Full Length Research Paper

Effect of knowledge management practices (KMPs) and the moderating role of interpersonal trust (IPT) on firm's performance (FP): A study in software industry of Pakistan

Munnaza Afzal* and Umair Afzal

International Islamic University, Islamabad, Pakistan.

The purpose of this study is to analyze the effect of knowledge management practices on the firm's performance in software industry of Pakistan. A co relational research design using a multiple regression was used to test the causal relationships among the knowledge management practices, firm's performance and the moderating role of interpersonal trust. Hypotheses were tested through field research study carried out on 38 firms in information technology industry of Pakistan. Quantitative data using convenient sampling technique were collected through questionnaires. The important finding of this paper is that the presence of IPT as a moderator changes the direction or strength of relation between KMPs and FP. This study contributes to the growing body of literature linking knowledge management and the resource base view and knowledge base view and determines practices that have a positive incidence on firm's performance. The paper concludes that developing interpersonal trust among employees can lead to effective implementation of KMPS which increases the firm's performance. Future cross-cultural research would be valuable and may reveal details about the phenomena in a broader context.

Key words: Knowledge Management Practices (KMPs), Firm Performance (FP), Interpersonal Trust (IPT), Resource Base View (RBV), Knowledge Base View (KBV).

INTRODUCTION

In the last decade, knowledge management (KM) has become a line of research attracting much interest. Although the literature had already worked implicitly with knowledge, the increasing spread of theoretical works on KM is due to the importance it has for the firm, as well as the development of the knowledge-based view (Marques, 2006).The aim of this research is to study the importance of KMPs as a source of sustainable competitive

advantages for firms and to analyze how the introduction of IPT enables FP to improve. The practices that have a more positive influence on firm performance are also obtained. Knowledge is considered as power by most of the writers in the contemporary environment. Bock et al. (2005) use the word power for knowledge to explain the importance of knowledge. The value of knowledge and learning in improving organizational competence has increased in the current climate of increasing global competition and there is no doubt about it (Prieto and Revilla, 2004). Knowledge management is taken as a pillar for improving the performance of the firm and for providing the competitive advantage. Knowledge management initiatives have enabled the organizations to experience successes by proper utilization of knowledge in the form of best practices that lie within the firm. But knowledge management practices are not given much importance in developing countries like Pakistan where literacy rate is not very high (Abass et al., 2011). In the 21st century, those who master knowledge will control their competitive future. However, failed programs far outnumber successful ones because most companies experience unexpected challenges in developing knowledge management strategies and practices. These challenges include measuring knowledge management and identifying its effect on organizational performance (Darroch and McNaughton, 2002).

Knowledge management is an intangible concept, and much of the literature continues to explore these intangible issues. Employees in software industry hesitate to share knowledge among each other because of the fear of loss of confidential data when an employee leaves the organization. Due to this employees can not develop interpersonal trust among each other. Literature provides many examples of such organizations where all the learning and knowledge is lost when employees are moved to new roles or they leave the organization. Pakistan's software industry comes under the ministry of information technology. The major advantage the software industry offers to developing countries like Pakistan is that most of the software development projects are from international market, while all the expenses and salaries are paid at local rates, which are considerably lower as compared to other countries. Therefore in Pakistan, doubtlessly, software industry has currently the highest profit making potential. The study of introducing KM in the firm and its effects revolves around determining whether it is able to carry out quantifiable improvements.

The aim of this research is to find out the link between knowledge management practices and firm performance taking interpersonal trust as a moderator in software industry of Pakistan. General question asked by this research paper is what are the levels of knowledge management practices and the firm performance of Software industry in Pakistan? Specific questions that

this research paper aims to answer include the following:

1. What is the relationship between knowledge management practices and firm performance?
2. What role does interpersonal trust play in knowledge management practices and firm's performance?

Currently, IT industry is a fastest growing industry in Pakistan. It plays a vital role in a country's economic growth. Thus, the information about the relationship between KMPs, FP and IPT gained from this study can assist software employers in sustaining their FP through improved KM practices. It also highlights the role of two important ignored variables; KMPs and IPT in improving the FP.

LITERATURE REVIEW

There is a great deal of literature conceptualizing the terms of knowledge management, interpersonal trust and firm's performance.

Knowledge management

To Davenport and Prusak (1998), knowledge management is an ability that is built on information that is gained from bunch of opportunities that people have with respect to any context. Management of an organization's intellectual capital and strategic relationships is termed as knowledge management by Quible (2001). This management involves creating or acquiring knowledge, storing and protecting it, updating and maintaining it, and its application and use whenever required. Suzana (2010) discussed that knowledge possess by a firm is an asset in its own right and the manner by which an organization uses it directly affects its functionality. She explains that it is a resource that plays an important supporting role within the firm.

Performance measures of a firm can be seen with respect to the speed of developing competencies based on knowledge. Major competitive advantages of firm reside in knowledge. Intellectual capital and knowledge are considered among the competencies based on knowledge Nonaka (1994). Decarolis and Deeds (1999) showed that knowledge management involves acquiring, converting and applying the knowledge and its use to improve the social capital, finally improving the overall performance of the firm. It gives rise to the first hypothesis that,

H_1: Knowledge management practices are directly and significantly related to firm's performance

Knowledge Management Practices (KMPs)

Studies conducted in recent times indicated that effective

knowledge management can be resulted by the mix of three things which are appropriate organizational culture, integrated technical infrastructure and employees' willingness to create, share and apply knowledge (Alavi and Leidner, 2001; Silva et al., 2007). There are found no models that explain the knowledge management practices relationship with the performance of the organizations. According to Decarolis and Deeds (1999) and Davenport (1999) this gap is due to the fact of problems in knowledge management area to appropriately measure the most important concepts. Competitive advantage can be created by firms through managing social capital systematically using knowledge management practices, which involve knowledge acquisitions, conversion and application.

Knowledge acquisition

Knowledge acquisition is referred to as seeking new knowledge entirely or new knowledge creation from the existing one. A study by Gold et al. (2001) found that new knowledge can be created out of existing knowledge through collaboration between business partners and employees. Process of creating, generating, building and knowledge construction is involved in knowledge acquisition. During the process of knowledge acquisition, employee acquires, collects, seeks, creates, generates and captures the knowledge and consequently co-operates with other employee to utilize that knowledge. Nonaka and Takeuchi (1995) described the spiral process of knowledge creation while individual in an organization searches for and generates knowledge.

To Morten et al. (1999), the most important thing about acquisition of knowledge is to observe it how it is acquired and applied, irrespective of the type of knowledge. It means that it is not important whether it is explicit or tacit knowledge or it is de-codification strategy or codification strategy, but it should reflect a firms' competitive strategy to achieve the target goals. The findings of a study conducted by Salina and Fadzilah (2010) concluded that managers and owners of small and medium size enterprises need to create and acquire excessive knowledge to enhance firm's performance because previous studies confirmed that the key contributor to better performance is knowledge acquisition. The creation and acquisition of data into information and information into knowledge can be achieved through social capital. Based upon this, a new hypothesis is;

$H_{1a:}$ *The way an organization acquires knowledge is directly related to its performance*

Knowledge conversion

Gold et al. (2001) found that those activities which make

existing knowledge useful are referred to as knowledge conversion. It includes organizing knowledge which is created or acquired already and using it in a manner that allows knowledge to become accessible and formalized (Szulanski, 1996). During the process of knowledge conversion, acquired knowledge which may be tacit or explicit or both is converted, distributed and incorporated, controlled and then structured. There is need to have structuring and integration of knowledge through standards otherwise it would become difficult to manage the asset effectively due to the lack of common representation standards and there will be no consistency of knowledge (Gold et al., 2001). Additionally, it is quite possible that knowledge resides in different segment or departments or systems within the organization. Effective integrations of such knowledge enhance the consistent representations, improve efficiency by ruling out too much editions (Balogun and Jenkins, 2003).

In the words of Gold et al. (2001), some of the commonly used means to facilitate incorporations are sequencing, commands and rules, decision making and problem solving. So next hypothesis can be developed as,

$H_{1b:}$ *The way an organization converts knowledge is directly related to its performance*

Use or responsiveness to knowledge/ knowledge application

Process that involves storage, recovery, use and distribution is referred to as knowledge applications (Gold et al., 2001). Knowledge is of little use if employees fail to share it properly, and there is no point of collection and storage of knowledge without having a use of it. In this process of knowledge application, explicit of tacit knowledge is used and shared in the employees of the organization. Storage of knowledge during the process of application is for retrieval purpose in the future. An organization needs to explore and exploit the knowledge regarding application of knowledge. It is because of the fact that knowledge exploration enables the organization to push itself into a new niche, while exploitation aids in the financial capital to fuel the successive rounds of innovations and explorations (Al-Alawi et al., 2007).

Park (2006) gave a model in which he classified knowledge management process capability into four components. These components are knowledge creation/ acquisition, knowledge transfer/conversion, knowledge application/use, and knowledge protection. Summary of the findings of his study was that knowledge management performance might be able to impact on the knowledge management process capability (knowledge creation, knowledge transfer, use of knowledge, and knowledge security) through a feed-back mechanism.

Next hypothesis can be structured as follows,

$H_{1c:}$ *The way organizations use knowledge is directly related to its performance*

Firm's performance

After the introduction of knowledge management in the organizations, conceptions of the organization as an important successful factor is acknowledge by Dibella and Nevis (1998). Knowledge management can be viewed comprehensively by taking together not only the organizational function and its members as well as its directly related organizations. A study conducted on impact of knowledge management process on processes, people products and firm's performance discussed by Becerra et al. (2004) showed that knowledge manage-ment processes can affect the four areas of the organizations in two main ways:

1. Knowledge management can directly cause enhance-ments in people, process, products and performance of the firms,
2. Knowledge is created through the use of knowledge management which then improves the performance of the organizations.

Gold et al. (2001) conducted a study which revealed a positive relationship between knowledge creation, use of knowledge and FP. Mohrman and Finegold (2003) found similar results and examined that when organizations create and use their knowledge, firm's performance is improved. Marques and Simon (2006) working on SMEs in telecommunication and biotechnology found that knowledge creation, its conversion and protection lifts up firm's performance. A study by Davenport and Prusak (1998) found that performance of the firm is perked up through proper identification and distribution of required knowledge.

Interpersonal trust

It is the trust that individuals place on the opposite individuals (Rempel and Holmes, 1986). According to Dingsoyr (2002), use of knowledge creation and knowledge application tools requires motivation and trust among employees. Hamid (2008) found that studies have revealed that interpersonal trust is associated with organizational variables such as communication quality, organization performance, organization citizenship behavior, decision making, problem solving, individual risk taking, and cooperation. According to Andrews and Delahaye (2000), when there is lack of trust then formal practices of knowledge-sharing are insufficient to encourage employees in the organization to share knowledge with others. To Prusak and Cohen (2001),

through high levels of employee trust, the benefits of better shared goals, knowledge sharing and low transaction costs could be achieved.

A study by Jandia (2009) proposed that interpersonal trust moderates the relationship between knowledge management processes and knowledge management effectiveness with medium effect size. His findings were consistent with the findings of Smith and Shoho; (2007 and Hamid (2008) that interpersonal trust exerts a positive moderating effect on the relationship between knowledge management processes and knowledge management effectiveness.

H_2: *Interpersonal trust will moderate the relationship between KMPs and firm's performance*

Ribiere and Tuggle (2005) cited in *Knowledge Management capabilities and the Moderating effect of Interpersonal trust on km Effectiveness* describe that without trust, knowledge management will be a failure, regardless of how carefully it is supported by the technology infrastructure and knowledge transferring processes.

RBV and KBV

The RBV of the firm considers that resources are not limited to the traditional economic productive factors. They also include socially complex resources, such as interpersonal relationships within firm managers, the firm's culture, or its reputation near the suppliers or clients (Barney, 1991). This view emphasized that primary focus of firms should be on its most important and fundamental intangible resource that is knowledge (Kalling, 2003). Intangible resources are more likely than tangible resources to generate competitive advantage. Such advantage is developed over time and cannot easily be imitated (Hitt et al., 2001). The KBV of the firm considers knowledge as the most important strategic resource and, in that sense; this perspective is an extension of the RBV of the firm. The interpretation of knowledge as a resource establishes the theoretical connection between the RBV and the KBV. The RBV of the firm literature justifies the existence of differences in performance between organizations as a consequence of knowledge asymmetries (capabilities and competences). As a result, an important KBV of the firm proposition states that the organization exists to create, transfer and transform knowledge into competitive advantage (Kogut and Zander, 1992).

CONCEPTUAL FRAMEWORK

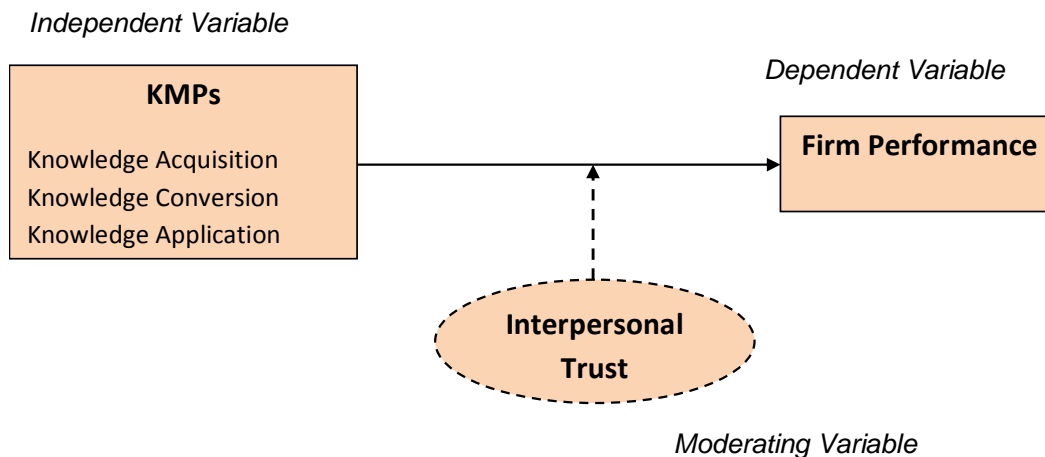The research model is given in Figure 1.

Figure 1. Research model.

RESEARCH METHODOLOGY

The information technology industry has been chosen for the research because the management of intangibles is appreciated more clearly than in other types of industries. Knowledge is not a simple asset but it focuses on other assets. To be successful, firms must be able to learn continually and apply their knowledge, anticipating market changes (Alvesson, 2000). In this environment, the ability to create and apply knowledge becomes an important source of competitive advantages.

The study posed two research questions and 2 hypo-theses. The three sub hypotheses test for the main effects of each of the independent variables on dependent variable, FP. For hypothesis 1, the independent variable is KMPs and dependent variable is FP and for hypothesis 2, KMPs is independent variable, IPT is moderating variable and FP is dependent variable. The research is quantitative in nature because its aim is to determine the relationship between KMPs, an independent variable and FP, a dependent variable in a population. Primary data through questionnaires were collected for this purpose.

Population and sample

The population targeted for this study was those com-panies of Islamabad and Rawalpindi which are member of the Pakistan Software House Association. Their information is available at P@SHA. The names and e-mail addresses of chief executive officers and managers of software companies were available from the web site. A total of 38 software houses of Islamabad are listed at P@SHA. Convenient sampling was used based on those individuals who were the key providers of the information and those individuals who were willing to participate in the study. Online as well as self administered question-naires were distributed among employees. 74 question-naires were sent online to all the executives and managers of the listed organizations. 90 question-naires were mailed to employees of selected organizations through personal contacts. 250 self administered questionnaires were distributed among 12 organizations. In this regard, a total of 414 questionnaires were distributed and 318 were answered with a response rate of 76%. The statistical debugging of the questionnaires meant 31 of them had to be eliminated for various reasons (existence of items without answers, doubts about the

reliability of the responses, respondents do not fulfill the requirement of being employed in the organization for at least 6 months etc.). The sample finally included 287 questionnaires. The estimated average number of employees in the organization was 110.

Instruments and statistical techniques used

After reviewing the literature, the first step was to develop measure-ments and scales for Knowledge Management Practices (KMPs), Interpersonal trust and FP. For measuring Knowledge management practices, scale developed by Park's (2006) 26-item Knowledge Management Process Capability Scale was used. Part 1, 2 and 3 of the questionnaire measured the independent variable KMPs. Part 4 measured the FP and for this, the scale developed by Deshpande et al. (1993) was used. Part 5 of the questionnaire measured interpersonal trust. The scale for measuring this variable was adapted from Rempel and Holmes (1986). The last part of the questionnaire was based on controlled variables.

Each dimension and the total scale was measured by a five-point semantic differential agreement/disagreement scale anchored with 1=strongly disagree to 5=strongly agree. A high score indicates a strong agreement on this item and a low item score indicates strong disagreement.

The data collected from the survey through mail or self admini-stration were analyzed using the statistical software package SPSS 17.0. The methods used for data analysis to answer the research questions and test hypotheses include descriptive statistics, correlation and multiple regressions. According to Jaccard et al. (1990) a multiple –regression analysis is the appropriate statistical technique for this purpose, in order to determine whether a relationship exists between the predictor and the moderator variables. A number of researchers used these techniques in measuring KMPs and FP. For example, Salina and Fadzilah (2010), Suzana (2010), Azaze (2009), Chuang (2004), Lee and Choi (2003) used correlation, multiple linear regression, ANOVA, and F-statistics.

Data analysis and interpretation

The analysis and interpretation of the data is as follows. To measure estimates of internal consistency, coefficient alpha is used. The

Table 1. Estimates of internal consistency.

Construct	No of items	α coefficient
KMPs	20	.866
KACQ	6	.796
KCON	8	.823
KAPP	6	.797
FP	5	.894
IPT	5	.746

Table 2. Frequency distribution of the respondents according to their gender, age, experience, education and designation.

	F	Percent
Gender		
Male	238	82.9
Female	49	17.1
Age		
26-31	111	38.7
32-37	94	32.8
38 & above	82	28.6
Education		
PhD	1	.3
MS(CS)	16	5.6
MCS	92	32.1
BCS	98	34.1
Other	80	27.9
Designation		
Software Engg.	12	4.2
Sr. Software |Engg.	89	31
Team Lead	41	14.3
Manager	31	10.8
Technical Writer	25	8.7
HOD	22	7.7
VP	16	5.6
President	3	1.04
Graphic Designer	48	16.72
Experience		
1-2 years	85	29.6
2-4 years	110	38.3
4-6 years	38	13.2
7 years & above	54	18.8

calculated coefficients indicate that the scales of the measuring instruments provide high internally consistency measures (Table 1).

Data Overview

Frequency distribution of the respondents according to their gender, age, experience, education and designation are given in Table 2.

Correlations

Regression

According to Katherin and Sanford (2009), Regression analysis is a technique used to identify the nature of the relationship between the dependent and theindependent variables. KMPs and FP are independent and dependent variables respectively.

Model 1: Direct effect of KMPs on Firm's performance

In the words of Stephen and Thomas (1985), correlation is a technique used to test a linear relationship between the variables. The results of this study were to draw on the resource-based perspective and knowledge-based perspective of the firm to explicate the firm's KMPs, its relationship to FP and the moderating role of IPT.

Table 3 contains correlations among the Knowledge Management Practices (KMPs), Firm Performance (FP) and interpersonal Trust (IPT). Significant correlations were found between KMPs and FP (0.462 and p=.000), which indicates a positive relationship between the two constructs; this supports the first Hypothesis (H1). There is also a strong correlation among other variables e.g. correlation between KMPs and IPT is 0.518 and correlation between FP and IPT is 0.721. All these correlations indicate significant positive relationship. Correlation among knowledge acquisition, knowledge conversion, knowledge application and firm performance was also found. The results of correlation indicate strong, positive relationship between Knowledge Acquisition (kacq) and FP (.661), Knowledge Conversion (kcon) and FP (.587) and Knowledge Application (kapp) and FP (.669). These results provide the evidence of acceptance of the sub hypothesis (H_{1a}, H_{1b}, and H_{1c}).

First of all direct effect of independent variable on dependent variable is checked by holding constant all intermediate variables between the two. Table 4 shows that KMPs has direct and significant effect on FP. This model is statistically significant, F = 77.219***, R2 = .213, ΔR=.213, adjusted R2= .210, β = .462*** and t = 8.787***. This value of R2 indicates that 21% of the variability in the dependent variable can be accounted for by all these three predictors together. This confirms our first hypothesis that KMPs has direct and significant relationship with FP.

Also the table shows that kacq has direct and significant effect on FP with F = 102.204***, R2 = .317, ΔR= .317, adjusted R2= .314, β = .563*** and t = 11.39***. This value of R2 indicates that 31% of the variability in the dependent variable can be accounted for by knowledge acquisition practice. This confirms our first sub hypothesis that kacq is directly related to FP.

Also the table shows that kcon has direct and significant effect on FP with F = 81.749***, R2 = .223, ΔR= .223, adjusted R2= .22, β = .472*** and t = 9.042***. This value of R2 indicates that 22% of the variability in the depen-dent variable can be accounted for by Knowledge conversion practice. This confirms our second sub hypothesis that kcon is directly related to FP.

Finally, the table shows that kapp has direct and significant effect on FP with F = 112.67***, R2 = .358, ΔR= .358, adjusted R2 = .355, β = .598*** and t = 12.597***. This value of R2 indicates that 35% of the variability in the dependent variable can be accounted for by Knowledge application practice. This confirms our third sub hypothesis that kapp is directly related to FP.

To test the interaction, an interaction term named ipt_kmps is created. A stepwise hierarchical multiple regression analysis is employed to build a model for predicting effect of KMPs on FP

Table 3. Correlations.

	Mean	S.D	Kacq	Kcon	Kapp	KMPs	FP	IPT
Kacq	3.24	.627						
Kcon	3.38	.632	.780**					
Kapp	3.02	.604	.634**	.774**		.		
KMPs	3.149	.626	.514**	.534**	.568**			
FP	3.22	.675	.661**	.587**	.669**	.462**		
IPT	3.28	.597	.682**	.656**	.672**	.518**	.721**	

Table 4. Direct effect of KMPs on Firm performance.

	Kacq	Kcon	Kapp	KMPs
R^2	0.317	0.223	0.358	.213
Adj. R^2	0.314	0.22	0.355	.210
ΔR	0.317***	0.223***	0.358***	.213***
F Stat	102.204***	81.749***	112.677***	77.219***
B	0.563***	0.472***	0.598***	.462***
T	11.39***	9.042***	12.597***	8.787***

Table 5. Introduction of a moderator.

	Model 1	Model 2	Model 3
KMPs	0.462***		
KMPS		0.121***	
IPT		0.658***	
KMPs			0.207*
IPT			0.307***
ipt_kmps			0.592**
R^2	0.213	0.53	0.695
Adj. R^2	0.21	0.527	0.687
ΔR	0.213***	0.317***	0.16**
F Stat	77.219***	145.004***	157.015**

taking interpersonal trust as a moderated variable.

Model 2: Introduction of a Moderator

In addition, moderator variable interpersonal trust (IPT) is also used in study. Moderating relationship occurs when a third variable plays an important role in governing the relationship between dependent and independent variables. Louis (2008) gave definition of the moderator variable. According to him, moderator is such a variable that changes the relationship between an independent variable and a dependent variable (Table 5).

In the first, KMPs are added. This model is statistically significant, F = 77.219***, R^2 = .213. Moderator variable Interpersonal Trust (IPT) is entered in the second step. Addition of this predictor significantly increased the fit of the model to the data, F = 145.004***, R^2 change = .527 and adjusted R^2= .527. It shows that

52% of variability in dependent variable is accounted for by IPT and together with other predictors, it accounts for 53% of the variability. The change in R^2 is a way to evaluate how much predictive power was added to the model by the addition of another variable in step 2. These results confirm second hypothesis that IPT moderates the relationship between KMPs and FP. The third and final step consisted of adding an interaction term, coding the interaction between KMPs and IPT. Addition of this predictor significantly increases the model R^2, F =157.015** R^2 change= .160 and adjusted R^2= .687. It shows that 16% of variability in dependent variable is accounted for by interaction term and together with other predictors, it accounts for 69% of the variability. These results confirm that the model is statistically significant and F is continuously enhancing. The significant and positive relationship tells that organizations who reported higher levels of KMPs also reported higher levels of FP.

FINDINGS

There is found a direct and significant effect of knowledge management practices on Firm Performance. The first hypothesis of the study, *H₁: Knowledge management practices are directly and significantly related to firm performance* supports the findings reported by Decarolis and Deeds (1999). Knowledge management is taken as a pillar for improving the performance of the firm and for providing the competitive advantage. Knowledge management initiatives have enabled the organizations to experience successes by proper utilization of knowledge in the form of best practices that lie within the firm.

The sub hypothesis, *H₁ₐ: The way an organization acquires knowledge is directly related to its performance* is consistent with the findings of Morten et al. (1999), who found that the most important thing about acquisition of knowledge is to observe it how it is acquired and applied, irrespective of the type of the knowledge. It means that it is not important whether it is explicit or tacit knowledge or it is de-codification strategy or codification strategy, but the way it is acquired should increase its competitive position.

The second sub hypothesis of the study, H₁ᵦ: *The way an organization converts knowledge is directly related to its performance* is supported by Gold et al. (2001) who found that effective conversion of knowledge enhances the consistent representations, improves efficiency by

ruling out too much editions and provides opportunities to innovate. During the process of knowledge conversion, acquired knowledge which may be tacit or explicit or both is converted, distributed and incorporated, controlled and then structured. There is need to have structuring and integration of knowledge through standards otherwise it would become difficult to manage the asset effectively due to the lack of common representation standards and there will be no consistency of knowledge.

The third sub hypothesis of the study, $H_{1c:}$ *The way organizations use knowledge is directly related to its performance* is supported by Al-Alawi et al. (2007) who found that organization needs to explore and exploit the knowledge regarding application of knowledge. It is because of the fact that knowledge exploration enables the organization to push itself into a new niche, while exploitation aids in the financial capital to fuel the successive rounds of innovations and explorations.

The second main hypothesis of the study, H_2: *Interpersonal trust moderates the relationship between KMPs and firm performance* is consistent with the findings of Smith et al. (2007), Hamid (2008) and Jandia (2009) that interpersonal trust exerts a positive moderating effect on the relationship between KM processes and KM effectiveness. According to Dingsoyr (2002), use of knowledge management practices requires motivation and trust among employees. It is easy to postpone knowledge management activities because of lack of time; confidentiality of information or that employee does not see how others can value their knowledge. In addition to it, if management requires such tools and employees on the other hand, are not motivated or willing, it is easy to do fake reporting of knowledge.

Conclusion

Software companies located in Rawalpindi and Islamabad have implemented and follow all knowledge management practices and recognize that their knowledge is an important asset that gathers over time and assists the organizations to become successful. Knowledge management practices help organizations capture knowledge across different skill sets and a strong positive relation is found among knowledge management practices and FP. The findings of this study provided strong support for the relationship between KM processes, social capital and firm performance. Interpersonal trust as an independent variable is strongly positively related to firm performance but when it is taken as a moderator, it seems to exert positive medium moderating effect on firm performance.
In this present information age, it becomes very difficult for companies to replace their employees rather organizations start considering their employees a source of competitive advantage. Employees in present age are recognized by their ability to deal with new kinds of situations day every day occurring in their organizations.

They are recognized by their knowledge, experience and ability to perform unique tasks. Now organizations put a great attention towards saving employees knowledge as well as knowledge stored in their databases. Implementation of proper Knowledge management practices are very important for the success of organizations as well as for the knowledge workers and those organizations that are agreed with this statement are enjoying its unlimited and seamless benefits. The software industry is resource-based industry and it is very important for software employers to ensure that knowledge stored in the minds of resources is updated, valuable and protected. A study by Dingsoyr (2002) revealed that 42 percent of knowledge in the average organization is stored in employees' heads. History is full of such examples where all the learning and knowledge is lost when employees are moved to new roles or they leave the organization. Interpersonal trust is a pre-requisite for the effective implementation of KMPs. Introduction of interpersonal trust among employees of software industry puts a positive effect on firm performance. Developing interpersonal trust among employees can lead to effective implementation of KMPS which increases the firm's performance.

RECOMMENDATIONS

This paper suggests some future research recommendations where additional investigation may be fruitful. Future cross-cultural research would be valuable and may reveal details about the phenomena in detail. Secondly, future studies should be directed toward examining the behavior of personnel from different ethnic backgrounds. Thirdly, future studies may add other variables, such as reward systems and top management support, into the knowledge management model and make the model more complete. Another recommendation is that future studies should add socio-demographic characteristics of participants. This information can be used to explore other intervening variables such as ethnicity, length of service, etc. Research also can determine whether the variables and their relationship are consistent over time in a longitudinal study.

Referring to the generalizability of the scale, it can be used in other knowledge-intensive industries such as telecommunication or consultancy, since there are no items specific to the industries analyzed in the study. In the same way, the findings of Pakistan-based organizations are equally applicable to organizations in the same sectors located in other developing countries, regions, since there are no items specific to Pakistan-based organizations.

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