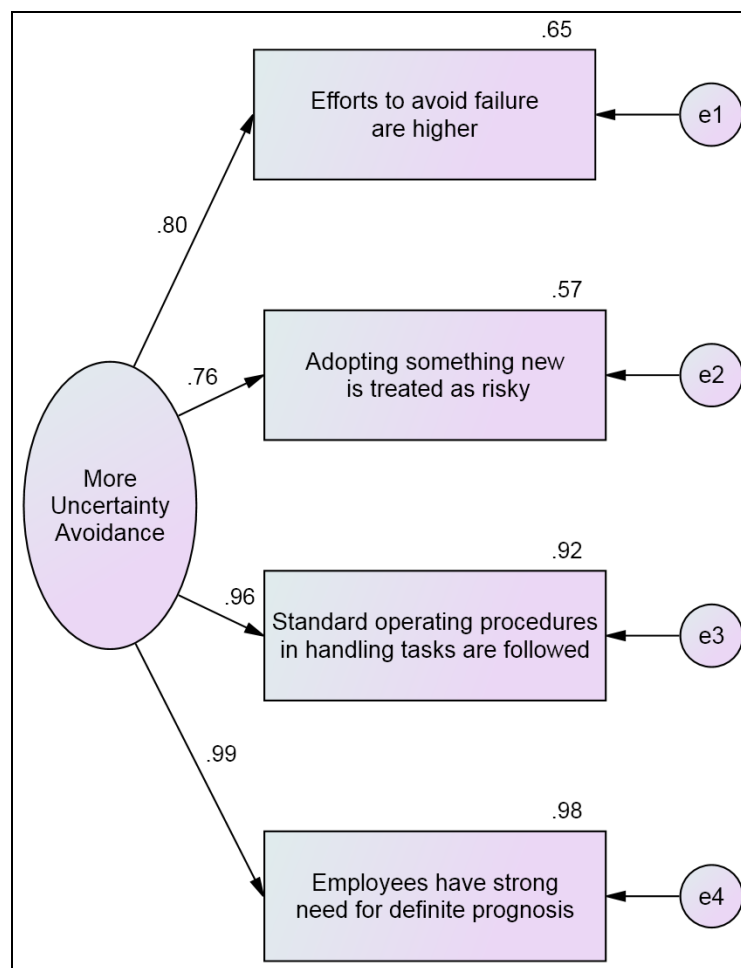
Figure 4.24: Structure of "More Uncertainty Avoidance"

The results of the standardised regression weights of the construct are presented in Table 4.63.

Table 4.63: Standardised Regression Weights of "More Uncertainty Avoidance"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
More Uncertainty Avoidance	Efforts to avoid failure are higher	0.805	1.000				0.647
	Adopting something new is treated as risky	0.758	0.932	0.052	18.023	0.000	0.575
	Standard operating procedures in handling tasks are followed	0.957	1.260	0.049	25.603	0.000	0.917
	Employees have strong need for definite prognosis	**0.992**	1.316	0.049	26.734	0.000	0.984

The results (Table 4.63) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Employees have strong need for definite prognosis" is highest. This indicates that 98.4% of the variance of the construct is represented by this variable.

The results also indicate that the item "Adopting something new is treated as risky" has the lowest Standardised Beta; only 57.5% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.64 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.64: Fitness Indices of More Uncertainty Avoidance

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.974	0.947	0.736	0.973	0.138	0.197	0.083

4.5.4.3 Analysis of "Role of Uncertainty Avoidance in Tacit Knowledge Sharing behaviour dimensions"

Uncertainty Avoidance is the degree to which people elude the ambiguity in a particular situation. This degree may influence the TKSb of the employees. The study by Wilkesmann et al., (2009) also demonstrates that More Uncertainty Avoidance decreases the probability of knowledge sharing. Similarly, Hauke (2001) studied that Less Uncertainty Avoidance enhances knowledge sharing behaviour. But as there is lack of evidence in IT companies, following hypotheses are postulated and tested with the help of Structural Equation Modelling. The Figure 4.25 represents the theoretical hypotheses to be tested.

Ha$_{3s}$: There is significant difference between Less Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3t}$: There is significant difference between Less Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3u}$: There is significant difference between Less Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{3v}$: There is significant difference between More Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{3w}$: There is significant difference between More Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).

Ha$_{3x}$: There is significant difference between More Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).

Figure 4.25: Structural Equation Model of "Role of Uncertainty Avoidance in Tacit Knowledge Sharing behaviour dimensions"

The results of the analysis are presented in Table 4.65. The results indicate that the probability value of the influence of Uncertainty Avoidance on the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb is less than 5 %. Hence with 95 % confidence level the alternate hypotheses that there is significant difference between the constructs Less Uncertainty Avoidance and More Uncertainty Avoidance and the TKSb dimensions: OKSb, PKSb and SKSb, cannot be rejected. Thus, it is concluded that there exists significant influence of Uncertainty Avoidance on OKSb, PKSb and SKSb in IT companies in India. But with the negative CR value of More Uncertainty Avoidance, it has been seen that More Uncertainty Avoidance has negative influence on OKSb, PKSb

and SKSb. On the other hand, Less Uncertainty Avoidance has positive influence on the three dimensions of TKSb. The multiple squared correlations of 21.2 % represents that 21.2 % of the variations of the endogenous construct *OKSb* can be explained with the help of the variations in the exogenous constructs Less Uncertainty Avoidance and More Uncertainty Avoidance. Similarly, multiple squared correlations of 24.2 % and 31.3 % represents that 24.2 % and 31.3 % of the variations of the endogenous construct *PKSb* and SKSb respectively, can be explained with the help of the variations in the exogenous constructs Less Uncertainty Avoidance and More Uncertainty Avoidance.

Table 4.65: **Analysis of Structural Equation Model of "Role of Less Uncertainty Avoidance/More Uncertainty Avoidance in Tacit Knowledge Sharing behaviour"**

Exogenous Construct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
Less Uncertainty Avoidance	Organisational Knowledge Sharing behaviour (OKSb)	0.325	0.296	4.818	.000	0.212
Less Uncertainty Avoidance	Project/Task Knowledge Sharing behaviour (PKSb)	0.378	0.362	5.652	.000	0.242
Less Uncertainty Avoidance	Skill Knowledge Sharing behaviour (SKSb)	0.426	0.387	6.547	.000	0.313
More Uncertainty Avoidance	Organisational Knowledge Sharing behaviour (OKSb)	-0.326	-0.352	-4.630	.000	0.212
More Uncertainty Avoidance	Project/Task Knowledge Sharing behaviour (PKSb)	-0.315	-0.356	-4.523	.000	0.242
More Uncertainty Avoidance	Skill Knowledge Sharing behaviour (SKSb)	-0.362	-0.388	-5.326	.000	0.313

The goodness of fit indices (represented in Table 4.66) such as CFI (0.849), NFI (0.819) and RFI (0.785) are high and badness of fit indices RMSEA (0.136), LO90 (0.125) and HI90 (0.147) are low representing that the structural model is fit.

Table 4.66: Fitness Indices of "Role of Uncertainty Avoidance in Tacit Knowledge Sharing behaviour dimensions"

Fitness Index	CFI	NFI	RFI	RMSEA	LO 90	HI 90
Value	*0.849*	0.819	0.785	0.136	0.125	0.147

4.6 Analysis of Objective 4: To identify the rewards to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.

Reward System is a significant element of an organisation's design (Edward E. Lawler, 1981). Over the past decade, various innovative reward system practices have been evolved to align rewards with the significant transformations in the designing and managing process of the organisations (Lawler, 1990; Schuster & Zingheim, 1992). Humphrey (1987) determined that when an employee extraordinarily contributes in an organisation in terms of profit, he should be rewarded. An effective reward system should encourage employees and satisfy the discrete needs of an employee.

To study the influence of Reward system on the employee's tacit knowledge sharing behaviour twelve variables have been identified and are the measured items of the construct "Monetary Rewards" and "Non-Monetary Rewards", which are measured by questionnaire administration in the current research study. The respondents were asked to provide the rating for all the items in the scale of 1 to 5 where 1 denotes Strongly Disagree and 5 denotes Strongly Agree. Analysis of the two forms of rewards as constructs are shown below followed by the results of this objective

4.6.1 Analysis of "Monetary Rewards" as construct

The descriptive statistics and frequency distribution of the responses of all the four variables of Monetary Rewards are shown below in Table 4.67.

Table 4.67: Descriptive Statistics of the variables of the construct "Monetary Rewards"

Variable	Mean (SD)	Cronbach's alpha	Frequency Distribution				
			Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Earn leave	3.21 (1.52)		116 (27.4%)	92 (21.7%)	80 (18.9%)	36 (8.5%)	100 (23.6%)
Incentives / Bonus	**3.10** (1.48)		86 (20.3%)	126 (29.7%)	62 (14.6%)	46 (10.8%)	104 (24.5%)
Allowances	3.28 (1.47)	0.953	124 (29.2%)	88 (20.8%)	75 (17.7%)	59 (13.9%)	78 (18.4%)
Honourarium	3.23 (1.47)		125 (29.5%)	72 (17%)	79 (18.6%)	74 (17.5%)	74 (17.5%)
Retirement benefits	**3.41** (1.20)		94 (22.2%)	125 (29.5%)	87 (20.5%)	96 (22.6%)	22 (5.2%)
Annual increment	3.37 (1.28)		112 (26.4%)	90 (21.2%)	93 (21.9%)	102 (24.1%)	27 (6.4%)

The results (Table 4.67) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the statements of Monetary Rewards. The highest mean score is found for the variable **"Retirement benefits"**. This indicates that most of the respondents agree that Retirement benefits are provided by their respective organisations. Also, this statement has lowest standard deviation indicating that there is high consensus in the responses with respect to this statement. "Incentives /Bonus" have the lowest mean which indicates that IT companies do not provide various incentives and bonuses to employees. The frequency distribution of the variables indicates that most of the respondents agree with all the variables of Monetary Rewards.

Various forms of Monetary Rewards as a construct consist of six items. The structure of the construct is shown in Figure 4.26.
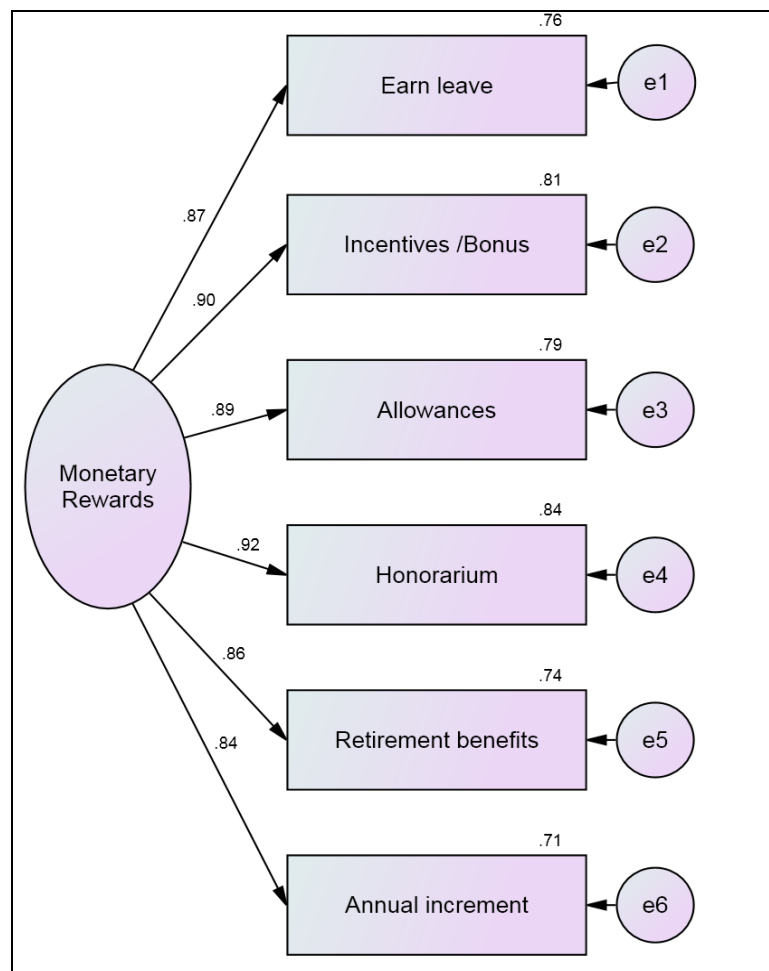
Figure 4.26: Structure of "Monetary Rewards"

The results of the standardised regression weights of the construct are presented in Table 4.68.

Table 4.68: Standardised Regression Weights of "Monetary Rewards"

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R^2
Monetary Rewards	Earn leave	0.874	1.000				0.763
	Incentives /Bonus	0.901	1.007	0.037	27.020	.000	0.812
	Allowances	0.891	0.991	0.038	26.348	.000	0.793
	Honourarium	**0.917**	1.019	0.036	28.092	.000	0.841
	Retirement benefits	0.862	0.784	0.032	24.652	.000	0.744
	Annual increment	0.840	0.809	0.035	23.397	.000	0.705

The results (Table 4.68) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Honourarium" is highest. This indicates that 84.1% of the variance of the construct is represented by this variable. The results also indicate that the item "Annual increment" has the lowest Standardised Beta; only 70.4% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.69 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.69: Fitness Indices of "Monetary Rewards"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.983	0.962	0.911	0.979	0.108	0.137	0.081

4.6.2   Analysis of "Non-Monetary Rewards" as construct

The descriptive statistics as well as frequency distribution of the responses of all the six variables of Non-Monetary Rewards is shown below in Table 4.70.

Table 4.70: Descriptive Statistics of the variables of the construct "Non-Monetary Rewards"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree* 4	*Neutral* 3	*Disagree* 2	*Strongly Disagree* 1
Paid vacation	3.00 (1.59)		114 (26.9%)	67 (15.8%)	78 (18.4%)	36 (8.5%)	129 (30.4%)
Insurance/Medical benefits	3.00 (1.60)		116 (27.4%)	73 (17.2%)	52 (12.3%)	60 (14.2%)	123 (29%)
Children care benefits	3.23 (1.63)		149 (35.1%)	64 (15.1%)	60 (14.2%)	38 (9%)	113 (26.7%)
Luxury benefits (house, chauffer driven car)	3.04 (1.54)	0.970	112 (26.4%)	68 (16%)	77 (18.2%)	58 (13.7%)	109 (25.7%)
Fringe benefits (movie tickets, mobile bills, discount coupons)	3.34 (1.30)		130 (30.7%)	54 (12.7%)	85 (20%)	141 (33.3%)	14 (3.3%)
Flexible scheduling	3.38 (1.48)		163 (38.4%)	48 (11.3%)	40 (9.4%)	135 (31.8%)	38 (9%)

The results (Table 4.70) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents with all the statements of Non-Monetary Rewards. The highest mean score is found for the variable **"**Flexible scheduling". This indicates that most of the respondents agree on the statement that IT companies provide Flexible scheduling to the employees. Also, this statement has the second lowest standard deviation indicating that there is high consensus in the responses with respect to this variable. "Insurance/Medical benefits", "Luxury benefits (house, chauffer driven car)" and "Paid vacation" have the lowest mean which indicates that IT companies do not focus much on providing these facilities to their employees. The frequency distribution of the variables indicates that most of the respondents agree with all the variables of Non-Monetary Rewards.

Various forms of Non-Monetary Rewards as a construct consist of six items. The structure of the construct is shown in Figure 4.27.
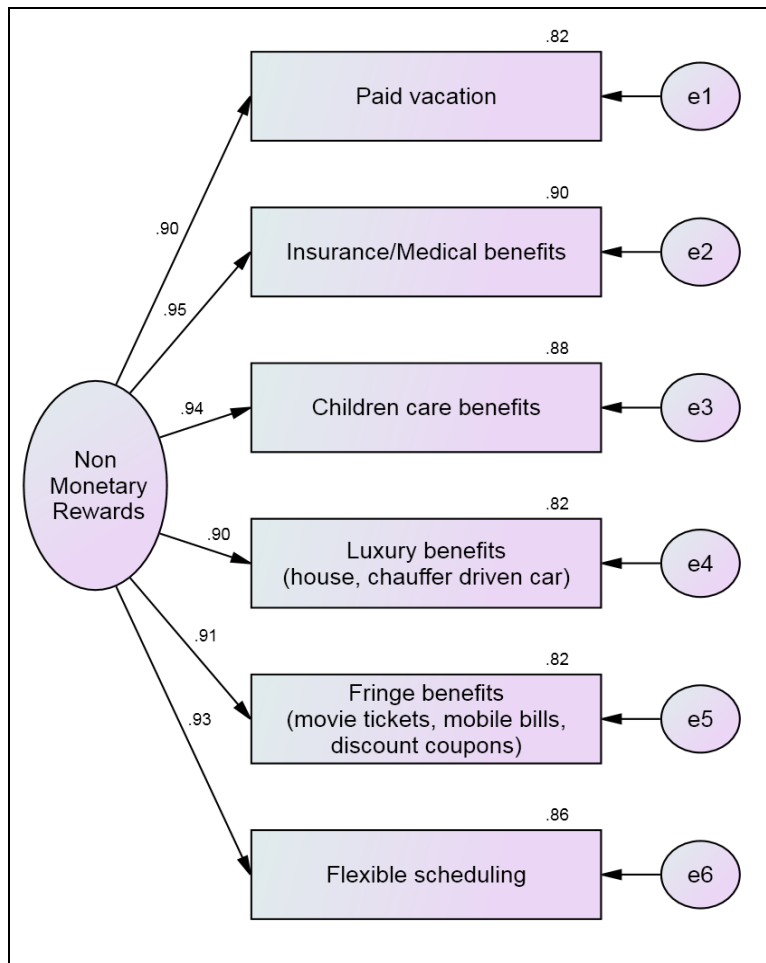
Figure 4.27: Structure of "Non-Monetary Rewards"

The results of the standardised regression weights of the construct are presented in Table 4.71.

The results (Table 4.71) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Insurance/Medical benefits" is highest. This indicates that 90.2% of the variance of the construct is represented by this variable.

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Table 4.71: Standardised Regression Weights of Non-Monetary Rewards

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R²*
Non-Monetary Rewards	Paid vacation	0.905	1.000				0.819
	Insurance/Medical benefits	**0.950**	1.057	0.030	35.102	.000	0.903
	Children care benefits	0.936	1.059	0.032	33.479	.000	0.876
	Luxury benefits (house, chauffer driven car)	0.903	0.967	0.032	30.178	.000	0.815
	Fringe benefits (movie tickets, mobile bills, discount coupons)	0.906	0.821	0.027	30.494	.000	0.822
	Flexible scheduling	0.926	0.949	0.029	32.454	.000	0.858

The results also indicate that the item "Luxury benefits (house, chauffer driven car)" has the lowest Standardised Beta; only 81.5% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.72 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices and Lower value of badness of fit indices. Hence, the overall fitness of the construct is ensured.

Table 4.72: Fitness Indices of Non-Monetary Rewards

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.983	0.949	0.881	0.981	0.112	0.151	0.095

4.6.3 Analysis of "Role of Reward system in Tacit Knowledge Sharing behaviour dimensions"

Reward systems give an outline to the culture of the organisations as they influence communication, motivation, satisfaction, and membership (Lawler, E. E., 2008). There is considerable empirical confirmation that recommends that reward system being an indispensable attribute to employee engagement, influence the behaviour and performance of the employees of organisations as it encourages an employee to focus on their job and personal development to achieve competitive advantage (Maltz & Kohli, 2002, Furtado et al., 2009). But to contribute to the dearth evidence on influence of rewards on TKSb, the following hypotheses are developed and tested with the help of structural equation modelling (Figure 4.28).

Ha$_{4a}$: There is significant difference between Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{4b}$: There is significant difference between Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).

Ha$_{4c}$: There is significant difference between Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).

Ha$_{4d}$: There is significant difference between Non- Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{4e}$: There is significant difference between Non- Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).

Ha$_{4f}$: There is significant difference between Non- Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).

Figure 4.28: Structural Equation Model of "Role of Reward system in Tacit Knowledge Sharing behaviour dimensions"

The results of the analysis of the model and the goodness of fit indices of the model are presented in Table 4.73 and Table 4.74 respectively. The results indicate that the probability value of the relationship of the Monetary rewards with Project/Task Knowledge Sharing behaviour (PKSb) and Skill Knowledge Sharing behaviour (SKSb) is less than 5 %. Hence, with 95 % confidence level the alternate hypotheses that there is significant difference between the constructs Monetary rewards and the TKSb dimensions, Project/Task Knowledge Sharing behaviour (PKSb) and Skill Knowledge Sharing behaviour (SKSb) cannot be rejected and it is concluded that there exists a significant relationship between monetary rewards and PKSb as well as SKSb. Similarly, the probability value of the relationship of the Non-Monetary rewards with Organisational

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Knowledge Sharing behaviour (OKSb) and Skill Knowledge Sharing behaviour (SKSb) is less than 5 % and therefore the alternate hypothesis of the existence of significant relationship between the construct Non-Monetary rewards and OKSb and SKSb cannot be rejected.

Table 4.73: Analysis of Structural Equation Model of "Role of Rewards System in Tacit Knowledge Sharing behaviour dimensions"

Exogenous Construct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
Monetary Rewards	Organisational Knowledge Sharing behaviour (OKSb)	0.077	0.084	1.604	.109	0.153
Monetary Rewards	Project/Task Knowledge Sharing behaviour (PKSb)	0.270	0.290	5.285	.000	0.080
Monetary Rewards	Skill Knowledge Sharing behaviour (SKSb)	0.398	0.444	8.043	.000	0.199
Non-Monetary Rewards	Organisational Knowledge Sharing behaviour (OKSb)	0.383	0.329	7.871	.000	0.153
Non-Monetary Rewards	Project/Task Knowledge Sharing behaviour (PKSb)	0.086	0.072	1.725	.084	0.080
Non-Monetary Rewards	Skill Knowledge Sharing behaviour (SKSb)	0.202	0.177	4.278	.000	0.199

The goodness of fit indices such as CFI (0.867), NFI (0.849) and RFI (0.830) is high representing that the structural model is fit. The multiple squared correlations of 15.3 %, 8 % and 19.9 % represents that 15.3 %, 8 % and 19.9 % of the variation of the endogenous constructs Organisational Knowledge Sharing behaviour (OKSb), Project/Task Knowledge Sharing behaviour (PKSb) and Skill Knowledge Sharing behaviour (SKSb) can be explained with the help of the variations in the exogenous constructs Monetary and Non-Monetary rewards.

Table 4.74:   Fitness Indices of "role of Reward system in Tacit Knowledge Sharing behaviour dimensions"

Fitness Index	*CFI*	*NFI*	*RFI*	*RMSEA*	*LO 90*	*HI 90*
Value	*0.867*	0.849	0.830	0.119	0.114	0.124

4.6.4 Identifying rewards that enhance TKSb

After analysing the role of monetary and non-monetary rewards on TKSb, it has been recognised that both forms of rewards have significant but partial influence on TKSb. Now the question arises that which category of reward is more significant and which is less significant that needs to be implemented to enhance TKSb of the employees of IT companies of India. To list the significant rewards, Bivariate Regression is employed on each of the category of reward (to avoid multicollinearity) and are presented in Table 4.75 and Table 4.76 respectively.

Table 4.75: Bivariate Regression Model for Monetary rewards

Dependent Variable	*Independent Variable*	*Beta Coefficient*	*Standardised beta*	*t statistic (p value)*	*F statistic (p value)*	*R²*
PKSb	Earn leave	0.173	0.258	5.480 (.000)	30.033 (.000)	0.066
	Incentives /Bonus	0.171	0.248	5.268 (.000)	27.748 (.000)	0.062
	Allowances	0.269	0.186	5.740 (.000)	32.953 (.000)	0.072
	Honourarium	0.300	0.207	6.451 (.000)	41.611 (.000)	0.090
	Retirement benefits	0.233	**0.197**	4.918 (.000)	24.191 (.000)	0.054
	Annual increment	0.238	**0.298**	6.413 (.000)	41.126 (.000)	0.089
SKSb	Earn leave	0.400	0.281	8.978 (.000)	80.602 (.000)	0.160
	Incentives /Bonus	0.293	0.408	9.176 (.000)	84.194 (.000)	0.166
	Allowances	0.271	0.375	8.318 (.000)	69.193 (.000)	0.141
	Honourarium	0.288	0.399	8.934 (.000)	79.824 (.000)	0.159
	Retirement benefits	0.332	0.376	8.346 (.000)	69.660 (.000)	0.142
	Annual increment	0.344	0.412	9.292 (.000)	86.337 (.000)	0.170

Table 4.76: Bivariate Regression Model for Non-monetary rewards

Dependent Variable	Independent Variable	Beta Coefficient	Standardised beta	t statistic (p value)	F statistic (p value)	R²
OKSb	Paid vacation	0.246	**0.389**	8.677 (.000)	75.290 (.000)	0.151
	Insurance/Medical benefits	0.242	0.385	8.580 (.000)	73.608 (.000)	0.149
	Children care benefits	0.203	0.328	7.140 (.000)	50.976 (.000)	0.108
	Luxury benefits (house, chauffer driven car)	0.243	0.373	8.252 (.000)	68.099 (.000)	0.139
	Fringe benefits (movie tickets, mobile bills, discount coupons)	0.278	0.361	7.941 (.000)	63.054 (.000)	0.130
	Flexible scheduling	0.257	0.377	8.355 (.000)	68.809 (.000)	0.142
SKSb	Paid vacation	0.201	0.301	6.489 (.000)	42.113 (.000)	0.091
	Insurance/Medical benefits	0.211	0.318	6.882 (.000)	47.357 (.000)	0.101
	Children care benefits	0.216	0.331	7.208 (.000)	51.957 (.000)	0.110
	Luxury benefits (house, chauffer driven car)	0.198	0.288	6.183 (.000)	38.226 (.000)	0.083
	Fringe benefits (movie tickets, mobile bills, discount coupons)	0.259	0.318	6.884 (.000)	47.387 (.000)	0.101
	Flexible scheduling	0.257	**0.356**	7.836 (.000)	61.408 (.000)	0.127

The results of the regression analysis directed that the monetary rewards as independent variables are recognised to enhance the PKSb and SKSb. The highest Standardised beta value of Annual increment (Table 4.75) implies that Annual increment (t=6.413) has the highest influence on project/task knowledge sharing whereas Allowances have the least influence on PKSb. Similarly, Annual increment has the highest influence on SKSb (β = 0.412, t = 9.292), suggesting that providing annual increment to employees motivates them to share skill related knowledge. On the other hand, earn leave has the least influence on SKSb (β = 0.281, t = 8.978).

Similarly, the regression analysis for non-monetary rewards (Table 4.76) demonstrate that Paid vacation and Insurance/Medical benefits have the highest influence on OKSb (β = 0.389, t = 8.677 and β = 0.385, t = 8.580 respectively) whereas Children care benefits influence OKSb the least (β = 0.328, t = 7.140). The Flexible Scheduling enhances SKSb the most (β = 0.356, t = 7.836) and the Luxury benefits (house, chauffeur driven car) influences the least on SKSb (β = 0.288, t = 6.183).

4.7 Analysis of Objective 5: To identify the Knowledge Management (KM) tools to enhance the Tacit Knowledge Sharing behaviour of employees of IT companies in India.

Riege (2005) determined various barriers to knowledge sharing that does not only include individual barriers (formal power, age and gender difference) and organisational barriers, but potential technology barriers too. This suggests that knowledge sharing needs specific tools which if not provided will hamper knowledge sharing process.

To analyse the role of Knowledge management (KM) tools in the three dimensions of Tacit Knowledge Sharing behaviour (TKSb) i.e. OKSb, PKSb, and SKSb, the KM tools are divided into two: Technology based KM tools and Non-Technology based KM tools. Analysis of the two forms of KM tools as constructs are shown below followed by the results of this objective.

4.7.1 Analysis of "Technology based KM tools" as construct

Technology plays a crucial role in gathering and organising knowledge for distribution (Elizabeth A. Smith, 2001). Although, IT will not provide content or get the information out of someone's mind, as it is just an enabler (Wah, 1999); still to plan and implement an organised storage and diffusion of information, a robust information technology (IT) framework is needed. Before selecting the tools to be given access in organisations, it is

important to discover that which tool will be the best for the organisation; and these tools should be functionally, technically, economically and culturally fit (Ettore, 1999). Technology based KM tools are those Knowledge Management tools that are based on technology. With the help of Literature Review and Delphi Technique, the six most prevalent Technology based KM tools in IT companies have been taken for the study. The descriptive statistics as well as frequency distribution of the responses of all the six variables of Technology based KM tools is shown below in Table 4.77.

Table 4.77: Descriptive Statistics of the variables of the construct "Technology based KM tools"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree 4*	*Neutral 3*	*Disagree 2*	*Strongly Disagree 1*
Discussion forums	3.38 (1.25)		105 (24.8%)	97 (22.9%)	108 (25.5%)	84 (19.8%)	30 (7.1%)
Blogs/K-logs	**3.36** (1.34)		113 (26.7%)	102 (24.1%)	78 (18.4%)	86 (20.3%)	45 (10.6%)
Groupware systems (like lotus notes)	**3.47** (1.36)		130 (30.7%)	95 (22.4%)	97 (22.9%)	48 (11.3%)	54 (12.7%)
Collaborative workspaces	3.45 (1.28)	0.943	119 (28.1%)	103 (24.3%)	80 (18.9%)	94 (22.2%)	28 (6.6%)
Content Management system (CMS)	3.40 (1.34)		123 (29%)	78 (18.4%)	118 (27.8%)	55 (13%)	50 (11.8%)
Knowledge Portals	3.37 (1.23)		98 (23.1%)	101 (23.8%)	120 (28.3%)	71 (16.7%)	34 (8%)

The results (Table 4.77) indicate that the mean score of all the variables is greater than 3 suggesting the agreement of the respondents for all the variables of Technology based KM tools. The highest mean score has been found for the variable **"Groupware systems"**. This indicates that most of the respondents agree that IT companies give the access of Groupware systems to their employees. This variable has highest standard deviation indicating that there is high variability in

the responses with respect to this variable. "Blogs/K-logs" having the lowest mean indicates that as per the employees of IT companies they have not given access to these tools. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Technology based KM tools.

Various forms of Technology based KM tools as a construct consist of six items. The structure of the construct is shown in Figure 4.29.
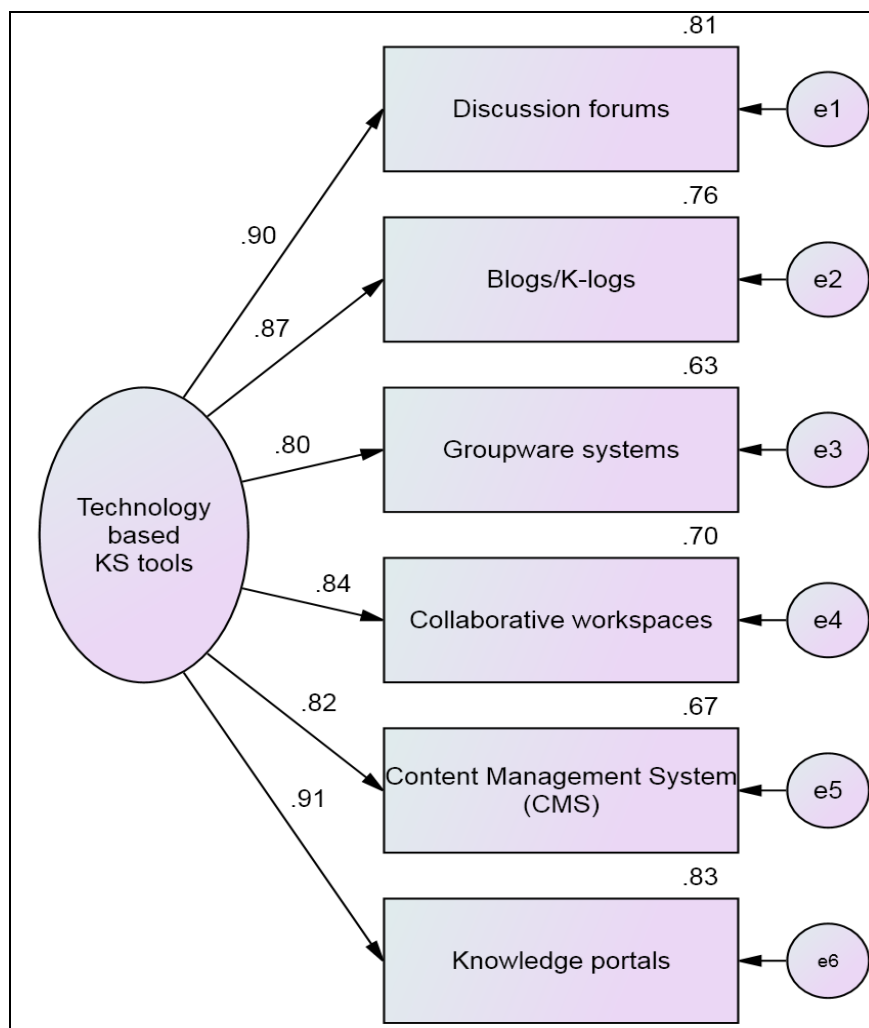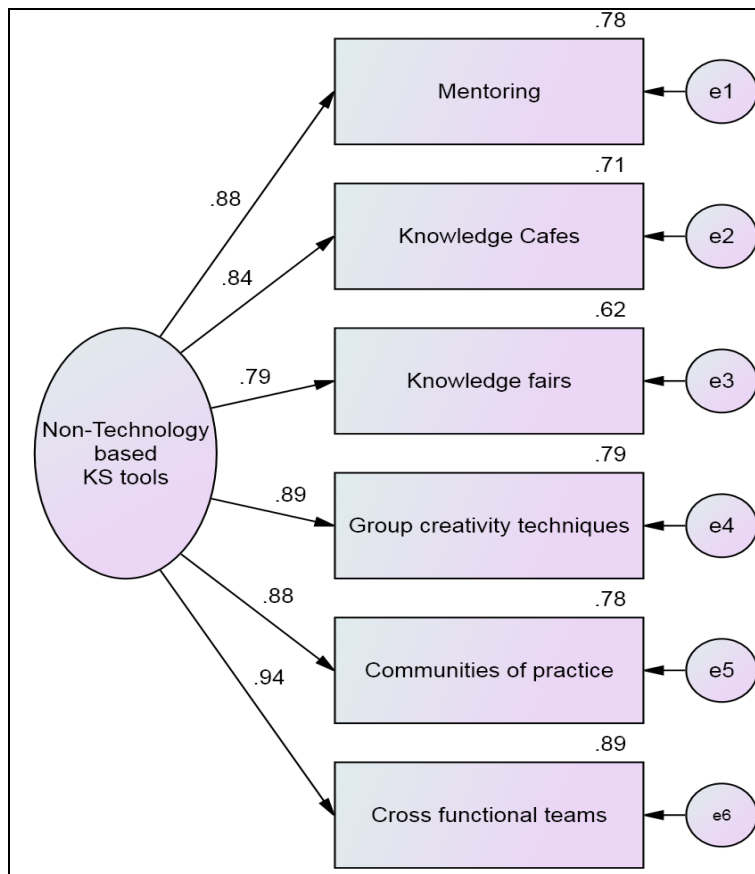

Figure 4.29: Structure of "Technology based KM tools"

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The results of the standardised regression weights of the construct are presented in Table 4.78.

Table 4.78: Standardised Regression Weights of "Technology based KM tools"

Construct:	*Items*	*Standardised Beta*	*Unstandardised Beta*	*S.E.*	*CR*	*P Value*	*R^2*
Technology based KM tools	Discussion forums	0.902	1.000				0.813
	Blogs/K-logs	0.873	1.044	0.039	26.748	0.000	0.762
	Groupware systems	0.795	0.963	0.044	22.014	0.000	0.632
	Collaborative workspaces	0.838	0.958	0.039	24.468	0.000	0.703
	Content Management system (CMS)	0.817	0.972	0.042	23.219	0.000	0.668
	Knowledge portals	**0.914**	1.000	0.033	29.865	0.000	0.835

The results (Table 4.78) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Knowledge portals" is highest. This indicates that 83.5% of the variance of the construct is represented by this variable.

The results also indicate that the item "Groupware systems" has the lowest Standardised Beta; only 63.2% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.79 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices i.e. CFI = 0.906, GFI = 0.825, AGFI = 0.591 and NFI =

0.903 and Lower value of badness of fit indices, i.e. RMSEA = 0.246, HI90= 0.273,

LO90 = 0.219. Hence, the overall fitness of the construct is ensured.

Table 4.79: Fitness Indices of "Technology based KM tools"

Fitness Indices	*CFI*	*GFI*	*AGFI*	*NFI*	*RMSEA*	*HI90*	*LO90*
Value	0.906	0.825	0.591	0.903	0.246	0.273	0.219

4.7.2 Analysis of "Non-Technology based KM tools" as construct

The descriptive statistics as well as frequency distribution of the responses of all the

five variables of Non-Technology based KM tools is shown below in Table 4.80.

Table 4.80: Descriptive Statistics of the variables of the construct "Non-Technology based KM tools"

Variable	*Mean (SD)*	*Cronbach's alpha*	*Frequency Distribution*				
			Strongly Agree 5	*Agree 4*	*Neutral 3*	*Disagree 2*	*Strongly Disagree 1*
Mentoring	3.26 (1.19)		69 (16.3%)	134 (31.6%)	87 (20.5%)	106 (25%)	28 (6.6%)
Knowledge Cafes	**3.09** (1.49)		105 (24.8%)	83 (19.6%)	76 (17.9%)	65 (15.3%)	95 (22.4%)
Knowledge fairs	3.21 (1.31)		85 (20%)	101 (23.8%)	118 (27.8%)	57 (13.4%)	63 (14.9%)
Group creativity techniques	3.23 (1.44)		112 (26.4%)	100 (23.6%)	55 (13%)	90 (20.1%)	67 (15.8%)
Communities of practice	**3.28** (1.33)	0.949	108 (25.5%)	91 (21.5%)	74 (17.5%)	114 (26.9%)	37 (8.7%)
Cross functional teams	3.22 (1.38)		98 (23.1%)	110 (25.9%)	58 (13.7%)	102 (24.1%)	56 (13.2%)

The results (Table 4.80) indicate that the mean score of all the variables is greater than 3

suggesting the agreement of the respondents for all the statements of Non-Technology

based KM tools. The highest mean score has been found for the variable "Communities

of practice". This indicates that most of the respondents agree on the statement that Communities of practice is the tool that is used frequently in IT companies for knowledge sharing. Also, this statement has average standard deviation indicating that there is average variability in the responses with respect to this statement. "Knowledge Cafes" have the lowest mean which indicates that "Knowledge Cafes" as a tool for knowledge sharing is used very less in the IT companies. The frequency distribution of the variables indicates that most of the respondents agree with all the statements of Non-Technology based KM tools.

Various forms of Non-Technology based KM tools as a construct consist of five items. The structure of the construct is shown in Figure 4.30.

Figure 4.30: Structure of Non-Technology based KM tools

The results of the standardised regression weights of the construct are presented in Table 4.81.

Table 4.81: Standardised Regression Weights of Non-Technology based KM tools

Construct:	Items	Standardised Beta	Unstandardised Beta	S.E.	CR	P Value	R^2
	Mentoring	0.882	1.000				0.778
	Knowledge Cafes	0.842	1.198	0.050	23.964	0.000	0.709
Non-Technology based KM tools	Knowledge fairs	0.787	0.986	0.047	21.116	0.000	0.620
	Group creativity techniques	0.888	1.222	0.046	26.812	0.000	0.789
	Communities of practice	0.884	1.122	0.042	26.539	0.000	0.782
	Cross functional teams	**0.943**	1.242	0.040	30.889	0.000	0.890

The results (Table 4.81) indicate that all the Standardised Beta values of different variables of the construct are more than 0.7. Hence, the construct validity of the construct is ensured. It has also been that Standardised Beta of the item "Cross functional teams" is highest. This indicates that 89% of the variance of the construct is represented by this variable.

The results also indicate that the item "Knowledge fairs" has the lowest Standardised Beta; only 62% of the variance of the construct is represented by this variable. The probability value of all the measured variables is found to be greater than 5% level of significance. Hence it is concluded that each variable of the construct represents the significant variance of the designed construct.

Table 4.82 indicates the Fitness Indices of the construct. The results indicate higher value of Goodness of fit indices i.e. CFI = 0.953, GFI = 0.910, AGFI = 0.791 and NFI = 0.950 and Lower value of badness of fit indices, i.e. RMSEA = 0.178, HI90= 0.206, LO90 = 0.151. Hence, the overall fitness of the construct is ensured.

Table 4.82: Fitness Indices of "Non-Technology based KM tools"

Fitness Indices	CFI	GFI	AGFI	NFI	RMSEA	HI90	LO90
Value	0.953	0.910	0.791	0.950	0.178	0.206	0.151

4.7.3 Analysis of "Role of KM tools in Tacit knowledge sharing behaviour dimensions"

Tacit knowledge is mind-embedded learning and its explanation involves the utilisation of analogies and an extensive process of socialisation and therefore its sharing is made conceivable through networking of the employees who retain this learning. Tacit knowledge being embedded in the employee's mind is difficult to emulate by competitors and therefore a critical foundation for sustainable competitive advantage. Consequently, the substantial apprehension of organisation is to develop an approach for the conversion of the tacit knowledge into explicit knowledge in order to get most extreme advantage from the organisation's scholarly capital (Omotayo & Olubunmi, 2015). This conversion of knowledge from tacit to explicit needs a platform either in the form of structure or layout of organisation or technological aspect like the use of IT based tools (Bakhari & Zawiyah, 2008; Noor & Salim, 2011; Wahlroos, 2010) and the availability of these aspects is one of the barriers in knowledge sharing process (Riege, 2005). This shows the importance of platform for tacit knowledge sharing and therefore to analyse the situation in IT companies, it is hypothesised that-

Ha$_{5a}$: There is significant difference between Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).

Ha$_{5b}$: There is significant difference between Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).

Ha₅c: There is significant difference between Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).

Ha₅d: There is significant difference between Non-Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).

Ha₅e: There is significant difference between Non-Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).

Ha₅f: There is significant difference between Non-Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).

The above stated hypotheses are tested with the help of Structural Equation Modelling. Figure 4.31 represents the Structural Equation Model of the theoretical hypotheses to be tested.
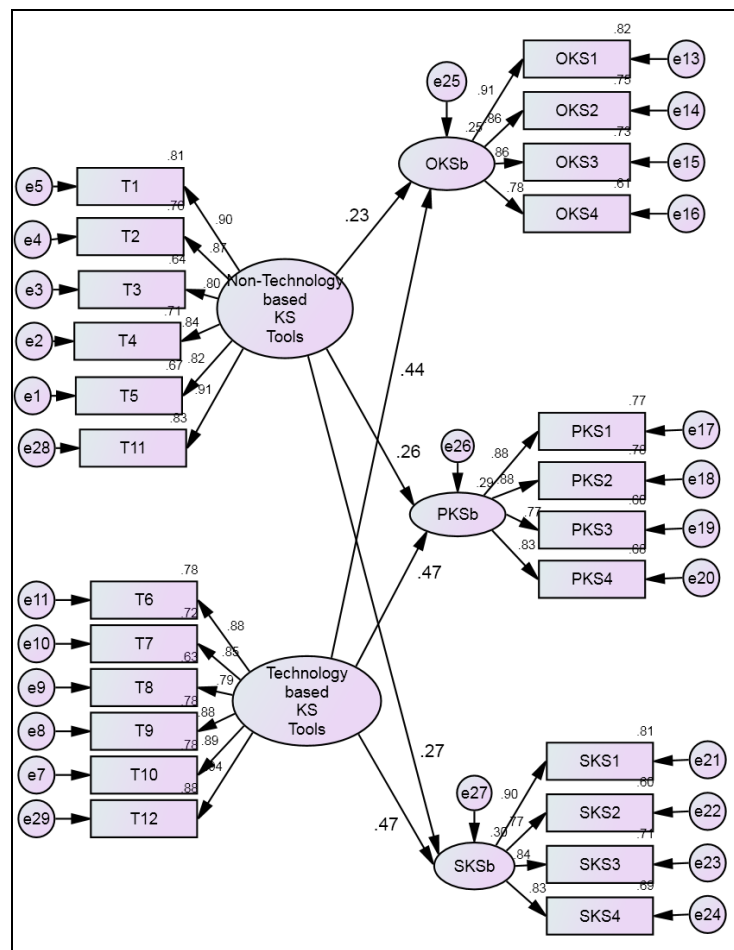
Figure 4.31: Structural Equation Model of "Role of Knowledge Management tools in Tacit Knowledge Sharing behaviour dimensions"

The results of the analysis of Structural Equation Model of "Role of Knowledge Management tools in Tacit Knowledge Sharing behaviour dimensions" are presented in Table 4.83. The results indicate that the probability value of the influence of both Technology based KM tools and Non-Technology based KM tools on the three dimensions of TKSb, i.e. OKSb, PKSb and SKSb is less than 5%. Hence with 95% confidence level the alternate hypotheses of the existence of significant relationship between the constructs Technology based KM tools and Non-Technology based KM tools and TKSb dimensions, OKSb, PKSb and SKSb cannot be rejected. Thus, it is concluded that there exists significant influence of the KS (both Technology based and Non-Technology based) tools on Tacit Knowledge Sharing behaviour either its organisation related, project related or skills related, in IT companies in India.

Also, the multiple squared correlations of 25.1%, 29% and 29.8% represents that 25.1 %, 29 % and 29.8 % of the variations of the endogenous constructs Organisational Knowledge Sharing behaviour, Project/Task Knowledge Sharing behaviour and Skill Knowledge Sharing behaviour respectively can be explained with the help of the variations in the exogenous constructs Technology based KM tools and Non- Technology based KM tools.

The goodness of fit indices shown in Table 4.84 i.e. Comparative Fit Index (CFI) = 0.851, Normed Fit Index (NFI) = 0.831, RFI =0.811 are high and badness of fit indices Root Mean Square Error of Approximation (RMSEA) = 0.121, LO90 = 0.116 and HI90 =0.126 are low which represents that the structural model is fit.

Table 4.83: Analysis of Structural Equation Model of "Role of Knowledge Management tools in Tacit Knowledge Sharing behaviour dimensions"

ExogenousConstruct	*Endogenous Construct*	*Standardised Regression Coefficient*	*Unstandardised Regression Coefficient*	*CR*	*P Value*	*Squared Correlation*
Technology based KM tools	Organisational Knowledge Sharing behaviour (OKSb)	0.443	0.432	9.290	.000	0.251
Technology based KM tools	Project/Task Knowledge Sharing behaviour (PKSb)	0.469	0.445	9.816	.000	0.290
Technology based KM tools	Skill Knowledge Sharing behaviour (SKSb)	0.473	0.476	10.019	.000	0.298
Non-Technology based KM tools	Organisational Knowledge Sharing behaviour (OKSb)	0.234	0.254	5.006	.000	0.251
Non-Technology based KM tools	Project/Task Knowledge Sharing behaviour (PKSb)	0.265	0.270	5.701	.000	0.290
Non-Technology based KM tools	Skill Knowledge Sharing behaviour (SKSb)	0.273	0.295	5.901	.000	0.298

Table 4.84: Fitness Indices of "Role of Knowledge Sharing in Tacit Knowledge Tools Sharing behaviour"

Fitness Index	*CFI*	*NFI*	*RFI*	*RMSEA*	*LO 90*	*HI 90*
Value	*0.851*	0.831	0.811	0.121	0.116	0.126

4.7.4 Identifying Knowledge Management tools that enhance TKSb

After analysing the influence of knowledge management tools on TKSb, it has been recognised that both form of tools has significant influence on TKSb dimensions. Now the question arises that which tools are more significant and which are less significant that needs to be implemented to enhance TKSb of the employees of IT companies in India. To list the significant tools, Bivariate Regression is applied on each of the tool (to avoid multicollinearity) and results for both Technology based KM tools and Non-Technology based KM tools are presented in Table 4.85 and Table 4.86 respectively.

Table 4.85: Bivariate Regression Model for Technology based KM tools

Dependent Variable	Independent Variable	Beta Coefficient	Standardised beta	t statistic (p value)	F statistic (p value)	R^2
OKSb	Discussion forums	0.307	**0.380**	8.443 (.000)	71.288 (.000)	0.145
	Blogs/K-logs	0.262	0.350	7.687 (.000)	59.092 (.000)	0.123
	Groupware systems (like lotus notes)	0.240	0.325	7.066 (.000)	49.933 (.000)	0.106
	Collaborative workspaces	0.229	0.292	6.267 (.000)	39.278 (.000)	0.085
	Content Management system (CMS)	0.248	0.329	7.159 (.000)	51.247 (.000)	0.108
	Knowledge Portals	0.298	**0.364**	8.037 (.000)	64.592 (.000)	0.133
PKSb	Discussion forums	0.297	0.363	8.009 (.000)	64.139 (.000)	0.132
	Blogs/K-logs	0.281	0.370	8.177 (.000)	66.856 (.000)	0.137
	Groupware systems (like lotus notes)	0.305	0.408	9.177 (.000)	84.220 (.000)	0.166
	Collaborative workspaces	0.273	0.344	7.538 (.000)	56.815 (.000)	0.119
	Content Management system (CMS)	0.332	**0.435**	9.917 (.000)	98.352 (.000)	0.189
	Knowledge Portals	0.313	0.377	8.363 (.000)	69.937 (.000)	0.142
SKSb	Discussion forums	0.305	0.357	7.861 (.000)	61.802 (.000)	0.128
	Blogs/K-logs	0.299	0.378	8.393 (.000)	70.442 (.000)	0.143
	Groupware systems (like lotus notes)	0.323	**0.414**	9.335 (.000)	87.138 (.000)	0.171
	Collaborative workspaces	0.315	0.380	8.451 (.000)	71.425 (.000)	0.145
	Content Management system (CMS)	0.329	**0.413**	9.329 (.000)	87.034 (.000)	0.171
	Knowledge Portals	0.335	0.388	8.651 (.000)	74.844 (.000)	0.151

Table 4.86: Bivariate Regression Model for Non-Technology based KM tools

Dependent Variable	Independent Variable	Beta Coefficient	Standardised beta	t statistic (p value)	F statistic (p value)	R^2
OKSb	Mentoring	0.401	**0.474**	11.057 (.000)	122.268 (.000)	0.225
	Knowledge Cafes	0.299	0.444	10.170 (.000)	103.434 (.000)	0.197
	Knowledge fairs	0.317	0.414	9.344 (.000)	87.313 (.000)	0.171
	Group creativity techniques	0.297	0.426	9.684 (.000)	93.778 (.000)	0.182
	Communities of practice	0.344	0.455	10.499 (.000)	110.227 (.000)	0.207
	Cross functional teams	0.343	**0.471**	10.965 (.000)	120.242 (.000)	0.222
PKSb	Mentoring	0.412	0.480	11.248 (.000)	126.525 (.000)	0.231
	Knowledge Cafes	0.343	**0.503**	11.943 (.000)	142.640 (.000)	0.253
	Knowledge fairs	0.420	**0.541**	13.212 (.000)	174.547 (.000)	0.293
	Group creativity techniques	0.338	0.478	11.172 (.000)	124.808 (.000)	0.228
	Communities of practice	0.360	0.470	10.930 (.000)	119.454 (.000)	0.221
	Cross functional teams	0.344	0.466	10.815 (.000)	116.964 (.000)	0.217
SKSb	Mentoring	0.415	0.465	10.786 (.000)	116.330 (.000)	0.216
	Knowledge Cafes	0.379	**0.532**	12.912 (.000)	166.722 (.000)	0.283
	Knowledge fairs	0.446	**0.551**	13.565 (.000)	184.015 (.000)	0.304
	Group creativity techniques	0.355	0.482	11.293 (.000)	127.524 (.000)	0.232
	Communities of practice	0.369	0.462	10.700 (.000)	114.489 (.000)	0.213
	Cross functional teams	0.362	0.471	10.956 (.000)	120.035 (.000)	0.221

The results (Table 4.85 and 4.86) of the regression analysis indicate that both Non-Technology based KM tools and Technology based KM tools influence the three

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dimensions of TKSb. It suggests that the form of KM tools is not important, rather it is the KM tools which organisations are using to enhance TKSb. The results (Table 4.36 and 4.37) clearly shows that if an organisation want to enhance OKSb, they should implement Mentoring ($\beta = 0.474$, t = 11.057) and Cross functional teams ($\beta = 0.471$, t = 10.965) as Non-Technology based KM tools and Discussion forums ($\beta = 0.380$, t = 8.443) as Technology based KM tools. But if the focus of the organisation is to enhance PKSb and SKSb, Knowledge fairs ($\beta = 0.\ 0.551$, t = 13.565) and Knowledge Cafes ($\beta = 0.\ 0.532$, t = 12.912) are the Non-Technology based KM tools that are used. The results also suggest that Technology based KM tools, Content Management system ($\beta = 0.435$, t = 9.917) and Groupware systems ($\beta = 0.414$, t = 9.335) should be implemented to enhance PKSb and SKSb respectively.

CHAPTER 5

DISCUSSION

5. CONCLUSION OF THE STUDY

The bottom line in the dynamic IT industry is "knowledge sharing is critical to a firm's success" as it results in higher organisational performance (Davenport & Prusak, 1998; Du et al., 2007; Widen-Wulff & Suomi, 2007; Darroch & McNaughton, 2002). Therefore, implementing tacit oriented approaches is mandatory for an organisation's high performance (Choi & Lee, 2002; Keskin, 2005). For an organisation, knowledge sharing is apprehending, establishing, reprocessing, relocating, the knowledge that is based on the experience of the employees. The thought-provoking feature of knowledge is "its value grows when shared". (Bhirud et al., 2005).

Wah et al., (2011) believed that although tacit knowledge can be shared anytime and anywhere in an organisation; but an employee will share his tacit knowledge only if there will be a chance to do so, or there will be some benefits of doing that. Riege (2005) recommended the three significant fundamentals in enhancing knowledge sharing in the organisation as individual, structural and technological factors. Being individual and valuable, tacit knowledge should be utilised and capitalised by the organisations (Schenkel & Teigland, 2008).

The primary aim of current research has been to analyse the role of Human Resource (HR) practices and Knowledge Management (KM) tools in enhancement of TKSb of internal customers in select IT companies in India. Although Knowledge Management (KM) is not a very new concept in Indian IT sector, but Tacit Knowledge Sharing

(TKS), an ideal phase of KM cycle is still unexplored. So, it is an opportune time to test the efficacy of TKS and the influence of HR practices on TKSb. From the literature, it is evident that KM tools play an important role in initiating and enhancing tacit knowledge sharing and therefore current research also spotlights the role of KM tools in enhancing TKSb.

The importance of knowledge sharing cannot be doubted as the literature also supports that knowledge sharing leads to better performance, improved decision making by strengthening organisational environment (Davenport et al., 1996), improved problem unravelling (Kogut & Zander 1992; Bloodgood & Salisbury, 2001) and boosted creativity and innovation (Nonaka & Takeuchi, 1995). Consequently, knowledge sharing is a critical aspect in relation to its comparative competitiveness and creation of the foundation of conjointly seized knowledge, essential for mutual understanding (Anderson & Narus 1990; Almeida et al., 1998, Araujo, 1998; Bhagat et al., 2002; Ford, et al., 1986; Hakanson, 1993; Larsson et al., 1998; Nonaka & Takeutschi, 1995; Ring & Van de Ven, 1994).

In the present research study, the relationships between employee's gender, department, job rank, professional tenure and organisational tenure with knowledge sharing behaviour has been examined and it has been found that tacit knowledge sharing behaviour of employees to a large extent is influenced by their demographic characteristics which is in contradiction with Dinner Isaac et al., (2011) who has concluded that demographic characteristics do not play any substantial role in influencing knowledge sharing behaviour, but this observation of Issac can be attributed to his research sample i.e. school teachers. The present study concludes that gender has

no influence on OKSb, but it significantly influences PKSb and SKSb. It has also been evaluated that females are more intensive towards project and skill related knowledge sharing than males. The conclusion of the present study is supported by Gratton et al., (2007) and Miller & Karakowsky, 2005, who stumbled, at large organisations of Europe and USA, failure in knowledge sharing is the outcome of the smaller groups of employees having same age groups or same gender, that have developed within teams. The outcomes of the present study, on the association among gender and knowledge sharing, are in line with the literature by Irmer, et al., (2002), though restricted, suggesting that women are more inclined towards TKS than men. Studies by Lin (2006) and Pangil & Nasrudin (2008) indicated "more sensitiveness to instrumental ties" and "a need to overcome traditional occupational challenges" as the reasons for women being more willing to share their tacit knowledge.

"Departments of the employees" is another demographic variable that has been studied and it is found that it has significant influence on OKSb but has no influence on PKSb and SKSb; that might be the reason of a few studies concluding that there is no relation between the employees from different departments in an organisation and knowledge sharing behaviour of employees. It is also analysed that it is the HR department that shares the organisation related knowledge the most, and one of the reasons behind this may be their job description. The role of HR department is to make the people aware of the policy, rules and regulations of the organisation. After HR department, it is the finance department that is oriented towards organisation related knowledge sharing. On the contrary, Sales and Marketing department has the least attention towards organisation related knowledge sharing, and the possible reason behind it is that their

field job, that make them available mainly in the markets to know the needs of the market.

With respect to the job rank it is concluded that that there is significant difference between the job rank of the employees of IT companies with respect to PKSb dimension of TKSb but not with respect to OKSb and SKSb dimensions of TKSb. The study by Gumus (2007) showed that in Educational sector, designations of employees influences their knowledge assimilation and sharing. On the other hand, some contradictory results are given by Ardichvili et al., (2006) who found that job rank doesn't significantly influence knowledge sharing behaviour as both the top or middle managers are not interested in participating knowledge sharing activities. It has also been determined that lower level employee shares more project related tacit knowledge as compared to lower middle level and upper middle level employees of IT companies of India.

With respect to organisational tenure (i.e. number of years spent in current organisation) it is documented that there is no significant difference between the duration of the employees (in their present organisation) with respect to Project/Task Knowledge Sharing behaviour (PKSb) and Skill Knowledge Sharing behaviour (SKSb), but while urging about Organisational Knowledge Sharing behaviour (OKSb), it has been found that there is significant difference between the duration of the employees (in their present organisation). It is also studied that employees new to the organisation are keen to share organisation related knowledge, but as the time grows their willingness of sharing organisation related knowledge decreases. In the study of Blessing White (2008) it is documented that knowledge sharing was negatively – albeit weakly related

to organisational tenure in line with the current study. A possible explanation for this might be that if the employees work at an organisation for a longer period of time, they become reluctant to share their knowledge because when employees initially arrive in an organisation, they are enthusiastic to share their knowledge with their colleagues and higher authority, to get upward mobility in that organisation. However, with time, if there is lack of communication on the part of other colleagues or if their knowledge sharing is not valued, the enthusiasm for knowledge sharing decreases. But this is in contrast to the results of the present study that shows that organisational tenure is positively related to knowledge sharing behaviour in line with the studies of Chowdhury (2005), Wang et al., (2007), Van den Hooff & De Ridder (2004), Watson & Hewett (2006), Bordia, et al., (2006), Bakker et al., (2006) who all argued that with the increase in tenure in an organisation, an employee's trust and commitment towards the organisation also increases and therefore there is a positive correlation between organisational tenure and knowledge sharing behaviour.

The present research has also identified that overall experience of the employees has significant influence on OKSb and SKSb, but not on PKSb. This shows that no matter what the tenure of experience is, the employees might or might not share their Project related knowledge as per the privacy and legal issues. It has also been identified that the employees who have more experience in IT sector have enhanced OKS behaviour, but employees with 1-2 years of experience in IT sector share the least organisation related tacit knowledge. Similarly, for SKSb, it has been figured out that 2-5 years' experience employees share more skill related tacit knowledge to enhance their career and employees who have just started their career i.e. employees having total experience less than 1 year share very less skill related tacit knowledge, this might be because of the

hesitation of sharing being new in IT sector. In the present research the total professional tenure, is found out to be related to TKS behaviour, suggesting that employees with more experience (irrespective of the number of companies he/she worked for) are keener to share their tacit knowledge. The literature too supports the same as Blessing White (2008) stated that "one would have expected older (in age) and more experienced individuals to be eager to donate knowledge to younger and less experienced colleagues; conversely, younger and less experienced were expected to eagerly engage in knowledge collecting"; also, Collin (2004) who indicated that senior employees often acted as mentors to junior employees. Furthermore, results for the designation of the employees suggests that people at same designation may feel that they have the equivalent level of proficiency, and thus have diminutive enthusiasm for knowledge sharing; in the contrary, the employees at higher designations, motivate knowledge sharing by sharing their expertise.

The independent variables in the current study included - Training, Hofstede's dimensions and Reward System and KM tools. Therefore, the research questions are based on these three HR practices and the KM tools. It has been found that training is essential for the employee's development and helps in enlargement of skills and competencies. It is supported in literature as Amagada (2006) stated that training is a practical extent of personnel administration in any organisation and purposes at enhancement and development of aptitudes, attitudes, skills and knowledge of the employees of the organisation. Hence, training should be premeditated to assist employees in updating their knowledge and in performing their existing job efficiently. From the literature, Nadler & Nadler (1989) found that Training helps in effective utilisation of existing human resources and confirmed that "training needs are required

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to constantly keep position filled particularly at the upper echelons for changes in the existing workforce and through retirements, death, resignations and other reasons". As quoted by Joinson (1998) "Even though the training itself may be effective, if employees cannot transfer what they have learned, training is wasted"; the importance of knowledge sharing at the time of and after training cannot be neglected. This is verified in the present study with the agreement of respondents on the statement "Training enhances knowledge sharing".

The present research study has analysed TKS behaviour in three forms (Organisation related knowledge sharing (OKSb), Project/task related knowledge sharing (PKSb), Skill related knowledge sharing (SKSb). The novel contributions of the present study is that on-the job training methods affect PKSb and SKSb but does not influence OKSb. The possible reason for this may be that when employees work as a team on some job/ project/task, they share all the knowledge they possess and the special tricks or skills they know regarding that project in order to complete the project on specified time. Moreover, employees are aware that a project cannot be completed alone and the team spirit motivates them to share project or skill related tacit knowledge with other team employees. On the contrary, off the job training methods do influence OKSb because these methods are conducted in the classroom environment where trainees have ample time and environment to share informally organisational tacit knowledge. Along with this, off the job training methods also affect SKSb because in this training, usually a particular skill is imparted. In today's cut throat competitive environment, when employees are imparted with specific skill training to compete from others, it is required that employees share their tacit knowledge to show themselves more competitive/volatile amongst their peer members. From the findings of current research, it is concluded that

off the job training methods are not key variables for PKSb enhancement, as for sharing project related knowledge some platform is required, where live training can be imparted and in off the job methods live environment is not provided.

In the present study, Internship and Apprenticeship have emerged as the most prevalent on-the job training methods used in IT companies that play a vital role in tacit knowledge sharing. Although Crossan, et al., (1999) have found that job rotation generates a culture of invention and erudition by inspiring teamwork, problem-solving in groups and knowledge sharing. Antecedent studies provide evidence on committee assignments that these provide a means for organisations to share tacit knowledge and figure out intellectual capital (Allen, et al., 1997; Allen, et al., 1999; Messmer, 1998; Scandura, 1998; Scandura, et al., 1996; Grove, 2007; Hernez-Broone & Hughes, 2004; Sharon & Holton, 2006; McCall, 1998; Cacioppe, 1998; Day, 2001); but the present study has concluded that committee assignments under the category of on-the job methods contribute least to PKSb and SKSb. The current study has concluded Audio-visual programmed instructions and case studies are off-the job methods that enhance OKSb and SKSb respectively. The relevance of these methods, as the most prevalent employee development practices, by increasing knowledge sharing, is also supported in literature of McCall (1998), Cacioppe (1998), Day (2001), Hernez-Broone & Hughes (2004), Sharon & Holton (2006), Kurtzberg (2006) and Grove (2007).

Culture Management, the second most commonly implemented management practice in IT companies in India, has been identified to influence the communication amongst employees (Brouthers et al., 1995, Contractor & Lorange 1988, Doz & Hamel 1998) and shapes the individual behaviour in cross-cultural professional associations and links

(Almeida *et al.,* 1998, Bhagat *et al.,* 2002, DeLong & Fahey 2000, Hamel 1991). In the present study, Hofstede's dimensions have been premeditated to analyse the influence culture management has on tacit knowledge sharing and it has been found that Individualism, High Power Distance, Masculinity and More Uncertainty Avoidance have negative affect on all the three forms of tacit knowledge sharing, i.e. OKSb, PKSb and SKSb. The results indicate that more are these cultural dimensions focused by the organisation less is the tacit knowledge sharing. While Collectivism, Low Power Distance, Feminity and Less Uncertainty Avoidance have shown positive influence on OKSb, PKSb and SKSb, indicating that the more these cultural dimensions are implemented, higher will be the tacit knowledge sharing. The positive influence of various variables of the four culture factors (Collectivism, Low Power Distance, Feminity and Less Uncertainty Avoidance) is evident in the antecedent studies like interpersonal familiarity (Gruenfeld et al., 1996), less hierarchy (Cummings, 2004), diversity of team member expertise (Stasser et al., 2000), trust (Polanyi, 1966; Zand, 1972; Kimmel et al.,1980; Senge, 1990; Korsgaard et al., 1995; Kirkpatrick & Locke, 1996; Podsakoff et al., 1996; Dirks, 1999; Conger et al., 2000; Andrews & Delahaye, 2000; Gillespie, 2003; Chowdhury, 2005; Farrell et al., 2005; Joseph & Winston, 2005; Mooradian et al., 2006; Lin, 2007; Usoro et al., 2007; Renzl, 2008), leadership (Gabarro, 1978; Lewis & Weigert, 1985; Baron & Kenny, 1986; Rousseau et al., 1998; Dietz & Den Hartog, 2006; Srivastava et al., 2006), stimulating the creative ideas and inspiring team members to analyse old problems in new ways (Vera & Crossan, 2004; Nemanich & Vera, 2009; Triandis, 1995; Burn & Thongprasert, 2005; Masrek et al., 2011), teamwork (Shipman & Shipman, 1985; Hui & Triandis, 1986; Driscoll, 2000; Eisenberg, 1999; Ertmer & Newby, 1993; Hofstede, 1980, 1986, 1997, 2001; Joyce &

Weil, 2000). There are some individual studies also that supports the conclusion of the present study like Min Yu (2014) has identified that knowledge sharing intentions can be enhanced by weakening the scope of individualism and by strengthening the scope of collectivism.

It is not dubious to say that organisational rewards (the third HR practice in the current research study) are useful in motivating individuals to perform desired behaviours (Bartol & Locke, 2000). The influence of organisational rewards on TKS behaviour is also evident in the studies of various researchers (Al-Alawi et al., 2007; Gupta & Govindarajan, 2000; Hall, 2001; Choi et al., (2008); Ipe, 2003; Lin, 2007) who have argued that real or perceived rewards encourage employees to share their tacit knowledge. Contrary to this, some authors (Bock et al., 2005) have also found that anticipated rewards exert a negative affect on individuals' knowledge sharing attitudes. Therefore, it is concluded that there is a mixed belief on the role of rewards in tacit knowledge sharing. In line with this, the present study also concludes that rewards can promote knowledge sharing whether they are monetary or non-monetary (Wolfe & Loraas, 2008). The monetary rewards influence PKSb and SKSb, on the contrary non-monetary rewards influence OKSb and SKSb. It is also concluded that amongst the organisational rewards studied, the rewards that has the highest influence factor on TKS behaviour, includes monetary incentives such as Bonuses (Xi & Ming, 2011), and non-monetary awards such as job security (Davenport & Prusak, 1998; Hall, 2001).

Some companies reward knowledge sharing behaviour as an offshoot to fruitful teamwork. Though, Albert & Picq (2004) declared that maximum corporations do not offer discrete rewards based exclusively on the capability to learn or to share

knowledge. Bock & Kim (2002) found no connection amid the rewards and knowledge sharing; and determined that to create a positive intent to share knowledge it is necessary to promote a positive attitude towards the same. On the contrary, Hutchings & Michailova (2004) suggested to reward the team, rather than an individual. Kwok & Gao (2005, 2006) hypothesised the importance of rewards and recommended that added determination should be given to strengthen employee's absorptive capacity to obtain, integrate and transfer knowledge.

Of all the monetary rewards, annual increment has the highest influence on project/task knowledge sharing whereas allowances have the minimum influence on PKSb. Correspondingly, annual increment has the maximum influence on SKSb, showing that more will be the motivation given to employees for annual increment, more skill related knowledge they will share. On the other hand, earn leave has the least influence on SKSb. Also, of all the non-monetary rewards, it is demonstrated that paid vacation and insurance/medical benefits has the highest influence on OKSb whereas child care benefits influence OKSb the least. If we analyse the results of non-monetary rewards and SKSb, it is the flexible scheduling that enhances SKSb the most and it is the luxury benefits (house, chauffeur driven car) that has the least influence on SKSb.

While analysing the influence of KM tools it has been found that whether the tools are Technology based or Non-technology based they have influence on TKS behaviour. Knowledge management systems are often driven by technology. McDermott & O'Dell (2001) and Bock & Kim (2002) examined the positive connection between the level of Information Technology (IT) support and knowledge sharing intentions inside an

organisation. King, et al., (2002) also found that IT infrastructure is the basis for the success of knowledge management.

Devedzic (2001) enumerated the knowledge management enablers technologies, including document retrieval software, groupware, intranets, knowledge-based systems, decision support systems, data mining, and intelligent agents. Also, Alavi, et al., (2005) instituted that the morals of employees influenced the ways of using knowledge management tools; inferring that organisations cannot assume consistency in the conducts of different groups for using these tools.

It is imperative to focus that a deprived understanding of the relationships amid sources of knowledge and users of knowledge, results in one of two extremes: either completely relying on IT tools or not bestowing IT tools completely (Al-Ghassani, et al., 2004; May & Taylor, 2003).

Lam & Chua (2005) studied that the key factors like technological inexperience, complex technology, absence of technical infrastructure and techno-bias (i.e., trusting that technology answered all difficulties), can lead to the negligence of knowledge management.

It has also been identified that employees who have not received training or support from management, use limited new technologies; and therefore, it is concluded that although there are various technologies that fit within the knowledge management rubric, still variety of aspects like training, management support, demographic characteristics and culture of the employees can lead to success or failure of such technology implementations (Connelly, & Kelloway, 2003).

The study also scrutinise the Non-Technology based KM tools and Technology based KM tools that influence the three dimensions of TKSb. The results show that the form of KM tools is not important, rather the tool organisations are using to enhance TKSb is more important. The results clearly show that if an organisation wants to enhance OKSb, they should implement mentoring and cross functional teams as Non-Technology based KM tools and discussion forums as Technology based KM tools. But if the focus of the organisation is to enhance PKSb and SKSb, knowledge fairs and knowledge cafes, the Non-Technology based KM tools are more relevant and useful. On the other hand, amongst the Technology based KM tools, content management system and groupware systems should be implemented to enhance PKSb and SKSb respectively. Nonaka & Takeuchi (1995) also researched on and concluded that peer mentoring provides an opportunity to externalise knowledge by turning tacit knowledge into explicit knowledge. For other methods, there is no evidence available.

Finally, it has been established that HR practices are indispensable for motivating the employees to enhance their Tacit Knowledge Sharing behaviour and to share that tacit knowledge a suitable platform in the form of Knowledge Management tools is desirable.

5.1   Summary of hypotheses analysis

Hypotheses	Status
Ha$_{1a}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Rejected
Ha$_{1b}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{1c}$: There is significant difference between the gender of the employees of IT companies in India with regard to their Skill Knowledge Sharing	Alternate Hypotheses

Hypotheses	Status
behaviour (SKSb).	Accepted
Ha$_{1d}$: There is significant difference between departments of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{1e}$: There is significant difference between departments of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Rejected
Ha$_{1f}$: There is significant difference between departments of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Rejected
Ha$_{1g}$: There is significant difference between job rank of the employees of IT companies in India with regard to Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Rejected
Ha$_{1h}$: There is significant difference between job rank of the employees of IT companies in India with regard to Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{1i}$: There is significant difference between job rank of the employees of IT companies in India with regard to Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Rejected
Ha$_{1j}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{1k}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Rejected
Ha$_{1l}$: There is significant difference between duration of the employees of IT organisation (in their present organisation) with regard to Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Rejected
Ha$_{1m}$: There is significant difference between Overall experience of the employees in IT sector with regard to Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{1n}$: There is significant difference between Overall experience of the employees in IT sector with regard to Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Rejected
Ha$_{1o}$: There is significant difference between Overall experience of the employees in IT sector with regard to Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{2a}$: There is significant difference between On-the job training methods and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Rejected
Ha$_{2b}$: There is significant difference between On-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{2c}$: There is significant difference between On-the job training methods	Alternate

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Hypotheses	Status
and Skill Knowledge Sharing behaviour (SKSb).	Hypotheses Accepted
Ha$_{2d}$: There is significant difference between Off-the job training methods and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{2e}$: There is significant difference between Off-the job training methods and Project/Task Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{2f}$: There is significant difference between Off-the job training methods and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3a}$: There is significant difference between Individualism and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3b}$: There is significant difference between Individualism and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3c}$: There is significant difference between Individualism and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3d}$: There is significant difference between Collectivism and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3e}$: There is significant difference between Collectivism and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3f}$: There is significant difference between Collectivism and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3g}$: There is significant difference between Less Power Distance and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3h}$: There is significant difference between Less Power Distance and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3i}$: There is significant difference between Less Power Distance and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3j}$: There is significant difference between More Power Distance and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3k}$: There is significant difference between More Power Distance and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3l}$: There is significant difference between More Power Distance and	Alternate

Hypotheses	Status
Skill Knowledge Sharing behaviour (SKSb).	Hypotheses Accepted
Ha$_{3m}$: There is significant difference between Masculinity and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3n}$: There is significant difference between Masculinity and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3o}$: There is significant difference between Masculinity and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3p}$: There is significant difference between Feminity and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3q}$: There is significant difference between Feminity and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3r}$: There is significant difference between Feminity and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3s}$: There is significant difference between Less Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3t}$: There is significant difference between Less Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3u}$: There is significant difference between Less Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{3v}$: There is significant difference between More Uncertainty Avoidance and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{3w}$: There is significant difference between More Uncertainty Avoidance and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{3x}$: There is significant difference between More Uncertainty Avoidance and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{4a}$: There is significant difference between Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Rejected
Ha$_{4b}$: There is significant difference between Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted

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Hypotheses	Status
Ha$_{4c}$: There is significant difference between Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{4d}$: There is significant difference between Non- Monetary Rewards and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{4e}$: There is significant difference between Non- Monetary Rewards and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Rejected
Ha$_{4f}$: There is significant difference between Non- Monetary Rewards and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{5a}$: There is significant difference between Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{5b}$: There is significant difference between Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{5c}$: There is significant difference between Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted
Ha$_{5d}$: There is significant difference between Non-Technology based KM Tools and Organisational Knowledge Sharing behaviour (OKSb).	Alternate Hypotheses Accepted
Ha$_{5e}$: There is significant difference between Non-Technology based KM Tools and Project Knowledge Sharing behaviour (PKSb).	Alternate Hypotheses Accepted
Ha$_{5f}$: There is significant difference between Non-Technology based KM Tools and Skill Knowledge Sharing behaviour (SKSb).	Alternate Hypotheses Accepted

5.2   Suggestions and Recommendations

This study has identified the manifestation of an empirically significant relationship between HR practices and the three dimensions of Tacit Knowledge Sharing behaviour. It is suggested to IT companies to focus more on the facilitators of TKS behaviour. The IT companies should first identify their goals clearly about the form of tacit knowledge they wish to enhance in their organisation- i.e. whether organisation related knowledge or project related

knowledge or skills related knowledge. Once the type of knowledge to be shared is clear it is suggested that IT companies should select the most significant methods of HR practices influencing the knowledge sharing behaviour identified in the present study. If the goal is to enhance all the dimensions of tacit knowledge then the blend of the methods may be selected to motivate the employees to share their embrained learning, i.e. tacit knowledge.

Without platform, even if employees want to share their knowledge, they are not able to do the same. So, it is highly recommended to the IT companies in India to conduct knowledge sharing in their organisations through the help of various technology and non-technology based Knowledge Management tools.

5.2.1 Prototype of the Recommended Model for role of HR practices in the three dimensions of TKSb

5.2.1.1 Recommended Model for role of Training methods in the three dimensions of TKSb
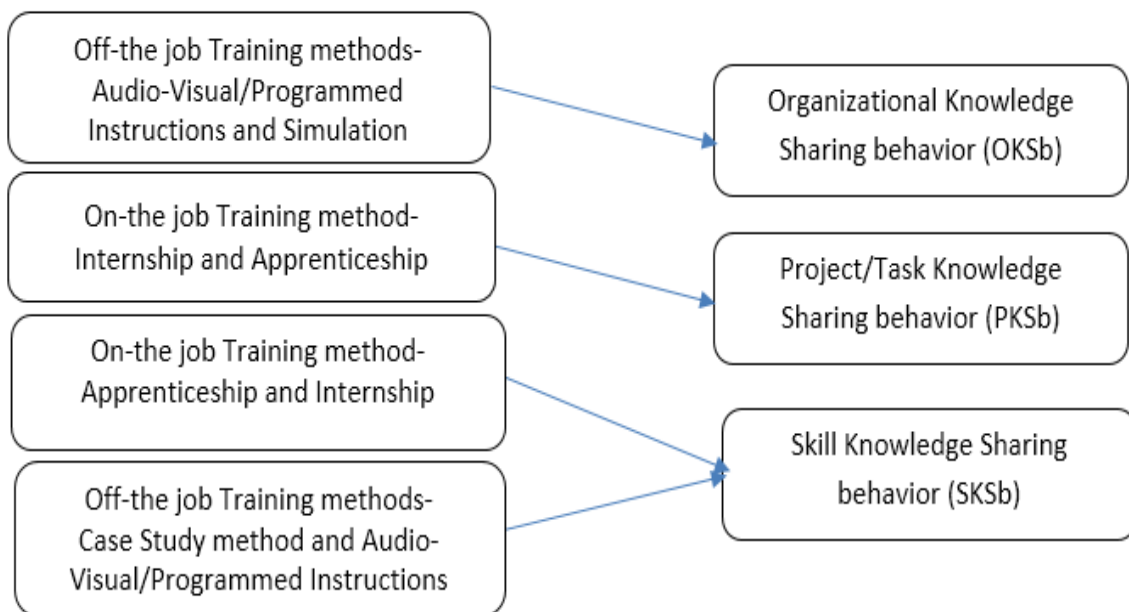
5.2.1.2   Recommended Model for role of Hofstede's dimensions in the three dimensions of TKSb
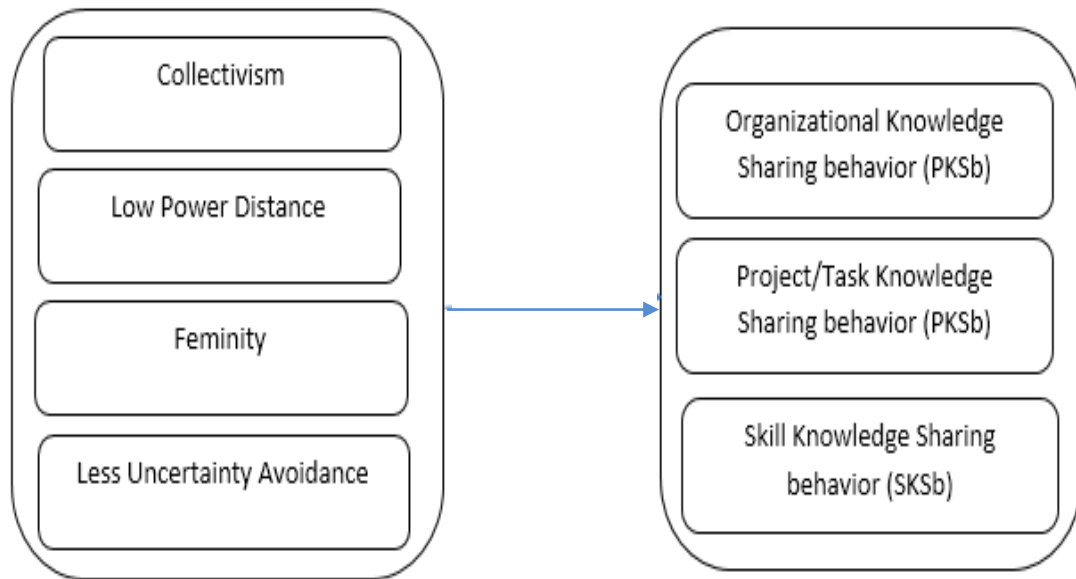
5.2.1.3   Recommended Model for role of Reward system in the three dimensions of TKSb
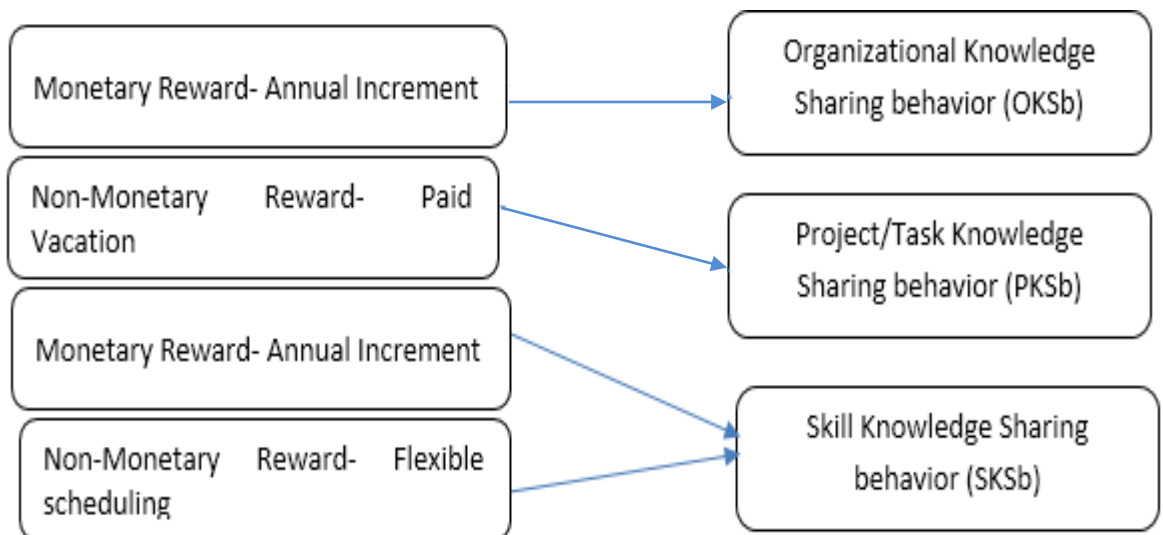
5.2.2 Recommended Model for role of Knowledge Management tools in the three dimensions of TKSb
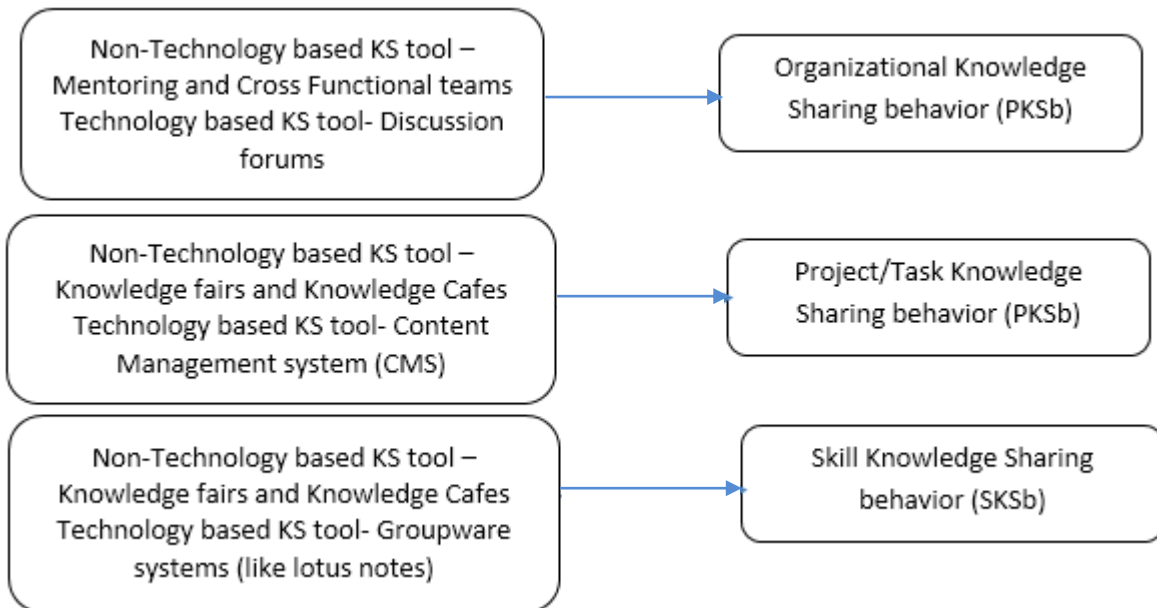
5.3 Implications of research

5.3.1 Practical Implications to Industry

Identifying the key HR practices that bolster tacit knowledge sharing enables the employers/IT companies to give more focus on those practices. Also, management of the IT companies can structure these key HR practices: Training, Work Environment (Hofstede's dimensions) and reward system more efficiently to create maximum motivation among the employees to share their tacit knowledge. Factors found to be weak motivators for sharing can be excluded and this will help in avoiding the wastage of resources that is an indirect benefit for the organisation to achieve competitive advantage. Solely motivating the employees is not enough; as what if employees get motivated but they are not having the means to share their knowledge. So, providing the employees with various KM tools is also necessary, and the current study has identified

the key KM tools that may help the IT companies to enhance their Tacit Knowledge Sharing behaviour.

5.3.2 Theoretical Implication to Academics

The results of this research add to the knowledge of numerous fields. The major contribution of the current research study includes the key Training methods, Hofstede's dimensions, Rewards and KM tools that IT companies should focus on, to enhance Tacit Knowledge Sharing behaviour of their employees. This is also an attempt to validate and add to the literature by explaining the role of HR practices and KM tools as motivator or de-motivator for tacit knowledge sharing.

5.4 Future Scope of the Study

1. Most of the findings of the current research have largely pointed out the fact that the effective HR practices and KM tools will witness tremendous tacit knowledge sharing in all the departments of IT companies in India. In this world of innovations and creativity, there are various HR practices and KM tools. However, of these new developments the researcher has focused on 3 common HR practices namely, Training, culture management (Hofstede's dimensions) and Reward management; and six most commonly used Technology based and Non- technology based KM tools and others remain to be tested in the next years to assess their roles in enhancing the internal customer's i.e. the employees of the organisation, tacit knowledge sharing behaviour.

2. The most critical variables of the specified HR practices, KM tools and forms of tacit knowledge sharing have been recognised, although there can still be various factors that need to be identified and analysed.

3. The study can be extended through the development of model for complimentary relationship between HR practices and KM tools and the influence of this relation on TKS behaviour of employees of IT companies in India can be evaluated.

4. The study on role of HR practices and KM tools to enhance TKS behaviour in IT companies in India can be extended to the view of employers also. Comparison can then be made between the employer's and employee's view in terms of the HR practices to be implemented, KM tools to be given access in organisations, factors influencing their TKS decisions.

5. A more comprehensive investigation can be conducted by finding the gap between the views relating to the role of HR practices and KM tools to enhance TKS behaviour, of various departments in IT companies in India.

6. Future studies may be carried out on other sectors to investigate their intentions on the role of HR practices and KM tools to enhance TKS behaviour.

5.5 Limitations of the study

Concerning the research, limitations cannot be totally avoided.

1. **Limitations in Literature Review**: During analysing the antecedent studies, it was found that limited literature is available on the theme.

2. **Unmeasured exogenous variables may affect the relationships of the study**: Although HR practices and KM tools implemented in IT companies in India studied in the current research have been vetted by the experts of academics and

industry, still there could be many more practices and tools that have influence on tacit knowledge sharing behaviour of the internal customers of IT companies.

3. **Online data collection limitation:** The practice of data collection using e-survey is a good tool with respect to manpower, cost and time frame, but, it may have the limitation of low response rate.

4. **Static nature of the study:** The present study is based on a one-time view to show the role of HR practices and KM tools in transfer of tacit knowledge of employees of IT companies in India, rather than collection of data in diverse time frames.

5. **Response bias limitation:** Response biasness can be either from the questionnaire method or from arbitrary comments of the respondents. The questionnaire method may suffer from response bias limitation, although this is a cost-effective and, generally, reliable research method. Therefore, field observations and qualitative interviews of managers or concerned persons from the sample is proposed. Furthermore, since Knowledge Management and tacit knowledge sharing concepts are relatively new in IT companies in India, the pool of employees who understand the importance of these concepts is low in this period. This means many of the respondents may not recognise the meaning of tacit knowledge sharing. Consequently, their remarks may be relatively random in spite an information sheet describing the concept is given to them before filling the questionnaire.

6. **Generalised results**: Since the convenience sampling has been used, it is difficult to evaluate the sampling error precisely.

7. **Limitations of statistical techniques used:** The statistical techniques used for analysing the role of HR practices and KM tools in transfer of tacit knowledge of internal customers like SEM and Regression Analysis have their own limitations.

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APPENDIX A

QUESTIONNAIRE

Name of Employee:

Gender: ❍ Male

❍ Female

Name of the Organisation:

Please Specify your Department

❍ HR

❍ Sales and Marketing

❍ Finance

❍ Operations

❍ IT

❍ Other

Designation:

From how many years you are in this company?

❍ 1 year or less

❍ More than 1 year to 2 year

❍ More than 2 year to 5 year

❍ More than 5 year

What is your total overall experience?

❍ 1 year or less

❍ More than 1 year to 2 year

❍ More than 2 year to 5 year

❍ More than 5 year

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
In your organisation-					
Job Rotation is implemented	❍	❍	❍	❍	❍
Coaching is implemented	❍	❍	❍	❍	❍
Job Instruction is implemented	❍	❍	❍	❍	❍
Committee Assignments are implemented	❍	❍	❍	❍	❍
Apprenticeship is implemented	❍	❍	❍	❍	❍
Internship is implemented	❍	❍	❍	❍	❍
Classroom Lectures are implemented	❍	❍	❍	❍	❍
Audio-Visual/ Programmed Instructions are implemented	❍	❍	❍	❍	❍
Simulation is implemented	❍	❍	❍	❍	❍
Vestibule Training is implemented	❍	❍	❍	❍	❍
Case Study method is implemented.	❍	❍	❍	❍	❍
Role Playing is implemented.	❍	❍	❍	❍	❍
Employees like to work in a team rather than by themselves.	❍	❍	❍	❍	❍
Accepting group decision is common practice.	❍	❍	❍	❍	❍
Problem solving by groups gives better results than problem solving individually.	❍	❍	❍	❍	❍
Independent working is preferred.	❍	❍	❍	❍	❍
Task prevails over relationship.	❍	❍	❍	❍	❍
Relationship prevails over task.	❍	❍	❍	❍	❍
Employees are focused on speaking their own minds.	❍	❍	❍	❍	❍
Not accepting group's decision					
Employees share their ideas with top management	❍	❍	❍	❍	❍
Employees share knowledge with their peer members	❍	❍	❍	❍	❍
Decision making is only top down.	❍	❍	❍	❍	❍

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	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Bottom up approach is given importance	❍	❍	❍	❍	❍
Employees are reluctant to trust one another.	❍	❍	❍	❍	❍
There is no harmony between the powerful and powerless.	❍	❍	❍	❍	❍
There is less hierarchy	❍	❍	❍	❍	❍
There are more networks and alliances.	❍	❍	❍	❍	❍
There is high competition between employees	❍	❍	❍	❍	❍
Employees get paranoid that someone else might take the job with their ideas	❍	❍	❍	❍	❍
Employees feel secure in sharing knowledge	❍	❍	❍	❍	❍
Employees are achievement orientated	❍	❍	❍	❍	❍
Employees are relationship oriented	❍	❍	❍	❍	❍
Employees believe in competitiveness and acquisition of wealth	❍	❍	❍	❍	❍
Open discussions are held.	❍	❍	❍	❍	❍
Quality of life is an important characteristic of employee's value	❍	❍	❍	❍	❍
There is willingness to take conscious risk	❍	❍	❍	❍	❍
Not following expert's opinion	❍	❍	❍	❍	❍
No standard procedures	❍	❍	❍	❍	❍
Employees have less need for definite prognosis	❍	❍	❍	❍	❍
Efforts to avoid failure are higher	❍	❍	❍	❍	❍
Employees have strong need for definite prognosis	❍	❍	❍	❍	❍
Adopting something new is treated as risky	❍	❍	❍	❍	❍
Standard operating procedures in handling tasks are followed.	❍	❍	❍	❍	❍
Employees share business knowledge/ non-financial data with concerned department/person	❍	❍	❍	❍	❍
Employees share factual knowledge (know-what) about the organisation with concerned department/ person	❍	❍	❍	❍	❍
Employees share financial data of the organisation with concerned department/person	❍	❍	❍	❍	❍
Employees share official reports and documents with concerned department/person	❍	❍	❍	❍	❍
Employees share their experiences or soft skills related knowledge with other employees of the organisation	❍	❍	❍	❍	❍
Employees share their analytical or problem solving skills with other employees of the organisation	❍	❍	❍	❍	❍
Employees share their technological expertise with other employees of the organisation	❍	❍	❍	❍	❍

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Employees share their job-related hard skills with other employees of the organisation	❍	❍	❍	❍	❍
Employees share factual knowledge (know-what) of the particular project/task with other employees of the organisation	❍	❍	❍	❍	❍
Employees share know-why (why to do particular task/project) knowledge with other employees of the organisation	❍	❍	❍	❍	❍
Employees share know-how (how to do particular task/project) knowledge or tricks of the trade of the particular project/task with other employees of the organisation	❍	❍	❍	❍	❍
Employees share documentation of the particular project/task with other employees of the organisation	❍	❍	❍	❍	❍
In your organisation, these benefits are provided.					
Paid vacation	❍	❍	❍	❍	❍
Insurance/Medical benefits	❍	❍	❍	❍	❍
Children care benefits	❍	❍	❍	❍	❍
Luxury benefits (house, chauffer driven car)	❍	❍	❍	❍	❍
Fringe benefits (movie tickets, mobile bills, discount coupons)	❍	❍	❍	❍	❍
Flexible scheduling	❍	❍	❍	❍	❍
Earn leave	❍	❍	❍	❍	❍
Incentives /Bonus	❍	❍	❍	❍	❍
Allowances	❍	❍	❍	❍	❍
Honourarium	❍	❍	❍	❍	❍
Retirement benefits	❍	❍	❍	❍	❍
Annual increment	❍	❍	❍	❍	❍
In your organisation, the access to the following tools is provided-					
Discussion forums	❍	❍	❍	❍	❍
Blogs/K-logs	❍	❍	❍	❍	❍
Groupware systems (like lotus notes)	❍	❍	❍	❍	❍
Collaborative workspaces	❍	❍	❍	❍	❍
Content Management system (CMS)	❍	❍	❍	❍	❍
Mentoring	❍	❍	❍	❍	❍
Knowledge Cafes	❍	❍	❍	❍	❍
Knowledge fairs	❍	❍	❍	❍	❍
Group creativity techniques	❍	❍	❍	❍	❍
Communities of practice	❍	❍	❍	❍	❍
Knowledge Portals	❍	❍	❍	❍	❍
Cross functional teams	❍	❍	❍	❍	❍

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Paper published in International journals

S.NO	Papers Title/Book Review	Name of Journal	Status
1.	Training methods and Tacit Knowledge Sharing: Evidence from IT organisations	Jindal Journal of Business Research SAGE Publication *(ISSN 2278-6821)*	Vol 4, Iss 1&2, pp 1-16
2.	Reward System and Tacit Knowledge Sharing behaviour of employees of IT organisations: An empirical study	International Journal of Knowledge Management Studies INDERSCIENCE publication (*ISSN online: 1743-8276 ISSN print: 1743-8268)*	Vol-6, No-4, pp 322-336

3.	Role of Human Resource practicesin enhancing Information and Communication Technology skills in Asia pacific region	DIAS Technology Review *(ISSN 0972-9658)*	Vol-10, No-2, Oct 2013-March 2014, pp 35-43. *(ISSN 0972-9658)*
4.	Human Resource Information System and its impact on Human Resource Planning: A perceptual analysis of Information Technology companies	IOSR Journal of Business and Management (IOSRJBM) *(ISSN 2278-487X)*	Vol-3, Iss-6, Sep-Oct. 2012, pp 6-13
5.	Job satisfaction: A ray of sunshine even in burnout times: Perceptual analysis of IT organisations	International Journal of Management & Information Technology *(ISSN 2278-5612)*	Vol-1, No-3, Sep 2012, pp 111-117

Papers published in National Journals

S.NO	Papers Title/Book Review	Name of Journal	Status
1.	Empirical analysis of workforce diversity and its management in today's IT organisations	Apeejay Journal of Management and Technology *(ISSN :0974-3294)*	Vol 10, Issue 1, Jan 2015, pp 62-69
2.	Training: A significant tool to bridge the employee's skill gap to gain sustainable competitive advantage	GD Goenka Business Review *(ISSN 2394-8639)*	Vol-1, No-1, Jan-Jun 2015 issue, pp 6-16
3.	Role of HR Practices and KM Tools on Knowledge Sharing behaviour of internal customers at commercial banks in Delhi/NCR, India	The IUP Journal of Bank Management *(ISSN 0972-6918)*	Vol-12, No-2, May 2013, pp 43-6
4.	An Empirical study on Performance Management as key tool for effective Knowledge Sharing in	MAIMS Journal of Management *(ISSN 22490116)*	Vol-8, No-1, April 2013, pp 34-37

	Information Technology Organisations		

Papers presented in International Conferences

S.NO	Papers Title/Book Review	Details of conference	Status
1.	Role of Demographic characteristics on Tacit Knowledge Sharing behaviour of employees of IT organisations in India: An empirical study	International Conference on The Role of Social Media for Organisational Sustainability (ICROSMOS) organized by Jaipuria Institute of Management held on February 12th-13th, 2016	Won BEST PAPER AWARD *Abridged version of the paper published in book "Social Media and Organisational Sustainability" (ISBN 978-93-85936-04-3)*
2.	Tacit and Explicit Knowledge: The significant entities for Organisational Development Interventions	12th Knowledge Globalization Conference on "Managing in Diverse Cultures" organized by Jindal Global Business School in collaboration with Knowledge Globalization Institute and partner universities, Suffolk University (Boston, USA) and University of New Brunswick (Fredericton, Canada) held on 13-14 Aug' 2015 at OP Jindal Global University	*Full paper published in e – proceedings (ISBN 978-0-979-7593-3-8)*
3.	Tacit Knowledge	International conference on	Full paper

	Sharing in IT organisations: Analysis of Training Methods	Evidence Based Management (ICEBM) 2015 held at BITS Pilani on 20th - 21st March 2015	published in proceedings (ISBN 978-93-84935-18-4)
4.	Training: A significant tool to bridge the employee's skill gap to gain sustainable competitive advantage	2nd International conference on Management, GDGU ICON 2015, changing landscape of world economies: Need for alternative growth models held at GD Goenka University on 19th and 20th February'2015.	Paper shortlisted for GD Goenka Business Review (ISSN 2394-8639) for January-June 2015 issue
5.	Knowledge Sharing in diverse organisational structures	International conference on Contemporary Management practices: Creative or Dogmatic held at Jagan Institute of Management studies on 6th February'2015.	Full paper published in proceedings (ISBN 978-93-84869-17-5)
6.	Knowledge Sharing: Critical success factor for learning in IT organisations	International Seminar on Globalization and its impact on Management and IT held at Ideal Institute of Management and technology and School of law on 21st Jan 2015	Full paper published in e – proceedings (ISBN 978-93-80494-98-2)
7.	Knowledgeable Workplace: On the job training to facilitate Knowledge Sharing	International Conference on Emerging Trends in Global Management Practices – An interdisciplinary approach organized by Symbiosis centre for Management Studies held during 7-8th March 2014	*Abstract published in proceedings*

8.	The knock on effect of HRM practices on transfer of tacit knowledge of internal customers: An empirical evidence from insurance industry in India	12th International Human Resource Management conference organized by MDI, Gurgaon held during 10-13th December 2012	*Abstract published in proceedings*
9.	Performance management: Noted desideratum for effective Knowledge Sharing in Information Technology organisations	6th International Conference on Contemporary Business 2012 organized by IIT, Delhi and Curtin University, Australia held during 18-19th October 2012 at IIT, Delhi	*Abstract published in proceedings*

Papers presented in National Conferences

S.NO	Papers Title	Name of conference	Remark
1.	Role of Training Methods in enhancing Tacit and Explicit Knowledge Sharing behaviour in IT organisations	National Conference on "Management By Optimism: Business Acumen Through Positivity" organized by GGS Indraprastha University on February 19, 2016	*Full paper published in book titled "Management By Optimism" (ISBN 978-93-85936-10-4) pp 168-171*
2.	Tacit versus explicit Knowledge Sharing in it organisations: Analysis of Training methods	4th Biennial Indian Academy of Management Conference organized by IIM Lucknow (Noida campus) in collaboration with Indian Academy of Management held on 11-13 December 2015	*Abstract published in e-proceedings*
3.	Training as Determinant of Knowledge Sharing for Mind Management: Evidence from IT companies in India	National Conference on Mind Management for Management organized by USMS, Guru Gobind Singh Indraprastha University, Dwarka, held on 7th November 2014.	*Full paper published in proceedings(Publisher: Bloomsbury Publishing India Pvt Ltd) ISBN 978-93-84898-51-9*
4.	Role of KM practices in enhancing ICT skills in ITes organisations in India	Global Conference on Managing Recovery Markets (GCMRM 2014) organized by MDI, Gurgaon held during 5-7th March 2014.	*Abstract published in proceedings ISBN 978-81-929149-0-9*

MDPs and FDPs Attended

National Seminar on "Recent Trends in Management Research" organized by Department of Management Studies, JSS Academy of Technical Education, Noida on 4th April'2014.
Seminar on "Knowledge Management Practices on Education Systems" organized by Banarsidas Chandiwala Institute of Professional Studies, Dwarka on 30th September 2013.
FDP titled "Multivariate Data Analysis for Management Researchers" organized by Fortune Institute of International Business, New Delhi on 16th and 17th August 2013.
FDP titled "Essential tools for Quality Research" organized by DIAS, Rohini on SPSS on 11th – 12th May 2012.