

**IMPACT OF INTELLECTUAL CAPITAL ON BUSINESS
PERFORMANCE AND COMPETITIVE ADVANTAGE IN
BANKING SECTOR OF PAKISTAN: THE ROLE OF TACIT
AND EXPLICIT KNOWLEDGE SHARING**

By

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**NATIONAL UNIVERSITY OF MODERN LANGUAGES,
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ABSTRACT

Thesis Title: Impact of Intellectual Capital on Business Performance and Competitive Advantage in Banking Sector of Pakistan: The Role of Tacit and Explicit Knowledge Sharing

The purpose of this paper is to investigate the impact of Intellectual Capital on Business Performance and Competitive Advantage in Banking sector of Pakistan. In this study two variables of Knowledge sharing (Explicit Knowledge sharing and Tacit Knowledge Sharing) are also included to check their mediation effect. The methodology involved in the study includes the collection of primary data using self-administered questionnaire adapted from the literature used and collected data from the branch managers and operations managers from total 347 bank branches of Islamic and Commercial Banks of Faisalabad Division Pakistan. Results of the study are shown that intellectual capital does not promote tacit knowledge sharing within the environment of Banking sector of Pakistan. Findings are found similar in comparison to various other studies on the subject which reveal very low level of IC disclosure, not yet receiving priority from the managers of banks. study reveal that not many managers recognize the need and significance of measuring and reporting IC, although it is recognized as a driver of competitiveness. For protecting business confidentiality, banks do not want to report information of sensitive nature. The analysis is limited to a single sector (e.g. Banking Sector). Future research can expand to other industries (e.g. manufacturing, technological, services) to enable a more comprehensive understanding of Intellectual Capital, Business Performance, Competitive Advantage, and Knowledge Sharing. The cross-sectional approach is also a limitation. Further research could apply research methods other than content analysis (e.g. questionnaire survey, interviews or mixed-methods) in order to obtain a more in-depth view of how the Bank managers increased business performance and competitive advantage by using intellectual capital and knowledge sharing.

Keywords:

Intellectual Capital, Business Performance, Competitive Advantage, Tacit Knowledge Sharing, Explicit Knowledge Sharing, Banking Sector, Pakistan.

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
IC	Intellectual Capital
BP	Business Performance
CA	Competitive Advantage
HC	Human Capital
OC	Organizational Capital
SC	Social Capital
CC	Cultural Capital
KS	Knowledge Sharing
EKS	Explicit Knowledge Sharing
TKS	Tacit Knowledge Sharing
PSM	Public Service Motivation
KM	Knowledge Management
KMS	Knowledge Management System
IT	Information Technology
IS	Information System
SEM	Structural Equation Model
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
KMO	Kaiser-Meyer-Olkin
GFI	Goodness of Fit Index
AGFI	Adjusted Goodness of Fit Index

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DEDICATION

I dedicate this thesis to my parents. Without their patience, understanding, support and most of all love, the completion of this work would have not been possible.

CHAPTER NO.1

INTRODUCTION

1.1 Introduction

In past few decades, business environment has significantly changed. Due to intense competition, organizations have to shift from production to service business. Which becomes the cause of the importance of the intangible resources of the firms. Now a day's management of human resources is assumed one of the key drivers for the success of every business. So management of human capital becomes an unconquerable competitive advantage of the businesses. The human capital management performance is considered a guarantee for the success and growth of the business (G Roos, Fernström, & Pike, 2004). Present era is based on technology and communication and hence creates a knowledge based economy where information technology, intellectual capital and intangibles become very important part of a company's success. Better competitive advantage can be achieved if a company manages intellectual capital at excellent (Bornemann, Knapp, Schneider, & Sixl, 1999).

It is crucial for the organizations to survive in the dynamic and knowledge-based economies (Subramaniam & Youndt, 2005). The proponents of knowledge-based view (KBV) argue that intellectual capital is more likely to shape a sustainable competitive advantage as compared to the fixed assets which a firm possess (Bogner & Bansal, 2007). Since knowledge is not evenly distributed within an organization, knowledge sharing (KS) among individuals, teams, and units is imperative for organizations to identify, capture, create, and accumulate their knowledge to facilitate both resource structuring and capacity building, which have been found to significantly increase firm performance (Wang & Wang, 2012).

Haas and Hansen (2007) argued that knowledge sharing (KS) is the process of communication and coordination of knowledge or expertise. This process is comprised upon on shared understandings which are related provide access to the employees to the information and using existing knowledge within organizations (Lin, 2007). Knowledge sharing can increase the knowledge-related competencies as well as it can enhance the organizational performance, the reason is that knowledge sharing ensures smooth working. In addition to this knowledge sharing make job easier when individual exchange best practices and lessons learnt (Wang & Wang, 2012).

Business world is dynamic and most of the organizations have to operate in turbulent environment and face rapid changes due to various forces such as information technology, and market uncertainties (Roy & Sivakumar, 2012). Under such circumstances it is very difficult to achieve competitive advantage for organizational sustainability, survival and growth. In the opinion of (Atalay & Anafarta, 2011) knowledge resources have significant impact on innovation in the knowledge based economy and thus organizations need intellectual capital to reinforce innovation. Hence it is evident that IC fosters harmony among the individuals and it brings innovation in the organization (Subramaniam & Youndt, 2005).

In the opinion of (Hsu & Wang, 2012) intellectual capital is set if capabilities pertaining to “knowledge, culture, strategy, process and relational networks of a company that create value or competitive advantages”. Intellectual capital is comprised upon by four capitals which are human capital (HC), organizational capital (OC), social capital (SC) and customer capital (CC) (Nazari & Herremans, 2007). Previous researchers have focused manufacturing and service sectors while investigating the impact of intellectual capital, but much of literature is available regarding manufacturing sector (Perks, Gruber, & Edvardsson, 2012). Thus previous literature has investigated the impact of HC, OC and SC on product innovation in manufacturing sector (Subramaniam & Youndt, 2005).

1.2 Historical Background of Intellectual Capital

While Bontis (2001) argued that John Kenneth Galbraith in 1969 was the first person who introduced the term ‘intellectual capital’ in literature, but this term was actually already used by Edward Thring in his book “Education and School” published in 1864. “For, in a free country, all classes are working classes, and the superiority of one class to another in the long run depends on

the value of their work; and the value of the work depends on the capital, intellectual or other, required before the work can be done; and both intellectual skill and money, in the ordinary course of events, are the result of a mastery over time. Each generation hands over much of its acquired capital to the next. But money differs from intellectual stores in this important particular that it can be passed on at once to a new possessor whereas each man must for himself gain possession of the intellectual capital of past generations”.

Intellectual capital, defined as an invisible asset of a firm, was first proposed by Galbraith (1969), and has received great attention ever since. Substantial evidence suggests the critical role intellectual capital plays in practice (Lin et al. (2015)): market values are pushed far above book values in firms like Apple, Microsoft, Google, Amazon, etc., and the underlying factor is the abundant intellectual capital. The determinant of firm value today has gradually leaned from traditional physical capital (e.g. Equipment, land, fund, simple labour) towards intellectual capital (e.g. human capital, organizational capital, relational capital). Therefore, it is essential to quantify the intellectual capital, and to investigate the influence of intellectual capital on firm value.

Intellectual capital can be quantified in two complementary directions. The first direction treats intellectual capital as a unit, and focuses on the wealth intellectual capital can create. The typical methods are the value of difference and Tobin’s Q. These methods measure intellectual capital as the difference between market capitalization and book value (Edvinsson & Malone, 1997)

The association among IC and firm performance has been studied by a large body of literature, but no identical conclusion has been drawn. Using data from 100 large international companies in US, Bounfour (2003) finds that the increase of intellectual capital drives improved performance. Hong et al. (2007) support this positive relation in Singapore listed firms. However, this finding is challenged by the view that there is no significant relation between intellectual capital, especially human capital, and the firm performance (Bontis, Chua Chong Keow, & Richardson, 2000) ; (Dess et al., 2003). The existing empirical research often have two serious issues which weakens the robustness and validity of the results: first, the sample chosen is limited to, either belonging to certain industries or only representative of large firms; second, and perhaps more importantly, is ignoring the dynamic nature of the intellectual capital–performance relationship.

On the other hand, one of the factors influencing knowledge management is knowledge-based leadership (Yahya & Goh, 2002). Leadership behaviour is one of the important factors that greatly influences the direction and effectiveness of knowledge management in the organizations. In fact, the role of leaders in knowledge management in an organization is important. Because today's leaders have a significant position to influence their organizations.

Nevertheless, it should be acknowledged that the governorates as one of the most active organizations aimed at implementing the public policy of the state within the country by coordinating various activities of state and local institutions in different provinces, towns, districts, villages and villages. Regarding the issues in the Fars Governorate, located in province of Fars/Iran, such as the optimization of the information process, the organization has focused on organizing the processes within the organization with the aim of eliminating cases and bureaucracy and increasing the speed and accuracy of the affairs, and therefore the importance of the leadership of the organization. The objective of the organization is to manage knowledge and improve innovation.

Innovation is one of the management concepts that have a close relationship with enterprise entrepreneurship and it cannot be ruled out when defining entrepreneurship. Even if the existing research into organizational innovation has taken another route due to a number of considerations, it must still be remembered that these two concepts have a very important historical and common history. This background goes back to the wider scope of the meaning of innovation, and this is what can be called the concept of innovation from the perspective of (Schumpeter, 2017). Drucker (1998) also considers innovation as a specialty for entrepreneurship. According to him, innovation is distinguished between entrepreneurial affairs and management issues.

In fact, we can say that the concept of innovation in Schumpeter's view distinguishes entrepreneurship behaviours from other managers and, as a result, makes entrepreneurship and innovation inseparable. Despite these similarities, in this article there is a distinction between these two concepts. One important reason is the difficulty of providing a common and accepted definition of innovation. Gopalakrishnan and Damanpour, (1997) examine the concept of innovation in a variety of scientific fields such as economics, organizational sociology, and technology management. They concluded that in all these areas, innovation had been considered as a tool for adapting to changes and making new things. But the most important thing was that

they observed that researchers used different concepts in every field of innovation, as well as quite different views on their impact on industry, productivity, life, growth and organizational performance. These differences focused on how to focus on the innovation process, the field of study, and the type of innovation. (Choi & Lee, 2002) did the same for such a study, and found that innovation was very complex in nature and depends on the field of activity. It might be best to look at innovation from the perspective of more classical terms, such as commercializing an invention a product or a new technology.

Nevertheless, despite the use of such a broad definition of organizational innovation, the distinction made above is still valid. It should be noted that both of these concepts have similarities in relying on the concept of novelty, but moreover, organizational innovation focuses on the production of the product (Nam Nguyen & Mohamed, 2011). While organizational entrepreneurship is more oriented towards newly emerging orientations, its main purpose is to deviate from the conventional methods of doing business in the organization. Now, this may lead to the production of new products. In addition, organizational entrepreneurship may include activities whose main purpose is to deviate from the traditional methods of doing business in the organization with the aim of discovering new ways. This can be done by changing the strategies and methods of organizing risk taking, going ahead and competing, in which case it can be said that organizational innovation is a subset of enterprise-wide entrepreneurship.

Considering the potential benefits and risks, the role of core knowledge in collaborative innovation presents a daunting paradox for managers of firms that engage in such collaborative relationships. As pointed out by An et al. (2014), collaborative innovation is very much dependent on both sharing and protection of knowledge in organizations. Achieving a balance between sharing and withholding core knowledge is vital (Stenius, Hankonen, Ravaja, & Haukkala, 2016), as incentives to innovate have been noted to stem from a firm's ability to protect the value of its knowledge assets and the degree to which it appropriates future rent streams (Liebeskind, Oliver, Zucker, & Brewer, 1996). In particular, knowledge that relates to radical innovations loses its value if it is exposed too widely (Li et al., 2008). At the same time, striking a balance between not disclosing and sharing knowledge is difficult firms often find themselves being either over-protective by sharing too little knowledge with partners, or under-protective by sharing too much knowledge and risking the leakage of core knowledge to others (Frishammar, Ericsson, & Patel,

2015); (Foss, Husted, & Michailova, 2010); (Abel, Bryan, & Norman, 2002). This leads to tension between the benefits and risks of sharing knowledge externally in the pursuit of innovation (Heiman & Nickerson, 2004). Conceptualizing this as the “paradox of openness,” Laursen and Salter (2014, 870) state that “openness and some sort of appropriability strategy go hand in hand: firms need to disclose some knowledge to gain from external partners, but they need to also protect parts of their knowledge if they are to gain value from the exchange.” Arora et al. (2016) further referred to this as a tension between “organizational openness” and “spillover prevention.”

How does then one solve the “paradox of openness” regarding core, business-critical knowledge in collaborative innovation? Li et al. (2008) argue that firms should focus on carefully identifying what knowledge to share and with whom, especially when there are risks of core knowledge leakage. Further, (Henkel, 2006) and (Alexy, George, & Salter, 2013) advocate for selectively revealing some parts of the firm’s knowledge base. We argue that a key to understanding some of the downsides and how to avoid them is in analysing the openness of the process of individual-level knowledge sharing with external partners. Some valuable, business-critical knowledge will be shared eventually, and when this happens, the process should involve careful judgment about who should receive this knowledge within the partner firm. The most delicate situations arise when the focal firm possesses knowledge that has the potential to provide a radical departure from the current knowledge, and when this knowledge unintentionally spills over, it might lose its value (Li et al., 2008).

Traditional human capital theory (Becker, 1964) emphasizes that investments to enhance knowledge and skills such as education, experience, training, will provide benefits, for example, gain entry into the job market or obtain a promotion (Becker, 1964); (Hitt, Bierman, Shimizu, & Kochhar, 2001); (Youndt, Subramaniam, & Snell, 2004). The prevailing research on human capital adopts a competency approach (Elias & Scarbrough, 2004); (Sandberg & Pinnington, 2009); (Pinnington & Sandberg, 2014). Maintaining human capital is essentially viewed as crucial as individuals use this to signal their credibility and competence (Pennings, Lee, & Witteloostuijn, 1998), as well as a way to improve performance in organizations (Hitt et al., 2001).

Human capital in fact has been argued to create sustainable competitive advantage (Noe,

Hollenbeck, Gerhart, & Wright, 2003); (Campbell, Coff, & Kryscynski, 2012). The role of knowledge has long been acknowledged in the literature on PSFs and the professions (Morris & Empson, 1998); (Von Nordenflycht, 2010). The limited emphasis on knowledge acquisition from client interactions as a function of human capital, and the growing recognition of the heterogeneity of professional knowledge (Fincham, 2008) prompted us to examine this issue. (Gottschalk, 2014) noted that there will always be instances of knowledge asymmetries between law firms. Clients' work not only provides professionals with the breadth and depth of knowledge (Nikolova, Reihlen, & Schlapfner, 2009), but also creates a unique selling point of differentiation for the sustainability of professional–client relationships.

Existing body of knowledge has divided the literature pertaining to social capital in two different streams, one stream is based on structures of relationships particularly discussing the structural dimension and other stream of literature has focused the relational dimension of social capital. Indeed, most of the literature in past has discussed the network structure of ties of social (Kostova & Roth, 2003).

Research has highlighted that ongoing network relationships facilitate information sharing (Koka & Prescott, 2002); (McEvily & Marcus, 2005); (Wu, 2008) and knowledge sharing (Krishna & Uphoff, 2002). (Lazega, 2001). (Greenwood, Díaz, Li, & Lorente, 2010) further highlight that professionals in PSFs become members of different practice groups to create nascent communities where their networks can help identify expert knowledge.

As Hitt et al. (2001) noted, 'professionals gain knowledge through formal education (articulable) and through learning on the job (tacit)'. Knowledge is acquired through interactions with other social agents in solving a problem. Through these structurally embedded relationships, knowledge-sharing activities are intensified (McEvily & Marcus, 2005). As learning is embedded and inseparable from the context (Lave and Wenger 1991), actors' interactions in networks of sociocultural context, environment, and other social agents, enables the development of capabilities (McEvily & Zaheer, 1999) by way of acquiring tacit knowledge (Lane & Lubatkin, 1998). Such processes, commonly known as 'communities of practice' (Nonaka & Takeuchi, 1995), emphasize common theme of knowledge acquisition through network ties with others (Nonaka, 2000).

Indeed, the concept of human capital is closely linked to the concept of social capital (Rowley & Redding, 2012) in that developing human capital requires individuals to exchange and learn from others to create new knowledge, insights and mental (McFadyen & Cannella Jr, 2004); Tseng, Wang, and Yen 2014). Studies by (Li, Barner-Rasmussen, & Björkman, 2007) and (Noorderhaven & Harzing, 2009), for example, indicated that social interaction is related to knowledge transfer. In the same manner, a professional with favourable network of interactions is more likely to be able to capture and benefit from the different clients' depth and breadth of knowledge resources associated with the work. Their work with clients enables them to understand client-specific issues and demands. (Reihlen & Alexandra Apel, 2007) further suggested that along with client contact, professionals use networks of other social interactions to gain knowledge about specific local conditions and culture.

1.3 Intellectual Capital and its Components

Intellectual capital covers various components ranging from people to relation, thus intellectual capital can be divided into human capital pertaining to is people, Relational capital pertaining to the value of relations, and Structural capital. So intellectual capital is the sum capabilities which an organization possess and it can provide it competitive advantage. Therefore, intellectual capital term is used to denote the intangible assets which cannot be listed in the balance sheets of an organization. Dividing the intellectual capital into sub dimensions helps to understand the significance of each component of intellectual capital which further facilitates data collection and analysis pertaining to intellectual capital.

Initially (Göran Roos & Roos, 1997) classified the concept of intellectual capital into basic types, human and structural capital. Further structural capital was classified into organizational capital and relational capital, relational capital is also termed as customer capital. This term relational capital has been used as social capital by various researchers such as (Subramaniam & Youndt, 2005) and (Nazari & Herremans, 2007).

1.3.1 Human Capital

Human capital denotes competencies of employees' relevant to "knowledge, skills, talents, experiences, qualifications and education" (Göran Roos & Roos, 1997). Human capital is

embedded in the employees' minds. Learning factors contribute in the formation of human capital (Bontis, 1998).

1.3.2 Organizational Capital

Organizational capital consists of various structural elements, these structural elements are rooted into the organization itself and these provide support to the employees (Bollen, Vergauwen, & Schnieders, 2005); Everything comes under organizational capital which provides support to the employees' productivity. Such elements can be embedded into organizational culture, knowledge management system of organization and even top management support (Yang & Lin, 2009). Thus it represents the non-human side of organization by which employees can create added value (Bontis, 2001). It becomes extremely difficult for the human capital to accomplish the goals in the absence of organizational capital. In other words, structural capital holds a crucial value in IC and it might motivate individuals to perform their work better (Bontis, 1998). According to (Yang & Lin, 2009) structural capital helps employees to improve their knowledge which further becomes the organizational knowledge.

1.3.3 Relational Capital

Researchers have claimed that relational capital is a key factor in the study of intellectual capital which helps to achieve a sustainable competitive advantage. First organizations tend to develop good relations with the customers and partners and then focus effectively on the main activities of service and product quality (Subramaniam & Youndt, 2005). Keeping in view the mutual interests organizations build appropriate relationships with their partners (Kale, Singh, & Perlmutter, 2000).

1.3.4 Social Capital

Wang, Wang, and Liang (2014) argued that social capital is linked with the informal communication. Social capital is related to "the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (Nahapiet and Ghoshal, 1998). Further (Subramaniam & Youndt, 2005) stated that social capital represents information interaction among the individuals at workplace which facilitates the smooth team working. It is therefore SC can be termed as employee interaction and collaboration through sharing knowledge and experiences.

1.4 Knowledge sharing (KS)

As defined by McAdam, Moffett, and Peng (2012) knowledge sharing is the process in which knowledge is transferred from one person, group of people or organization to another person, group or organization. Knowledge sharing focuses more on the process of knowledge collection and diffusion, and contributes to knowledge exchange, application and creation, and ultimately, the knowledge-based capability within the organization (Wang and Wang, 2012). There are two types of knowledge sharing found in the literature. Although the debate on this topic had already started, the term “knowledge management” entered the management literature in the early 1990s. Historically, three generations of knowledge management can be distinguished from one another. The period of 1990-1995 can be the first generation of knowledge management. In this period, most efforts focused on defining knowledge management, examining its potential benefits to organizations, and designing specific knowledge management projects. The second generation of knowledge management emerged around 1996 by creating new jobs for knowledge management and senior managers of knowledge. In this period, different sources of knowledge management were combined and these issues quickly entered into the daily routine issues of organizations (Yew Wong, 2005). In this generation, research in the field of knowledge management focuses on issues such as knowledge definitions, business philosophy, systems, frameworks, operations, and applications. The result of this view is the third generation of knowledge management, which is now emerging with new methods and outcomes. One of the differences of this generation with the previous generations is the degree of integrity or integration of knowledge management with the philosophy, strategy, goals, activities, systems and procedures of the organization, and how to manage knowledge conversion. It has become part of the daily lives and motivation of the staff. It seems that the third generation focuses on the connection between science and action (Lakshman & Parente, 2008); (Paraponaris, 2003).

1.4.1 Explicit knowledge

The knowledge which exists in documented form is called explicit knowledge, simply in symbolic or written form. Basically, explicit knowledge sharing comprises upon the organizational knowledge. Explicit knowledge sharing is common at workplace written or documented knowledge is easy to capture, codified and transmit. “Management mechanisms, such as procedures, formal language, handbooks, and information systems, will promote employees’ willingness to share their explicit knowledge” (Coakes, 2006).

1.4.2 Tacit knowledge

Knowledge which is personalized and experience based is tacit knowledge, as it is not in the shape of written papers than it becomes very difficult to express it in verbal, symbolic and written form. Thus face-to-face interaction is the fundamental requirement in the tacit knowledge sharing (Coakes, 2006).

1.5 Competitive advantage

Competitive advantage is the outcome of assets which are rare, valuable and unique human resources, customer relationships and systems which provide an organization with sustainable competitive position. Kay (1993) opined “competitive advantage as nothing more than an advantage which an organization possesses in the market place and offer the same with superior financial performance. Competitive advantage to the comparative positional superiority in the marketplace that leads an organization to outperform its rivals by providing such strategies those are difficult to be copied. Thus, banking organization can also gain competitive edge by developing human capital (employees’ skills, knowledge and competence), relational capital (building long-term customer relationships) and structural capital (improved systems, structures and technologies)”.

1.6 The social capital theory

The social capital theory illustrates the aspects of social structures and relations among actors (Coleman, 1988), and it is compatible with the dynamic relationships between professionals and clients. The theory expands on an earlier accepted view of human capital theory. Building on (Loury, 1977) work, (Coleman, 1988) argues that human capital theory is narrowly focused by solely considering an individual’s investment (e.g. in education) and the returns on this investment.

Drawing on network theory, viewing capabilities as embedded in network relationships (Nohria & Eccles, 1992); (Dyer & Singh, 1998), the productive capacity of social capital, by contrast,

inheres in the networks of social relations between actors (Coleman, 1988); Nahapiet and Ghoshal 1998). The significance attributed to the role of networks in creating and maintaining social capital is based on the premise that social relationships are fundamental to reduce the costs of transactions between actors and lessen opportunism and information asymmetry (Nahapiet and Ghoshal 1998; (Tsai & Ghoshal, 1998).

1.7 Attribution theory

The roots of attribution theory have been traced out in the field of social psychology. In social psychology attribution theory has been used to understand how individuals attribute the causes of actions to a person or the environment or both (Heider, 1958). Later on Weiner (2006) expanded the attribution theory. He focused on self-attribution and further explained how social motivation of individuals is based on the cultural & social changes. He further explained the model of achievement motivation by proposing that individuals tend to interact with their own achievement outcomes. Under the model of achievement motivation individuals tend to analyse & identify the reason and outcomes of attributions to either self or someone/something outside the self. On the basis of these understandings individuals tend to predict events in their environment.

Attribution process has been under debate from the last two decades and most part of this debate has discussed the individual and organizational behaviors across the various disciplines. Additionally, attributes not only tend to change behaviors but these also generate reactions which are based on affect and emotions. Particularly this situation has been explained by (Martinko, Zmud, & Henry, 1996), where they proposed that individuals tend to modify their behavior in order to control the possibility of future outcomes pertaining to some specific events. Due to application in various disciplines attribution theory is used to develop a behavioral model and this theory is being used in behavior related studies such psychology and organizational learning.

Theoretical pinning's of attribution theory lies in the argument that individuals have curiosity to know about the reasons behind the actions taken by themselves and others. This helps to understand the causes behind individual behavior. This situation allows individuals develop a sense of feelings under which they assume that they have control over their own behaviors as well as over particular situation. Thus, attribution theory is relevant to the issue of knowledge sharing behavior under the psychological and motivational factors.

1.8 Theory of Intellectual capital

The theory of intellectual capital has emerged in the past decade in response to the growing realization of the importance of information and knowledge. Because intellectual capital was first conceptualized during the same time period that the ideas of knowledge management and human capital became an important part of organizational discussion, now more than ever, it is essential to clarify, define, and differentiate the concept of intellectual capital.

1.9 A Static Theory of Intellectual Capital

Based on Stewart and on Edvinsson and Malone's theories, intellectual capital is slowly becoming a viable alternative in building competitive leverage in today's market (Donlon & Haapaneimi, 1997); because it incorporates the foundational components necessary to do business. The underlying emphasis of this theory is the need for a consistent balance among the three theories in order to create the most optimal intellectual capital organization.

1.10 A Dynamic Theory of Intellectual Capital

An alternative approach to the three foundational components-human capital, structural capital, and customer capital-would be to replace structural capital with systems theory and completely eliminate customer capital. Finally, the economic theory of human capital strongly supports intellectual capital and will remain a major theoretical foundation. Many scholars appreciate that intellectual capital is an invisible, valuable asset and the most powerful competitive weapon in influencing firm performance (Stewart, 1997). Their findings agree with (Jaradate, Al-Samralie, & Jadallah, 2012) and (Bontis, 1998) conclusions that it is intellectual capital that creates wealth through the accumulation of profits. Other scholars like (Wei Kiong Ting & Hooi Lean, 2009) share the same view and argue that the drivers of firm value in modern competitive environments lie in a firm's intellectual resources rather than in its physical and financial capital.

1.11 Problem Statement

Intangible assets have gained much more importance in the corporate development and wealth maximization. It has become a common phenomenon in the corporate world that along with assets such as machineries and plants, the innovation, creativity, improved technology and processes, employees' knowledge and skills are also necessary elements to achieve success and competitiveness. Although the phenomena of intellectual capital have been explored extensively but it's relationship with competitive advantage yet to be explored (Chahal & Bakshi, 2016).

Knowledge management is broader term and the relationship of knowledge sharing with intellectual capital has been studied in different scenarios (Akhavan & Khosravian, 2016). However, a very little has been explored though tacit and explicit knowledge sharing (Akhavan & Khosravian (2016). Wang et al., (2014); Chahal and Bakshi, (2015) directed that researchers should investigate the impact of knowledge sharing on firm performance in various sectors. Interplay of intellectual capital and firm performance should be investigated in different contextual backgrounds (Elsetouhi, Elbeltagi, & Haddoud, 2015).

Yaseen, Dajani, and Hasan (2016) recommended that relationship of intellectual capital and competitive advantage must be explored with different sampling techniques (other than convenient sampling) and the population of the study should be banking sector. Akhavan and Khosravian, (2016) recommended that the relationship of knowledge sharing and intellectual capital is required to be explored in non-academic sectors.

Intellectual capital should be decomposed in components and inter relationships of these components should be investigated as well as the inter relationship of components of intellectual capital with banking sector performance. Additionally, nature and direction of relationship of intellectual capital should be explored with current and future business growth (Ghafar, Javed, ur Rehman, Ahmed, & Ilyas, 2016). After Systematic review of the literature it has shown that there is a need to explore the relationship of intellectual capital with business performance and competitive advantage of banking sector of Pakistan under the role of explicit and tacit knowledge sharing. Thus, the present study was attempted to address the above mentioned literature gaps.

1.12 Research Objectives

The research has the following prime objectives:

1. To investigate the impact of intellectual capital on competitive advantage and business performance.
2. To investigate the mediating role of explicit knowledge sharing between the relationship of intellectual capital and business performance.
3. To investigate the mediating role of tacit knowledge sharing between the relationship of intellectual capital and business performance.
4. To investigate the mediating role of explicit knowledge sharing between the relationship of intellectual capital and competitive advantage.
5. To investigate the mediating role of tacit knowledge sharing between the relationship of intellectual capital and competitive advantage.

1.13 Research questions

This study formulated the following major research questions:

1. Is there any relationship between intellectual capital and business performance?
2. Is there any relationship between intellectual capital and competitive advantage?
3. Is there any relationship between intellectual capital and knowledge sharing?
4. Is there any mediating role of explicit knowledge sharing between the relationship of intellectual capital and competitive advantage?
5. Is there any mediating role of tacit knowledge sharing between the relationship of intellectual capital and competitive advantage?
6. Is there any mediating role of explicit knowledge sharing between the relationship of intellectual capital and business performance?
7. Is there any mediating role of tacit knowledge sharing between the relationship of intellectual capital and business performance?

CHAPTER NO.2

REVIEW OF LITERATURE

2.1 Literature Review

Resource-based view sees knowledge as a generic resource which to some extent can provide a competitive advantage if, together with other resources, is expressed in skills and utilized strategically. Knowledge-based theorists consider knowledge to be the most strategic resource of the firm. Proponents of the knowledge-based view argue that knowledge-based resources are hard to imitate, are socially complex, immobile and heterogeneous and thus are major determinants of sustained competitive advantage. Resource-based theorists agree to these determinants for sustained competitive advantage, but add that resources also mostly be rare, valuable and non-substitutable (Barney, 1991). More recent concepts of the knowledge-based view of the firm indicate that organizational learning plays a key role in the sustainability of competitive advantages. Using the knowledge-based view of the firm, the firm can create productive arrangements, which the market by itself cannot produce (Demsetz, 1997). The focus is thus on productive arrangements, direction and economies of scale. From the resource-based view the purpose of the firm is to generate economical rents by creating economies of scales, decreasing (transaction) costs, generating

The term “social capital” initially appeared in community studies (Jacobs, 1961), and is described as an asset embedded in relationships of individuals, networks, communities, or societies. SC therefore encompasses “social networks and the norms of reciprocity and trustworthiness that arise from them” (Putnam, 2000). “Social capital consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible” (Cohen & Prusak, 2001). Social capital helps individuals to initiate collective action in more effective and efficient manners in order to pursue shared goals (Putnam, 1995).

In organizations, social capital acts just like a bridge which makes the organization more than a collection of individuals who are pursuing their reach individual goals. Organizational SC is defined as “a resource reflecting the character of social relations within the organization” (Leana III & Van Buren, 1999). It is also defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998). Organizational SC is an asset jointly owned by the organization and its members, and can create positive effects for both (Leana III & Van Buren, 1999). However, the downside of organizational SC has to be acknowledged. The potential downsides of SC include excluding others (Morrow, 1999) and reinforcing social exclusion and inequalities of opportunity.

Organizational SC may be important in fostering knowledge sharing and it facilitates access to broader information sources (Adler & Kwon, 2002; Jacobs, 1961). Through “weak ties,” the members of the network can obtain access to information (Granovetter, 1983). In the opinion of Andrews (2011) presence of positive relationships between individuals at workplace is the essential requirement for creation of knowledge. However, organizational social capital may limit the organization’s openness to information and alternative viewpoints (Nathalie & Ghoshal, 1998), and cause the possibility of “groupthink” (Janis, 1982).

Social capital of organization is comprised upon three key different but interrelated dimensions, the first one is structural dimension which elaborates connections among employees, and the second one is relational dimension which shows trust among employees and at the last the cognitive dimension which shows shared goals among employees (Nahapiet and Ghoshal 1998). Contrary to this, (Leana III & Van Buren, 1999) mentioned that associability and trust are the fundamental requirement for the existence of social capital. Associability means the willingness and ability of employees to define collective goals that are then enacted collectively. Following (Leana III & Van Buren, 1999), organizational SC is conceived of as realized through public employees’ collective trust and extent to which they share collective goals for their organization, because (Nahapiet & Ghoshal, 2000) three dimensions were highly correlated (Leana & Pil, 2006); (Tsai & Ghoshal, 1998) and are treated as a single factor in previous empirical studies (Andrews, 2011, 2016).

First, associability as a component of organizational social capital may relate to knowledge sharing in organizations. Associability is task centered and goal driven, depending on the belief that individual efforts benefiting the whole group directly will benefit the individual indirectly (Leana III & Van Buren, 1999). Shared goals among employees are “the force that holds people together and lets them share what they know” Chow and Chan (2008), p. 460). Having an affective component and a skill-based component, associability facilitates social interaction and communication, makes information held by others accessible, and aids in the assimilation of new knowledge.

Andreeva and Garanina (2016) stated that it is a crucial issue for developing countries to understand the relationship between organizational resources IC performance. Intellectual capital is associated with higher level of growth such as during the year 2015 developing economies grew on a rate of 4.3 percent whereas this rate was projected as 4.8 percent for the year 2016 (World Bank, 2016). Different externalities and potential transparency show knowledge involvement that the essential characteristics of knowledge. Among different decentralized units, knowledge is appropriated shared and retained with regards to development. (Schumpeter, 1934) guaranteed that knowledge must be joined to create development. Knowledge is a long way from programmed that speculative chemistry; for practical collaborations to happen the a prior circumstance is required.

Weitzman (1996) advises us that recombination alludes to the procedure, in some sort of combined intelligent process which develop new thoughts emerge out of existing thoughts. When knowledge is connected, that instinctively has an alternate vibe from prospecting for oil. The goal of knowledge recombination is the advance the improvement of reasonable communications and to over-come the customary impediments to participation, among various wellsprings of mechanical know-how, accomplish exchanging capacities, to make practical guidelines and to fortify combinative abilities.

Obeidat et al. (2016) studied the impact of intellectual capital on organizational performance under a mediating role of knowledge sharing on employees of manufacturing firms of Jordan. They targeted 292 companies out of 1200 located in Amman for data collection. Furthermore, five

respondents were selected randomly from each targeted company. They distributed 500 questionnaires and got 356 responses finally with a response rate of 71.2%. They found positive impact of IC on KS and BP. Their results supported to partial mediation of KS in the relationship of IC and BP. With some limitations, they presented future direction to test other mediators like employee creativity and innovation performance.

Nonetheless, in a globalization setting, the capacity to explore in differing advancement spaces and the capacity to make openings after some time requires exertion (McKelvey 2016). The thought of knowledge base created by (P. P. Saviotti, 1996) is valuable here. Being a recovery/interpretative and correlational structure, the embodiment of the knowledge presents the essential properties of in reality (Antonelli, Krafft, & Quatraro, 2010). Knowledge recombination fluctuates the age of new knowledge with some recombination more productive than others.

Saviotti, Looze, and Maupertuis (2005) underline the consequence of recombination of various knowledge of some new innovations and a procedure which permits the enactment of different streams of knowledge. Without a doubt every one of the gatherings included act deliberately in the aggregate procedure of knowledge age, in this procedure centre innovations goes about as centres , inside a very much recognized lease looking for point of view (Antonelli et al., 2010).The literature proposes make stages for sharing and classifying knowledge by some local ecosystems (Lazaric, Longhi, & Thomas, 2008).

If the local social instruments at work bolster these trades and mixes, to change over know-how into development the performing artists regarding a soul of enterprise will empower. The exchanging capacity for new knowledge may give chances. In their article on the improvement and extension of knowledge ecosystems. Powell et al. (2012) recognize integral for empowering the exchange work that is the part of occupant grapple.

Clarysse et al. (2014) talk about Providing access to consequent organization and field arrangement these organizations create basic and applied research that universities or public research organization can go about as occupant stays with the help exchanging this to neighbourhood industry through R&D coordinated efforts and goes about as impetuses of mechanical advancement.

In the opinion of Cabrera and Cabrera, (2002) tendency of individuals regarding knowledge sharing is influenced by so-called public good dilemma; under this public good dilemma individuals tend to earn profit by being selfish. Numerous years have been seen what is essential isn't the bunch impact. Be that as it may for every one of the accomplices and to make fitting business ecosystems the capacity to catch these externalities regardless of whether open or private. A structure or an institutional system and type of association of trade seems to be considered business ecosystems that focused on a pretty much open aggregate procedure of development and ready to oversee connections among a few performers. According to Iansiti and Levien (2004) offering of ascend to firmly weave mixes of benefits that joined 2004 one of the mainstays of business ecosystems. Joining under-pins business development referred to recombine administration contributions and to make constant changes to it by ecosystem which provide abilities and innovative segments. The writers recognize frameworks spread all through the ecosystem normally knowledge is inserted in the general population which knowledge is recombined however they don't distinguish the exact substance of this knowledge or the procedure.

Recently, Chen and Hsieh (2015) empirically found a positive relationship between public service motivation (PSM) and knowledge sharing in the context of the Taiwanese public sector. Their work inspired the author to pursue evidence about whether PSM is related to knowledge sharing in the Korean public sector. Korea and Taiwan share a Confucian heritage culture and have similar administrative systems (Berman, Moon, & Choi, 2010; Phuong-Mai, Terlouw, & Pilot, 2005); however, the characteristics of PSM are somewhat different in the two countries. Among the four dimensions of PSM, whereas Taiwanese civil servants reported higher levels of compassion and lower levels of attraction to policymaking (Chen & Hsieh, 2015).

Knowledge sharing implies a synergistic collaboration of employees who work together toward common goals (Boland & Tenkasi, 1995). Trust, networking, mutual understanding, and shared values make cooperative action possible. Within organizations, social capital promotes collaboration and commitment (Cohen & Prusak, 2001). Organizational SC may be important in fostering knowledge sharing (Nahapiet & Ghoshal, 1998). Previous researchers found that organizational social capital positively relates to knowledge sharing in the private sectors of both Western and Eastern countries (Chiu, Hsu, & Wang, 2006; Maurer, Bartsch, & Ebers,

2011; Tsai & Ghoshal, 1998; Yang & Farn, 2009). However, it remains unknown whether there is a positive association among organizational SC and KS.

Knowledge is defined as “a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information” (Davenport & Prusak, 1998). Employees within the organization are the source to create and share the knowledge and thus enhance the ability of organization to effectively leverage its knowledge. Within organizational circuits leveraging of knowledge is only possible when individuals share their tacit knowledge.

In the opinion of (Dyer & Nobeoka, 2000), knowledge sharing is a set of activities which helps employees to work together to enhance the learning capacity of their organization, this helps organizations to achieve their goals. Sharing of knowledge within organizations is carried out through four ways, first, contributing knowledge to the organizational databases, second sharing the knowledge in formal interactions or work units; third, sharing of knowledge in informal interactions and last one is sharing knowledge among communities of practice (Bartol & Srivastava, 2002).

Individual KS behavior involves a decision-making process regarding whether to share the knowledge based on consideration of the costs and benefits. The costs to individuals may be in the form not only of the effort and time spent in sharing knowledge, but also of the reduction in their own opportunities for advancement or the increase in opportunities for others, thus resulting in failure in internal competition (Lam & Lambermont-Ford, 2010). Knowledge sharing is possible only when the predicted benefits are greater than the predicted costs (Constant, Kiesler, & Sproull, 1994). The costs are likely to concentrate on the individual, but the benefits may extend to all the employees in an organization. However, the social dilemma pertaining to knowledge sharing can be overcome easily when employees are willing to bear the cost of sharing knowledge. For employees who want to benefit the public, even under the circumstance of bearing costs or losing tangible rewards, knowledge sharing can be regarded as a voluntary behavior that helps contribute to the performance of an organization and well-being of society (Cabrera & Cabrera, 2002); (Kim & Vandenabeele, 2010).

Organizations tend to search sustainable competitive advantage and knowledge management can be a greater tool to achieve this sustainable competitive advantage through knowledge sharing. This knowledge management helps organizations to identify the opportunities through knowledge sharing. Knowledge sharing helps to integrate the external and internal knowledge, thus enabling the organizations to develop sustainable competitive advantage (Gavirneni, Kapuscinski, & Tayur, 1999). It is evident that knowledge sharing brings fruitful results within organizational circuits and it promotes organizational effectiveness. Besides this fact organization are struggling hard to encourage their staff for knowledge sharing related activities. Organizations face a variety of problems while implementing knowledge sharing practices, and these problems lead toward a resistance to knowledge sharing behaviour. These resistant factors are lack of technological resources and employee trainings and differences in individuals' skills (Riege, 2005). In addition to this another factor which is motivation to knowledge generation in community also determines the success or failure of knowledge creation (Jolae, Md Nor, Khani, & Md Yusoff, 2014).

In the past various researchers have tried to investigate potential barriers pertaining to knowledge sharing, virtual communities of practice and various knowledge sharing mechanisms (Lin et al., 2012). From these barriers one of the most significant barriers is lack of support from organization in knowledge transfer efforts and abilities (Riege, 2005). This lack of support from the organization does not encourage individuals to get motivated for using their full potential in knowledge sharing and creation. In the opinion of (Michailova & Husted, 2003) perceived organizational support increases the level of perceived self-efficacy among individuals at work place and it encourages employees to pursuit of effective knowledge sharing at workplace. Simply appropriate supervisory control at workplace is related with individual effort and ability and these factors are the predictor of knowledge sharing at workplace (Wang and Noe 2010).

It is evident that self-efficacy is the fundamental predictor which promotes employee's willingness to show desired behaviors. Thus, this knowledge sharing motivation can be affected by the threats pertaining to the job security as individuals may lost their unique position due to unique knowledge possessions. So, such internal attributions can influence the motivation and efforts regarding knowledge sharing and it can also reduce the willingness to achieve mutual goals.

Organization's size is an important factor which influences the culture and climate of an organization and thus organization's size significantly influences the effectiveness of knowledge sharing (Connelly and Kelloway 2003), similarly organization size can also influence significantly the IT competency and performance of an organization (Wu and Chiu, 2015).

Contrary to this previous research concludes that as the size of the organization increase it develop formal administrative systems and structures which increases the organizational flexibility and thus it promotes and supports knowledge sharing through developing norms and values (Leiblein & Madsen, 2009). Thus, organizations having large size can foster technological innovation more efficiently and effectively as compared to the small size organizations. So there are greater chances that large firms will benefit more from the efficient use of equipment (Abernathy & Utterback, 1978), (Porter & Kramer, 2002). This argument was further supported by Lee and Xia (2006), and they argued that there is an impact of firm size on adoption of information technology. Previous researchers have investigated the impact of size of an organization on organizational performance but there is little research which has investigated the impact of organizational size between the relationship of self-efficacy and KS behavior in various organization according to their size.

Managing organizations, based on superior knowledge, can make more meaningful decisions on important issues and improve knowledge-based practices (Ndlela, 2010). Therefore, knowledge management is considered to be more important than the knowledge itself, and organizations seek to clarify how individual and organizational information and knowledge are transformed into individual and group knowledge and skills. Successful managers outperform others to create an environment without fear and trust that members are willing to share knowledge with each other, an environment that maximizes knowledge creation and drives knowledge into innovation (Donate & de Pablo, 2015). In fact, knowledge management is considered as a way to improve the company's innovation capabilities (Kanter, 1984). The Austrian economist, (Schumpeter, 2017), has defined innovation as creating a new business using one of the new materials or components, presenting new processes, creating new markets or employing new organizational organizations. In his definition of innovation, Moss-Kanter (1983) emphasizes the process and considers innovation to be the process of exploring any new and useful idea to solve the problem, and believes that innovation involves the formulation of ideas, acceptance and implementation of

new ideas in the process, products and services.

Although the concept of KM is the subject of today's management meetings, it is not new. Traditionally, family business owners have long transferred their knowledge to their children, but for many organizations and their executives, the concept of KM has only been considered from a short time ago. (Gómez-Pérez, Fernández-López, & Corcho, 2006) believes that knowledge management is the accumulation of knowledge, rational capabilities, and the experiences of individuals in an organization and the ability to retrieve them as an organizational capital. Newman (1997) believes that knowledge management was a collection of phenomena that involved the creation, dissemination and application of subjective and objective knowledge in an organization. As the knowledge of an organization contributes to its increasing competition and improves decision-making, the acquisition, sharing, maintenance and reuse of organizational knowledge have become vital for many organizations. The process of leveraging the knowledge of an organization as a means of achieving innovation in processes and products, services, effective decision making, and organizational compliance with the environment refers to knowledge management that leads to organizational creativity. Since knowledge has two implicit and explicit dimensions, its management is also a combination of data and information processing, the capability of mixed information technologies with the ability to innovate and creativity of individuals.

Knowledge sharing activities are influenced by organizational context (Huysman & Wulf, 2006), and various barriers are inbound within the organizational context. Negative organizational climate is one of these barriers, further an improper or obsolete communication policy can also be a significant barrier and at last but not least excessive layers of authority can also be barrier to knowledge sharing. Thus organizational culture and climate are two fundamental assumptions which are reflected by workplace values and norms which further shape the attitudes and perceptions of individuals regarding encourage or discourage knowledge sharing (Yao, Tsai, & Fang, 2015).

Few researchers such as (Chang & Chuang, 2011) and (Michailova & Minbaeva, 2012) have investigated that impact of culture and management support on knowledge sharing behavior of individuals and stated that these factors shape the employee's motivation to knowledge sharing

and knowledge creation. These findings were in line with the recommendations of Riege (2005), regarding organizational barriers of knowledge sharing such as organizational culture, climate, poor infrastructure, formal and informal meetings and general economic viability.

Further, some researchers such as Szulanski (2002) stated that knowledge sharing in organizations is affected by organizational barriers, and these barriers might make employees not to share their knowledge. Here employees may perceive that they may lose the ownership of their knowledge sharing and a position of privilege. Thus, organizational context is very strong predictor of knowledge sharing and it might have strong impact when individuals tend to develop shared knowledge behaviour.

Form organizational perspective another barrier to knowledge sharing can be technological challenges (Ranjbarfard, Aghdasi, López-Sáez, & Emilio Navas López, 2014). Technological resources within an organizational context can help to establish a system which facilitates the smooth flow of information and knowledge (Ajmal, Helo, & Kekäle, 2010). In the opinion of Riege (2005) technological resources can help to promote knowledge sharing within the organization as these can remove physical and social distance barriers which are hurdle in formal communication. Technological resources help to collect data, analyse data, generate and distribute knowledge. Thus, technological barriers such lack of information systems and technology, unwillingness to use technology can create hurdle in knowledge creation (Riege, 2005). In addition to this technological barrier might also be the outcomes of unrealistic expectations for IT-based solutions as most of the times individuals tend to focus on technology rather its usage (Benbya, 2008).

A tenant anchor can diminish the knowledge channel that have an impact that completely associated with the exchange work. In this paper, we centre around ecosystems to see as occupant stays how universities or public research organization perform (or not), and why. when all is said in done, not simply nearby ones, keeping in mind the end goal (Agarwal and Shah 2014). Moreover, in the production of business environments, little work has been done, in spite of the fact that the part of an open performing artist is to make and exchange knowledge which unmistakably requires extra traits (Agarwal & Shah, 2014). To dissect this part a business

ecosystem knowledge is broadly thought to be a basic item to organization that requires examination of the fundamental traits of a business ecosystem

Knowledge bringing about competitive advantages (Kukko, 2013; Bello and Oyekunle, 2014). Knowledge management (KM) gives a way to knowledge, prompting development to adjust hierarchical objectives and further upper hands (Amayah, 2013).

However, consider that knowledge assumes an imperative part to advanced education foundations (HEIs), to revenue driven organization, KM has been generally normally examined in connection and along these lines they could profit by set up KM methods (Prahalad et al., 1990).

On account of this to meet hierarchical objectives, KM is a profitable instrument that has turned out to be clear to such establishments (Loh et al., 2010). KM programs is knowledge sharing that have an essential KM process that effects the achievement (Amayah, 2013; Cabrera and Cabrera, 2005; Fullwood et al., 2013). In any case, contrasted with the other KM forms on being a region that is under-inquired some exploration proposes that knowledge sharing (Jain et al., 2007; Amayah, 2013; Fullwood et al., 2013).

Knowledge sharing inside an association are viewed as fundamental empowering influences knowledge sharing society, trust, and inspirations (Ipe, 2003). Accordingly, share knowledge openly among specialists to making the suitable condition and culture is essential to the achievement of organization (Suhaimie et al., 2006). This likewise is valid for HEIs. knowledge sharing would be characteristic for the institutional culture While one may expect that because of the idea of HEIs, knowledge sharing might be muddled because of a few components according to some examination proposes (Alotaibi et al., 2014; Cheng et al., 2009). Little has been centred on understanding this inside the HEIs setting. Knowledge sharing among representatives while there has been countless centred on inhibitors that have tended to knowledge sharing and a portion of its determinants (Cabrera and Cabrera, 2002; Gurteen, 1999; McAdam et al., 2012; Magnier Watanabe and Senoo, 2010). In this regard, through research and instructing, employees in HEIs assume a key part in protected innovation delivering and reusing their insight (Kim and Ju, 2008).

Subsequently, assets among scholastics, ability and sharing knowledge has for quite some time been indispensable to the accomplishment of universities (Ramayah et al., 2013). In spite of this, with regards to knowledge serious organization there is restricted research on knowledge partaking for example, HEIs, in creating countries particularly those that think about applicable social factors. (Fullwood et al., 2013; Goh and Sandhu, 2013; Howell and Annansingh, 2013). Knowledge sharing are seen tremendously affect institutional culture and its factors that seems to as social components considering a focal worry. (Arntzen and Worasinchai, 2012; Kukko, 2013; Riege, 2005; Santos et al., 2012; Sharma et al., 2012).

Effort to contend in the knowledge based period as far as picking up an upper hand Knowledge has turned out to be progressively basic for organization (Iqbal et al., 2011; Nonaka, 1994; Wei-Li et al., 2009; Nielsen and Cappelen, 2014)). Organization choose to use accessible apparatuses and techniques to methodically oversee, store, and scatter authoritative knowledge to pick up this edge, (Begoña Lloria, 2008; Wang and Noe, 2010). Accordingly, open and private division pioneers and chief's enthusiasm consider KM has turned into a key plan thing (AF Ragab & Arisha, 2013).

Regardless of a few endeavours it keeps on being a much faced off regarding theme that relying upon the unique situation and point of view it is utilized as a part of among scholastics and specialists to characterize knowledge sharing in the writing. (Cabrera and Cabrera, 2002; Wang and Noe, 2010; Nielsen and Cappelen, 2014). Knowledge sharing thoughts considered innovation or encounters between people or gatherings of representatives with regards to work is depicted as the trade or scattering of unequivocal or implicit knowledge (Cabrera and Cabrera, 2002; Wang and Noe, 2010).

Yi (2009) depicted knowledge sharing as an arrangement of practices function includes the worker with the point of accomplishing hierarchical objectives with another sharing of one representative's business-related knowledge. Amayah (2013) included knowledge sharing concentrations take care of issues inside the association and help other people the know how kind of knowledge be assist. Different terms, for example, "knowledge trade" and" knowledge exchange" are utilized conversely. Wang and Noe (2010) cleared up that knowledge trade includes two gatherings;

knowledge exchange alludes just to the development of knowledge over an association and not between people while the knowledge supporter and the knowledge searcher.

Szulanski et al., (2004), as referred to in Wang and Noe, (2010). To viable KM over an association Setting up an effectively developed knowledge sharing condition consider fundamental Setting (Jolae et al., 2014); (Taylor, 2013); (Zhenyuan et al., 2016). Wei-Li et al. (2009) remarked that KM "is makes an upper hand in the knowledge economy regarding standout amongst the most critical administrative worries in organization Moreover, Smith and McKeen (2003) portrayed thoughts are knowledge learned and connected uninhibitedly tested consider KM where eagerness show others is the standard and share knowledge. From people's practices innovative, hierarchical points of view numerous past investigations inspected knowledge sharing.

While a great part of the talks have been firmly tied on people's practices (Yi, 2009), to encourage sharing the mechanical part has been centred on frameworks and devices. Furthermore, national, hierarchical, singular, group atmosphere), inspirations, motivators, trust, and individual that are some social viewpoints concerned a significant part of the dialogs in these areas. Accordingly, the objectives of knowledge sharing contrasted with the innovative one components Includes individual, hierarchical should be considered as much as significant.

2.2 Determinants of knowledge sharing

2.2.1 Technological determinants

Encouraging knowledge sharing the Technology assumes a noteworthy part (Riege, 2005). When alluding to knowledge sharing, Terms, for example, knowledge management systems " (KMS) "information technology" (IT), information system" (IS) "are broadly utilized as a part of the writing. To viewed as key empowering agents of KM these terms as often as possible show up in the writing (Alavi & Leidner, 1999); (Martinez, Berlanga, Aramburu, & Pedersen, 2008); (Bock, Zmud, Kim, & Lee, 2005); (Seba, Rowley, & Lambert, 2012).

In any case, underlined in the distributed work regard to advance a wide range of specialized techniques concerned a match between the technology and a representative's (O'Dell and Grayson,

1998; Riege, 2005; Tsai et al., 2013). a few experimental investigations through IT have the advancement of knowledge sharing (Ahmad and Daghfous, 2010; Kanaan and Gharibeh, 2013).

Effort to Advancement in hierarchical knowledge sharing the Different investigations analysed the connection between IT, trust, and culture. (Choi and Lee, 2003; Golden and Raghuram, 2011). To trust and a decent knowledge sharing society in knowledge management concerned these creators regularly reasoned that IT support and foundation. At the end of the day Put stock in, culture, authoritative atmosphere, and administration bolster KMS or IT can't the only one accomplish successful knowledge sharing without these components.

A few examinations found knowledge sharing influenced frameworks and technology instruments (Riege, 2005; Smith and McKeen, 2003). A poor ease of use and outline of the framework, an absence of preparing on the framework and doubtful desires of innovation consider a few components adding to this obstruction. The current hierarchical culture consists a critical part in choosing the right technology assumed by Authoritative administration (Seba et al., 2012; Tsai et al., 2013).

2.2.2 Organizational determinants

Knowledge sharing exploration, some more so than others have regarding Variables identified with individuals and associations have commanded. Hierarchical Culture seem a conspicuous segment of the exploration that part of bigger culture in forming states of mind toward KM. In the following area, broadly referred to individuals and association factors are featured. a few examinations focal point is Authoritative culture (Al-Alawi et al., 2007; Nguyen and Mohamed, 2011; Sanz-Valle et al., 2011; Tong et al., 2013). Hierarchical knowledge, administration, national culture, trust, association structure influence on knowledge sharing concerning Creators set up a few measurements.

Knowledge sharing analysed society factors consist group culture, hierarchical atmosphere and Subcultures (McAdam et al., 2012; Magnier-Watanabe and Senoo, 2010). Knowledge sharing conduct influenced diverse levels of culture that Countless examinations were led in the Chinese culture. For instance, McAdam et al. (2012) building up a coordinated social structure at various

authoritative levels in Chinese associations to analyse the part of culture in knowledge sharing procedures.

Information sharing procedures influenced demonstrated that Chinese culture at the individual level gathering and corporate level. (2006) analysed knowledge sharing systems influenced national culture factors on in three unique nations in online groups of training (COP) (Brazil, China and Russia). The qualities and social inclinations of laborers influenced the sketched out that KM programs. Li et al. (2006) inspected Fortune 100 organizations amongst American and Chinese member's hierarchical culture and factors effect on online knowledge sharing.

National culture contrasts crosswise over associations and COP influenced creators built up that sharing information.3.3 Behavioral and motivational determinants. Numerous empowering influences with a specific end goal to empower learning sharing conduct and achievement factors in this conduct are examined all through the writing. For instance, numerous investigations subjected the interrelation amongst information sharing society and trust (Alam et al., 2009; Wickramasinghe and Widyaratne, 2012).

Discoveries distinguished a few hindrances: unwillingness to utilize innovation, employer stability, correspondence mediums, and distinctive national culture, administration support and responsibility, information sharing society and an absence of time for sharing knowledge, put stock in culture. In western and Asian nations obstruction papers were subjective in nature to used overview based surveys that Numerous KS have empowering impact.

2.2.3 Cultural determinants

Culture can be considered as far as authoritative culture and institutional or, knowledge sharing society itself, obviously and national culture. Taylor (2013) characterized knowledge sharing society as the association's capacity to accomplish its objectives and destinations influences utilizing data and information, accomplished recognizable levels of competency at overseeing and sharing refer to culture. accomplish the ideal wanted result to set up such a culture and stresses and rehearses the aptitudes and understanding all parts of KM consider maybe most successfully

features. In any case, national culture seems to assume some part and that the part it plays isn't clear on the subject of information sharing among scholastics in the distributed research.

Therefore, to assign national and territorial culture all through the body of the paper the expression "culture" will be utilized unless generally determined. Malaysia, and China was directed in western nations in the business and open segment seems the majority of the exploration surveyed. In any case Africa, and South America in the Middle East, a couple of studies were directed (Kanaan and Gharibeh, 2013; Seba et al., 2012; Siddique, 2012). Along these lines, however the current work points to some relationship the connection between bigger culture and social variables is hard discover these factors because of the centralization of research.

Moreover, national culture was discernible also general and private segment's knowledge sharing practices near papers between people consider the point of various examinations in the general population division. After a long stretch, in logical papers, have been received a lot of nonspecific meanings of IC amid the Meritum (2001) rules have concurred on the way was utilized with a similar importance of IC the regarding thing "immaterial resources. Generally, experience controlled by an association protected innovation, data, IC communicates all knowledge (Stewart, 1997), and speaks to a standout amongst the appraisal of the inner and outside authoritative procedures and the most critical components for the administration (Bounfour et al., 2005; Vidrascu, 2016). human, social, and auxiliary capital are regularly characterized frequently part into various classifications that emphasized the expansive idea of IC.

Prompting a quite certain sort of hierarchical culture and solid social cooperation wins are possible with Colleges associations. Their capacity and advance to make progress for ceaseless redesign and change toward progress depend upon their ability (Teece et al., 1997). Such limit is turning into the very substance of their technique. In addition, the improvement of the contemporary society the colleges have an imperative part regarding the creation and the dispersal of learning as they have the particular obligation and for the advancement of research and HR.

The consequences of the examination and of the ability of transmitting knowledge (Bezhani, 2010; Bucheli et al., 2012; Ramírez and Gordillo, 2014). The appraisal of college execution is identified

Imperative issues and congruity of asset assignment to the normal outcomes and with the proposed objectives in instructing and research of the amplexness of the strategy (Ramírez et al., 2016).

By refreshing the exercises of preparing, research, and administration and Similarly significant is the colleges ability that have awesome impact on the association of instruction and preparing execution of keeping pace with the advance of science and innovation (Lu, 2012). Notwithstanding to execute activities to fulfil their partners greater part of all, which, in the particular case that showing and universal associations staff, understudies, political structure, social associations (Leitner, 2004; Secundo et al., 2016). Late examinations (Secundo et al., 2015) propose foundation makes esteem by command that grows the limits inside and inside the college investigating how IC can advance the improvement of a 'third mission' (Laredo, 2007).

Through different types of correspondence and social commitment to create entrepreneurial abilities, advancement, social welfare, and strong human capital and advance the improvement of science and society went for exchanging information valuable to society and organizations by idea of the third mission alludes to a shifted cluster of exercises (Etzkowitz, 2003; Rothaermel et al. 2007, Hsu et al., 2015).

By differentiate, with an emphasis on both impalpable movement and elusive assets by watching how immaterial assets function in the organization, to break down the productivity, adequacy and estimation of research strategies and the third mission referred to the quality assessment framework. A few creators (Secundo et al., 2014, 2016) a performative point of view IC structure to distinguish fitting estimations of third mission exercises. Secundo et al. (2017) propose and test the IC Maturity Model showing exercises in a coordinated way and dealing with the third mission and additionally research by test the IC Maturity Model.

Dumay and Garanina, (2013) debate IC administration through praxis and inside organizations), i.e., how IC works to apply IC as an administration innovation, (Guthrie et al., 2012), to simply delivering IC measures is to give a superior perspective of IC's effect by Its focal commence. (Guthrie et al., 2012). Dumay and Rooney (2011) find that, in light of the fact that authoritative estimation needs to ceaselessly develop" without essentially requiring solid IC measures need it is conceivable to adequately execute IC. Dumay and Rooney's (2011) discoveries are steady with

Mouritsen and Roslender (2009) in the journey for social advancement". It is indispensable that it is completely comprehended and misused. If the Intellectual Capital idea is as focal as some claim it to be by who set. To this end nations, urban communities and groups rather than particular firms consider more extensive environments that expands IC's limits which is a fourth phase of IC examine (Dumay and Garanina, 2013).

Knowledge outside organizations social capital and inside organizations human and basic capital make connects between information that is looks to comprehend IC's effect on society and condition (Dumay, 2016; Borin and Donato, 2015). Numerous examinations identified advancement ability, absorptive limit and inventiveness and information sharing intensions beforehand) prompts change in hierarchical execution has reinforce the idea that knowledge sharing (for the most part taken as information exchange enforced by information administration and organization (e.g. Liao, Fei and Chen, 2007; Liu and Phillips, 2011; Hau, Kim, Lee and Kim, 2013; Yesil and Dereli, 2013). to deliver new or fundamentally enhanced items or procedures that are put to use by society or social esteem or monetary is extricated from knowledge through the creation, dispersion and change of information concerned Advancement is rendered as "a procedure. With respect to actualizing development those workers who are having information they specifically impact and advanced education seem to additionally obvious (Raykov, 2014).

In any case, expanding learned human capital that is more inventive have endeavored to support their market aggressiveness consider contemporary organizations difficulties concentrated on the need of human capital. In the end, to meet efficiency and development by learned workforce that related authoritative. Number of studies has demonstrated for upgraded authoritative execution the knowledge administration is essential e.g. Perez-Arostegui et al., 2012; Kuo, Kuo and Ho, 2014) and in addition the information sharing and creativitycreativity (Lin, 2007; Hu et al, 2009; Kuo, Kuo and Ho, 2014).

Close to other factors, permits the novel hierarchical outcomes which additionally incorporates the development consider the most vital authoritative asset regarding information (Kamasak and Bulutlar, 2010). In addition, knowledge sharing is found to enable individuals in rapidly extending their individual information to range and increment their critical thinking capacity and work yield (Hu et al., 2009). Knowledge is observed for the innovation procedure seems a fundamental

building hinder. In any case, to show inventive work conduct are still under investigation in writing to persuading factors that lead representatives with respect to knowledge and development and its examination.

In any case, empower new business openings, henceforth empowering authoritative development exercises and better thoughts that is relied by the organization that help its representatives for contributing learning (inside gatherings and organizations) showed connection between knowledge sharing and advancement (Alhady et al., (2011). In their examination, Kuo et al., (2014) explored the connections between work fulfilment, information sharing environment kinship and from electronic data engineers at the science parts situated in and administration advancement by gathering information.

Knowledge sharing was found work environment kinship on benefit development and employment fulfilment on benefit advancement to altogether direct the impact of occupation fulfilment as well found a positive and critical impact of working environment companionship. In another investigation, Choi, Lee and Yoo (2010) discovered to keep up elevated amounts of gathering and hierarchical efficiency among colleagues seems knowledge sharing a basic component. Mura et al., (2013) considered knowledge sharing imaginative work conduct just as "thought age and sharing prescribed procedures.

They discovered towards inventive work conduct seem knowledge sharing as a positive benefactor. Notwithstanding, to pass the learning to different laborers knowledge sharing not just let the representatives empowers others to procure advantageous learning (Kuo et al., 2014), empowers others to procure advantageous learning (Kuo et al., 2014). In another investigation, Lu, Lin and Leung (2012) inspected from different businesses in China knowledge sharing as the arbiter in a study from 248 representatives and their directors also the impacts of knowledge objective introduction on individual creative work execution. They found a noteworthy intervening part of knowledge sharing that a positive critical impact of knowledge objective introduction. Further, Lu, Lin and Leung (2012) researched individual imaginative execution influenced by the impacts of knowledge objective introduction and furthermore with this procedure in China watched the intervening instruments associated. They investigated the impacts of information sharing on advancement and found to intervene this relationship. They discovered though,

information sharing of knowledge objective introduction decidedly identified with creative execution of workers and Considering information giving and learning sharing, Kamasak and Bulutlar (2010), Utilizing different relapse investigation on a wide range of development; and noteworthy impact of learning gathering and noteworthy impact of learning gathering information giving was found to have no impact on exploratory advancement.

Akhavan, Hosseini, Abbasi and Manteghi (2015) dissected knowledge sharing practices thorough mechanical and social facilitators and model of socio-mental elements, and further its effect on the inventive work conduct. Be that as it may, "intension to share information consider fairly and information gathering, knowledge sharing was not taken in setting of learning. While knowledge sharing can be transmitted between people that is contended as a system people obtain new edge to encourage new activities through such information transmission. Subsequently, inside the organization and prompts ingenuity to existing information knowledge sharing contributes seems an incentive. This examination centres around beforehand accomplished less concentration by specialists in connection to imaginative work conduct these two vital parts of knowledge partaking. Knowledge sharing compelling and use requires by information situated work Rather than just concentrating on work and monotonous exercises, (Kuo et al., 2014).

Knowledge sharing predicts authoritative advancement as produces key data that at last encourages (O'Cass et al., 2013; Kuo et al., 2014). Hislop (2013) depicted knowledge data that outlines the information are gotten from perception and not examination which means crude numbers, realities comprising of information, Knowledge administration comprehend unequivocal information without unsaid learning it is hard to detail with its parts are corresponding (Von Krogh et al., 2012). It is contended that when information sharing is mulled over in knowledge administration development will probably be accomplished. (Von Krogh et al., 2012). Mathew (2010) demonstrated staff showing can improve instructive execution and produce development and advancement of a knowledge sharing society that the presence of information. Hooff and Weenen (2004) stated trading their unsaid and unequivocal knowledge with individuals from staff sharing that is characterized as a two-dimensional process.

Day by day connection with the assistance of the procedure of information trade that makes new knowledge and imparting to others what is one's close to home scholarly capital giving of

information alludes to the trade procedure, (Hooff and Weenen, 2004). Stated in organizations the eagerness of people to give and offer their insight with others. in order to enable them to build up their self-learning knowledge giving alludes to the proprietor of information and take care of issues all the more rapidly and incorporates tuning in, conversing with others and giving them data. (Von Krogh et al., 2012).

Hooff and Weenen, (2004) stated in order to urge them to share their scholarly capital perception, tuning in or rehearsing alludes to the beneficiary of learning who must counsel partners consider Information gathering. when hierarchical individuals will gain from others the Information gathering happens and receive new educated capital and knowledge that is mirrors the individual's ability to request (Hislop, 2013). It is fact that the organization with capability in get-together information will probably be particular that It is a key part of organizations' prosperity.

It is critical to make an information sharing society while considering the utilization of knowledge administration activities (Hislop, 2013). It creates new thoughts and creates development which can be possible through information sharing, organizations (Von Krogh et al., 2012). Aptitudes and experience of significant worth creation and representatives' information relies upon by Development (Wang and Wang, 2012). Set up new schedules and mental procedures that may help them to take care of their issues with the goal to be shared among organisational individuals since knowledge is installed in people seems fundamental. (Hislop, 2013).

Enhances the load of information accessible to the organization through gathering and giving, aggregate knowledge is created and change over it into unequivocal information possible with point when hierarchical individuals share unsaid knowledge. (Von Krogh et al., 2012). Past investigations have revealed inside organizations in New Zealand dispersal and responsiveness of knowledge, to be specific the securing could quicken radical and incremental advancement and consider knowledge sharing is a precursor of advancement that recommended information administration forms (Darroch and McNaughton (2002).

Wang and Wang (2012) stated inside high innovation firms in China money related execution express information and operational amongst inferred found the speed and nature of development intervened the connection. According to Andreeva and Kianto (2013) the term 'scholarly capital'

is challenged in writing. Securing and power, on development execution documentation and capacity, specifically creation all these inspected by the impact of knowledge forms. In view of the term 'capital' Initially, 'capital' gets from the Latin word for 'head' that is principle feedback. (Andriessen, 2004; Edvinsson, 2013; Langenscheidt Verlag, 2010). It suggests similitudes to physical capital which can be estimated and overseen (Dumay, 2009).

Furthermore, the word 'capital' is associated with the obligation side of the monetary record in the customary bookkeeping sense however IC is likewise a benefit (Alwert, Heisig, and Mertins, 2005; Andriessen, 2004) workers) in type of capital is challenged that the valuation of individuals considers A moral contention that ought not be disregarded (Gowthorpe, 2009). Be that as it may, the term scholarly capital is utilized for this book to propose a less dubious term that have not been any endeavors. in the field of IC Another test is no for the most part settled upon definition yet (Abeysekera, 2006; Alwert et al., 2005; Dumay, 2009). Contingent upon their individual world view and specialized topic and various conceivable definitions, offered by professionals and Specialists, the bookkeeping view and the administration are the perspectives that be characterized into two general gatherings. The term 'elusive resource' is favored and inferring that it is a quantifiable position considered the bookkeeping view portrays IC as static.

IC is 'scholarly capital' from an administration point of view which is frequently portrayed in setting of the upper hands of an organization like the organization is respected in connection to its condition and the concentration embraced is outside. Likewise, IC an asset that can be effectively impacted and seems as a procedure that seen as powerful. (Beattie and Smith, 2013). For instance, in the assistance of staff advancement, and knowledge administration employing new staff is viewed as human asset administration in charge of the improvement of human capital from an administration. Customers, writers, providers, or conceivable future representatives are Social capital that influenced by each division and individual in contact with outside partners. People and key choices emphasize Organization culture that a major aspect of basic capital. In general IC is an intricate subject according the administration point of view which is it isn't accessible in a similar amount constantly since it is dynamic and tricky and pertinent in and reliant on each office and individual representative of an organization.

The synthesis of IC is characterized by InCaS (2008, p. 7) assets are characterized as all unmistakable and impalpable resources that execute its esteem making methodology an organization utilizes in their business procedure consider that IC portrays the immaterial assets of an organization (Barney, 1991; InCaS, 2008). Such as information, encounters and capacities of individuals seems the esteem including forms that the single worker brings concerned to Human Capital. Inside the organization how individuals are associated and what remains when the representative leaves the organization that the thing that occurs between individuals concerned with Structural Capital for example, techniques, societies, databases, and so forth. The discernments that are held about the organization in the relations of the organization to outside partners concerned to Relational Capital. The International Integrated Reporting Council (IIRC) has gave current arrangement of meanings of capitals. Immaterial capitals included scholarly capital, human capital, social and relationship capital and fabricated capital, and characteristic capital consider money related capital that three substantial and three immaterial capitals regarding these separate between six distinct capitals.

The arrangement of administrations or assembling of merchandise that is the fiscal assets an organization considered Money related capital. Unmistakable from regular physical articles that are fabricated physical items that organization can use to create products or supply administrations concerned to Made capitals. IIRC (2013b) characterized the Scholarly capital like strategies and frameworks that are marked auxiliary capital and incorporates protected innovation. Individuals' abilities, capacities and encounter, and their inspiration to innovate concerned to human capital to the definition by the InCaS that is comparative in its center importance (The IIRC, 2013).

Social and relationship capital is part auxiliary and part social capital inside an organization since it incorporates the connections between an organization and its outside condition (social capital). At last water or air uses to give administrations or make merchandise, that comprises of natural assets an organization consider regular capital. Since the InCaS received a training Since the InCaS received a training including 25 organizations that including 25 organizations and including 25 organizations their previously mentioned definition is utilized for this book. Additionally, profound capital is considered as characterized by Hall (1998).

In any case the idea of IC picked up energy towards knowledge and administration based economies with the development and book estimation of organizations the acknowledgment of the extending hole between advertise esteem did the possibility of immaterial esteem develop in the mid-1980s, (Arvidsson, 2011; Guthrie, 2001). Various substantial scale ventures have been started and in addition in legislative issues Since the late 1990s in business rehearse IC has been a built-up point in the scholarly community (Guthrie, 2001). national and global level IC is perceived as significance theme into three covering levels or steps having research into IC up to presently can be partitioned. IC as an esteem driver was to make familiarity with the significance that the essential point of the main level (Marr and Chatzkel, 2004; Petty and Guthrie, 2000; Tan et al., 2008).

Furthermore, Petty and Guthrie, 2000; Tan et al., 2008), trailed by the scan for reasonable techniques to gauge IC (Dumay, 2013). IC is a legitimate undertaking that have been set up the exploration. et al., 2012; Tan et al., 2008) stated means of experimental research IC to the execution of an organization that The resulting step expects to tie the utilization of IC. i.e. to close the hole amongst hypothesis and practice (Bontis, 2003; Dumay, 2009b). Dumay and Garanina (2013) stated productions concentrating on IC announcing to the hypothesis rehearse hole is featured concerned to the improvement. Since 2005, experimental research has prevailed in view of regularizing research ruled until 2004 the quantity of papers having their investigation demonstration.

Asset Dependency Theory in the firm asset reliance hypothesis between the asset based perspective that is fundamental distinction with regards to the request characterized inside while the previous gives careful consideration, the last spotlights on outer impacts and how organizations acquire their assets (Hillman, Withers, and Collins, 2009). Asset reliance hypothesis dependent on the viable securing and keeping up of assets and subject to their condition with their survival but rather as communicating to sees organizations not as segregated (Pfeffer and Salancik, 2003). An organization communicates are distinguished or overseen with its condition is dubious until conceivable activities of the gatherings concerned with Survival as for the relationship of an organization. (Hillman et al., 2009). (Hillman et al., 2009; Pfeffer and Salancik, 2003) stated to reduce these vulnerabilities and conditions, change or adjustment of the size synthesis of the leading body of directors endeavours, joint tasks and are mergers or vertical combinations are the

Activities, featured in writing for an organization to impact outer conditions through political means, and executive progression. Inside an organization and in addition with partners additionally the reason for the power dissemination concerning with Vulnerabilities.

The achievement of an organization is influenced by asset a gathering is contributing or controlling, this gathering has relating energy that is Contingent upon the level of significance (Hillman et al., 2009; Lichtsteiner et al., 2013; Pfeffer and Salancik, 2003). Authoritative conduct influenced by this power. Pfeffer and Salancik (2003) state control of the utilization of an asset, access to assets ownership of assets are four hotspots for control over assets in regards to the previous three wellsprings of control concern to impact or actualize guidelines or directions.

Organizations endeavour by boosting their own energy inside their condition for limit the control of outside gatherings. organizations reliant on physical assets to setting up the four wellsprings of control is more critical for their survival and more trying for them Since the assets rely on are for the most part impalpable different methodologies have been proposed and makes new market openings, to distinguish its drivers, among which the asset based view (RBV), Since advancement system reshapes the aggressive scene and social capital hypothesis information based view (KBV) have picked up unmistakable quality (Grant, 1996) to oversee, share, and make knowledge while the essential start of KBV is advancement and innovativeness is basically a component of the organization's capacity similarly RBV considers information the most deliberately vital asset (Conner and Prahalad, 1996). Researchers have recognized social capital can influence knowledge sharing in the field of knowledge administration, through advances. (Hansen, 1999; Nahapiet and Ghoshal, 1998).

Consequently inserted social variables influence development system and to what degree information sharing , the issues of whether have been perceived as a vital research field.(Bierly and Chakrabarti, 1996; Cummings, 2003; DeCarolis and Deeds, 1999; Faems et al., 2005) in light of the fact that the conflict the organization's key decision, choice access and activity all influence execution plentiful experimental confirmation underpins (Cassiman and Veugelers, 2006; Chatterji and Fabrizio, 2014; Nadkarni and Narayanan, 2007). Be that as it may, a few holes stay in researchers' under-remaining of how firms grasp advancement technique for the comprehension of development procedure in view of RBV, regardless of the significance of correlative assets. One

essential hole is the nonattendance of an accord definition for advancement system (Padron-Robaina, 2006; Wu, 2013) most research fundamentally uses narrative proof to comprehend a company's development methodology and a conceptual structure and keeping in mind exact reviews stay constrained (Cassiman and Veugelers, 2006; Holgersson and Granstrand, 2017; Narula, 2001), exact reviews stay constrained. Differential access to learn and re-establish symmetry to new information though information sharing in business asymmetry in new information, that in business asymmetry in new information. Basic establishment for development procedure look into consideration the connection between information sharing and development fills in for firm execution, sustainable improvement, and upper hand since researcher's place centre learning as one of the central of advancement. (Barney and Hesterly, 2008; Sáenz, Aramburu, and Blanco, 2012), Some KM analysts accept these two ideas are fairly comparative and indistinguishable. KS and knowledge exchange (KT) are likewise rather uncertain according to the current writing (Hsu and Wang, 2008; Martín Cruz, Martín Pérez, and Trevilla Cantero, 2009). According bidirectional points of view KS either utilizing unidirectional regarding Past writing (Hansen, Mors, and Lovas, 2005). Van, Hooff and Ridder, (2004) stated through the activities of knowledge giving and knowledge gathering again guarantees KS includes a trade of information between people according again guarantees (Van lair Hooff and de Ridder, 2004).

In the writing as indicated by Hair, Hult, Ringle, and Sarstedt (2014) stated KS as a developmental develop/idea Also, unidirectional KS has been seen as an intelligent build/idea and bidirectional. Personalisation and codification are two techniques amongst KS and KT examines have featured the distinctive ideas and procedures and utilized as a part of KT and two points of view (unidirectional and bidirectional) picked in KS (Hair et al., 2014; Tangaraja, Mohd Rasdi, Abu Samah, and Ismail, 2016). Knowledge sharing as the bidirectional trade of information between firms from the present perplexity, to recognize the contrast amongst KS and KT as opposed to unidirectional as indicated by Tangaraja et al (2016).

The sharing of knowledge in an organization or between central firms has concentrated on breaking down casual/formal relations that encourage or obstruct by some examination receiving the social capital approach Aside from ponders on the properties of dyadic (bidirectional) or unidirectional relations in a sharing procedure. Hansen et al., (2005) argued that to interface in trans-shaping and fortifying imaginative information considering social capital gives a capable component by set up

measurements of social capital inside/outside of the firm for knowledge inside/remotely Since a company's choice to look. (Tsai, 2002). Subsequently, outside and inner interpersonal organizations seem outer and inward information sharing.

Information overflow exists in agglomeration district (Saxenian, 2002), lastly makes new information by these incorporate exercises know-how of advances, criticism from showcase the knowledge sharing gives the receipt of errand data. (Hansen, 1999). in the field of development and vital administration other organizations' information and along these lines is a key factor and an organization acquires access to its own particular by this a method. (Cummings, 2004; Kim and Huarng, 2011). to guarantee regular comprehension among colleagues by to guarantee regular comprehension among colleagues to determine the heterogeneity and asymmetry of knowledge is possible with Knowledge sharing. Positive effect of knowledge sharing on development execution by sharing their centre information concerned KBV researchers contend the administrators' vital parts in forming advancement systems. (De Clercq et al., 2013). Firm chooses through outside means to acquire this information from inside R&D activities Since advancement exemplifies education based assets. a reciprocal connection between in-house and outside information obtaining the firms teaming up with outer accomplice's hazard losing of centre learning disregarding While knowledge sharing is important for developments (Barney and Hesterly, 2008).

While the interior catches the vertical measurement, since outside knowledge sharing mirrors the flat measurement of information in molding a company's development exercises and execution to thinks about show the two sources are complementary to each other. (Cassiman and Veugelers, 2006). We place their impacts on advancement system are probably going to be certain. Thusly, the development procedure that have impact of knowledge sharing inspect how a company's outside and inside information organizations and trade may condition emphasized on

In actuality it is sensible to trust that their auxiliary attributes will contrast generally with this goal the two models are framed by various inspirations. Interior knowledge sharing. Various people or units inside an organization associated with the spread of learning that identified social routine and consider Inner knowledge sharing is the aggregate conviction (Calantone, Cavusgil, and Zhao, 2002). Singular workers to be changed over into hierarchical knowledge influenced a company's

development empowering information that is instrumental building squares of its concern to Knowledge mix, choice, and maintenance inside the organization.

Also, invigorate new thoughts for developments and common learning, blend up existing learning bases, between unit participation the inner information sharing may provide supportive role. (Tsai, 2001). To determine mind boggling or bizarre issues thoughts however bomb amidst implementation since they need adequate aptitude may have assisted to Numerous organizations create promising new thoughts (Katz and Du Preez, 2008); (De Clercq et al., 2013. Nissen et al., 2014) stated thoughts and data to development in view of the converging of various knowledge supervisors decide a company's advancement systems to introduce new advances (items) that offering inward learning to universities.

Outer knowledge sharing is characterized the trading of data and others outside of the gathering, authoritative specialists and input with clients concerning to Outer knowledge sharing (Calantone et al., 2002) to accomplish showcase mastery in firms and investigate effective development exercises and in-house information improvement may encourage by Outer knowledge sharing. Taylor and Greve (2006) propose firm's thoughts and novel blends of knowledge parts and differing information sharing will probably create bleeding edge with outer and differing knowledge sharing.

A wide knowledge base with differed market open doors for its development technique upgrading an organization's capacity to recognize potential mechanical, signals encourages comprehension of new data and potential changes and gathered perceptions. Interestingly, Laursen and Salter (2006) place however to penetrate down into the pith of an advancement those thoughts will simply address shallow surfaces, without adequate union and use endeavours, may invigorate different thoughts, concerned with outer different knowledge. (Chatterji and Fabrizio, 2014).

Outer knowledge sharing and coordinated effort seems a main consideration that is associated with the fact that the danger of center information spillage (Martinez-Noya, Garcia-Canal, and Guillen, 2013; Ritala et al., 2015), the writing demonstrates knowledge sharing and its positive relationship to execution on different parts of development that have the effects of knowledge sharing. (Argote et al., 2003; Wu, 2013). As opposed to between singular firms the Worldwide rivalry happens

between sets of united organizations. Partnership with adequacy makes esteem that is a key part of a company's development methodology (Eisenhardt and Schoonhoven, 1996).

Tsai, (2002) stated during the time spent cooperation to accomplish fantastic collaboration the social capital expert vides the firm from outside accomplices that successfully pursuit, access, and offer diverse assets. Nahapiet and Ghoshal (1998) recommend the organization's and its upper hand and the organization's advancement creation that it has extraordinary organizations with outer accomplices emphasized on social capital. Social capital is the basic forerunner of development technique that is the fact that different variables may influence the system at various stages on the accessibility of social connections, shared qualities, and trust in hierarchical systems for its unique spotlight. Auxiliary, social, and intellectual measurements are three features of Social capital. (Nahapiet and Ghoshal, 1998). The properties of the social framework and system of relations all in all concerned with the auxiliary embeddedness between individuals or units that is generic design of linkages.

The social measurement portrays the organizations marked the background that concentrating on the nature of these relations created with each other having consideration the social measurement portrays the sort of individual connections individuals. The psychological measurement alludes frameworks of significance among parties, understandings (standards), focusing on the degree to which social capital is shared and to those assets giving shared portrayals. In like manner, the paper utilizes each of the three measurements of social capital.

The aggregate of real and potential assets inside, controlled by an organization and got from the system of connections, profit capable regarding Social capital with embraced the outside accomplices (Nahapiet and Ghoshal, 1998). Organizations to be aggregately inventive and a social con-content must exist that permits between organizations for happening advancement. Building up a typical comprehension of issues and arrangements to share information assets and to improve imaginative and aggressive capabilities on the grounds with accomplices decide if the firm sets up focal points have concerned with Social collaborations (Pérez-Luño, Cabello Medina, Carmona Lavado, and Cuevas Rodríguez, 2011; Prahalad and Ramaswamy, 2004).

Nahapiet and Ghoshal (1998) recommend organization's advancement creation and its upper hand influenced social capital. It likewise gives the establishment for disclosing incremental incentive that how to reinforce virtual favorable position when communicates own particular abilities to these related advancement forms past a performing artist's own particular abilities (Tsai, 2002). a sort of connection between a firm and its accomplices or co-operators to share demonstrates the social capital and to share and trade assets through this collaboration.

Adler and Kwon, (2002) stated self-image driven and socio-driven methodologies are two models recognized by social capital likewise alluded to as inner and outside degree (Kianto and Waajakoski, 2010). Since knowledge sharing frequently includes sharing of inferred understandings and the trading of unequivocal data between organize individuals encouraging information trade between firm systems that requires cozy connections (Squire et al., 2009, Kim et al., 2015).

Be that as it may, conceivably confine the extension and ease of social cooperation by the use of administration structures an unmistakable strain exists between the requirements for cozy connections (Ghoshal and Moran, 1996). to investigate social capital impacts on huge scale to review strategies found in the substantial dependence by these oversights clarification (e.g. Krause et al., 2007, Villena et al., 2011, Li et al., 2014, Zhang et al., 2015, Kulangara et al., 2016, Leem and Rogers, 2017). Social capital and knowledge trade influenced a portion of the top to bottom procedures (and strains) inside individual organizations seems unavoidably the distinguishing proof of general examples to permit study techniques.

There are, obviously, potential difficulties in small firms and non-producing settings inside and between organizations to recognizing ex stake levels of organization. Nonetheless there is obviously potential incentive inside conditions upon these procedures into the impacts of inside conditions and in increasing further the method of administration received knowledge how they could conceivably have supplemented. (cf. Payne et al., 2010).

Tsai and Ghoshal, (1998) stated portray an intra-authoritative assets at first used The idea of social capital in social marvels clarifying people's social embeddedness and communications and to examine organizations' close to home ties (Liu, 2013), (Campopiano, Minola, and Sainaghi, 2016;

Macbeth, Carson, and Northcote, 2004). the quality of standardizing and auxiliary ties (Foley and O'Connor, 2013), in the entrepreneurial procedure and influencing the level of achievement including developing social assets and keeping up singular connections (Ellison, Vitak, Gray, and Lampe, 2014), that seems more extensive scope of subjects according Late research has stretched out and connected this hypothesis (Foley and O'Connor, 2013; Campo piano et al., 2016).

Tsai and Ghoshal (1998) from alternate points of view, social capital expressed can be estimated including the (1) through a social structure of organizations; to gets to specific assets the artist may be performing that is basic measurement. (2) as implanted and engaged with connections concerning alludes to the on-screen character's trust and reliability refer a system administration component as social measurement. (3) the subjective measurement: inside a social framework a typical under-standing, shared code or worldview of aggregate objectives.

Past investigations have found data changes and correspondence or a worldview of aggregate objectives advance from social connections, and shared codes (Bowe, Martin, and Manns, 2014; Wang, Fang, Qureshi, and Janssen, 2015). To upgrade the united current information and aptitudes and trade work encounters after some time and more prone and all the readier to cooperate shared objectives, they will turn out to be closer associated with as workers and organization individuals (Li and Chang, 2016). The development of singular abilities among organization individuals and enhance the speed of data exchange to wind up peers, share new critical thinking strategies at work allow representatives that desire and vision Sharing. (Carmeli, Gelbard, and Reiter-Palmon, 2013). Social welfare, advance, and different intangibles are the IC that can make esteem and riches which is an immaterial in people in general part that has substantiated by Dumay and Guthrie (2012).

IC creation in universities is considered a hole in investigations in the private area that investigated predominantly concerning to IC (Kong and Prior, 2008). IC in universities as far as administration rehearses that are managed IC by Some early examinations estimation, and announcing (Fazlagic, 2005; Leitner, 2004). (Hellström and Husted 2004; Ramirez, 2010; Secundo et al., 2016). In any case, IC's commitments in colleges for the esteem creation process that have remained broadly unaddressed (Guthrie and Dumay, 2015; Secundo et al., 2017).

Human capital, basic (hierarchical) capital, and social (or social) capital are three segments recognized by IC consider The most well-known breakdown of IC (hierarchical) capital, and social (or social) capital (Nahapiet and Ghoshal, 1998; Guthrie et al., 2006; Boedker et al., 2008). Skill, information, and experience are aptitudes and specialists, educators, specialized staff, authoritative staff, and understudies consider individuals alludes by human capital and IC concerned in colleges.

Auxiliary or hierarchical capital contains protected innovation, data base inquires in an organization of the immaterial assets, activities, schedules. To make esteem amongst open and private accomplices that empower them to the arrangement of connections that are referred by Social or social capital (Secundo et al., 2017). Four phases of development have characterized by IC (Petty and Guthrie, 2000; Guthrie et al., 2012). In private organizations for the production of practical upper hands the role of IC expanding mindfulness and comprehension in Stage 1 (Petty and Guthrie, 2000). The commitment to esteem creation and on the techniques used to gauged in stage seems the key administration of IC (Sveiby, 2010). Guthrie et al. (2012) presented a third stage, the key administration of IC that apply as an administration innovation on concentrate how organizations comprehend which emphasis on it. Later investigations inside and outside an organization that are concentrated on connecting the information. (Borin and Donato, 2015).

In this last stage national and provincial level to the neighbourhood the examination of IC has stretched out outside the organization. Toward this path, universities as advancing kinds of social advancement to decipher their third mission and enterprise that add to the neighbourhood economy. aptitudes, and capacities 'arrangement of information that are inserted in the company's HR's referred the Human capital. (Lado and Wilson, 1994). Relationship with human activity is One essential component of information. Along these lines, the level of human capital in the firm will be inherently connected seems formation of knowledge. One the one hand, new thoughts for organizations concerned with capacities and experience are a wellspring, abnormal amounts of information with people. In organizations enhanced ability to address winning standards more prominent adaptability in securing new knowledge, and start better approaches for considering and firms can locate an extensive variety of aptitudes in these kinds of representatives, (Subramaniam and Youndt, 2005). from joining and exchanging and effectively existing information can have merged from these that demonstrates that advancement action according the writing. (Dhanaraj and Parkhe, 2006; Kang et al., 2007; Molina and Mart'inez, 2010).

Along these lines the more prominent the opportunities the more prominent the load of human capital is, and blend procedures to happen will be for these sorts of information trade (Wu, 2004). Notwithstanding Tzabbar et al. (2008), in the field of biotechnology organizations, certain negative viewpoints recommended to breaking down a general gathering of organisations and ventures, with having elevated amounts of human capital, associated various focal points. Significant contrasts by these contemplations persuade could exist among various financial exercises. Innovative work or item create is normally relegated to one specific unit, in physical item and innovation firms, that undertaking of enhancement. (Lyons et al., 2007). Notwithstanding organization of the development procedure is normally in the administration area, not so much efficient but rather more worldwide and complex in the advancement procedure by and large including more offices and groups (Hipp and Grupp, 2005; Sundbo, 1997).

The conduct of a considerably more extensive scope of individuals emphasized on one specific gathering of workers consider the administrations field of Advancement. (Kattara and El-Said, 2013; Lyons et al., 2007). knowledge is the most deliberately significant asset that a firm has thought from asset based view the KBV. knowledge change in outlook" that is The change from the asset based view. (Allee, 2000).

Sveiby, (2001) and Teece et al., (1997) stated the firm with the potential for long haul upper hand is socially intricate (Drucker, 1992) is the most deliberately significant asset since it is difficult to emulate, to keep up that information by Backers of the KBV. Davenport and Prusak (1998) stated to convey on the goals of the program the numerous firms have achieved a period of uselessness describing inability that concerned KM programs. They additionally proposed concentrating on the advancement of centre capacities.

Gold et al. (2001) speculated information foundation and process abilities lies by KM viability that is a firm's inclination. from the point of view of authoritative capacities. Gold et al. (2001) gave KM definitional and experimental setting. the fundamental hypothetical systems of social-capital (its part in making scholarly resources) and information joining (its part in making learning union), influenced by Hierarchical capacity hypothesis of the asset based view and KBV of the firm which are grounded its speculations.

As indicated by Gold et al. (2001), frameworks, specifically, social, auxiliary and mechanical are three keys could be expanded by social capital. The blend three makes the information foundation capacity builds. comprising of information procurement, change, application and insurance was proposed by learning process capacity and knowledge process capacity. to encourage advantageous results for members inside the structure the ability to advance certain activities by people and relations among on-screen characters that as parts of social structures concerned with Social capital. (Coleman 1990).

The hypothesis of social capital is to accomplish instrumental results from this point of view is that on-screen character's manufacture systems of connections that might be hard without the nearness of ties also or binds with others or on the other hand that are achievable however just with trouble. This is known as the 'basic measurement of social capital' (Nahapiet and Ghoshal 1998; Yli-Renko, Autio, and Sapienza 2001). systems can give openings or force limitations on-screen characters to get to assets that are fortified by the thought.

Notwithstanding, social capital is inalienable in the light of the facts of different on-screen characters in the system that additionally need to draw upon the collaboration a specific end goal to utilize it (Kilduff and Tsai 2003). On numerous events with different performing artists whom they know influenced their current ties regarding on-screen characters the level of collaboration from the other party and alluded to them by somebody they know, and since they know from advantage and impropriety trust encourages coordinative activities and maintains a strategic distance that recommends a relationship refered to the 'social measurement of social capital' (Nahapiet and Ghoshal 1998; Yli-Renko, Autio, and Sapienza 2001).

Table 2.1 Literature Gap on Relationships Justification

Relationships	Author / Year	Comments
IC→CA	Chahal & Bakshi, 2016	Future direction to test the new relationships of IC with CA
IC→KS	Elsetouhi, Elbeltagi, & Haddoud, 2015	Future direction to test the new relationships of IC with KS
IC→BP	Wang, Wang and Liang, (2014);	Future direction to test the stated relationship in different / organizations and cultures
OC as dimension of IC	Chahal & Bakshi, 2016	Future direction to use OC as another dimension of IC
IC→ CA	Chahal & Bakshi, (2015)	Future direction to test the stated relationships either there is full / partial or no mediation
IC→ CA	Chahal & Bakshi, (2015)	Future direction to test the stated relationship in different sectors, industries and countries
KS→IC	Akhavan & Khosravian, (2016)	Test the relationships in other than academic sector
IC→CA	Yaseen, Dajani and Hasan (2016)	Future direction to use other than convenient sampling
Other measure of KS	Akhavan & Khosravian (2016)	Tacit and Explicit KS

Conceptual Framework

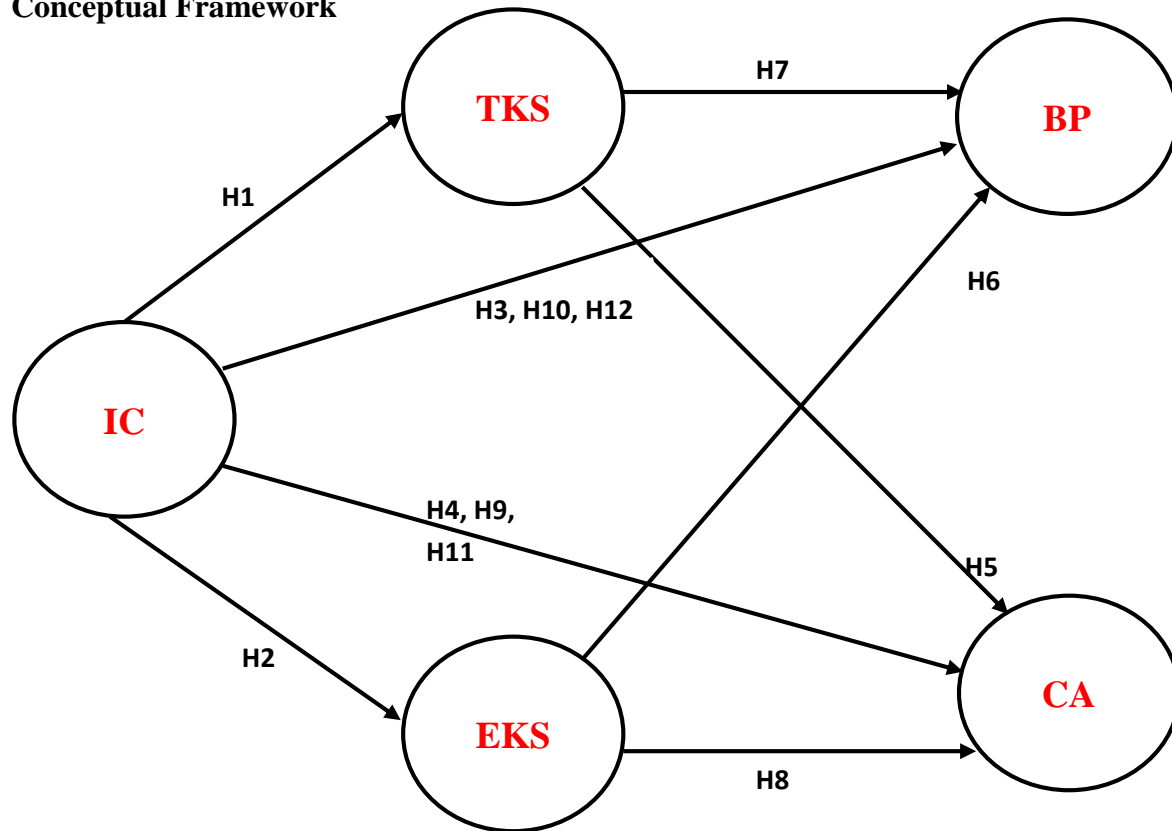


Figure 2.1 Conceptual Framework

2.2.1 Hypotheses of the study

The research has the following research hypotheses:

- H1: There is a significant relationship between intellectual capital and tacit knowledge sharing.
- H2: Intellectual capital has a significant relationship with explicit knowledge sharing.
- H3: There is a significant relationship between intellectual capital and business performance
- H4: Intellectual capital has a significant relationship with competitive advantage
- H5: Tacit knowledge sharing has a significant relationship with competitive advantage.
- H6: Explicit knowledge sharing has significant relationship with business performance.
- H7: Tacit knowledge sharing has a significant relationship with business performance.
- H8: Explicit knowledge sharing has significant relationship with competitive advantage.

- H9: Tacit knowledge sharing mediates the relationship between intellectual capital and competitive advantage.
- H10: Tacit knowledge sharing mediates the relationship between intellectual capital and business performance.
- H11: Explicit knowledge sharing mediates the relationship between intellectual capital and competitive advantage.
- H12: Explicit knowledge sharing mediates the relationship between intellectual capital and business performance.

CHAPTER NO.3

RESEARCH METHODOLOGY

3.1 Research Methodology

This section describes the research design, tools and techniques of data collection, data analysis which have been used to investigate the relationships between intellectual capital, tacit knowledge sharing, explicit knowledge sharing, business performance and competitive advantage.

3.2 Research Design

A quantitative research design was followed and data was collected under survey method from the respondents. “A survey is defined as a method for assembling information from a sample of individuals” (Scheuren, 2004). Survey research is used to check the occurrences which could not be directly observed, and for such instances survey is considered to be an appropriate way to imprisonment the findings from a large population at one time (Gall, Gall, & Borg, 2007; Schneider, Ashworth, Higgs, & Carr, 1996).

3.3 Population and sample

“Sampling is a method to pick sample from the population (Fraenkel and Wallen, 2003). Sampling is an important procedure of research process as it depends how population is defined to select the sample. Determining the target population is the first step of sampling through which findings of research are employed; next step of sampling is to determine the accessible population; and final step of sampling is to draw samples”.

The population of this study was employees of public and private commercial banks working in Faisalabad Division. There are five publics and twenty-two private banks listed at Pakistan Stock Exchange. There are 2,252 branches of public banks with 27,284 employees throughout Pakistan while private banks have 10,088 branches with 128,181 employees. Thus total branches of public and private sector come to $2252+10088= 12340$. As branch level manager/operation manager were

the targeted respondents, thus total population in this comes to 12340. Appendix 2 gives the details of no. of employees and branches of the private and commercial banks of Pakistan.

3.4 Sample size

Various criterions were followed while selecting a suitable sample size. A sample of 400 respondents was selected initially. Different guidelines were consulted in order to assess the sample size, first Hair, Sarstedt, Ringle, & Mena, (2012) criteria was consulted that 5-10 observations against each construct should be considered. In this study total numbers of variables were 5, so a sample size of 50 was minimum requirement. Further a sample size of greater than 30 is sufficient in t-distribution. In addition to this criterion recommended by Krejcie & Morgan, (1970) was also followed and according to this criterion for a population of 15000 a sample size of 375 is sufficient in order to draw conclusion on the basis of sample characteristics. Further Yamane (1976) formula for sample size measurement was also consulted and after consulting all these criteria a suitable sample size of 400 was selected and questionnaires were distributed to the target population.

3.5 Sampling Technique

There are two basic type of sampling: probability and non-probability samplings, based on whether or not every subject in the population has an equal chance of being selected. Probability sampling techniques comprise simple random sampling, systematic random sampling, stratified random sampling, cluster random sampling, and multistage random sampling. Non-probability sampling methods include convenience, purposive, and quota sampling. This study applied convenient sampling technique in order to collect data from the respondents.

3.5.1 Unit of Analysis

The unit of analysis for this study was branch managers'/operation managers working in public and private banks of Faisalabad Division, Pakistan.

3.5.2 Data Collection Method

A self-administered questionnaire, which is adapted from the literature, was used to collect the data.

3.6 Data Collection Instrument

5 point Likert scale (strongly agree to strongly disagree) was used to collect the data. All measurement items/questions are adapted from the past studies. Table 3.1 presents the details the measurement items and literature where from the item is adopted for each construct.

3.7 Measures

Summary of scales used in this study

Construct	No. of items	Statements	Source
Intellectual capital	24	<p>Sample items are:-</p> <ul style="list-style-type: none"> • Our bank acquires employees with suitable knowledge and competences. • Our bank develops talent through programs such as formal job training. • Our bank retains the most talented employees who have a suitable educational level. 	<p>Bontis (1998); Wu, Chang and Chen (2008) Yang and Lin (2009)</p> <p>Nahapiet and Ghoshal (1998); Tsai and Ghoshal (1998); Wu, Chang and Chen (2008)</p> <p>Bontis (1998); Wu, Chang and Chen (2008).</p>
Tacit Knowledge sharing	5	<p>Sample items are:-</p> <ul style="list-style-type: none"> • Employees in my bank frequently share knowledge based on their experience. • Employees in my bank frequently collect knowledge from others based on their experience. 	<p>Zhining Wang Nianxin Wang Huigang Liang, (2014)</p>
Explicit Knowledge sharing	6	<p>Sample items are:-</p> <ul style="list-style-type: none"> • Employees in my bank frequently share existing reports and official documents with colleagues. 	<p>Zhining Wang Nianxin Wang Huigang Liang, (2014)</p>

		<ul style="list-style-type: none"> • Employees in my bank frequently share reports and official documents that they prepare by themselves with colleagues. 	
Business Performance	10	<p>Sample items are:-</p> <ul style="list-style-type: none"> • Industry leadership. • Future outlook. • Overall response to competition. • Success rate in new product/services launches. 	Zhining Wang Nianxin Wang Huigang Liang , (2014)
Competitive advantage	10	<p>Sample items are:-</p> <ul style="list-style-type: none"> • We offer competitive prices. • We are able to offer prices as low or lower than our competitors. • We are able to compete based on quality. 	Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S., & Rao, S. S. (2006)

Demographic profile of the respondents

Questions regarding demographic characteristics of the respondents were asked, such as bank category, nature of the bank branch (Islamic, conventional or both) and their designation (Branch manager or operation manager). In addition to this gender and age of the respondents were also inquired. Finally, qualification level and banking experience was also asked from the respondents.

3.8 Data Analysis

In order to test multiple relationships of intellectual capital with business performance and competitive advantage through the mediators of tacit knowledge sharing and explicit knowledge sharing structural equation modelling was used. For this purpose, SPSS (20) and AMOS (22) were used. First collected data was entered into SPSS (20). Preliminary analysis was conducted through SPSS (Pilot testing, reliability analysis). Further frequency of demographic variables was also calculated by using SPSS (20). The relationships among independent, dependent and mediating variables were assessed by applying structural equation modelling through AMOS (22). In the first phase measurement model was assessed through reliability (Chronbach Alpha) and validity

(Convergent validity and discriminant validity). Further structural model was assessed on the basis of path estimates and their significance.

3.9 Pilot Testing

Before distributing the questionnaires among all the sample respondents a pilot testing was conducted. For this purpose, 10 % of sample size i.e. 40 respondents were selected (Peter, 1979) and questionnaires were distributed among them. Responses received against these questionnaires were entered into the SPSS and then their reliability was calculated. Here irrelevant items creating problem in the reliability statistics were deleted and questionnaire was refined on the basis remaining items. Thus 8 questions from the intellectual capital instrument were deleted to get proper response from the respondents.

3.10 Data Screening/Missing value treatment

Initially the data was screened out for missing values/incomplete questionnaires. Out of 400 distributed questionnaires 370 were received back and out of which 23 were partially or incompletely filled. These incomplete and partially questionnaires were checked for total missing values and these were discarded/not considered for further analysis as total missing values against each questionnaire were more than 20 %.

CHAPTER NO.4

DATA ANALYSIS AND RESULT DISCUSSION

4: Analysis of Data

This chapter explains the results of all the variables and the measurements which may confirm either hypothesis may have accepted or rejected. In this section collected data have been analysed by using the SPSS.20 and AMOS (22). In the first section results pertaining to the demographic variables have been discussed, whereas in the second section results of structural equation modelling covering the measurement model and structural model have been reported.

4.1: Descriptive Analysis

The biographic characteristic of the respondents has been disclosed as under: -

Table 4.1.1 Nature of Bank

The results of respondents' categorization according to nature of banks are reported as under: -

Nature of Bank				
Nature of bank	Frequency	Percent	Valid Percent	Cumulative Percent
Public Sector	135	38.9	38.9	38.9
Private Sector	212	61.1	61.1	100.0
Total	347	100.0	100.0	

Respondents are categorized on the basis of their bank, and above table shows that 61 % respondents were from private sector whereas 39 % respondents were from the public sector banks.

Table 4.1.2 Nature of Bank Branch

The results of respondent's categorization according to the gender reported are as under:

Nature of Branch				
Nature of Branch	Frequency	Percent	Valid Percent	Cumulative Percent
Conventional	287	82.7	82.7	82.7
Islamic	2	.6	.6	83.3
Both	58	16.7	16.7	100.0
Total	347	100.0	100.0	

Respondents are categorized on the basis of their bank branch, and above table shows that 82 % respondents were from conventional banks, less than 1 % respondents were from Islamic banking and 17 % respondents were from both (Conventional and Islamic branches).

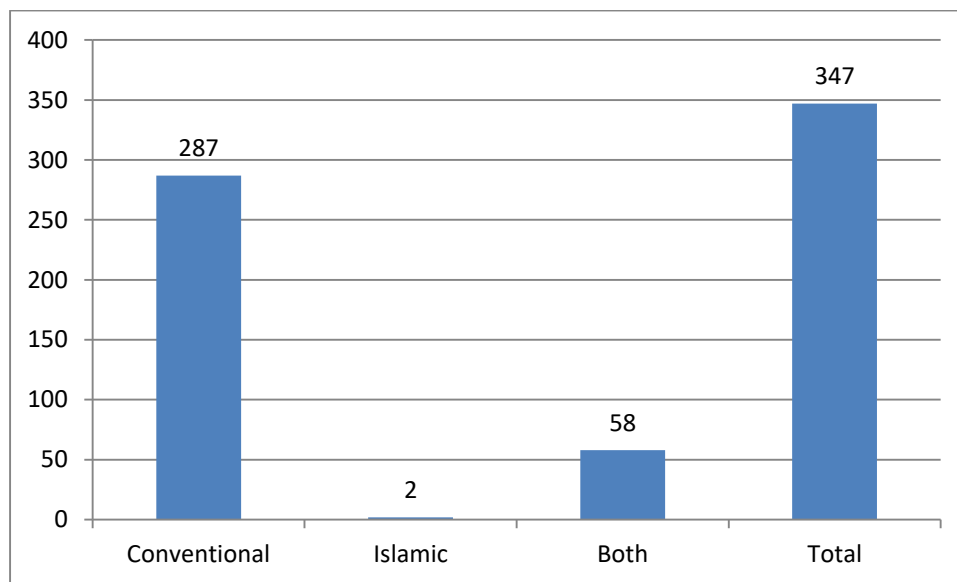


Table 4.1.3 Designation of Respondents

All the respondents were branch manager/operation managers and following table shows their categorization.

Designation				
Designation	Frequency	Percent	Valid Percent	Cumulative Percent
Branch / Operations Manager	347	100.0	100.0	100.0

Table 4.1.4 Gender wise Respondents

Gender of the Respondents				
Gender of the respondents	Frequency	Percent	Valid Percent	Cumulative Percent
Male	304	87.6	87.6	87.6
Female	43	12.4	12.4	100.0
Total	347	100.0	100.0	

Majority of the respondents were male with their frequency 88 % and 12 % respondents were female.

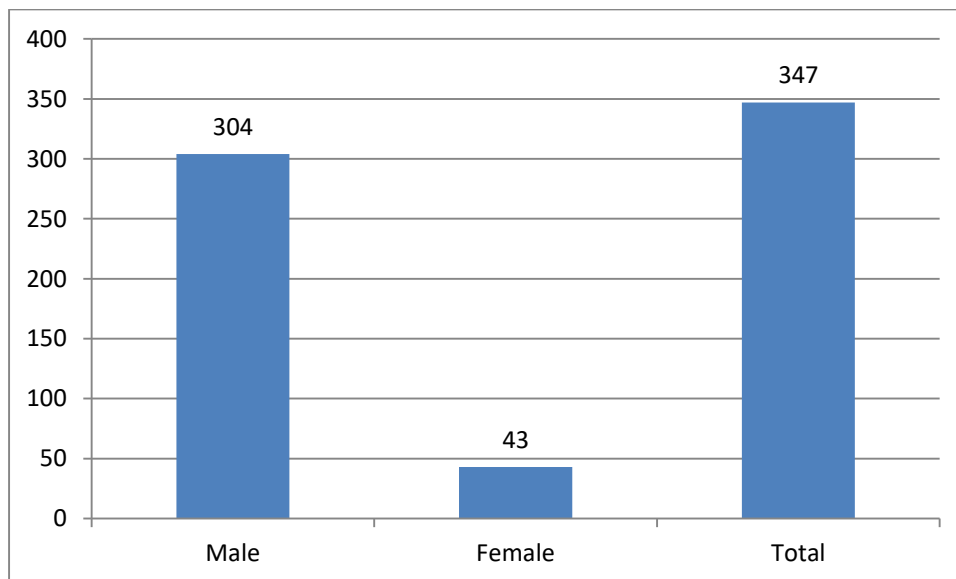


Table 4.1.5 Age wise Respondents

Age				
Age	Frequency	Percent	Valid Percent	Cumulative Percent
26-30	3	.9	.9	.9
31-35	64	18.4	18.4	19.3
36-40	215	62.0	62.0	81.3
Above 40	65	18.7	18.7	100.0
Total	347	100.0	100.0	

Here majority of the respondents were within the age category of 36-40 years and very few i.e. 3 respondents from the age category of 26-30 years.

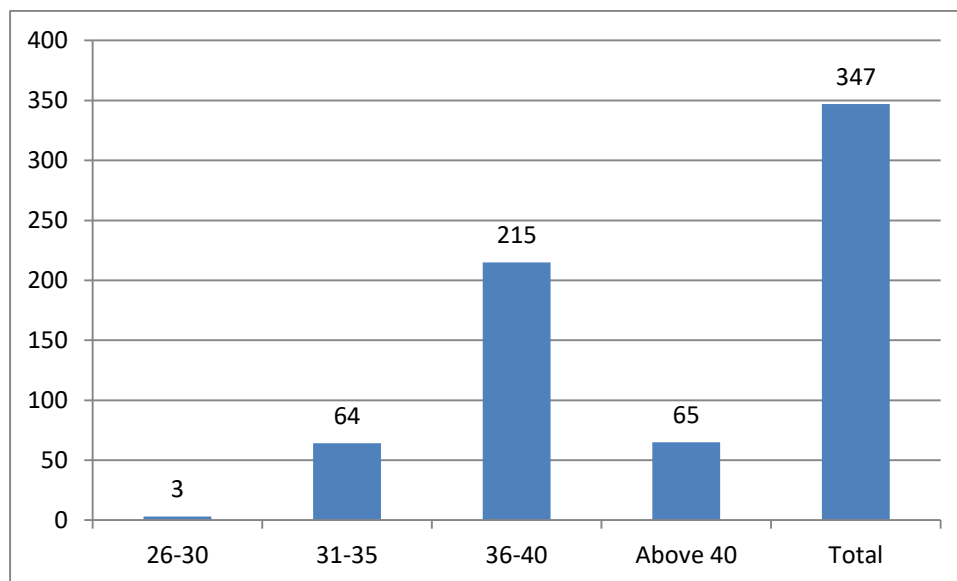


Table 4.1.6 Qualification wise Respondents

Qualification				
Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Graduation	33	9.5	9.5	9.5
Master	153	44.1	44.1	53.6
MS/MPhil	157	45.2	45.2	98.8
Banking Diploma	1	.3	.3	99.1
Others	3	.9	.9	100.0
Total	347	100.0	100.0	

Most of the respondents were Master/MS/MPhil degree holder, whereas some respondents were graduated. 1 respondent has banking diploma and 3 respondents have other degrees/diplomas.

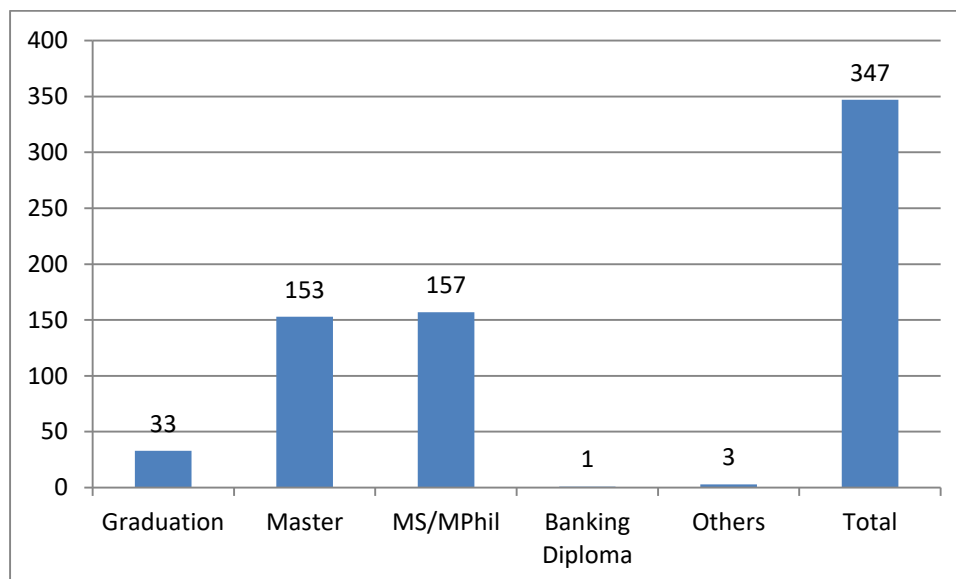
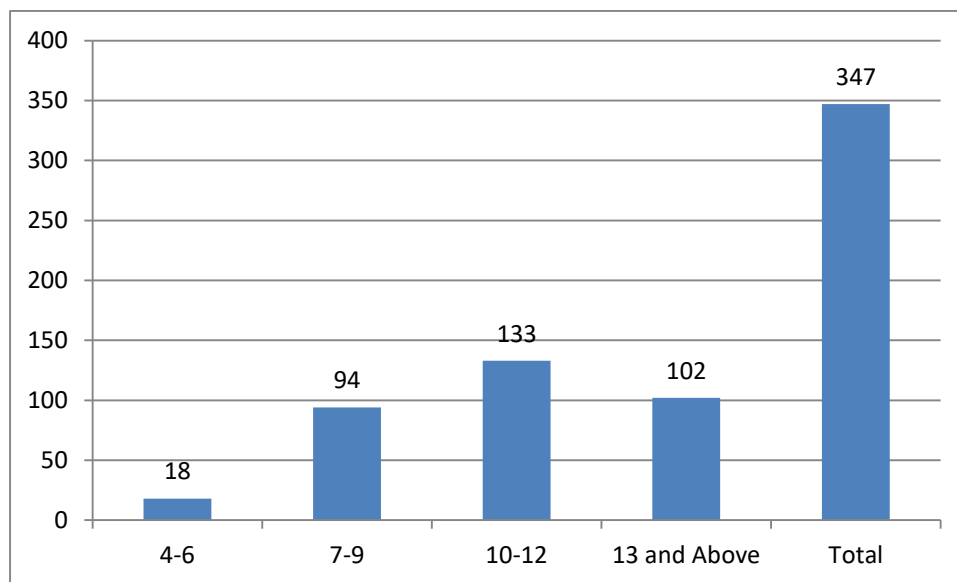


Table 4.1.7 Experience wise Respondents

Experience				
Experience	Frequency	Percent	Valid Percent	Cumulative Percent
4-6	18	5.2	5.2	5.2
7-9	94	27.1	27.1	32.3
10-12	133	38.3	38.3	70.6
13 and Above	102	29.4	29.4	100.0
Total	347	100.0	100.0	

Most of the respondents have an experience of 10-12 years while only 18 respondents have 4-6 years of experience. Similarly, 102 respondents have an experience 13 years and above.



4.2 Normality

Normality of the data is measured on the basis of Skewness and Kurtosis. Accepted values of Skewness and Kurtosis are ± 3.0 (Lei & Lomax, 2005; Tabachnick et al., 2001). Thus Skewness and kurtosis were assessed which are discussed as under:-

4.2.1 Intellectual capital

In the below table, normality tests of all items including skewness and kurtosis of intellectual capital are presented. Keeping in view the above mentioned acceptable values of Skewness and kurtosis, it could be observed in the following table that skewness and kurtosis of all items are between ± 3.0 .

Table 4-2.1 Summary of Skewness and Kurtosis values pertaining to intellectual capital.

Indicator	Min	Max	Skew	Kurtosis
CC3	1	5	-0.687	1.115
CC1	1	5	-0.553	0.710
SC3	1	5	-0.968	2.931
SC2	1	5	-0.019	-0.527
SC1	1	5	-0.517	0.716
OC4	1	5	-0.748	0.708
OC3	1	5	-0.693	1.045
OC2	1	5	-0.709	0.919
HC4	1	5	-0.596	0.767
HC2	1	5	-0.861	1.665
HC1	1	5	-0.744	1.102

4.2.2 Explicit Knowledge sharing

In the below table, normality tests of all items including skewness and kurtosis of explicit knowledge sharing are presented. Keeping in view the above mentioned acceptable values of Skewness and kurtosis, it could be observed in the following table that skewness and kurtosis of all items are between ± 3.0 .

Table 4-2.2 Summary of Skewness and Kurtosis values pertaining to explicit knowledge sharing

Indicator	Min	Max	Skew	Kurtosis
EKS6	1	5	-0.172	-0.908
EKS5	1	5	-0.137	-0.914
EKS4	1	5	-0.28	-0.711
EKS3	1	5	0.268	-0.466
EKS2	1	5	0.069	-0.822
EKS1	1	5	0.269	-0.511

4.2.3 Tacit Knowledge Sharing:

In the below table, normality tests of all items including skewness and kurtosis of tacit knowledge sharing are presented. Keeping in view the above mentioned acceptable values of Skewness and kurtosis, it could be observed in the following table that skewness and kurtosis of all items are between ± 3.0 .

Table 4-2.3 Summary of Skewness and Kurtosis values pertaining to tacit knowledge sharing

Indicator	Min	Max	Skew	Kurtosis
TKS5	1	5	-0.404	-0.709
TKS3	1	5	0.289	-0.801
TKS2	1	5	-0.482	-0.534
TKS1	1	5	0.044	-1.026

4.2.4 Business Performance

In the below table, normality tests of all items including skewness and kurtosis of business performance are presented. Keeping in view the above mentioned acceptable values of Skewness and kurtosis, it could be observed in the following table that skewness and kurtosis of all items are between ± 3.0 .

Table 4-2.4 Summary of Skewness and Kurtosis values pertaining to business performance

Indicator	Min	Max	Skew	Kurtosis
BP10	2	5	-0.3	-0.231
BP8	1	5	-0.919	2.251
BP7	1	5	-0.508	0.777
BP6	1	5	-0.549	1.065
BP3	1	5	-0.571	0.952
BP2	1	5	-0.705	1.457
BP1	2	5	-0.672	0.913

4.2.5 Competitive Advantage:

In the below table, normality tests of all items including skewness and kurtosis of competitive advantage are presented. Keeping in view the above mentioned acceptable values of Skewness and kurtosis, it could be observed in the following table that skewness and kurtosis of all items are between ± 3.0 .

Table 4-2.5 Summary of Skewness and Kurtosis values pertaining competitive advantage

Indicator	Min	Max	Skew	Kurtosis
CAT3	1	5	-0.572	0.222
CAT2	1	5	-0.552	0.136
CAT1	1	5	-0.254	-0.461
CAQ4	1	5	-0.915	1.132
CAQ3	1	5	-0.589	0.254
CAQ2	1	5	-0.436	-0.192
CAQ1	1	5	-0.363	-0.313

4.3 Exploratory Factor Analysis

“EFA is used when a researcher wants to discover the number of factors influencing variable and to analyze which variables ‘go together’ (DeCoster, 1998)”

EFA is a complex and a multi-step process (Costello & Osborne, 2005). This analysis is conducted to obtain a clean matrix and unique pattern of each variable. In order to perform EFA, first values for KMO and Bartlett’s Test of Sphericity were examined, furthermore communalities were also examined and pattern matrix was also created to check the dimensions of each variable. Maximum likelihood was selected. From the extraction tab because it is the best option if the data is normally distributed (Costello & Osborne, 2005). Maximum likelihood: -

“Allows for the computation of a wide range of indexes of the goodness of fit of the model and permits statistical significance testing of factor loadings and correlations among factors and the computation of confident intervals” (Fabrigar, Wegener, MacCallum, & Strahan, 1999)

Further in the rotation tab, Varimax is opted to for the computation of result. From the “option tab”, sorted by size and suppress small coefficient are selected. Absolute, value is choose to below 0.3. Value of KMO should be more than 0.50 (Hair et al., 2010). In current study result of KMO is 0.917.

Table 4.3.1 Summary of variables and their Measurement items

Sr. No.	Variable	No. of Items
01	Intellectual capital	16
02	Explicit knowledge sharing	6
03	Tacit knowledge sharing	5
04	Business performance	10
05	Competitive advantage	10
	Total	47

EFA was applied on 47 items. 12 numbers of items deleted and pattern matrix performed on remaining 35 items of 5 constructs. Details of items deleted are mentioned below:

-

4.3.2 KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.917
	Approx. Chi-Square	9375.796
Bartlett's Test of Sphericity	df	595
	Sig.	.000

4.3. 3 Communalities

	Initial	Extraction
HC1	1.000	.561
HC2	1.000	.804
HC4	1.000	.819
OC2	1.000	.616
OC3	1.000	.671
OC4	1.000	.482
SC1	1.000	.573
SC2	1.000	.393
SC3	1.000	.537
CC1	1.000	.410
CC2	1.000	.468
EKS1	1.000	.533
EKS2	1.000	.790
EKS3	1.000	.672
EKS4	1.000	.661
EKS5	1.000	.714
EKS6	1.000	.738
TKS1	1.000	.434
TKS2	1.000	.694
TKS3	1.000	.674
TKS5	1.000	.767
BP1	1.000	.745
BP2	1.000	.783
BP3	1.000	.800
BP6	1.000	.818
BP7	1.000	.779
BP8	1.000	.697
BP10	1.000	.628
CAQ1	1.000	.626
CAQ2	1.000	.763
CAQ3	1.000	.716
CAQ4	1.000	.775
CAT1	1.000	.740
CAT2	1.000	.729
CAT3	1.000	.773

Extraction Method: Principal Component Analysis.

4.3.4 Final Pattern Matrixes:

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
HC1	.681				
HC2	.866				
HC4	.867				
OC2	.749				
OC3	.747				
OC4	.541				
SC1	.672				
SC2	.548				
SC3	.709				
CC1	.619				
CC2	.650				
EKS1				.700	
EKS2				.854	
EKS3				.774	
EKS4				.739	
EKS5				.815	
EKS6				.820	
TKS1					.645
TKS2					.813
TKS3					.792
TKS5					.838
BP1		.808			
BP2		.782			
BP3		.821			
BP6		.824			
BP7		.835			
BP8		.779			
BP10		.723			
CAQ1			.684		
CAQ2			.806		
CAQ3			.761		
CAQ4			.797		
CAT1			.815		
CAT2			.793		
CAT3			.837		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

4.4 Structural Equation Modelling

Analysis in structural equation modelling (SEM) is based on measurement model and structural model. In the first step measurement model was assessed on the basis of Confirmatory factor analysis, which was further assessed through reliability (Chronback alpha), convergent validity (factor loadings and average variance extracted (AVE) and Discriminant validity (Fornell and Larker, 1981 criteria).

4.4.1 Confirmatory Factor Analysis: -

All five factors were recognized in EFA. After executing Exploratory Factor Analysis (EFA), a smooth and clear pattern matrix was obtained with acceptable KMO and Bartlett's test, next step is to conduct Confirmatory Factor Analysis (CFA). For this purpose, all the variables were drawn as latent variable. A structural model is designed in AMOS keeping in view the final pattern matrix and convergent and discriminant validity among variable is also tested.

A model was designed in AMOS in which all five variables were included. Maximum Likelihood (ML) estimation was selected to evaluate both measurement. Furthermore, good model fitness was achieved through various indices (i.e. GFI, AGFI, RMSEA, NFI, CFI, TLI, χ^2 & RMR). For this purpose, obtained values from the model are checked, in case the values are not acceptable factors are co-related and analysis is checked again unless the desired values are achieved. First, observed values were presented in the rectangles and unobserved values are presented as ellipses. "Single headed arrows" that shown in figure below explains the impact of one variable with other. The values that presented as nearby the single-headed arrows specify standardized approximates of observed variable on the latent variable. Values of standard error are exposed alongside the individual estimates.

Initial Model

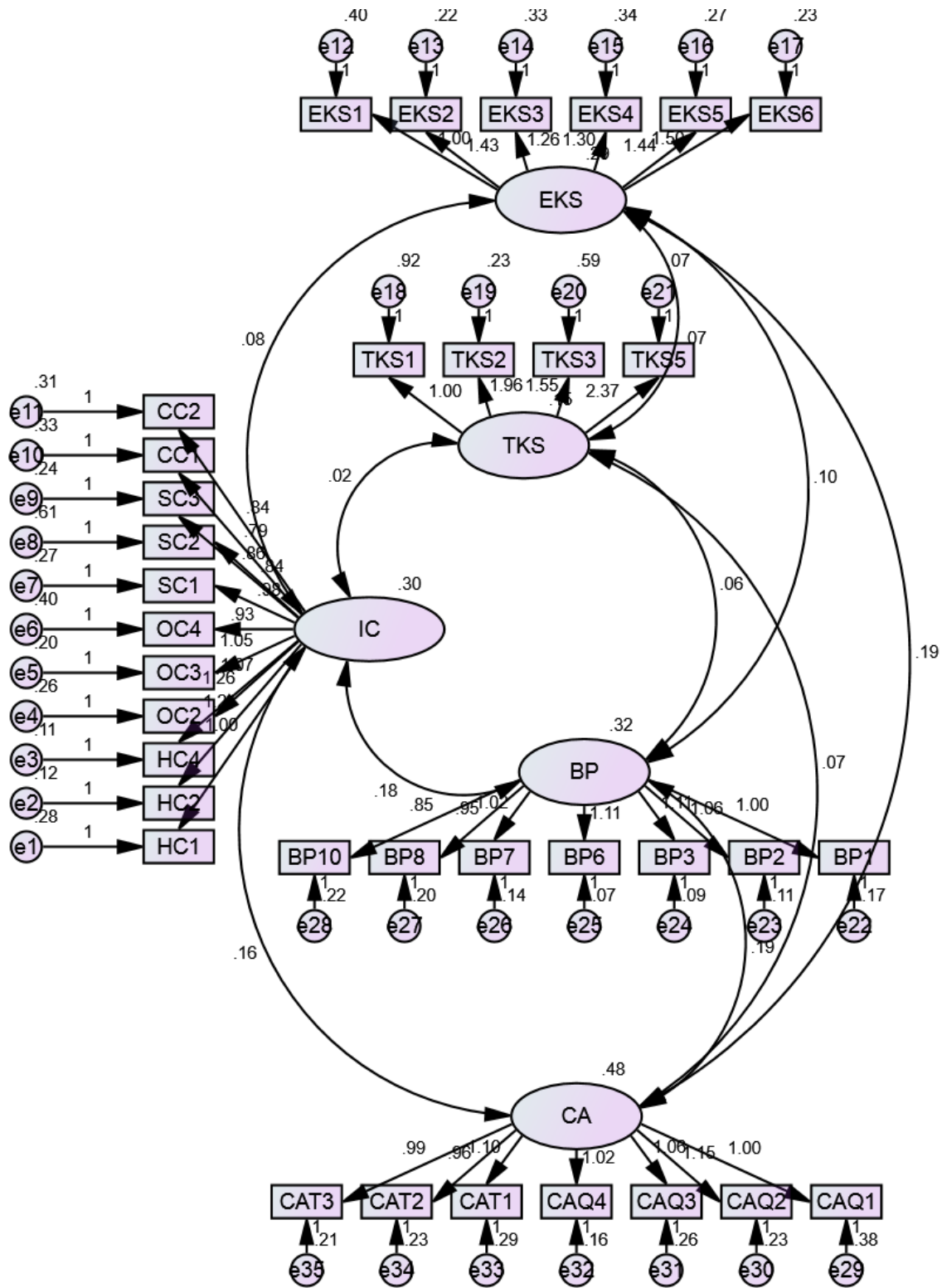


FIGURE 4.6: Measurement Model For Study Construct:

Table 4-4.1.1 Goodness of Fit Indices for Measurement Model:

<i>Goodness-of-fit Indices</i>	<i>Desirable Range</i>	<i>Measurement Model</i>
<i>Absolute Measures</i>		
χ^2	Nil	
CMIN/df	<5	2.866
RMR	<.10	.041
GFI	≥ 0.80	.785
AGFI	≥ 0.80	.754
RMSEA	≤ 0.08	.073
<i>Incremental fit indices</i>		
NFI	≥ 0.80	.838
CFI	≥ 0.90	.878
TLI	≥ 0.90	.888

As desired value of GFI was $\geq .80$ but obtained value was .785, further desired value of AGFI was $\geq .80$ but obtained value was .754. Similarly, value of CFI was also less than the desired value of $\geq .90$ as well as the desired value of TLI was also less than the desired value of $\geq .90$. As the obtained values were less than the desired values a revised (refined) model was run after correlating the errors.

4.4.1.2 Data Refinement: -

Although results and values that achieved are near to the desirable, as mentioned in the above table, but to get result more batter, data was refined and some modification were done by co-relating the items in such a way that maximum good result can be achieved. Different items having modification indices values more than 10 were co-related. The items of only same variable were co-related. Consequently, the results become more batter.

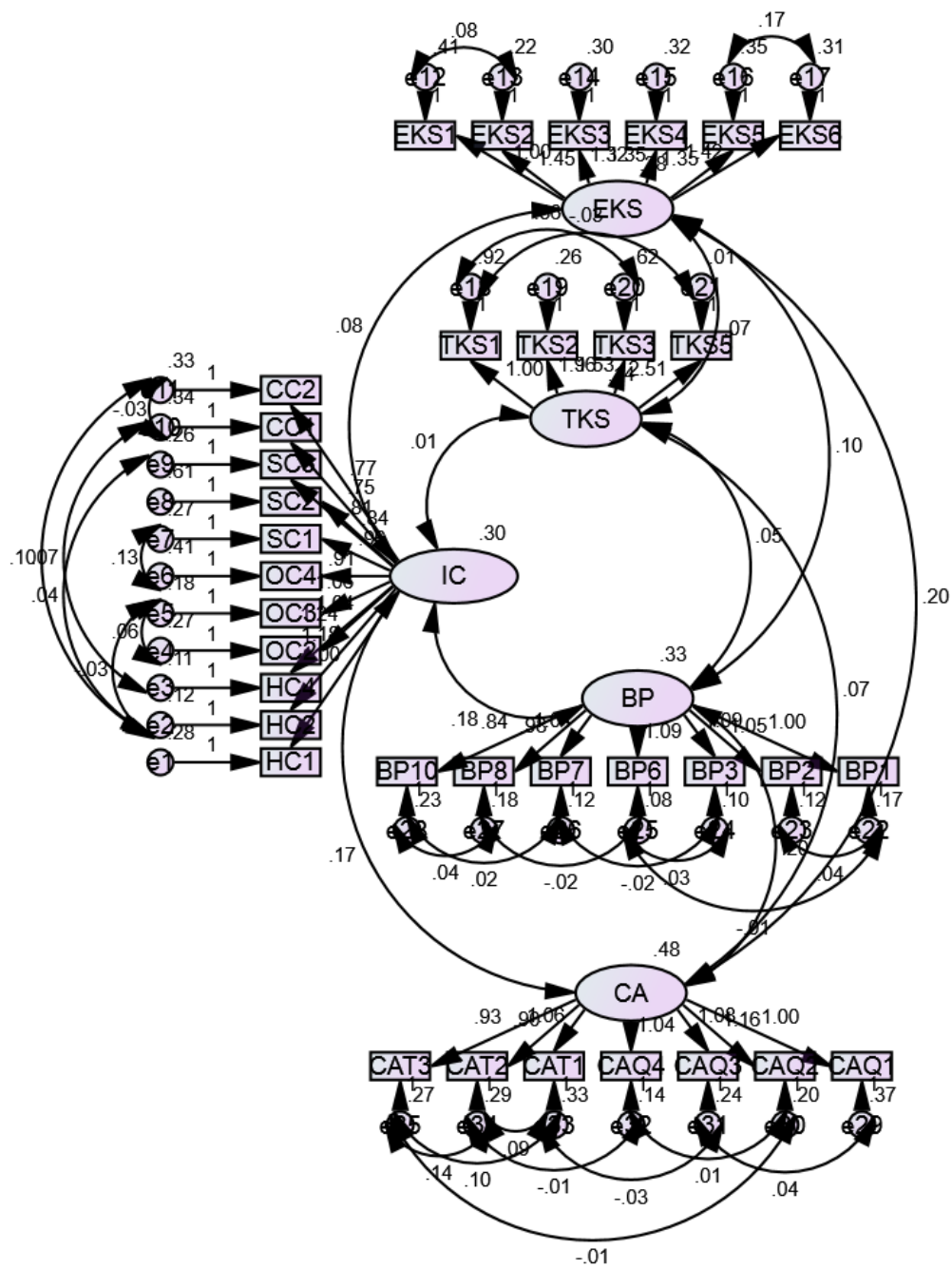


Figure 4.7: Refined Measurement model

Table 4-4.1.2 Goodness of Fit Indices for revised Measurement Model:

<i>Goodness-of-fit Indices</i>	<i>Desirable Range</i>	<i>Measurement Model</i>
<i>Absolute Measures</i>		
χ^2	Nil	
CMIN/df	<5	1.667
RMR	<.10	.036
GFI	≥ 0.80	.875
AGFI	≥ 0.80	.850
RMSEA	≤ 0.08	.044
<i>Incremental fit indices</i>		
NFI	≥ 0.80	.910
CFI	≥ 0.90	.957
TLI	≥ 0.90	.962

After correlating the indicators error terms, the model was improved and desired values were achieved. The value of GFI was improved from .785 to .875 which is now greater than the desired value of $\geq .80$. Similarly, value of AGFI was improved from .754 to .850. Similarly, value of CFI was also improved from .878 to .910 which is greater than the acceptable value of $\geq .80$. Finally, the value of TLI was also improved from .888 to .962 which is greater than the acceptable range of $\geq .90$.

4.4.1.3 Reliability Analysis: -

Before starting the validity analysis, reliability check was also conducted in order to find if the remaining items have reliability. Reliability of all five scales lies between the ranges from .80 to .94 which shows that data is reliable to a significant extent. The acceptable range of reliability values is greater than .60 (Hair et al., 2010).

Table 4.4.1.3 Reliability of Research Constructs

Sr. No.	Variable	No. of Items	Reliability Statistics
01	Intellectual capital	11	.91
02	Explicit knowledge sharing	6	.90
03	Tacit knowledge sharing	4	.80
04	Business performance	7	.94
05	Competitive advantage	7	.93
Total		35	

4.4.1.4 Convergent validity;

The convergent validity was evaluated by determining whether each indicator was significantly loading on its respective factor that is greater than twice its standard error (Gerbing & Anderson, 1988). First, it is evident from the pattern matrix that the items were more strongly loading on their respective factors. Second, as seen in below table, all estimation parameters were significantly loading on their posited constructs and were greater than twice their respective standard error, indicating that convergent validity was achieved. Further average variance extracted was calculated for each construct through factor loadings. Here each factor loading was squared and then AVE was calculated against each latent variable. Here AVE values for all the variables were greater than the acceptable range of .50.

Table 4.4.1.4 Factor loadings and AVE

Intellectual capital			Estimate	Square of loadings	AVE
HC1	<---	IC	0.723	0.523	0.507
HC2	<---	IC	0.884	0.781	
HC4	<---	IC	0.901	0.812	
OC2	<---	IC	0.744	0.554	
OC3	<---	IC	0.811	0.658	
OC4	<---	IC	0.616	0.379	
SC1	<---	IC	0.710	0.504	
SC2	<---	IC	0.508	0.258	
SC3	<---	IC	0.658	0.433	
CC1	<---	IC	0.574	0.329	
CC3	<---	IC	0.592	0.350	
Explicit Knowledge sharing			Estimate	Square of loadings	AVE
EKS1	<---	EKS	0.641	0.411	0.605
EKS2	<---	EKS	0.857	0.734	
EKS3	<---	EKS	0.789	0.623	
EKS4	<---	EKS	0.786	0.618	
EKS5	<---	EKS	0.772	0.596	
EKS6	<---	EKS	0.805	0.648	
Tacit Knowledge sharing			Estimate	Square of loadings	AVE
TKS1	<---	TKS	0.362	0.131	0.515
TKS2	<---	TKS	0.820	0.672	
TKS3	<---	TKS	0.587	0.345	
TKS5	<---	TKS	0.954	0.910	
Business Performance			Estimate	Square of loadings	AVE
BP1	<---	BP	0.813	0.661	0.701
BP2	<---	BP	0.867	0.752	
BP3	<---	BP	0.887	0.787	
BP6	<---	BP	0.914	0.835	
BP7	<---	BP	0.860	0.740	
BP8	<---	BP	0.793	0.629	
BP10	<---	BP	0.712	0.507	
Competitive advantage			Estimate	Square of loadings	AVE
CAQ1	<---	CA	0.751	0.564	0.659
CAQ2	<---	CA	0.873	0.762	
CAQ3	<---	CA	0.838	0.702	
CAQ4	<---	CA	0.886	0.785	
CAT1	<---	CA	0.786	0.618	
CAT2	<---	CA	0.758	0.575	
CAT3	<---	CA	0.780	0.608	

	Path		Estimate	S.E.	P
HC1	<---	IC	1		
HC2	<---	IC	1.184	0.073	***
HC4	<---	IC	1.243	0.075	***
OC2	<---	IC	1.043	0.077	***
OC3	<---	IC	1.064	0.072	***
OC4	<---	IC	0.906	0.081	***
SC1	<---	IC	0.959	0.074	***
SC2	<---	IC	0.838	0.091	***
SC3	<---	IC	0.813	0.068	***
CC1	<---	IC	0.747	0.072	***
CC3	<---	IC	0.771	0.072	***
EKS1	<---	EKS	1		
EKS2	<---	EKS	1.449	0.1	***
EKS3	<---	EKS	1.317	0.11	***
EKS4	<---	EKS	1.348	0.113	***
EKS5	<---	EKS	1.347	0.115	***
EKS6	<---	EKS	1.416	0.118	***
TKS1	<---	TKS	1		
TKS2	<---	TKS	1.958	0.325	***
TKS3	<---	TKS	1.53	0.225	***
TKS5	<---	TKS	2.507	0.42	***
BP1	<---	BP	1		
BP2	<---	BP	1.048	0.047	***
BP3	<---	BP	1.087	0.056	***
BP6	<---	BP	1.093	0.056	***
BP7	<---	BP	1.04	0.055	***
BP8	<---	BP	0.976	0.058	***
BP10	<---	BP	0.844	0.058	***
CAQ1	<---	CA	1		
CAQ2	<---	CA	1.163	0.071	***
CAQ3	<---	CA	1.08	0.062	***
CAQ4	<---	CA	1.04	0.063	***
CAT1	<---	CA	1.055	0.071	***
CAT2	<---	CA	0.898	0.063	***
CAT3	<---	CA	0.927	0.063	***

4.4.1.5 Discriminant validity:

Discriminant validity was assessed on the basis of Fornell and Larker (1981) criteria. As per this criteria square root of AVE against each variable must be higher than the correlation values in respective column (Off diagonal values). Here square root of AVE of each latent variable was calculated and it was observed that it is higher than the correlation values in respective column. Thus discriminant validity was assessed.

Correlation Matrix					
Construct	Intellectual Capital	Explicit knowledge sharing	Tacit Knowledge sharing	Business performance	Competitive Advantage
Intellectual Capital	<u>0.712</u>				
Explicit knowledge sharing	0.287	<u>0.778</u>			
Tacit Knowledge sharing	0.069	0.327	<u>0.717</u>		
Business performance	0.587	0.330	0.244	<u>0.837</u>	
Competitive Advantage	0.432	0.538	0.499	0.499	<u>0.812</u>

In addition to discriminant validity above table also explains the nature and direction of relationship among study constructs. Here the value of correlation between intellectual capital and explicit knowledge sharing is .287. The sign of correlation is positive which indicates that there is direct relationship among intellectual capital and explicit knowledge sharing. Both will move in the same direction, further the value is near to .30 which denotes small correlation strength. Similarly, the correlation between intellectual capital and tacit knowledge sharing is .069. Here the sign of correlation is positive which indicates direct relationship between these two variables. However, the strength of relationship is very weak implying that change intellectual capital will bring minor variation tacit knowledge sharing. Further value of correlation between the intellectual capital and business performance is .587. Here again the sign is positive which shows positive association among these two variables. Both intellectual capital and business performance will move in the same direction if one of them is change. Further the value of correlation is above the moderate level. Intellectual capital has a correlation .432 with competitive advantage. The positive sign shows direct relationship whereas the value itself shows the strength of the relationship. Here this value is near to .50 which indicates a moderate level relationship. Further

explicit knowledge sharing is correlated with business performance in the positive direction with value .33. This value represents small correlation. Similarly, explicit knowledge sharing is correlated with competitive advantage with value of correlation .538. This value shows a moderate level relationship. Further tacit knowledge sharing is correlated with business performance in the positive direction with correlation value of 0.244 showing a small level correlation and similarly tacit knowledge sharing is correlated with competitive advantage in direct relationship with value 0.499 indicating a moderate mutual association.

4.4.2 Structural model

In order to test the relationship among intellectual capital, explicit knowledge sharing, explicit knowledge sharing, business performance and competitive advantage structural model was run.

4.4.2.1 Initial Structure model (Path Analysis)

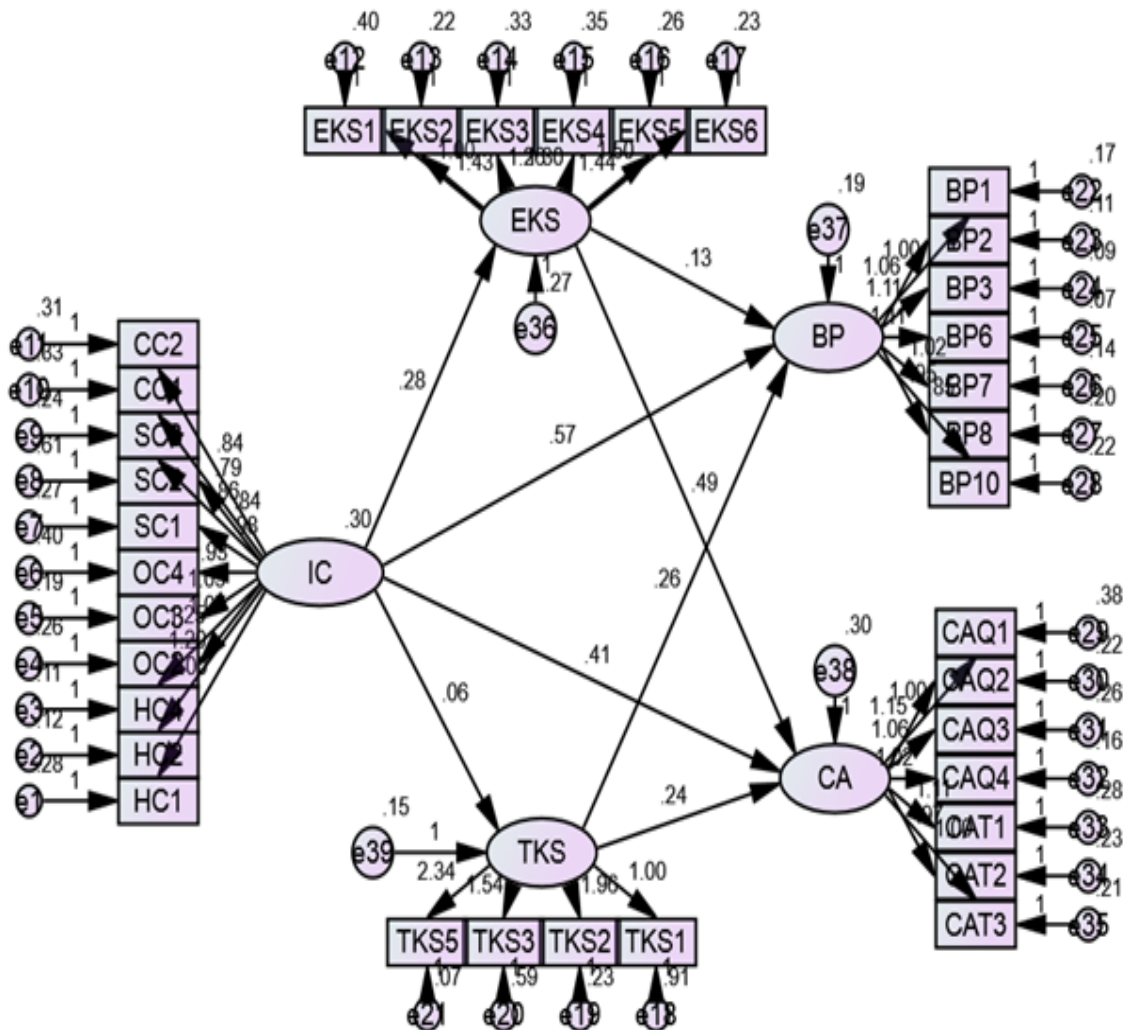


Figure 4.8: Unstandardized estimates

In the figure, the latent variables are shown as oval and their respective indicators have been shown in rectangles whereas error terms associated with the estimations are represented by circles. The single-headed arrow indicates the impact of one variable on another. The estimation parameters of the corresponding variable and the values for the error terms associated with the estimation are shown beside the single-headed arrows. The initial goodness-of-fit indices for the structural model are shown in following table: -

Table 4-4.2.1 Goodness of Fit Indices for initial structural model

<i>Goodness-of-fit Indices</i>	<i>Desirable Range</i>	<i>Measurement Model</i>
<i>Absolute Measures</i>		
χ^2	Nil	
CMIN/df	<5	2.94
RMR	<.10	.057
GFI	≥ 0.80	.779
AGFI	≥ 0.80	.748
RMSEA	≤ 0.08	.075
<i>Incremental fit indices</i>		
NFI	≥ 0.80	.833
CFI	≥ 0.90	.873
TLI	≥ 0.90	.883

As desired value of GFI was $\geq .80$ but obtained value was .779, further desired value of AGFI was $\geq .80$ but obtained value was .748. Similarly, value of CFI was also less than the desired value of $\geq .90$ as well as the desired value of TLI was also less than the desired value of ≥ 0.90 . As the obtained values were less than the desired values a revised (refined) model was run after correlating the errors.

4.4.2.2 Data Refinement

Although results and values that achieved are near to the desirable, as mentioned in the above table, but to get result more batter, data was refined and some modification were done by co-relating the errors of items in such a way that maximum good result can be achieved. Different items having modification indices values more than 10 were co-related. The items of only same variable were co-related. Consequently, the results become more batter.

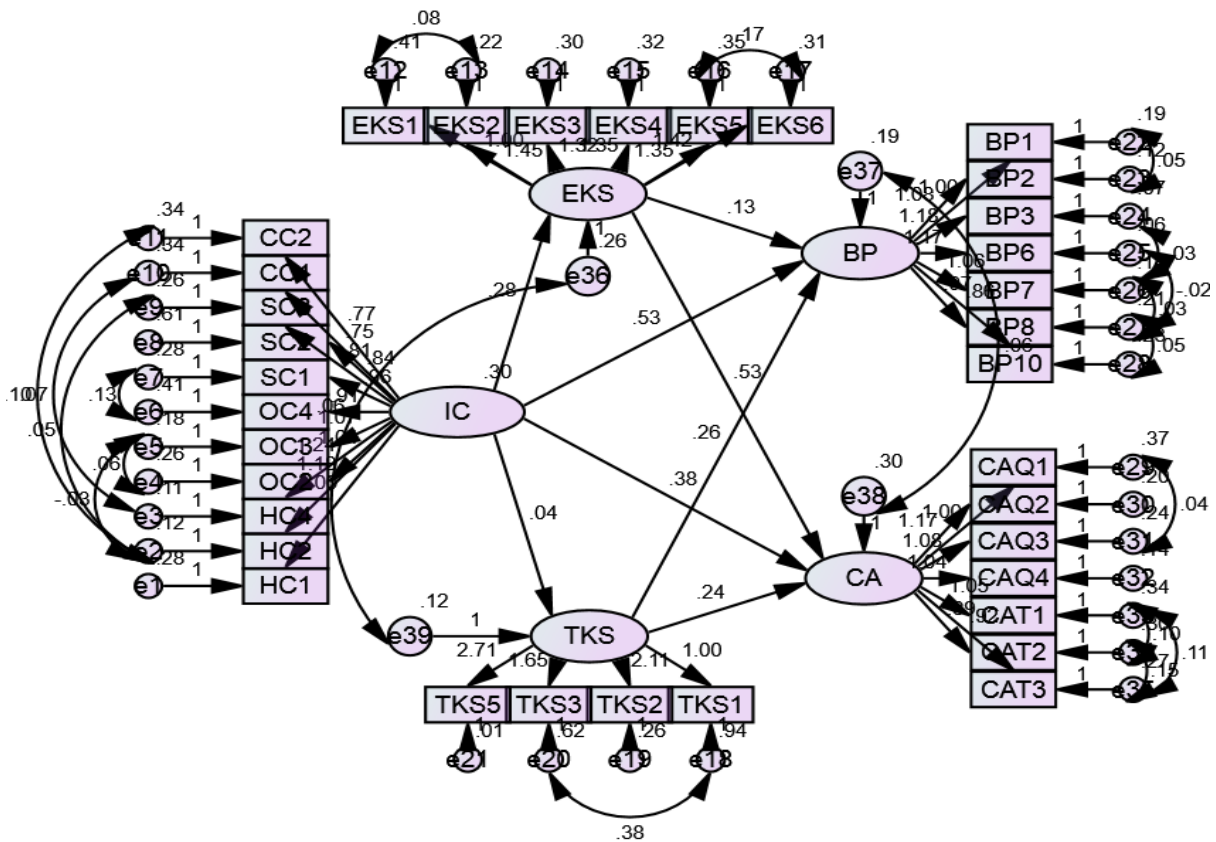


Figure 4.9: Structure Model after Data Refinement

Table 4-4.2.2 Goodness of Fit Indices for revised structural model:

<i>Goodness-of-fit Indices</i>	<i>Desirable Range</i>	<i>Measurement Model</i>
<i>Absolute Measures</i>		
χ^2	Nil	
CMIN/df	<5	1.696
RMR	<.10	.037
GFI	≥ 0.80	.870
AGFI	≥ 0.80	.846
RMSEA	≤ 0.08	.045
<i>Incremental fit indices</i>		
NFI	≥ 0.80	.907
CFI	≥ 0.90	.955
TLI	≥ 0.90	.959

Table 4.4.2.3 Parameter Estimates for Finalized Structural Model

	Path		Estimate	S.E.	C.R.	P
TKS	<---	IC	0.042	0.036	1.176	0.24
EKS	<---	IC	0.279	0.06	4.659	***
BP	<---	IC	0.527	0.06	8.849	***
CA	<---	IC	0.385	0.068	5.648	***
BP	<---	EKS	0.129	0.055	2.355	0.019
CA	<---	TKS	0.241	0.105	2.292	0.022
BP	<---	TKS	0.256	0.085	2.997	0.003
CA	<---	EKS	0.534	0.083	6.434	***

4.4.3 Mediation Analysis

Here mediation was tested by calculating the indirect affect (a*b path). Here the indirect effect through Intellectual capital → Tacit knowledge sharing → Business performance was insignificant ($0.042(.240)*0.256(.003)=0.01075$). Further in case of Intellectual capital → tacit knowledge sharing → Competitive advantage the indirect effect was also insignificant i.e. $0.042(.240)*0.241(.022)=0.01012$.

While the indirect path Intellectual capital → Explicit knowledge sharing → Business performance was significant at 5 % confidence level ($0.279(.000)*0.129(.019)=0.03599$). The last mediation path showing the relationship of Intellectual capital → explicit knowledge sharing → Competitive advantage was also significant $0.279(.000)*0.534(.000)=0.14899$.

Table 4.4.3.1

Path					a*b	Indirect effect
IC	□	TKS	□	BP	$0.042(.240)*0.256(.003)$	0.01075
IC	□	TKS	□	CA	$0.042(.240)*0.241(.022)$	0.01012
IC	□	EKS	□	BP	$0.279(.000)*0.129(.019)$	0.03599
IC	□	EKS	□	CA	$0.279(.000)*0.534(.000)$	0.14899

Table 4.4.4 Hypotheses Testing

Following table shows summary of hypotheses

	Hypotheses	Supported
H1:	There is a significant relationship between intellectual capital and tacit knowledge sharing.	NO
H2:	Intellectual capital has a significant relationship with explicit knowledge sharing.	YES
H3:	There is a significant relationship between intellectual capital and business performance	YES
H4:	Intellectual capital has a significant relationship with competitive advantage	YES
H5:	Tacit knowledge sharing has a significant relationship with competitive advantage.	YES
H6:	Explicit knowledge sharing has significant relationship with business performance.	YES
H7:	Tacit knowledge sharing has a significant relationship with business performance.	YES
H8:	Explicit knowledge sharing has significant relationship with competitive advantage.	YES
H9:	Tacit knowledge sharing mediates the relationship between intellectual capital and competitive advantage.	NO
H10:	Tacit knowledge sharing mediates the relationship between intellectual capital and business performance.	NO
H11:	Explicit knowledge sharing mediates the relationship between intellectual capital and competitive advantage.	YES
H12:	Explicit knowledge sharing mediates the relationship between intellectual capital and business performance.	YES

CHAPTER NO.5

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This chapter includes the discussion, contribution, implications and limitations of the study along with future research directions. Here Section 5.1 under the heading discussion and findings elaborates the results and findings on the basis of empirical outcomes of this study, next 5.2 section discuss the contribution of the study from theoretical and practical point of view and the last section sheds light on the limitations and future directions of the study.

5.1 Significance of the study

This investigation was contributing in the existing literature as no particular study has been conducted in Pakistan to explore the impact of intellectual capital on business performance with the role of knowledge sharing, innovation, competitive advantage of banking executives. Further, the selected set of relationships were not tested before. Furthermore, the results of this investigation will help the top management of banks to formulate policies and procedures to promote the intellectual capital, knowledge sharing and innovations to increase the business performance in public and private banks of Pakistan.

5.2 Discussion and Findings

Total 12 hypotheses were formulated in this study to achieve study objectives and to answer the research questions. Here H-1 was formulated to check the impact of Intellectual capital on tacit knowledge sharing. Here this path was insignificant as $\beta=.042$ with $p>.05$. Hence H-1 was not proved showing that in this case intellectual capital does not promote tacit knowledge sharing within the environment of commercial banks. Tacit knowledge is linked with the personal experiences of individuals thus it might be the reason that individuals perceive a threat to their

position in the organization when they share their personal knowledge and experiences with their fellow beings.

Similarly, H-2 was proposed to test the impact of intellectual capital on explicit knowledge sharing and it was found significant as $\beta=.279$ with $p<.05$ indicating that intellectual capital has significant impact on explicit knowledge sharing. This hypothesis was accepted at 5% confidence level implying that employees tend to share explicit knowledge due to intellectual capital in banking sector. As the explicit knowledge is in the form of documents/written and arranged by the organization then it might be easier for individuals to share this type of knowledge.

Further H-3 was formulated to test the impact of intellectual capital on business performance in banking sector. Empirical results showed a positive and significant impact as $\beta=.527$ with $p<.05$ indicating that intellectual capital promotes business performance in banking sector. This hypothesis was accepted that intellectual capital has significant impact on business performance.

H-4 was proposed to check the impact of intellectual capital on competitive advantage in banking sector. Empirical results showed a positive and significant impact as $\beta=.358$ with $p<.05$ indicating that intellectual capital promotes competitive advantage in banking sector. This hypothesis was accepted that intellectual capital has significant impact on competitive advantage. H-5 was proposed to check the impact of tacit knowledge sharing on competitive advantage and this path was found significant with $\beta=.241$ with $p<.05$ implying that tacit knowledge sharing is significantly associated with competitive advantage in banking sector organizations. Thus H-5 was accepted.

H-6 was proposed to check the impact of explicit knowledge sharing on business performance and here path coefficient was found significant with $\beta=.129$ and $p<.05$. This relationship was statistically significant and thus H-6 was accepted that explicit knowledge sharing promotes business performance in banking sector. Similarly, H-7 was proposed to check the impact of tacit knowledge sharing on business performance and this path was found statistically significant with $\beta=.256$ with $p<.05$ implying that tacit knowledge sharing is significantly associated with business performance in banking sector organizations. Thus H-7 was accepted.

H-8 here was formulated to check the impact of explicit knowledge sharing on competitive advantage and it was found that this path is statistically significant with path coefficient $\beta = .534$ and $p < .05$. This relationship was statistically significant and thus H-8 was accepted that explicit knowledge sharing brings competitive advantage in banking sector. H-9 was formulated to check the mediating impact of tacit knowledge sharing between the relationship of intellectual capital and competitive advantage. In this case mediation was tested by calculating the indirect effect by multiplying a & b paths ($a*b$). This hypothesis was rejected due to insignificant path between intellectual capital and knowledge sharing. Hence H-9 was rejected. H-10 was formulated to check the mediating impact of tacit knowledge sharing between the relationship of intellectual capital and business performance. In this case mediation was tested by calculating the indirect effect by multiplying a & b paths ($a*b$). This hypothesis was rejected due to insignificant path between intellectual capital and knowledge sharing. Hence H-10 was rejected.

H-11 was formulated to check the mediating role of explicit knowledge sharing between the relationship of intellectual capital and competitive advantage. In this case mediation was tested by calculating the indirect effect by multiplying a & b paths ($a*b$) = $0.279(.000) * 0.534(.000)$ = 0.14899 . This hypothesis was accepted that explicit knowledge sharing has a mediating role between the intellectual capital and competitive advantage relationship.

Similarly, H-12 was formulated to check the mediating role of explicit knowledge sharing between the relationship of intellectual capital and business performance. In this case mediation was tested by calculating the indirect effect by multiplying a & b paths ($a*b$) = $0.279(.000) * 0.129(.019)$ = 0.03599 . This hypothesis was accepted that explicit knowledge sharing has a mediating role between the intellectual capital and business performance relationship. Hence H-12 was accepted.

5.3 Conclusion

On the basis of empirical findings, it can be concluded that this case intellectual capital does not promote tacit knowledge sharing within the environment of commercial banks. Tacit knowledge is linked with the personal experiences of individuals thus it might be the reason that individuals perceive a threat to their position in the organization when they share their personal knowledge and experiences with their fellow beings. However intellectual capital promotes explicit knowledge sharing as employees tend to share explicit knowledge due to intellectual capital in banking sector. As the explicit knowledge is in the form of documents/written and arranged by the

organization then it might be easier for individuals to share this type of knowledge. Further it can be concluded that intellectual capital and business performance in banking sector are significantly associated. Similar conclusion can also be drawn for intellectual capital and competitive advantage relationship in banking sector. Additionally, tacit knowledge sharing also promotes competitive advantage in banking sector.

When employees tend to share explicit knowledge then it increases the business performance as well as same is observed in the case of tacit knowledge sharing and business performance but tacit knowledge sharing brings higher magnitude change in business performance as compared to explicit knowledge sharing in banking sector. In case of explicit knowledge sharing and competitive advantage relationship it can be it can be concluded that explicit knowledge sharing brings competitive advantage in banking sector.

However tacit knowledge sharing does not play a role of mediator between the intellectual capital and business performance as well as in case of competitive advantage. Reason might be employees in the banking sector tend to hide their personal experiences due to career insecurity or Carrera advancement.

On the other hand, explicit knowledge sharing mediates the relationship between the intellectual capital and competitive advantage as well as between the intellectual capital and business performance relationship. In this case it can be concluded that employees tend to share knowledge which is in the shape of official documents or in written form.

5.4 Contribution of the Study

This study contributed from both perspectives, theoretical and practical discussed as under: -

5.4.1 Theoretical Contribution

From theoretical point of view this study has made contribution into the literature by investigating the unexplored areas in the domain of intellectual capital, tacit knowledge sharing, explicit knowledge sharing, business performance and competitive advantage. First of all, this study has addressed the future calls of various researchers (Chahal & Bakshi, 2016.; Obeidat et al. 2016) by investigating the impact of intangible assets in the shape of intellectual capital. In spite the

phenomena of intellectual capital have been explored extensively but its relationship with competitive advantage yet to be explored (Chahal & Bakshi, 2016; Obeidat et al. 2016). Even knowledge management is broader term and the relationship of knowledge sharing with intellectual capital has been studied in different scenarios (Akhavan & Khosravian, 2016) but this study made a contribution by exploring the tacit and explicit knowledge sharing collectively (Akhavan & Khosravian (2016). Similarly, this study has addressed the future call of Wang, Wang and Liang, (2014) and Chahal & Bakshi, (2015) by investigate the impact of knowledge sharing on firm performance in various sectors.

In addition to this study has been conducted in different context which is also a contribution as this study has attempted to address the future call of Elsetouhi, Elbeltagi, & Haddoud, (2015) and Chahal & Bakshi, (2015) by exploring the interplay of intellectual capital and firm performance in different contextual backgrounds.

An important aspect of this study is its target population as recommended by Yaseen, Dajani and Hasan (2016) that relationship of intellectual capital and competitive advantage must be explored by selecting the population of the study as banking sector. Further this study has considered non-academic sector as a target population which is the contribution of this study in alignment with the recommendations of Akhavan & Khosravian, (2016) that the relationship of knowledge sharing and intellectual capital is required to be explored in non-academic sectors.

5.4.2 Practical Contribution

This study contributed in various aspects from practical point of view. First this study showed that intellectual capital does not promote tacit knowledge sharing within banking sector. Thus management of banking sector should do needful in order to promote tacit knowledge sharing as this type of knowledge sharing ensures business success and competitive advantage for the organizations in the dynamic world. Secondly this study showed that Explicit Knowledge Sharing promotes Business Performance and Competitive Advantage of Banking Sector in Pakistan. Therefore, the management of banking sector should take measures to promote explicit knowledge sharing within the branch network.

5.5 Limitations and Future Directions

Just like other studies this study was conducted on the basis of a cross sectional research design, which is a limitation of present study. Thus in future researchers must consider other research design in investigating the relationship of intellectual capital, tacit knowledge sharing, explicit knowledge sharing, business performance and competitive advantage. Further sample size must also be increased to get better results. In addition to this various sectors must be kept under consideration in future studies. In future important findings can be obtained by investigating the interplay of intellectual capital, business performance, competitive advantage and knowledge sharing from public sector banks and private sector banks perspective. In future other variables such as organisation size and age must also be considered while investigating these relationships.

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APPENDIXES

APPENDIX A

QUESTIONNAIRE

Dear Respondent,

This questionnaire is a crucial part of my MS research thesis. I kindly ask you to go through the questionnaire, answer all the questions, and return it to me. The questions below have no right or wrong answers. I am interested in your opinion. Your response will assist in the further development of networks & innovation research and understanding. **All responses will be kept strictly confidential.** For the whole process, you will need about **10 minutes**. As soon as I have analyzed the data, I will send you a **report of findings**, if you will be interested. I would greatly appreciate it if you would complete this questionnaire.

Thanks.

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All information will be kept **strictly confidential** and **ONLY** be used for research purposes.

QUESTIONNAIRE

INTELLECTUAL CAPITAL

1 Strongly Disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly Agree

HC1	1	Our bank acquires employees with suitable knowledge and competences.	5	4	3	2	1
HC2	2	Our bank develops talent through programs such as formal job training.	5	4	3	2	1
HC3	3	Our bank retains the most talented employees who have a suitable educational level.	5	4	3	2	1
HC4	4	Our employees can share their knowledge with their Colleagues.	5	4	3	2	1
OC1	5	Our bank has an effective management process	5	4	3	2	1
OC2	6	Our bank culture is supportive and comfortable to innovation	5	4	3	2	1
OC3	7	Our bank has an effective knowledge management system	5	4	3	2	1
OC4	8	Our top management team regards employees as the source of innovation	5	4	3	2	1
SC1	9	Employees often exchange information informally.	5	4	3	2	1
SC2	10	Our bank is characterized by personal friendship among the colleagues at multiple levels.	5	4	3	2	1
SC3	11	Employee avoids making demands that can seriously damage the interests of the other.	5	4	3	2	1
SC4	12	Our colleagues always keep their promises.	5	4	3	2	1
CC1	13	Our customers would indicate that they are generally satisfied with our bank.	5	4	3	2	1

CC2	14	Our bank tries to offer the best service to customers in the banking industry.	5	4	3	2	1
CC3	15	We get lots of feedback out of our customers' wants.	5	4	3	2	1
CC4	16	We strive to meet with customers' wants.	5	4	3	2	1
EKS1	17	Employees in my bank frequently share existing reports and official documents with colleagues.	5	4	3	2	1
EKS2	18	Employees in my bank frequently share reports and official documents that they prepare by themselves with colleagues.	5	4	3	2	1
EKS3	19	Employees in my bank frequently collect reports and official documents from others in their work.	5	4	3	2	1
EKS4	20	Employees in my bank are frequently encouraged by knowledge sharing mechanisms.	5	4	3	2	1
EKS5	21	Employees in my bank are frequently offered a variety of training and development programs.	5	4	3	2	1
EKS6	22	Employees in my bank are facilitated by IT systems invested for knowledge sharing.	5	4	3	2	1
TKS1	23	Employees in my bank frequently share knowledge based on their experience.	5	4	3	2	1
TKS2	24	Employees in my bank frequently collect knowledge from others based on their experience.	5	4	3	2	1
TKS3	25	Employees in my bank frequently share knowledge based on their expertise.	5	4	3	2	1
TKS4	26	Employees in my bank frequently collect knowledge from others based on their expertise.	5	4	3	2	1
TKS5	27	Employees in my bank will share lessons from past failures when they feel that it is necessary.	5	4	3	2	1
CAP1	28	We offer competitive prices.	5	4	3	2	1
CAP2	29	We are able to offer prices as low or lower than our competitors.	5	4	3	2	1
CAQ1	30	We are able to compete based on quality.	5	4	3	2	1
CAQ2	31	We offer products fthat are highly reliable.	5	4	3	2	1
CAQ3	32	We offer products that are very durable.	5	4	3	2	1
CAQ4	33	We offer high quality products to our customer.	5	4	3	2	1
CAT1	34	We deliver product to market quickly.	5	4	3	2	1
CAT2	35	We are first in the market in introducing new products.	5	4	3	2	1
CAT3	36	We have time-to-market lower than industry average.	5	4	3	2	1
CAT4	37	We have fast product development.	5	4	3	2	1

BUSINESS PERFORMANCE

The following 10 items are about the bank's performance related to key competitors in the industry over the last few years and will be used for administrative and comparative purpose only. If you are not absolutely sure about an item, please just approximate. [1=bottom, 5=top] based on the number that best corresponds to your answer.

BP1	38	Industry leadership.	5	4	3	2	1
BP2	39	Future outlook.	5	4	3	2	1
BP3	40	Overall response to competition.	5	4	3	2	1
BP4	41	Success rate in new product/services launches.	5	4	3	2	1
BP5	42	Overall business performance and success.	5	4	3	2	1
BP6	43	Employee productivity.	5	4	3	2	1
BP7	44	Process (transaction) productivity.	5	4	3	2	1
BP8	45	Sales growth.	5	4	3	2	1
BP9	46	Profit growth.	5	4	3	2	1
BP10	47	Bank's market valuation (stock value).	5	4	3	2	1

Personal and job information

Please tick where appropriate.

- **Your bank is** **Public sector banks** **Private sector banks**

- **Your City is**

- **Name of Bank** _____

- **Nature of Branch** **Conventional** **Islamic** **Both**

- **Your Designation** **Corporate Manager** **Associate Manager**
 Banking Services Manager **Branch / Operations Manager**
 Others_____

- **Gender** **Male** **Female**

- **Your Age** **20-25** **26-30** **30-35**
 36-40 **46 and above**

- **Your Highest Qualification**
 Graduation **Masters** **MS/M. Phil**
 Ph.D **Banking Diploma** **Others**

- **Total Banking Experience**
 1-3 **4-6** **7-9**
 10-12 **13 and Above**

APPENDIX-B

Name of Bank	No. of Employees	No. Branches	Source of Data		Website
			Annual Report	Page No.	
A. Public Sector Commercial Banks	27,284	2,252			
1 First Women Bank Ltd.	564	42	Annual Report 2015	59	www.fwbl.com.pk
2 National Bank of Pakistan	15548	1424	Annual Report 2015	28	www.nbp.com.pk
3 Sindh Bank Ltd.	1985	250	Annual Report 2015	56	www.sindhbankltd.com
4 The Bank of Khyber	2448	130	Annual Report 2015	103	www.bok.com.pk
5 The Bank of Punjab	6739	406	Annual Report 2015	13	www.bop.com.pk
B. Local Private Banks	128,181	10,088			
1 Al Baraka Bank (Pakistan) Ltd.	1845	135	Annual Report 2015	45	www.albaraka.com.pk
2 Allied Bank Ltd.	11011	1150	Annual Report 2016	41	www.abl.com.pk
3 Askari Bank Ltd.	6781	424	Annual Report 2015	93	www.askaribank.com.pk
4 Bank Al-Falah Ltd.	10280	650	Annual Report 2015	147	www.bankalfalah.com
5 Bank Al-Habib Ltd.	10771	605	Annual Report 2016	64	www.bankalhabib.com
6 BankIslami Pakistan Ltd.	3683	317	Annual Report 2015	238	www.bankislami.com.pk
7 Burj Bank Ltd.	968	74	Annual Report 2015	108	www.burjbankltd.com
8 Dubai Islamic Bank Pakistan Ltd	2952	200	Annual Report 2015	34	www.dibpak.com
9 Faysal Bank Ltd.	5357	280	Annual Report 2015	68	www.faysalbank.com.pk
10 Habib Bank Ltd.	15,060	1,716	Annual Report 2015	32	www.habibbankltd.com
11 Habib Metropolitan Bank Ltd	4297	249	Annual Report 2015	43	www.hmb.com.pk
12 JS Bank Ltd.	2946	277	Annual Report 2015	84	www.jsbl.com
13 MCB Bank Ltd.	12,092	1,257	Annual Report 2015	171	www.mcb.com.pk
14 MCB Islamic Bank Ltd.	120	39	Annual Report 2015	51	www.mcbislamicbank.com
15 Meezan Bank Ltd.	8581	551	Annual Report 2015	152	www.meezanbank.com
16 NIB Bank Ltd.	2678	171	Annual Report 2015	62	www.nibpk.com
17 Samba Bank Ltd.	657	34	Annual Report 2015	65	www.samba.com.pk
18 Silkbank Ltd.	3153	88	Annual Report 2015	119	www.silkbank.com.pk
19 Soneri Bank Ltd.	3676	266	Annual Report 2015	94	www.soneri.com
20 Standard Chartered Bank (Pakistan) Ltd.	3798	101	Annual Report 2015	70	www.standardchartered.com.pk
21 Summit Bank Ltd.	2852	192	Annual Report 2015	68	www.summitbank.com.pk
22 United Bank Ltd.	14623	1,312	Annual Report 2015	91	www.ubl.com.pk
Commercial Banks (A+B)	155,465	12,340			

Source1: Statistics & Data Warehouse Department, SBP

Source2: Annual Reports of Respective Banks 2016