

## **The Impact of Knowledge Sharing Behavior on Project Team Performance: Mediating Role of Project Team Effectiveness**

**Sayyam**

*Research Assistant, Institute of Business Studies and Leadership  
Abdul Wali Khan University, Mardan  
[sayyam@awkum.edu.pk](mailto:sayyam@awkum.edu.pk)*

**Muhammad Tahir Khan**

*Lecturer, Institute of Business Studies and Leadership  
Abdul Wali Khan University, Mardan  
[mtahir@awkum.edu.pk](mailto:mtahir@awkum.edu.pk)*

**Dr. Muhammad Adil**

*Assistant Professor, Bacha Khan University, Charsadda  
[adil@bkuc.edu.pk](mailto:adil@bkuc.edu.pk)*

**Raheen Begum**

*MS Economics, Bacha Khan University, Charsadda  
[Raheen.badshah@yahoo.com](mailto:Raheen.badshah@yahoo.com)*

### **Abstract**

*The purpose of the study was to explore the influence of Knowledge Sharing Behavior (KSB) on the Project Team Performance (PTP). The study also determines the mediating role of Project Team Effectiveness (PTE). The existing study shows that population includes the employees of different Project based organization in the twin cities of Peshawar and Mardan. The study was carried out with a cross-sectional survey in the target cities. The study contains of 193 and the data was gathered through an adopted questionnaire. In the present study the covariance sampling technique of the non-probability sampling was used. The gathered data was coded and run via various statistical techniques such as reliability analysis, CFA, descriptive statistics, correlation analysis, and the regression analysis was done by using the Preacher and Hayes (2004) process macro for mediating analysis. Consequently thereafter, the results revealed that Knowledge Sharing Behavior of the project team and managers in these organizations is positively and significantly associated with Project Team Performance. The study further displays that Project Team Effectiveness is partially mediate the relation between Knowledge Sharing Behavior and Project Team Performance. The study significantly contributes in literature that the effects of Knowledge Sharing Behavior in project based organizations eventually increases the sense in the team members and it triggers proactive working behavior within ethical standards that eventually leads toward improved project team performance. The findings of the study established that Knowledge Sharing Behavior and Project Team Effectiveness have significant impact toward providing Project Team Performance. In further research the impact of*

*Knowledge Sharing Behavior on Project Team Performance can also be identified by using other variables.*

**Keywords:** *Knowledge Sharing Behavior (KSB). Project Team Performance (PTP), Project Team Effectiveness (PTE).*

## **Introduction**

Today the organisations develop the competitive advantage among themselves mostly on the basis of intangible resources such as knowledge and transferring process overlooking their tangible resources (Mueller, 2014). The concept, skill, experience and vision collectively represents the intangible resource of knowledge and provides a framework for knowledge creation, evaluation, and usage (Berends et al., 2006). Navimipour (2016) argued that knowledge sharing and creating process may be explicit or implicit. In a pursuit to achieve competitive advantage, managing knowledge having a critical importance for organizations and this can be done by identifying, arranging and performing the knowledge research (Solli et al., 2015). According to Brotheridge (2013), to remain competitive, organizations depend on their employees who are continually rendering their services, methods, and operations.

Employees are more likely to be motivated to perform well as team members if employees feel high compatibility with their organizations (Lai et al., 2018). Peterson (2007) stated that to realize team performance, employees need to interact to acquire and spread knowledge. The project organizations cannot complete their project successfully without the interaction of its employees (Martinez et al., 2009). Interaction between employees is necessary to develop an understanding of the changes desired by the organization. Project team performance can be assured when the team members have the knowledge of tasks and have to accomplish their task within specific time. The team performance can also be evaluated by achievement of predefined goals efficiently and effectively, goal accomplishment by team is highlighted in past project management research (Kostopoulos, 2011).

Team effectiveness was operationalized as the overall routine of the individuals on their assigned tasks (Alsharo, 2017). Effective teams have active work related support (De, 2007). Pleasure is necessary to team effectiveness, due to the fact it impacts crewmembers' self-efficacy, venture abilities, degree of effort, and their pleasure closer to their work (Fong, 2018). By this way, team effectiveness utterly mediates well towards the project team performance.

Recently it has been noted and much lobbying has been done to engage the team members for better satisfaction contributing to the PTP, not much emphasis has been pondered on the possibility of exchanging information through inclusiveness of the team members. This deficiency has resulted in the use of resources and time for one or more members to gain the information that was already there. The exchange of knowledge through inclusiveness of team members often contributes to a higher degree of satisfaction and motivation for those members as they feel relevant and can see that their common knowledge has been answered in one way or another. Keeping in view the stated shortcomings and the rational given by Lai (2018), the study

therefore, established to examine the mediating role of project team effectiveness between KSB and PTP.

### **Supporting Theory**

According to Blau (1964), Social Exchange Theory (SET), Employees are engaged in keeping relationship with others on the bases of cost-benefit analysis, because they also expect something in response from other. So that's why team member and supervisor will exhibit a particular behavior, team members get something from the supervisor at the cost of what he/she gives, and the supervisor will also get the same response from the team members. The social exchange begins when a supervisor or co-worker treat other individual positively or negatively. In a two party relation between A and B, A's behavior is reinforced by B's behavior, in return B's behavior is reinforced by A's behavior this social interaction called social exchange (Peterson, 2007).

The study further supported by Knowledge Base Theory (Bock et al., 2005) and that is ordinarily utilized hypothetical bases for such an examination. As indicated by this hypothesis, people institutionalize their collaborations with different people dependent on a self-intrigued investigation of the expenses and advantages of such a cooperation and information in a shared environment. From this point of view, information sharing will be decidedly influenced when a separate hope to acquire some advantage later on concluded response (Nonaka, 2000). Information base hypothesis has been effective in clarifying the learning sharing practices among people. Porter (1996) accepted that a person's apparent advantage is one of the main considerations that urge workers to contribute learning environment.

### **Literature Review**

#### **Knowledge Sharing Behavior (KSB) and Project Team Effectiveness (PTE)**

KSB is significant for organizations to have the option to create aptitudes and skills, increment esteem, and continue upper hands (Michinov, 2018) in light of the fact that effectiveness and development happens among the individuals when they offer and consolidate their own learning with others. As per Basaglia et al., (2010) knowledge sharing is expected to change over general thoughts and ideas into items and administrations and hence effectiveness and success happen. In this way the capacity of moving information from one individual/unit to another fundamentally adds to the authoritative execution of organizations (Mueller, 2012; Lee et al., 2010).

KSB in the group prompts better group execution for three reasons: better basic leadership (Navimipour, 2016), improved critical thinking (Solli et al., 2015; Pinjani, 2013) and upgraded effectiveness (Huang et al., 2011). Expanded knowledge sharing helps colleagues to think about more alternatives, to gain from the encounters of others and to more readily utilize the knowledge inside the group, prompting better basic leadership. Information sharing can help with critical thinking in light of the fact that the current issue can be better comprehended, possible subjects can be textured before and increasingly assorted options in contrast to the issue can be investigated (Rivera et al., 2009; Peters, 2007).

*H1: KSB has a significant and positive relationship with PTE.*

**Project Team Effectiveness (PTE) and Project Team Performance (PTP)**

Brotheridge(2013) has pointed out the meaning of PTE as the use of strategy as for the purpose of growth and development by taking effectiveness measures to enhance the employees' potential for growth and performance of the organization (Kostopoulos, 2011). PTE is considered primarily as an input to team process and performance, focused on the importance of in projects in teams van et al., (2009).

In PTE the responsibility is to ensure that all employees have the ultimate understanding of what their superior or managers expect from them, and how excellence in action it looks like, responsibility has been built by managers into their routine schedule and managers prefer to hold responsible employees. At the end, the ultimate objective of PTE is not to place blame or deliver punishment but is to improve PTP, If the organization lack of PTE then the alignment of the system of responsibility isn't structured well enough and consequently the team performance fallen down (Wakefield, 2008; Hoegl, 2007).

*H2: PTE has a significant and positive association with PTP.*

**Knowledge Sharing Behavior (KSB) and Project Team Performance (PTP)**

Knowledge sharing is very important for organizational learning and enhances tremendous gains to a organization (Lai et al., 2018). Wang (2012) studied the effect of KSB on PTP and concluded that both have a positive association (van et al., 2009). Huang, (2011)carried out a study on enhancing KSB in a Chinese IT organization (Rivera et al., (2009). Despite of active knowledge sharing, administrations might not participated specialists' serious information, expertise and capacities to achieve the difficult and advance work (Keller, 2006). The knowledge sharing in the projects can enhance the employees' performance and improvement abilities that finally clue to project success (Bock et al., 2005). Team participants share their knowledge when they belief their followers (Horii, 2005) and when they feel helpless. Feelings of reliance and belief are affected by the announcement volume, apparent relationship of the projects worth, and the supposed know-how (De, 2003).

KSB is the furthestmost critical part of knowledge organization (Solli, 2015). Knowledge sharing can encourage structural knowledge and ultimately touch the administrative performance (Brotheridge, 2013). This also suggests that administrators in administrations can increase administrative performance by improving the knowledge sharing between employees (Teng, 2011). Accepting that the knowledge sharing influence openly defines the total knowledge managing efficiency, an enhancing number of scholars and project leaders are now trying to encourage knowledge sharing performance inside their groups.

*H3: KSB has a significant and positive relationship with PTP*

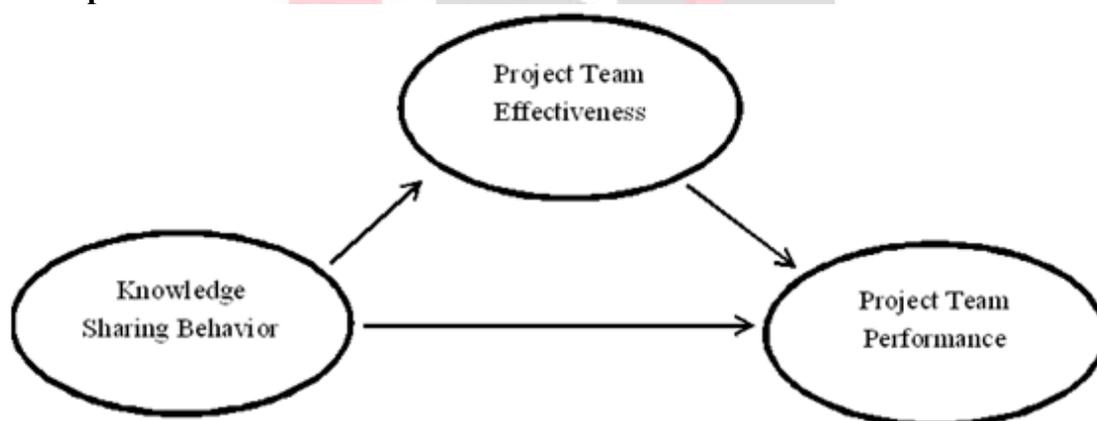
**Mediating Effect of Project Team Effectiveness (PTE)between Knowledge Sharing Behavior (KSB) and Project Team Performance (PTP)**

PTE has an effect on the way group individuals work collectively and have the conceivable to avoid Team performance. For example, without the addition of eye to eye communication groups will in general take more time to arrive at regular floor and to team up efficiently (Michinov, 2018; Kostopoulos, 2011; Mueller, 2014). A recent trend in the context of the project management literature is that successful consumption of undertaking the effectiveness in team through coordination and

knowledge sharing behavior that can expand teams' performance (Navimipour, 2016; Fong et al., 2018; Lai et al., 2018). PTE can be improved by adding knowledge and creativity, increasing the understanding and acceptance of ideas, and improving commitment and motivation through effective use of team members (Fong et al., 2018; Rivera et al., 2009). PTE delivers a solid ground from which to assess the impact of PTP relation with the main stakeholders on its approaches for refining durable performance (Alsharo, 2017; Kostopouloset al., 2011). Overall, weak coordination and lack of sharing relevant information to them may have adverse performance imports for an organization (Navimipour, 2016; Rivera et al., 2009). One method to check the team effectiveness is by an assessment is the coordination and that often lies among the team members where the program managers, supervisors and the team members ensure effective coordination, exchange of knowledge related to the projects and that lead the environment which inspire the stakeholders to perform well for the successful completion of the project (Keller, 2006; Horii, 2005; Horii, 2005).

*H4: PTE mediates the relationship between KSB and PTP.*

### Conceptual Framework



*Figure 1: Conceptual Framework*

### Materials and Methods

For the present investigation, data is gathered from a quantitative research technique. The survey procedure was executed to collect data that involves the utilization of questionnaire (adopted). The current study is a cross sectional in nature. Due to time and resource constraints the study employed the convenient sampling technique of the non-probability sampling technique in usage. All the project based organizations (both public & private) in the twin cities of Peshawar and Mardan were taken under the study. A total of 210 questionnaires were distributed where on 193 questionnaires were returned and coded appropriately. The sample size of 193 is consistent with previous studies where various researchers used the sample size between the range of 180 to 200 (Wang, 2012; Kostopoulos, 2011; Fong et al., 2018) in similar studies.

**Analysis****Instrumentation of the Constructs and Reliability Analysis****Table 1: Instrumentation of the Constructs and Reliability Analysis**

Construct	Source	Cronbach Alpha Value	No of Items
KSB	Pinjani (2013)	.763	6
PTP	Kostopoulos (2011)	.922	11
PTE	De Dreu (2007)	.884	5

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , KSB=Knowledge sharing Behavior. PTP=Project Team Performance, PTE=Project Team Effectiveness

All the study variables were measured through a five Likert Scales i.e. 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly disagree that were KSB (Pinjani, 2013) was measured with 6-items, PTP (Kostopoulos, 2011) was measured with 11-items and PTE (De Dreu (2007) was measured with 5-items.

Moreover, the results of Cronbach's alpha were also measured by internal consistency (Cronbach's alpha). The value for this measure should be greater than .70. Thus the results in the above table 1 show that the reliability of KSB is 0.763, which is greater than the threshold value. Moreover, the reliability of PTP and PTE are 0.922 and 0.884 which also greater than .070. Hence, the study verified that the internal consistency among the constructs is reliable.

**Confirmatory Factor Analysis (CFA)**

Confirmatory factor analysis (CFA) was used to confirm the validity of data and model fits of the data. For this purpose, CFA- AMOS was run. The study used three latent variables e.g. Knowledge Sharing Behavior, project team performance, and Project Team Effectiveness. Different indices were used for model fit that were RMSEA (0.05 to 0.10), CFI (value should be greater than 0.80), TLI (value should be greater than > 0.9), GFI (value should be greater than 0.90) and the standard value of  $X^2/df$  (model chi-square) must be 1- 3 (Anderson, 1988). According to the stated indices the following table displayed that the three factor model has good discriminant validity and model fits of the data.

**Table 2: Measurement Model Results**

Model	CMIN	df	$X^2/DF$	RMSEA	GFI	CFI	TLI
Hypothesized measuring model	996	384	2.59	.04	.92	.89	.87

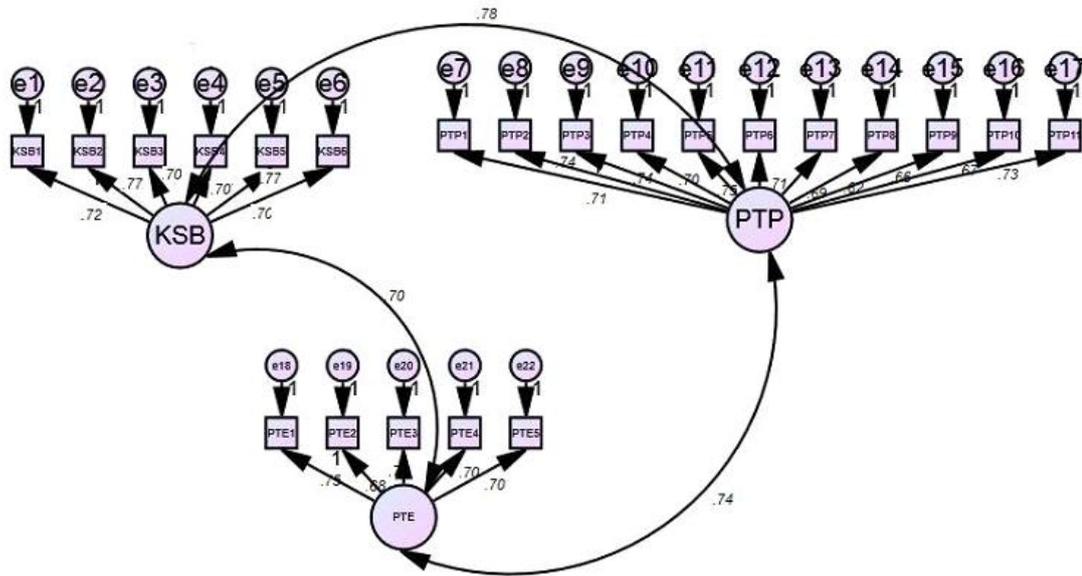


Figure 2: Measurement Model

**Sample characteristics**

Table 3: Demographics of the Respondents

Demographics	Frequency	Valid %	Cumulative %
<b>Gender</b>			
Male	179	92.9	92.9
Female	14	7.1	100
Total	193		
<b>Age (years)</b>			
25-29	86	44.6	44.6
30-39	63	33	77.6
40-49	35	18.4	96
50 and above	9	4	100
Total	193		
<b>Education level</b>			
SSC	0	0	0
HSSC	0	0	0
BA/BSC	85	44.2	44.2
MA/MSC	62	32.4	76.6

MPhil/MS	40	21	97.6
Other	6	2.4	100
Total	193		
<b>Organization</b>			
Public	140	72.8	72.8.8
Private	53	27.2	100
Total	193		

Table 3, represents the information about gender. Table revealed that the more respondents were male respondent comprised of 92.9% and the remaining 7.1% were female respondents.

Table 3, shows the arrangement of the sample with orientation to age group. 44.6% of respondents were having age between the ranges of 25-29 years. 33% of respondents were having age between the ranges of 30-39 years. 18.4% of respondents were having age between the ranges of 40-49 years and the remaining respondents 4% holding age 50 and above. . In this study, most of the respondent lie in the range of 25-29 years.

Table 3, represents the qualification of the respondents, 44.2% were Bachelors qualified, and 32.4% were Masters qualified. 21% were holding masters and the rest 2.4% holding other qualification. The large number of responded were having a Bachelor's degree.

In the current study, three different categories were made to reflect the type of organization. Here table 3 depicts that 72.8% of the respondents are working in public organizations while 27.2% are working in private organizations.

#### **Descriptive statistics**

Descriptive statistics of all variables such as KSB, PTP and PTE are show in the table below. The tables consist of the mean values and the standard deviation values. The mean values show the response of respondents towards agreements and disagreements with the questions. Higher mean values exhibit respondents' propensity toward agreement side and lower value depicts tendency of respondents towards disagreement.

**Table 4: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
KSB	193	1.00	5.00	4.2124	.48538
PTP	193	1.00	5.00	4.2313	.46009
PTE	193	1.00	5.00	4.2155	.49325
Valid N (listwise)	193				

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , KSB=Knowledge sharing Behavior. PTP=Project Team Performance, PTE=Project Team Effectiveness

Table 4, depicts information regarding the variables' minimum and maximum values, the mean and the standard deviation values. As the mean value of KSB in the table was 4.2124 and standard deviation was 0.48538 shows that respondents agree that

KSB have impact on PTP. The mean value of PTP was 4.2313 and standard deviation was 0.46009 reveals that respondents are agree that they get PTP in the project. The mean value of PTE was 4.2155 and standard deviation was .49325 exhibits that most of the respondents had a propensity towards agreement side that their team shows more performance when they rely on team effectiveness.

### Correlation

In any study correlation analysis is carried out in order to check the relations between the variables either they are linked with each other or not. If the value of correlation is between .1 to .3, it shows weak correlation. If the value of correlation is between .3 to .5, it shows moderate correlation and if the value of correlation is above .5 it shows high correlation.

**Table 5: Correlation among KSB, PTE and PTP**

		1	2	3
KSB	Pearson Correlation	1		
PTP	Pearson Correlation	.782**	1	
PTE	Pearson Correlation	.703**	.749**	1

Note: \* $p < 0.05$ , two-tailed,  $N = 193$ , KSB=Knowledge sharing Behavior. PTP=Project Team Performance, PTE=Project Team Effectiveness

Table 5, shows the correlation for all the proposed variables. KSB is significantly and positively correlated with PTP ( $r = .782$ ,  $p < .05$ ). KSB is also significantly and positively correlated with PTE ( $r = .703$ ,  $p < .05$ ) and PTE is significantly and positively correlated with PTP ( $r = .703$ ,  $p < .05$ ).

### Two Path Mediation Model for PTE

To test the mediating effect of PTE between KSB and PTP, this investigation utilized bootstrapping/supplanting with resampling approach recommended by Preacher and Hayes (2004). This nonparametric methodology is viewed as prevalent for testing of mediation when contrasted with contending approaches like Barron and Kenny (1986) strategy and Sobel test (Preacher & Hayes, 2004). Utilizing 5000 bootstrapped tests, with inclination adjustment technique the investigation acquired 95% certainty interim (CI). On the off chance that 95% CI for aberrant impact does exclude zero, intercession is resolved (Preacher & Hayes, 2004). The path wise results are mentioned in the following tables;

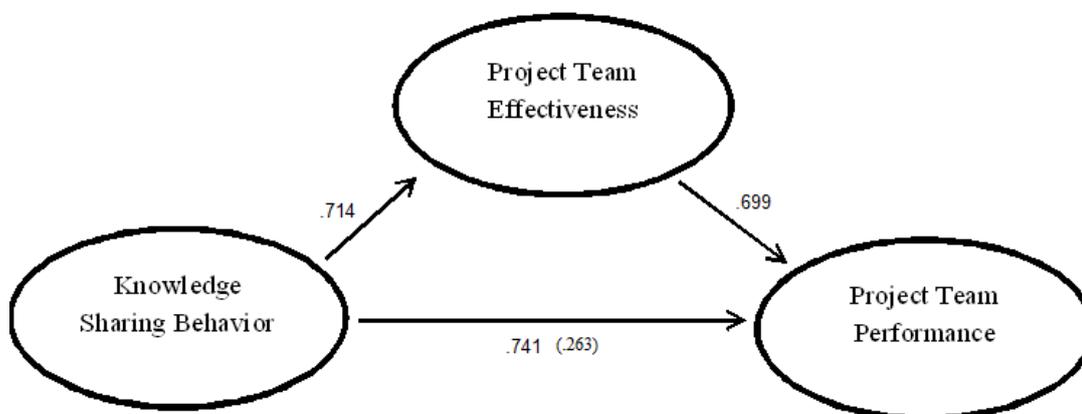


Figure 3: Path Model

Path-a: (H1= KSB →PTE)

Table 6:Model Summary of the relationship between KSB and PTE

	PTE		
Variable	Coefficient	R2	p-value
KSB	0.714	.491	.000

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , KSB=Knowledge sharing Behavior. PTE=Project Team Effectiveness

The above table 6, displays the values of R-Sq, beta coefficient and significance. The value of R2 exhibits that 49.1% change in PTE is explained by KSB and whereas the coefficient depicts the slope and unit change that one unit increase/decrease in KSB will bring .714 units increase/decrease in PTE. The above results concluded that KSB and PTE have significant and positive relationship. Therefore, the alternative hypothesis H1 is accepted.

Path-b: (H2= PTE → PTP)

Table 7: Model Summary of the relationship between PTE and PTP

	PTP		
Variable	Coefficient	R2	p-value
PTE	0.699	.559	.000

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , PTP=Project Team Performance, PTE=Project Team Effectiveness

The above table 7, displays the values of R-Sq, beta coefficient and significance. The value of R2 exhibits that 55.9% change in PTP is explained by PTE and whereas the coefficient depicts the slope and unit change that one unit increase/decrease in PTE will bring .699 units increase/decrease in PTP. The above results conclude that PTE and PTP have significant and positive relationship. Therefore, the alternative hypothesis 2 is accepted.

Path-c : Total Effect between KSB and PTP (H3= KSB →PTP)

Table 8: Model Summary of the relationship between KSB and PTP

PTP			
Variable	Coefficient	R2	p-value
KSB	.741	.609	.000

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , KSB=Knowledge sharing Behavior. PTP=Project Team Performance

As per the results mentioned in above Table 8, where the value of R-Sq is .609,  $p < .05$  and beta coefficient is .741. The value of R-Square shows that 60.9% variation of the total variation in the PTP is due to the KSB, while the value of beta coefficient shows that one unit change in the KSB will bring about .741unit changes in PTP. The above results conclude that KSB and PTP have significant and positive relationship. Therefore, the study accept the alternative hypothesis i-e H3.

**Indirect effect of KSB in PTP (H4= KSB→PTE→PTP)**

**Table 9:Model Summary of the Indirect Effect of PTE between KSB and PTP**

IV	Effect of IV on M (a path)	Effect of M on DV (b path)	Direct Effect of IV on DV (c' path)	Total effect of IV on DV(c path)	Bootstrapping Indirect effect	results for
	B	B	B	B	B	BootLLCI BootULCI
KSB	.714	.699	.4777	.741	.263	.0022 .3836

Note: \* $p < 0.05$ , two-tailed,  $N=193$ , KSB (IV) =Knowledge sharing Behavior. DV=Project Team Performance, M=Project Team Effectiveness, BootLLCI=Bootstrapping Lower Level Confidence Interval, BootULCI= Bootstrapping Upper Level Confidence Interval

The study found that both the direct and indirect effects have significant association with each other. The results ( $\beta = .2632$ )shown in table 8 strongly support and justify this hypothesis. The table shows that the indirect effect of PTE between KSB and PTP has the lower level confidence interval and upper level confidence interval of .0022 and .3836. Both the values of LLCI and ULCI have a positive and same sign which shows that PTE partially mediates the relationship between KSB and PTP. Therefore, the results accept the alternative hypothesis i.e. H4.

**Discussion**

**H1:** KSB has a significant and positive relationship with PTE

The finding for this particular relation is suggested that KSB was significantly linked with PTE. The findings are consistent with knowledge base theory. Similarly, previous studies have discussed that PTE require disbursed information to be appropriately shared and built-in via team contributors (Navimipour, 2016; Solli et al., 2015; Fong et al., 2018; Pinjani, 2013). Otherwise team will be less effective, suffering greater costs connected with information search, announcement failure, statistics confusion and misconception, and insufficient choice making due to missing records (Michinov, 2018; Lee et al., 2010). Knowledge sharing by way of member professionals allows fine crew consequences by ensuring all pieces of a statistics puzzle are on hand for undertaking overall performance.. This allows the team, irrespective of location, to achieve its work requirements and contribute to an organization's objectives.

**H2:** PTE has a significant and positive relationship with PTP

One explanation behind this hypothesis accepting is relationship team effectiveness may affect the initial stage of project team work so it does affect project team performance (De, 2007; Yang, 2012; Brotheridge, 2013). Another study also shows significant relationship between the PTE and PTP (Lai et al., 2018; Peters, 2007). Michinov (1995) found that there is few evidence of relationship effectiveness stronger the team performance. According to Keller (2006) collectivistic group may underestimate the importance of relationship team effectiveness for group decision making and this group have their own opinion, they follow opinions of groups, and culture of Pakistan is collectivistic (Martinez et al., 2009).

**H3:** KSB has a significant positive relationship with PTP

The study further verified that KSB has a positive impact on PTP. The results of this study are in line with the previous studies (Navimipour, 2016; Kostopoulos, 2011). Lai et al., (2018) has mentioned that PTP can be improved drastically though KSB in the projects contributing significantly towards the success of the project. van et al., (2009) pointed out that KSB especially between the team members in project settings known as beneficiary and project execution team can have significant impact on project teams performance and on success.

**H4:** PTE mediates the relationship between KSB and PTP

In accordance with the hypothesis 4 states that PTE mediates the relationship between KSB and PTP such that knowledge sharing will have stronger positive relationship with team effectiveness. Teams can be positive by adding knowledge and creativity, increasing the understanding and acceptance of ideas, and improving commitment and motivation and ultimately PTP (Jehn & Mannix, 2001). PTE increases collective effort, increases communication among team members and improve supportive behavior which affects the performance of team (Fong et al., 2018). 2011).

#### **Implications of the study**

The study recommends some managerial implications, suggesting to the project managers especially in the context of Pakistan that they must have a fair representation of all types of team members to acquire the critical knowledge which will enrich the graph of team members positively resulting in more chances of a successful completion. They also need to look for a comprehensive mechanism for knowledge sharing at right time to right ones.

Managers should also ensure that the knowledge will not be misused in or out of the organization. When project managers share knowledge with their team member they should also trust their subordinates that they will not misuse this information. This sharing of knowledge of the managers eventually leads to the effective presentation of the team.

This research adds to the literature on project management, of several forms. First of all, our thesis leads to the project-based Organizations through the development of an integrated model based on KSB and PTE as project-based predictors of PTP in Pakistan. The research was also sponsored by the philosophy of social exchange. According to this theory, previous surveys show that they would have a favorable effect on KSBs and their performance while executives support their subordinates.

### Limitations and Direction for Future Research

The study was carried out in a limited timeframe with almost minimal resources. To conduct a research on a broader spectrum of the relationship between KSBA, PTE and PTP much of greater resources and time would be required. Similarly sample size for this study taken from only the service delivery projects in the target cities in Pakistan which may have contributed to the current findings of this study, thus in various project settings and nations, the various results may be found.

The future study would be taken in view with the similar model among the research oriented project based organisations of both public and private sector. This may lead to provide support to the results of this study or may give different insights on the subject. It is further suggested that the same model may be followed while increasing the sample size as well as in other cities of Pakistan. Future researchers can improve the model by checking other mediators like conflict management and project team productivity. They can also check other moderators like supervisor support and employee autonomy.

### References

- Alsharo, M., Gregg, D., & Ramirez, R. (2017). Virtual team effectiveness: The role of knowledge sharing and trust. *Information & Management*, 54 (4), 479-490.
- Basaglia, S., Caporarello, L., Magni, M., & Pennarola, F. (2010). It knowledge integration capability and team performance: the role of team climate. *International Journal of Information Management*, 30 (6), 542-551.
- Berends, H., van der Bij, H., Debackere, K. & Weggeman, M. (2006), 'Knowledge sharing mechanisms in industrial research?', *R&D Management*, 36(1), pp. 85-95. <http://doi:10.1111/j.1467-9310.2005.00417.x>
- Bock, G-W., Zmud, R.W., Kim, Y.-G. & Lee, J-N. (2005), 'Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate?', *MIS Quarterly*, 29(1), pp. 87-111.
- Brotheridge, C. M. (2013). Explaining bullying: using theory to answer practical questions. *Team Performance Management: An International Journal*, 19 (3/4), 185-201.
- De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: a meta-analysis. *Journal of applied Psychology*, 88 (4), 741.
- De Dreu, C. K. (2007). Cooperative outcome interdependence, task reflexivity, and team effectiveness: a motivated information processing perspective. *Journal of applied psychology*, 92 (3), 628-648.
- Fong, P. S., Men, C., Luo, J., & Jia, R. (2018). Knowledge hiding and team creativity: The contingent role of task interdependence. *Management Decision*, 56 (2), 329-343.
- Hoegl, M., & Parboteeah, K. P. (2007). Creativity in innovative projects: How teamwork matters. *Journal of engineering and technology management*, 24 (1-2), 148-166.

- Horii, T., Jin, Y., & Levitt, R. E. (2005). Modeling and analyzing cultural influences on project team performance. *Computational & Mathematical Organization Theory*, 10 (4), 305-321.
- Huang, Q., Davison, R. M., & Gu, J. (2011). The impact of trust, guanxi orientation and face on the intention of Chinese employees and managers to engage in peer-to-peer tacit and explicit knowledge sharing. *Information Systems Journal*, 21(6), 557-577.
- Keller, R. T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: a longitudinal study of research and development project team performance. *Journal of applied psychology*, 91 (1), 202.
- Kostopoulos, K. C., & Bozionelos, N. (2011). Team exploratory and exploitative learning: Psychological safety, task conflict, and team performance. *Group & Organization Management*, 36 (3), 385-415.
- Lai, C.-Y., Hsu, J. S.-C., & Li, Y. (2018). Leadership, regulatory focus and information systems development project team performance. *International Journal of Project Management*, 36 (3), 566-582.
- Lee, P., Gillespie, N., Mann, L. & Wearing, A. (2010), Leadership and trust: their effect on knowledge sharing and team performance, *Management Learning*, 41(4), pp. 473-91.
- Mueller, J. (2012). Knowledge sharing between project teams and its cultural antecedents. *Journal of Knowledge Management*, 16(3), 435-447.
- Mueller, J., (2014). A specific knowledge culture: cultural antecedents for knowledge sharing between project teams. *European Management Journal*, 32(2), 190-202.
- Martinez-Moreno, E., Gonzalez-Navarro, P., Zornoza, A., & Ripoll, P. (2009). Relationship, task and process conflicts on team performance: The moderating role of communication media. *International Journal of Conflict Management*, 20 (3), 251-268.
- Michinov, E., & Juhel, J. (2018). Multilevel influences of team identification and transactive memory on team effectiveness. *Team Performance Management: An International Journal*, 24 (1/2), 106-120.
- Navimipour, N. J., & Charband, Y. (2016). Knowledge sharing mechanisms and techniques in project teams: Literature review, classification, and current trends. *Computers in Human Behavior*, 62, 730-742.
- Nonaka, I., Toyama, R., & Nagata, A. (2000). A firm as a knowledge-creating entity: a new perspective on the theory of the firm. *Industrial and corporate change*, 9 (1), 1-20.
- Peters, L. M., & Manz, C. C. (2007). Identifying antecedents of virtual team collaboration. *Team Performance Management: An International Journal*, 13 (3/4), 117-129.
- Pinjani, P., & Palvia, P. (2013). Trust and knowledge sharing in diverse global virtual teams. *Information & Management*, 50 (4), 144-153.
- Porter, T. W., & Lilly, B. S. (1996). The effects of conflict, trust, and task commitment on project team performance. *International Journal of Conflict Management*, 7 (4), 361-376.

- Peterson, T. M. (2007). Motivation: How to increase project team performance. *Project Management Journal*, 38 (4), 60-69.
- Rivera-Vazquez, J.C., Ortiz-Fournier, L.V. & Flores, F.R. (2009). Overcoming cultural barriers for innovation and knowledge sharing, *Journal of Knowledge Management*, 13(5), pp. 257-70.
- Solli-Sther, H., Karlsen, J. T., & van Oorschot, K. (2015). Strategic and cultural misalignment: Knowledge sharing barriers in project networks. *Project Management Journal*, 46(3), 49-60.
- Teng, J.T.C. & Song, S. (2011). An exploratory examination of knowledge sharing behaviors: solicited and voluntary, *Journal of Knowledge Management*, 15(1), pp. 104-17.
- van Woerkom, M., & Van Engen, M. L. (2009). Learning from conflicts? The relations between task and relationship conflicts, team learning and team performance. *European Journal of Work and Organizational Psychology*, 18 (4), 381-404.
- Wakefield, R. L., Leidner, D. E., & Garrison, G. (2008). Research note: a model of conflict, leadership, and performance in virtual teams. *Information systems research*, 19 (4), 434-455.
- Wang, W. T., & Ko, N. Y. (2012). Knowledge sharing practices of project teams when encountering changes in project scope: a contingency approach. *Journal of Information Science*, 38(5), 423-441.
- Yang, X., & Chu, X. (2012). People value for team effectiveness in china: the mediating role of leader identification. *Nankai Business Review International*, 3 (1), 65-74.

*Journal of Business & Tourism*