Chapter II: REVIEW OF LITERATURE

2.1 Introduction:

This chapter helps in understanding the existing literature on the research topic. The literature review helped in assessing the proposed research needs and to refine the conceptual understanding in the proposed research objectives and questions. Though review has done before the data analysis and research findings, the study has maintained to update the literature by including new and relevant studies.

The section plots the reviews in five different headings.

Part One: “Reviews the concept of knowledge and outlined the importance of knowledge and its sharing, discussed the knowledge sharing enablers in the contemporary business world”.

Part Two: “Followed by reviews on knowledge sharing, it proceeds with the concept of social capital and dimensions of social capital. A stress was given in the social capital perspective of knowledge sharing”

Part Three: “This part of the section deals with the organisational perspective of knowledge sharing and importance of organizational culture in different studies has listed”

Part Four: “The concept of innovative work behavior and the impact of study variable on innovative work behavior in different organizational setups are presented in this part”

Part Five: “Presents the reviews relating to innovation and impact of knowledge sharing on innovation is documented”.

2.2. Knowledge Sharing:

Knowledge is considered as the most valuable intangible resource in the present competitive world. It brings competitive advantage to organizations (Grant, 1996; Davenport & Prusak, 1998). There is vast literature available in the subject dominie of knowledge. Some studies focus on knowledge and its forms, some focus on knowledge sharing in different organisational contexts and some studies related to theories of knowledge sharing. Since the study focus on toe forms of knowledge sharing they are tacit and explicit knowledge sharing.
it also finds the knowledge sharing promoters or enablers from literature review and fixed with organizational culture and social capital. The study further considered the three dimensions of the social capital, they are structural social capital, relational social capital and cognitive social capital. the impact of tacit and explicit knowledge sharing on product and process innovations. So, the role of knowledge in this research is very critical. The need for complete understanding about the knowledge and its forms, types, antecedents, theories, factors affecting and effects of knowledge on different organisational aspects is highlighted in the thesis wherever necessary. The following review section helps in understanding the relationship of selected variables and enables us in finding the research gap.

Kurt Matzler, Julia Mueller (2011) empirically tested the influence of individual antecedents of KS (Knowledge Sharing) on learning and performance orientation. It helps in understanding the influence of personality traits on knowledge sharing behaviors. The personality traits include conscientiousness, need for learning, competitiveness and openness. All these traits showing positive effect on goal orientation (learning orientation and performance orientation). The findings suggest that knowledge sharing behavior enhances the goal orientation in the workplace.

Sheng Wang and Raymond A. Noe (2010) reviewed the studies in knowledge sharing literature. They identified five critical areas like individual, team, cultural, interpersonal, organisational and motivational factors. Organisational factors include culture, climate and management support. Rewards and incentives were observed in motivational factors. Organisational structure to understand the interpersonal relationship of individual in different organizational aspects and it also depends on the team characteristics and diversity of its members. Many other methodological issues related to knowledge sharing was discussed in the paper and the future directions given in the papers helped in understanding the changing nature of knowledge sharing in different organizational contexts with changing technology and diversity.

Neil French (2010) studied the organisational factors impact on knowledge sharing. The study considered trust cultures, information systems, learning strategies and organisational structures and designs under organisational factors. Trust is the most important and much attention gained variable in the cultural literature (Wang & Noe, 2010). The results show employees share their knowledge within organizations if they find high levels of trust in it and flexible designs and structures in the organizations leads to improved knowledge sharing. The management support
is the key for knowledge sharing strategies formulations. Implementing the information system will not enhance the knowledge sharing but supportive mechanisms should develop.

Xiaoyan Wang (2010) examined the individual and social factors effect on knowledge sharing intension. The individual benefits and cost of knowledge sharing are considered as individual factors for the study. To predict the impact of these individual factors on intension to share knowledge is tested by combing these factors with theory of reasoned actions (TRA). Finally, they induced the social factors in order to shape the intentions to share knowledge. The results give that, the negative effect of loss of knowledge power hinders the attitude to share knowledge. There is a positive significance on efforts of codification and contributing behavior and negative with sharing behavior. When it comes to benefit aspects of individual factors reciprocity has significant relation with knowledge sharing, whereas rewards, image and sense of self-worth are not having any significance.

Chuck C.H. Law and Eric W.T. Ngai (2008) empirically tested the knowledge sharing and learning behaviors with organizations performance. The organisational performance is measured in terms of business process, products and services offered by the organization. The combination of sharing and learning improves the organisational performance. In business process will be enhance with continuous flow of knowledge and this improvement in process will lead to better products and services. The study identifies product innovation is possible with the improved process through continuous knowledge sharing.

Omur Hakan Kuzua and Derya Ozilhan (2014) investigated the effect of knowledge sharing and employee relationships on their performance. The collective nature of organizations to achieve a common goal needs participation of all. The collectiveness depends on the relationships they maintain. According to this paper the employee relationships are depends on the work environments, supportive culture, mutual respects, relationship with superiors and top management, self-learning and self-satisfaction. Knowledge sharing can be conditional or voluntary in nature. The result shows a positive effect of knowledge sharing on employee performance in the service industries.

Halısah Ashari (2014) reviewed the knowledge sharing literature and critically analyzed the effects of knowledge sharing behaviors on knowledge economy. This paper helped this research in terms of identifying the importance of knowledge in enhancing the skilled workforce, performance and in innovation. Elaborated the stages in the knowledge sharing
process in organizations. Future guidelines for organizations to effectively internalize the existing knowledge is given in this paper.

Wei He and Kwok-Kee Wei (2009) finds the knowledge sharing drivers both in contributing and seeking behaviors. It gives strong empirical support to the proposed KMS continuance model. The moderating effect of habit is observed between intention and behavior and they also find significant representation of social relationships towards knowledge sharing. The reciprocal behavior is not significant towards knowledge sharing and the organisational reward system is significant on knowledge contribution but not on the knowledge seeking behavior. Social relationships (trust) performance efficiency and effort expectancy aims at the individual knowledge seeking behavior.

Chih-Jou Chen, Shiu-Wan Hung (2010) identified factors affecting the knowledge sharing behavior of individuals in the professional virtual communities (PVC). Among the contextual factors norms of reciprocity and internal trust were tested with knowledge contributing and collecting behaviors. Knowledge sharing self-efficacy, perceived compatibility and relative advantage were considered as individual factors influencing collecting and contributing behavior of virtual community members. Norms of reciprocity has negative effect on knowledge contributing behavior, while internal trust play positive effect on both collecting and contributing behavior. All the individual factors considered in this study were positively affecting on knowledge sharing behaviors.

The review on tacit knowledge by Krishna Venkitachalam and Peter Busch (2012) gives the importance of tacit knowledge in learning and creation of new knowledge. They highlight the tacit knowledge role in some practices used in knowledge management. the important positive role played by ICT is described in this paper. Though tacit knowledge sharing need face-to-face interactions, the ICT is creating a platform for transforming tacit knowledge and growing use of ICT in network organizations by reducing time, distance and cost. These technological systems help in codifying and articulating the tacit knowledge (Harrington, 2005). It also discussed the tacit knowledge role in teams, knowledge networks and communities of practice. Nonaka (1995) SECI model of knowledge transfer helps in understanding the importance of managing tacit knowledge in growing team based, network-based organizations. Lave and Wenger (1991) model of Communities of Practice in bringing the personalized tacit knowledge. Narrating and storytelling are other important KM practices mentioned in this paper. Lined (2001) described the narratives as a form of individua tacit knowledge.
2.3. Social Capital and Knowledge Sharing:

Knowledge sharing is social by nature, the very basic form of knowledge is tacit and it needed codification into explicit form for faster sharing, diffusion and application. According to Nonaka (1995) socialization process of knowledge helps to convert tacit into explicit. There are many social factors influencing the knowledge and knowledge sharing behavior. Social capital is the concept which has high impact on knowledge sharing. Greater significance of structural, relational and cognitive dimensions of social capital on knowledge sharing. below section deals with literature related to social capital and social capital perspective of knowledge sharing.

Paul S. Adler and Seok-Woo Kwon (2002) review paper helps in identifying the growing importance and finding the changes in social capital concept. They described the social structures into three categories, they are market-oriented relations, hierarchy and social relations. The network theories are analyzed by understanding the external and internal ties in organizations. The model also identifies the influence of opportunity, motivation and ability on social capital. The risks and benefits of social capital and to balance those risks and benefits is also discussed in this paper.

Anio Kianto and Jussi Waajakoski (2010) empirically examined how inter and intra organisational relationships impact the organisational growth. This paper focuses on the economic benefits bonded in established relationships. The results indicate a positive association of external structural relations and internal relational dimensions on organizations growth when they have external collaboration. The cognitive dimension has a negative relation with both internal and external growth orientation in collaborative organizations.

To understand the knowledge sharing motivations of in virtual communities Chao-Min et al (2006) formed a construct by combining the social capital and social cognitive theories. The study helps in understanding the role of complex social relations in bringing the expected outcomes. Th results identifies that outcome expectation at community level is having a positive significance with knowledge sharing quality and quantity, and it has negative significance at individual level. The results identify social interactions ties, identification and reciprocity enhances the people’s quantity of knowledge but not quality of knowledge. A strong effect of social interactions and reciprocity on trust is observed in terms of product innovation. trust has direct effect on personal knowledge sharing but not the quantity of knowledge shared.
Shared vision and languages have negative impact on quantity of knowledge share and a positive impact on quality of knowledge.

Hong-Ping Sun, Xiang-Yang Liu (2006) highlighted the positive and negative influencing factors of knowledge sharing behavior. They predict that individual beliefs, structural and relational dimensions of social capital are affecting the knowledge sharing behavior of individuals. Under individual beliefs they considered sense of self-worth and reward expectation, they considered trust, depth of relationship and social norms under social capital dimension. The results states that knowledge sharing behavior is positively influenced by sense of self-worth, expectations, trust and social norms.

Alexander Styhre (2008), studied the mediating role of social capital between individual know-how and organizational knowledge that exists in systems and process. The study was observed in a Swedish specialist rock construction company, considers knowledge is not individual entity and they tested the role of social networks in day to day work life of site managers. The main implication of the study is that conceiving of knowledge not as an individual property but as a social accomplishment may enable more detailed understanding of how intellectual resources are used in the construction industry. The study helps in understanding the value of an open, trustful and collaborative attitude among professional or occupational groups that rely on their ability to make use of know-how and previous experiences in their work.

Wilhelm Barner-Rasmussen (2003) doctoral work explored the knowledge sharing in different MNCs in different perspectives of social capital. The social context of language, feedback seeking and identity with respect to knowledge sharing was included in the study. The results implicate positive relationship between language and social capital dimensions. The identity has shown relational dimension perspective with shared backgrounds and histories. Relational capital has more significant determinant of individual knowledge sharing behavior. The research finds the collective social capital dimensions fully explains the knowledge sharing in MNCs.

Yan Yu et.al. (2013) strengthens the knowledge sharing literature by investigating the relationship between social capital and knowledge sharing at different levels (individual, group and organizational level). The results find that the combination of social capital at individual level and SC at team level jointly influence the explicit and tacit knowledge sharing. It also
identifies team level social capital depends on the density of the network in teams and promotes only tacit knowledge at group level.

The relationship between social capital and both explicit and tacit knowledge sharing is observed in study of Lingyan Hu and Amy E. Randel (2014). The important role of knowledge in promoting social capital, innovation is observed in this paper. The cognitive social capital is significantly related to tacit knowledge sharing, indicates the importance of shared language and values. In relational dimension, trust is playing crucial role in promoting tacit knowledge sharing. There is no significant difference to cognitive social capital and explicit knowledge sharing. Extrinsic motivation like incentives plays a significantly positive relationship with both explicit and tacit knowledge sharing. There is a full mediation to the relationship between cognitive social capital and team innovation.

Gunilla Widén-Wulff and Mariam Ginman (2004) gave the literary support to the proposed argument that dimensions of social capital promotes knowledge sharing in organizations. The effect of social factors on information behavior gives value to the existing knowledge process. Distinction between different kinds of groups with social capital dimensions were given elaborately.

Wei-ping Wu (2008) helps in understanding the dimensions of social capital and predicts the mediating effect of information sharing between social capital dimensions and firm competitiveness. The results fulfil one condition of mediation (Baron & Kenny, 1986) by getting a positive and significant relationship between information sharing and dimensions of social capital dimensions which is independent. The other condition also satisfies by establishing positive relationship between mediator variable and competitiveness. Information sharing plays a strong mediating role between trust, network ties and competitiveness improvement. Relational social capital (trust) has greater degree of reliance on information sharing. Repeated interactions allow multiple transactions, which intern improves the information sharing and improves competitiveness.

Raffaele Filieri Salma Alquezau, (2014) the critical role of structural social capital in promoting knowledge sharing and innovation. The review focused structural social capital at three levels (interpersonal, inter-unit and inter-organisational) in generating innovation. The study identifies role of strong ties in improving knowledge integration at inter organisational level and it requires more time and energy to maintain. The mediating role of knowledge and
different process of knowledge sharing on innovation gives mixed results. Which makes SC as an important antecedent of knowledge sharing.

Wing S. Chow, Lai Sheung Chan (2008) gives further understanding about the social capital role in sharing the organisational knowledge. In this study, they took one factor from each social capital dimension and combined them with the theory of reasoned actions. Social networking, social trust and shared goals were taken from structural, relational and cognitive dimensions respectively. The results of confirmatory factor analysis confirm that social network and shared goals significantly influencing the knowledge sharing within the organizations but not the social trust. Data was collected from 190 managers working in Hong Kong and the proposed model was tested through SEM analysis by using LISREL 8.3.

Shu-Chen Yang, Cheng-Kiang Farn (2009) investigated the relationship between tacit knowledge sharing behaviour of employee within the groups. In lines with theory of planned behaviour the relationship between intension and behaviour has tested. The data was collected from the knowledge intensive work groups in China. Before examining the structural model, the study adopted Anderson and Gerbing (1988) two-step procedure. Confirmatory factor analysis was used to measure the convergent and discriminant validity. The study employed SEM by using LISREL 8.70, the Maximum Likelihood (ML) method to estimate the measurement model. The study also employed moderated regression analysis (MRA) to check the moderating effect of external control. The results revile that social capital influencing tacit knowledge sharing intension and behavioral control. Though it is not necessary that tacit knowledge sharing intension encourage tacit knowledge behavior. External control plays a moderating role in tacit knowledge sharing intension and behavior relationship. This indicates the contingent effect of external control over tacit knowledge sharing behavior.

M.M. Haris Aslam et.al. The data was collected from the students studying in Lahore universities. The hypothesis framed to test the relationship between three dimensions of social capital and knowledge sharing. Two models were drawn and tested with regression analysis. One is to test social capital dimensions and other one is to test the impact of knowledge sharing on academic performance. The results explicit that mutual trust, shared vision and common shared language are positively significant effect on knowledge sharing. The second model result shows that knowledge sharing is negatively related to academic performance.
Hsin Hsin Chang, Shuang-Shii Chuang (2011) tried to identify the knowledge sharing influencing factors by mixing social capital theories and individual motivation. Social interaction, trust, reciprocity and identification on knowledge sharing was tested. The data was collected from 318 respondents from virtual communities. Confirmatory factor analysis (CFA) was employed to check the validity of the measures. Hierarchical regression analysis was performed for the hypothesis testing. The result shows that members in the virtual communities share reliable knowledge when they interact and trust each other. The intrinsic motivational factors are fostering the knowledge sharing than extrinsic factors.

Tai-Kuei Yu et al. (2010) studied the knowledge sharing behaviour by testing the relationship between fairness, identification and openness on sharing culture. Specifically, they tested the factors influencing knowledge sharing culture in virtual communities. Results finds that identification on knowledge sharing is not statistically significant and significant relationship find between fairness and openness with knowledge sharing culture. The study also identified sharing culture as the antecedent of knowledge sharing behaviour. It also reveals that relevance and helping others are positively significant with knowledge sharing behaviour in virtual communities.

Oded Nov et al. (2012) focused on the social capital effects on social collectives in the creation of knowledge. The concept of social capital and its dimensions were discussed in the paper. Flicker online community setting was used to check the proposed relationship between three dimensions of social capital (structural, relational and cognitive) with meta-knowledge contributing. Outcome expectation of public and self with meta knowledge contribution also tested. The framed hypothesis result summarizes that significant structural path estimates were obtained for the two proposed models.

C.-M. Chiu, et.al. (2006) empirically confirms the influence of structural, relational and cognitive dimensions of social capital on knowledge contributing behavior of virtual community members and also finds the community concerned outcome expectation as motives for knowledge contribution in online communities. The positive effect of structural embeddedness is also observed in both knowledge seeking and contributing behavior of individuals in these networks. Trust and individual identity also facilitating the knowledge sharing behavior in online community.
Martin van der Gaag and Tom Snijders (2000), explains how relational networks in the organization brings the individual outcomes and also discusses many approaches to measure the social capital. In this individual social capital is measured by SCALE research program. It has different approaches, Name generator, position generator and the resource generator. Data was collected from the Dutch population. Its distribution over geographical regions and social groups was checked. Later, these scales were used to measure the social capital as independent variable to know the individual goal achievement.

The empirical study of Yi-Wen Fan and Cheng-Chieh Wu (2011) has evaluated the social capital influence on outcomes of knowledge sharing at individual level. The study has adopted integrative model and the analysis result finds norms have influence on attitude and their intention to do work. The formation of knowledge sharing intention affected by identification and trust. Knowledge sharing behaviour is influenced by two elements of social capital (trust and self-efficacy). Quality of the shared knowledge is depending on the shared language and identification predicts the quantity of knowledge sharing. Psychological aspects like knowledge sharing attitude and intentions are inter-related and influenced by norms. Intentions are depending on perceived usefulness and perceived ease of doing.

2.4 Organisational Culture and Knowledge Sharing:

The literature provides great understanding about the role of organisational culture on knowledge sharing. The literature finds some antecedents of culture in promoting knowledge sharing, to list out some Lin (2007) identified top management support and finding enjoyment in helping other are affecting knowledge sharing in organizations. Mueller (2012) identified personal interest, willingness to helps, output orientations and top management trust on them influence knowledge sharing. Kharabshesh (2008) stressed the need for trust culture and reward system for enabling knowledge sharing. Organizations with innovative culture and readiness to change are more affecting the knowledge sharing with in the organizations. Bock et al (2005) suggested the need for organisational settings that promote subjective norms and climate are more tend to share knowledge. There are many other empirical studies in exploring relationship between organisational culture and knowledge sharing, below mentioned some of the useful and latest review for conceptual clarity in finding the research gaps.

Van den Berg and Wilderom (2004) developed the concept of organisational culture from different comparative studies and vast available literature of organisational culture. Five dimensions were taken for the study, includes autonomy, external orientation, HR orientation,
inter departmental coordination and improvement orientation. The measures for all the dimensions are framed based on the literature and changing organisational setups. They have developed the concept in such way it can be used within the organizations or used to compare the organizations. The empirical support was gained by testing the measure in large banking firms in Netherlands. The results confirm that organisational culture can be better measure by its organisational practices.

Raid et al (2011) investigated the influence of organisational cultural attributes on knowledge exchange process. The study identifies many attributes including trust, innovation, readiness to change, information flow, employee team work, employee involvement service orientation and reward system. Trust, team work, supervision and customer orientation are highly significant with knowledge exchange and rewards system is negatively associate with knowledge exchange. Reaming attributes are showing medium level significance. Among all trust have maximum relationship with knowledge exchange.

Visvalingam Suppiah and Manjit Singh Sandhu (2011) finds the influence of different organisational cultures on tacit knowledge sharing behavior. Study has taken four organisational cultures, that are clan, adhocracy, hierarchy and market oriented. The results find that organizations with clan culture and adhocracy cultures show positive influence on tacit knowledge sharing and hierarchy culture is not supporting the tacit knowledge sharing with well-organized structures, systems, channels of communication and fixed norms. Another negative relation finds between market culture and tacit knowledge sharing though they have great innovative and competitive natures with effective knowledge sharing systems.

Mian M. et al (2009) tested the organisational cultural relationship with knowledge sharing in the context of project works. They find a positive significant relationship between culture and knowledge sharing practices. The project success is depending on the capability of the team members to share their knowledge with in the project. To protect the project knowledge, one has to properly create a culture for sharing. Tacit and explicit knowledge are the two forms of knowledge and both play a critical role in project life cycle. Overall organisational culture shows a positive relationship with tacit and explicit knowledges.

Mary C. Jones et al (2006) case studies help in understanding the cultural dimensions impact on ERP (enterprise resource planning) in terms of knowledge sharing in the networks. The
study identified eight cultural dimensions, they are change orientation, collaborative culture, control and coordinating culture, motivational culture, work oriented, focus oriented, nature of time horizon and trust. These dimensions were tested in four different companies and the results explicit that influence of sub culture on knowledge sharing is observed. The growing organisational support to cross functional and integrative nature of ERP enables knowledge sharing. directions for future research is given by them to test the proposed model in tacit and explicit knowledge sharing perspective.

Adel et al (2007) investigated the role of organisational factors like interpersonal trust, information system, communication channels, organisational structures and reward in promoting the knowledge sharing by removing barriers. Individuals in the organizations are willing to share but the lack of organizational culture restricting the knowledge sharing behavior. They find trust is playing an important role in sharing work related knowledge rather personal knowledge. The individuals prefer to communicate face-to-face rather using the sharing platforms. Lack of awareness about the information systems for sharing knowledge hindering the effectiveness of knowledge sharing. the reward system is depending on the background of the individuals, the influence of rewards on knowledge sharing differs from person to person.

Sunita Rega et al (2013) in their review paper highlighted the studies showing positive relationship between different organisational cultural factors and knowledge sharing. the proposed theoretical model consists of organisational trust, structure, leadership styles, information systems used for communication and reward system as cultural components with a pre-assumed significant influence on knowledge sharing in the organizations.

Xi Zhang (2011) investigated the cultural influence on tacit and explicit knowledge sharing. wider scope of culture at national or regional level is consider for the study because of the growing multinational companies without geographic limitations. Both extrinsic and intrinsic motivations were also tested with knowledge sharing. the results of the analysis give a positive significant impact on knowledge sharing attitudes of the employees in virtual teams of MNCs. Exchange ideology and reward system in the organizations negatively moderating the perceptions and knowledge sharing behavior. They have a positive significance on explicit knowledge sharing under low uncertainty avoidance.
Alexandre Ardichvili et.al. (2006) focused the virtual communities of practice in their paper. Important knowledge sharing behavior influencing cultural factors were identified through qualitative research design by in-depth interviews. The study respondents were online community members belong to China, Russia and Brazil. The study implies to assess the cultural needs before they induce new knowledge sharing mechanisms. Qualitative analysis was done by adopting Miles and Huberman (1994) methods. The findings reveal that China employees are not willing to contribute in online discussion forums. Barriers like common language, modesty and competition among employees were identified as main barriers for knowledge sharing.

Berger Hilary and Jewels Tony (2005) identified different knowledge sharing behaviors in different organizational cultural setups. Case studies of different countries were analyzed in this study. They identify, that individual behavior to share knowledge is more of organizational culture rather than function of geographic location. In all cases culture has been identified as knowledge sharing facilitator through different mechanisms. Intrinsic motivation is developed through rewards and in some cases risk neutral cultures are developed to protect the organizations knowledge. Risk culture encourages employees to share knowledge which is linked with employee empowerment.

Berger, Hilary and Jewels, Tony (2005), examined how different organizational cultures plays a significant role in determining individual attitude towards knowledge sharing behaviour. Irrespective of national identity, the organisational type indicates significant impact on knowledge sharing behaviour. It means the knowledge sharing behaviour of individual is depends only on organizational culture rather geographical location. Risk averse or risk neutral cultures mostly adopt rewards and need to strengthen the intrinsic motivations to share the knowledge. Knowledge sharing can be encouraged by developing a risk culture which linked with user empowerment and can only be developed once the employee has been truly empowered.

2.5 Knowledge Sharing and Innovation:
Pai, F-Y., & Chang, H-F. (2013) investigated the knowledge sharing, absorptive and dynamic capabilities on organisational innovation. Knowledge integration will improve the dynamic capabilities of the firm, which intern increases the innovative performance of the organizations. The same was observed in the obtained results. The absorptive capacity of the organization indicates the easy adoption of external knowledge, the results shows a positive relation with organizations innovative performance.

Fabrice Galia (2007) examines the innovative perspective of knowledge sharing and motivational factors. Finds both extrinsic and intrinsic motivations are positively effecting knowledge sharing in the organization and knowledge sharing aspects are also showing direct effect to the innovation.

Sarah MacCurtain et.al. (2008) explored the innovative determinants in knowledge intensive firms in order to capture the innovative process. The result confirms the direct effect of team trust on innovation. The knowledge sharing ability and motivation to share knowledge was tested with innovation and finds positive relationship among motivation to share knowledge and innovation. Negative relationship with ability to share knowledge and innovation, indicates that opportunities and access to knowledge are not enough to create innovation.

Zhining Wang and Nianxin Wang (2012) empirically find the relationship between innovation and knowledge sharing. The fundamental forms of knowledge sharing both in tacit and explicit is tested with innovation speed and quality. Further the study checked the effect of innovation on firms operational and financial performances. The study observed significant effect of explicit knowledge sharing on innovation quality and innovation speed, the direct effects shows that explicit knowledge sharing have greater effect to innovation speed than innovation quality and effects of tacit knowledge was revers with greater effect on innovation quality than speed. A non-significant effect observed between tacit knowledge sharing and innovation speed and significant to innovation quality.

Chonticha Mathuramaytha (2012) investigated the effect of knowledge sharing capabilities on innovation capabilities. The ability to produce new products and process by transforming ideas is considered as innovative capability of firms. It supports the Dewar and Dutton (1986) finding that the degree of innovation replicates the embeddedness of knowledge in it. Knowledge sharing capability consist of three dimensions, they are willingness to share, capability to learn...
and transfer the knowledge. It depends on the readiness of tacit and explicit knowledges with in organizations.

Naresh Kumar and Raduan Che Rose, (2012) tested the relationship between knowledge sharing and innovation capability. The study also extended by checking the moderating role of Islamic work ethics on KS and Innovation capacity of Malaysian public-sector organizations. The sheer trust among employees decides the workplace relations with respect to knowledge sharing which supports the results of Ardichvili (2008); Choi et al. (2008) and Lin et al. (2008). and subjective norms also plays a significant role in promoting KS. This study also finds no significant relationship between organisational rewards and knowledge sharing behaviors.

Mohammad Reza et.al, (2013) studied the impact of innovation and tacit knowledge on organisational performance. The results explicate a positive relationship between tacit knowledge sharing and innovation quality. The brain storming helps in finding the solutions to the rising problems in the organizations. Technological implications on knowledge sharing helps in new product creation and modification of existing one. The study also observed a positive relationship is observed between innovation quality and organization performance.

The empirical evidences drawn from Mahmood Zohoori et.al (2013) the study observed a positive relationship between knowledge sharing and innovation. The study considered both explicit and tacit knowledge sharing. The result gives positive significant relationship in both the knowledge sharing with respect to innovation speed and quality of innovation. The importance of innovation quality in electronic industry and the need for faster innovations in competitive world is explained.

Yen-Ku Kuo et.al (2014) the moderating role of knowledge sharing was checked on relationship between job satisfaction and service innovation. Observed a positive relation between knowledge sharing and innovation ability (Hu et al, 2009 and Lin, 2007). Knowledge sharing acts as catalyst in improving service innovation and links the three study variables work place friendship, job satisfaction and service innovation.

Josune Saenz et.al (2012) identifies different knowledge sharing factors influencing the innovative capacity of the firms. The study identifies three constructs which are ICT based knowledge sharing, personal interaction-based knowledge sharing and knowledge sharing embedded in the management process. Among the three, personal interaction-based knowledge sharing is highly significantly contributing the idea generation and innovative project
management followed by embeddedness of knowledge in management process. ICT based knowledge sharing is not significantly contributing the idea generation. The study includes communities of practice, mentoring, coaching and employee rotation in personal interaction based knowledge sharing. This implies that socialization process fosters the innovation. ICT-based mechanisms such as blogs, intranets, virtual discussion platforms and knowledge repositories plays secondary role in influencing the innovation in project management.

Rifat Kamasak and Fusun Bulutlar (2010) explored the influence of knowledge sharing on innovation by examining the knowledge donating and collecting which are considered to be the two forms of knowledge sharing. Based on the literature the study observed the effects of knowledge sharing on two types of innovation, i.e. exploitative innovation and exploratory innovation. The empirical results shows that knowledge collecting behavior has significant impact on all three forms of innovations (exploitative, explorative and ambidextrous innovations) but no impact is observed with knowledge donating outside department. Donating behavior inside the departments had significant impact on exploitative and ambidextrous innovations. This result implies that knowledge collecting behavior constitutes the organisational innovative culture by providing new ideas and approaches within the organizations.

Salih Yesil and Selcuk Ferit Dereli (2013) helps in understanding the role of knowledge sharing on innovative capacity of the organizations. Smart PLS was used to test the measurement model and the estimates of the modes gives reliable results. The knowledge collecting and donating behaviors were tested with innovation capacity of the firms. While knowledge collecting has shown positive effect on the innovation capacity and knowledge donating has shown negative effect. Thus, it reflects the results of Lin (2007) the knowledge sharing culture will lead to continuous innovation performance.

Salih Yesil et.al (2013) the dynamic relationship between knowledge sharing and innovation was presented in this study. The knowledge sharing implications on innovation performance and innovation capacity is observed. The data was collected through structured questionnaire prepared based on the extensive review of literature. This result helps in understanding the prerequisites in improving the organisational climate for improved innovations. The study results give partial support to the previous studies which establish positive relationship between knowledge sharing and innovation capacity. This partial support because of knowledge collecting behavior with negative impact on innovation capacity of the firm. Another
distinctive finding of the study is positive relationship between innovation capacity and innovation performance.

Iris Reychav and Jacob Weisberg, (2010) provides the innovative scale to measure the explicit and tacit knowledge sharing intentions of managers. The survey was conducted among the managers working in the hi-tech firms in Israel. The tested two distinctive knowledge sharing behaviors are tacit and explicit knowledge sharing. The direct effects confirm the correlation between knowledge sharing intentions and both tacit and explicit knowledge sharing behaviors. As previous study by Jordan and Jones (1997) the companies should encourage both explicit and implicit knowledge sharing by interpersonal interactions in KM systems. The study uses the TRA and TPB theories to capture the predictive ability of individual behaviors and intentions

Angeles et.al.(2011) determines the effect of knowledge spillover in science and technology firms on innovation and collaboration. Firm innovation and R&D collaboration were considered as dependent variables and knowledge spillover as independent variable. The measure for innovation is taken in terms of product, process, organisational and commercial. The result shows that product innovation was greatly explained by the customer spillovers and R&D collaboration is greatly explained by institutional and public spillovers. It also observed that firm’s location within scientific parks is playing a major role in the innovation and collaboration.

Hsiu-Fen Lin, (2007) empirically finds the relationship between influencing factors of knowledge sharing and innovation capacity. The study was conducted among the Taiwan organisations. The result shows that individual factors like enjoyment in helping others and knowledge self-efficacy are positively affecting knowledge collection and donating. Further knowledge sharing process was influenced by the top management support and no significant influence of organisational rewards on knowledge sharing. The use of ICT is not significant in knowledge donating and significant in collecting. Finally, the firm’s innovative capacity was strongly influenced by the willingness of employee in donating and collecting the knowledge.

Josune et.al (2012) tested the influence of different knowledge sharing mechanisms on innovative capacity and company performances. The hypothesis was developed based on the extensive literature and finds three knowledge sharing mechanisms like ICT based, personal interaction based and KS embedded in management process with innovation capacity. There was a significant influence of personal interaction-based knowledge sharing and KS embedded
in management process on the new idea generation stage of innovation process. While the ICT based knowledge-sharing has no significant effect on innovation. The results advised that personal based knowledge sharing interaction promotes the project management. Overall the study helps in understand the relevance of different knowledge sharing mechanisms on enhancing the innovation capacity of the firms.

Onwika et al., (2013) aims at finding the relationship between knowledge sharing, innovation and information technology. The data was collected from 224 respondents working in the herbal manufacturing industries. In this paper two types of knowledge were tested, with the help of measures developed by Lin and Lee (2006); Baharim (2008); Wang and Wang (2012) they are tacit knowledge sharing and explicit knowledge sharing. The innovation typology presented in this study was product and process innovations. The measured items were adopted from Liao et al. (2007) Aulawi et al. (2008) and Norek, 2013. SPSS was used for the analyses and the results describe that knowledge sharing is positively influencing the innovation and partially mediating between information technology and firms’ innovation.

Michael Fritsch and Monika Meschede (2001), examined the expenditure on product and process R&D of different firm sizes. The results shown that, expenditure on product and process R&D is statistically non-significant. It indicates that small firms investing in R&D are tend to be more innovative than larger firms. Expenditures were also more compared to the allotted budget for product R&D. These findings help in understanding the preference of small and large firms among product and process innovations. Looking at the amount of resources devoted to both kinds of R&D we find that, on the average, small enterprises spend a much higher proportion of their R&D budget on new products than on new processes. This result suggests that product innovation may be much better suited as a means of entry into a market than process innovation.

Hsiu Fen Lin (2007), examined three different factors like individual, organizational and technological on knowledge sharing processes and its impact on firm’s innovative capabilities. A survey was conducted among the employees of fifty different large organizations in Taiwan. The results explicit that knowledge sharing process is significantly influenced by two individual factors (knowledge self-efficacy and enjoyment in helping others) and one organizational factor that is top management support. It also helps in understanding that firm’s innovative capacity can be improved by employee’s willingness to both donating and collecting of knowledge. This study helps in finding relationships among knowledge sharing enablers,
processes and innovation capacity of firms. It provides a clue on how firms can promote knowledge sharing culture to keep their innovative performance.

S. Abdallah, A. Khalil, and A. Divine (2012), explored the relationship between knowledge sharing and innovation capability and also identified the knowledge sharing enabling factors at individual, organizational and technological level. A survey was conducted in the United Arab Emirates. The results show a positive significance of technological factors on innovative capacity of the firms. It also helps in identifying the knowledge collecting and donating aspects of the employees. Little evidence of knowledge sharing enablers for the innovation capability in UAE is revealed through the study. It adopted the model proposed by Lin (2007). Individual and organizational factors show either weak or no significant importance.

Carrasco-Hernández, A and Jiménez-Jiménez, D (2013), focused on the effects of knowledge management on organisational innovations. Every organization has its competitive advantage with its innovation capability. This papers theoretically mentions innovation are linked with the social capital. The elements of social capital help in achieving shared objectives. This foundation gives that, internal social capital enhances the ability of members within a firm to know who to contact for relevant knowledge. This means that internal social capital facilitates the development of innovation through the acquisition of knowledge from internal and external networks. The empirical results of the study reveal a positive relationship between social capital and product innovation. individual behaviors, shared values, trust and mutual understanding allows firms to innovate. Another interesting finding is families plays a moderator role in the relationship between social capital and innovation.

2.6 Innovative Work Behavior and Knowledge Sharing:

Gerhard Messmann (2012) attempted to study the relationship of professional knowledge, performance and development of vocational teachers on their innovative work behaviour. This study listed the reviews in the subject area of innovative work behaviour. The empirical result describes these professional constructs are positively correlate with innovative work behaviour. Two demographic factors age and experience are affecting the professional constructs and shows indirect effect on innovative work behaviour.

Giovanni Radaelli, et al (2014) investigated the direct and indirect effects of knowledge sharing on innovative work behaviour. It finds an empirical evidence on direct link between these two variables. The individual factors like personality, cognitive ability and motivations are
considered for checking the effect on knowledge sharing behaviour. The ability and opportunity significantly affecting the innovation work behaviour directly and motivations are extrinsic in nature with indirect effect on innovative work behaviour. Overall this study finds a direct effect of knowledge sharing on IWB.

With the growing importance of innovations, organizations are looking for innovations and focused on measuring the innovative work behaviour of individuals. In this regard Jeroen de Jong and Deanne den Hartog (2010) has attempted to develop measures for innovative work behaviour. Idea exploration, generation of ideas, championing and implementing of ideas were taken as dimensions for measuring the IWB. Two other constructs are checked with the IWB and finds external work contacts and participative leadership are positively affecting.

T.Oukes (2010) in his case study focused on the effect of innovative work behavior on performance of firm and the moderating effect of leadership on IWB. The results find that expected job performance outcomes are high the leadership is negatively affecting innovative work behaviour shows no moderating effect, but in normal conditions the leadership showing positive relation with innovative work behaviour. There is a positive relationship between IWB and Innovation output is observed.

2.7 Summary:

Overall this chapter provides great insights to this research work by identify the possible gaps in the available literature. Reviews in the knowledge domain enables in understanding the nature of knowledge in the changing organisational perspective. Knowledge enablers are listed and finds organisational culture and social capital more relevant to the present innovative organisational cultures. The knowledge sharing outputs were identified in some empirical works and finds innovation as more relevant and futuristic outcome for any organization. After narrow downing to literature review, the reviews are restricted to knowledge sharing, innovation, organisational culture, social capital, innovative work behaviour variables and inter relationships between them. There are lot of reviews on relationship between social capital and knowledge sharing but very few elaborated and extended their research to its dimensions and types. With this gap in this research, social capital dimensions (structural, relational and cognitive) are tested with two different knowledge sharing types (explicit and tacit). Studies relating to organisational culture have a positive and direct effects on knowledge sharing but it is not tested in a government system where knowledge management system are introduced. The impact of knowledge sharing within the organizations and on their outcomes, are reviewed
and identified innovation as most important organisational outcome. Many reviews focused on innovation as a whole, innovative performance etc. This study focused on two knowledge sharing types with product and process innovations. The study also finds the important role of innovative work behaviour in enhancing innovation. All the research gaps are based on the review of available literature.