Impact of Shared Leadership on Project Team Performance: Mediating Role of Knowledge Sharing and Moderating Role of Project Manager's Ambidexterity

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Abstract: The present research investigates shared leadership and its antecedents in the project-based organizations operating in Pakistan's twin cities of Rawalpindi and Islamabad. The present study combines the quadratic model of shared leadership with the literature of leadership styles such as Task Orientation shared leadership, Relation Orientation shared leadership, Change Orientation shared leadership, and Micro-Political Orientation shared leadership, which lead to enhanced project team performance via knowledge sharing. The project manager's ambidexterity is also considered in the hypothesized link as a moderator. The data was collected from 291 respondents from different project-based organizations. The results delineate that Task Orientation shared leadership, Change Orientation shared leadership, Relation Orientation shared leadership, and Micro-Political Orientation shared leadership, along with knowledge sharing, have a significant and positive influence on project team performance. Moreover, knowledge sharing mediates the relationship between shared leadership (Task Orientation shared leadership, Change Orientation shared leadership, Relation Orientation shared leadership, and Micro-Political Orientation shared leadership) and project team performance. In addition, the exploitative and explorative behavior of the project manager, playing the role of moderator, was also tested. The results have shown a significant impact of moderation on Task Orientation shared leadership and Change Orientation shared leadership but an insignificant impact on Relation Orientation shared leadership and Micro-Political Orientation shared leadership for exploitative behavior, and moderated the relationship with Task Orientation shared leadership only for explorative behavior respectively. The study significantly contributes to the area of research, specifically in the domain of project management and shared leadership. This study also provides significant implications for academicians and practitioners

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1. INTRODUCTION

Previous studies have verified that teams having shared leadership arrangement tend to outperform those with a traditional vertical leadership arrangement. It has been found that when teams are working and performing towards shared targets, their overall performance improves. Dissimilarities in environment, culture, talent management and structure are usually highlighted while studying leadership and knowledge sharing practices existing in an organization. One of the studies shows that delegating high powers to the leadership of upper-level leaders stimulates the powers of lower-level leaders, which ultimately improves the job performance of

employees (Ali, Wang, & Johnson, 2020). Enhanced team performance is anticipated with less geographically dispersed virtual team members and extra training periods due to mediating effect of leadership role effectiveness mediation (Han, Kim, Beyerlein, & Derosa, 2020). Most effective team leaders are graded higher simultaneously on both shared and authoritative leadership style within and across stakeholder groups (Aramovich & Blankenship, 2020). Giving more powers to leadership boost the knowledge sharing practice and productivity and performance of HRM that ultimate improve the financial performance of the firms (Torasa & Mekhum, 2020). High involvement work systems contribute to shared leadership which brings team creativity in project teams (Song, Gu, & Lee, 2019). "Knowledge sharing can be best defined as interchange of knowledge between individuals, teams, organizational units and within organizations. This exchange may be focused or unfocused, but it usually does not have a clear prior objective" (Paulin & Suneson, 2012).

There is an assenting and considerable relationship exists between these constructs i.e. knowledge sharing and competence. However, when tested for their combined effect on academic performance, there was a positive but not significant impact on academic performance (Rasto et al., 2021). Shared leadership plays a vital and direct role in the successful deliverance of projects in the presence of members' autonomy by meeting team member's psychological needs. Knowledge sharing acts as a moderator between shared leadership and autonomy (Imam, 2021). Employees tend to share greater knowledge with employees (compared to consultants), while external consultants tend to share their experiences and lessons learned with other consultants (compared to employees) (Nesheim & Hunskaar, 2015). Knowledge reiterate is an efficacious way of reducing the group understanding heterogeneity, and desirable employee relationships provide a pleasant group atmosphere for knowledge reuse (Zhang & Li, 2016).

Results obtained from one of the studies conducted on Spanish public sector universities shows that in order to obtain innovation ambidexterity, concept of knowledge absorption should be promoted. (Pulles, Perez & Bravo, 2020a). Research has also proved that ambidextrous employee behavior can be generated if the management style promotes room for trial and error and encourages the implementation of new ideas. (Caniels, Neghina & Schaetsaert 2016). Higher creativity performance is achieved when both the exploitation and exploration behaviors of a project manager are high (Zatcher, Robinson & Rosing, 2014).

There is limited empirical research on valid scales for measuring shared leadership behaviors. This study aims to validate Grille's (2015) work as an instrument to assess shared leadership and explore TOSL, COSL, ROSL, and MPOSL as dimensions affecting knowledge sharing and team performance. Kim & Han (2019) identified task, relation, and creativity as dimensions that build team trust and enhance performance. Han & Lee (2018) called for research on other variables impacting team performance via shared leadership. This study proposes adding micro-political and change orientations to the dimensions of shared leadership to achieve high-performing teams. The relationship between these dimensions and team performance, facilitated by project manager's ambidexterity, will be tested. There is scant evidence on how these four dimensions influence team performance in the context of knowledge sharing and project manager's ambidexterity. No studies in Pakistan have examined this relationship, making this research a novel contribution.

2. LITERATURE REVIEW

2.1. Shared Leadership and Project Team Performance

In shared leadership, team members dynamically share the leadership roles (Liang, Knippenberg & Gu, 2020). Trainings given to both team leaders and team members for the development of their skills could be critical in enriching leadership and team productivity from average to extraordinary levels (Han, Kim, Beyerlein & DeRosa, 2020). Medium level of indifference between team members in their ability leads to improved team performance and their team development rather than very low or high indifferences (Lee et al. 2019). Leadership style having practical involvement in project activities encourages team to raise their voice and as a result it yield better results through innovation and team building (Ye et al. 2019). Team performance and a moderate effect of immediate trust is highly influenced by the conceptual skills and commitment to the growth of people (Employees) (Cooke 2015). "Both-and" approach (Participative & Decisive Behavior) supports that leaders concurrently harmonize competing demands are associated with leader's effectiveness (Aramovich & Blankenship, 2020).

Different dimensions of shared leadership including ROSL, TOSL and COSL are important factors in determining project team performance as shared leadership style enhance team trust which ultimately brings positive learning environment and overall culture (Kim & Han, 2019). The Impact of shared leadership on team performance was much stronger during the initial phases of the project team life cycle through presence of Transactive Memory System which mediated this provisional effect (He & Hu, 2021). Task leadership orientation dimension of shared leadership seemed to be linked to the level of task interdependence within the group and ultimately brings greater performing teams (Pearce & Sims, 2002). With greater levels of team authority base diversity, shared leadership has a direct and positive impact on project team performance because of reduced relationship conflict within a team (Sinha, Chiu & Srinivas, 2021). Based on literature reviewed, we hypothesize as

H1: *Task Orientation shared leadership has a positive influence on project team performance.*

H2: *Relation Orientation shared leadership has a positive influence on project team performance.*

H3: *Change Orientation shared leadership has a positive influence on project team performance.*

H4: *Micro-Political Orientation shared leadership has a positive influence on project team performance.*

Research indicates that knowledge sharing between management and employees boosts human resource efficiency and financial performance through leadership empowerment (Torasa & Mekhum, 2020). Key attributes like experience, skills, and team coordination facilitate shared leadership and enhance team performance (Barnett & Weidenfeller, 2016). Vertical leadership empowerment and goal interdependence foster shared leadership, improving team outcomes (Fausing et al., 2015). In sports, player empowerment increases coach appreciation (Fransen et al., 2019). Shared leadership thrives on team empowerment, fair rewards, and prototypical leaders (Grille et al., 2015), with moderators like leadership style and job complexity impacting its effectiveness (Martin, 2018). Internal advisors significantly boost team processes and performance (Rapp et al.,

2016), and shared leadership is linked to better project team performance than vertical leadership (Pearce & Sims, 2002). Based on literature reviewed, we hypothesize as

H5: *Task Orientation shared leadership has a positive influence on knowledge sharing.*

H6: *Relation Orientation shared leadership has a positive influence on knowledge sharing.*

H7: *Change Orientation shared leadership has a positive influence on knowledge sharing.*

H8: *Micro-Political Orientation shared leadership has a positive influence on knowledge sharing.*

2.2. Knowledge Sharing as a Mediator

Knowledge sharing can be defined as "interchange or transfer of information between two or more individuals, i.e. communication or exchange of information between sender and receiver (Paulin & Suneson, 2012).There is a need of building simple rather than a the rigid bureaucratic organizational/team structure so that it can facilitate the process of knowledge sharing by reducing the communication gap and increased informal interactions between the team members (Kakhti et al. 2020). Team performance can be explained as group of people from various functions that are combined together to achieve defined project goals. Performance can be defined as how skillfully and competently activities and group work is carried out (Okoronkwo, 2017). Structure of an organization can be recurrently sustained by historical and authentic knowledge and not by the structure makers (Chi & Chen, 2009). Knowledge attainment has direct positive relationship with knowledge explication which helps in identifying prospective entrepreneurial business opportunities (Skerlavaj, Song, & Lee, 2010).

Team achievement and performance are circumscribed by the information modeling system and team socialization (Janhonen & Johanson, 2011). Research has shown that there is a direct and purposeful relationship between firm's culture and knowledge management dimensions that are information creation, capture, storage, organization, application and dissemination (Allameh, Zamani, & Davoodi, 2011). Further studies conducted on IT firm confirm that firm's Information Technology embodiment potential has significant impact on project team performance (Basaglia, Caporarello, Magni, & Pennarola, 2010). Information concealing within team members will lead to decrease participation of respective departments in project activities (Zhang & Guo, 2019).

H9: *Knowledge sharing has a positive influence on project team performance*

H10: *Knowledge sharing mediates the relationship between Task Orientation shared leadership and project team performance.*

H11: *Knowledge sharing mediates the relationship between Relation Orientation shared leadership and project team performance.*

H12: *Knowledge sharing mediates the relationship between Change Orientation shared leadership and project team performance.*

H13: *Knowledge sharing mediates the relationship between Micro-Political Orientation shared leadership and project team performance.*

2.3. Project Manager's Ambidexterity

Since many firms operate in more than one strategic environment at once, ambidexterity is the capability to apply numerous methods to strategy either successively or synchronously. So as to achieve prosperity in the present and future, project teams must be led by senior leaders who could balance competing dimensions of

exploitation and exploration within their organizational structure. Exploration refers to use of already existing policies with little amendments whereas exploitation refers to trial and error i.e. bringing innovation and new trends within the teams. (Westerfield, 2021). While analyzing the role of knowledge absorption and knowledge transfer as mediators in the relationship between the internal networking created in university research groups and innovation ambidexterity, researchers have found that knowledge absorption and transfer has positive and signification relationship to internal networking. However, only knowledge absorption has a positive and significant impact on innovation ambidexterity (Cabeza- Pulles et.al, 2020). Research proved that ambidexterity within a firm creates better performance (Pertusa-Ortega, 2021). Firms are constantly facing challenges demand of doing more than satisfying customer needs. Having leaders within a project team that promotes empowerment and knowledge sharing within team network constructs the environment required for ambidexterity to grow.

In the past studies, results have proposed that innovation and creativity can be boosted within a team if team member is willing to thoroughly look into the situation by spending the time and effort for identifying a problem, gather extensive information, and generate numerous ideas from divergent perspectives (Zhang & Bartol, 2010). Further studies has endorsed unlearning-performance bond occurs through simultaneous exploitative and exploratory learning tasks in a balanced form (Acikgoz, Demirkan, Latham & Kuzey, 2021). Psychological empowerment mediated the link between six dimensions of empowering leader (delegation of authority, accountability for outcomes, risk taker and innovative, information sharing and skill development) and two outcomes that are job satisfaction and organizational commitment (Konczak, Stelly & Trusty, 2000). Another study has stated that Project manager's decision making authority positively linked to Project manager's ambidexterity (Mom et.al, 2009). Further, it is endorsed that new product development performance tends to decline when project manager doesn't balance between exploration and exploitation activities and ultimately reduces the project team performance (Lee, Joshi & Woo, 2017). Organizational dynamism and strong social networks within the teams are having positive and significant association with managerial ambidexterity in the presence of knowledge sharing as a mediator (Yap, Ahmad, Jalaludin & Hashim, 2020). According to literature, we hypothesize:

H14: Project Manager's exploratory behavior moderates the relationship between Task Orientation shared leadership and knowledge sharing.

H15: Project Manager's exploratory behavior moderates the relationship between Relation Orientation shared leadership and knowledge sharing.

H16: Project Manager's exploratory behavior moderates the relationship between Change Orientation shared leadership and knowledge sharing.

H17: Project Manager's exploratory behavior moderates the relationship between Micro-Political Orientation shared leadership and knowledge sharing.

H18: Project Manager's exploitative behavior moderates the relationship between Task Orientation shared leadership and knowledge sharing.

H19: Project Manager's exploitative behavior moderates the relationship between Relation Orientation shared leadership and knowledge sharing

H20: Project Manager's exploitative behavior moderates the relationship between Change Orientation

shared leadership and knowledge sharing.

*   **H21***: *Project Manager's exploitative behavior moderates the relationship between Micro-Political Orientation shared leadership and knowledge sharing.*

2.4. Theoretical Framework

To implement the study, the following variables are shown in the theoretical framework. The project's shared leadership is the independent variable project team performance is the dependent variable. While the project manager's ambidexterity is the moderating variable and knowledge sharing is the mediating variable. Academic and social science experts have especially sought to adopt the following largely believed theories to examine leadership patterns and team productivity: attribution theory, LMX theory, social exchange theory, knowledge-based theory, social control, and organizational support theory with LMX being the most influential in depicting the leader-subordinate relations. Thus, this research will seek to establish the relationship between shared leadership and knowledge sharing, team performance, and organizational culture; making LMX theory most appropriate because it links all these variables describing how the win-win situation can be brought about to benefit all the involved parties. Based upon vertical dyad linkage theory, LMX theory further emphasizes the interactive relationship that the leader in the workplace forms with subordinates, with their division into two categories: In-group, characterized by privilege and richness of resources, and out-group – by very limited exchange of resources in the relationship. LMX has a direct link with job performance as well as self-efficacy (Luo & Cheng, 2014). Through identifying with an organization, ethical leadership influences scepticism within an organization by the level of LMX (Qian & Jian, 2020). It is indicated that perceived leadership knowledge hiding is worse when knowledge distance exists within the organization underlining the importance of managers building a culture that encourages the sharing of knowledge (Chen, 2020).
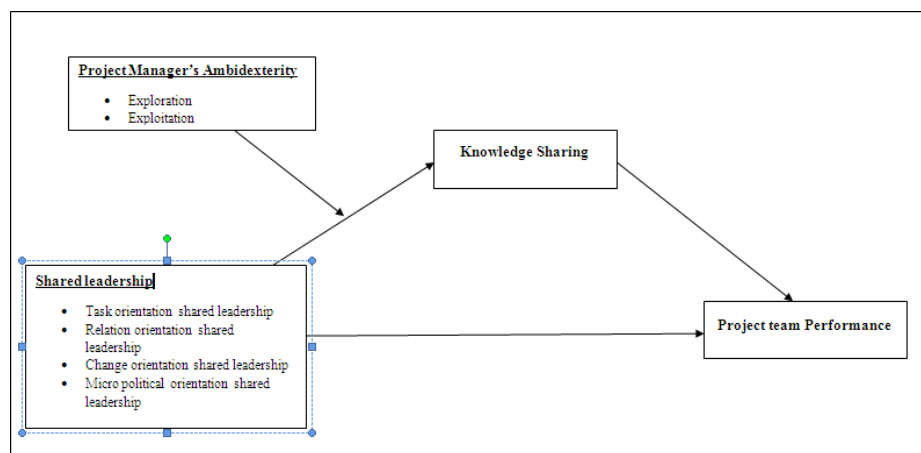

Figure 1: Theoretical Framework

This framework illustrated the effect of shared leadership on project team performance via mediation of knowledge sharing and the moderating effect of the project manager's ambidexterity. This framework shows one of the dimensions of leadership style, i.e. shared leadership which includes four constructs. These are Task orientation shared leadership (TOSL), relation orientation shared leadership (ROSL), and change orientation shared leadership (COSL) and micro-political orientation shared leadership (MPOSL).

3. Methodology

This present research is a causal research study intended to investigate the extent to which the four dimensions of shared leadership, namely, TOSL, COSL, ROSL, and MPOSL affect the project team performance through knowledge sharing. Also, it explores whether this is does hold with the project manager's ambidexterity. Additionally, it measures if the existence of project manager's ambidexterity improves the relationship being studied. Questionnaire survey method was used in this research and the study was carried over a period of one month with a cross-sectional research design being applied. The population constitute the organizations involved in projects in Pakistan with special focus on Rawalpindi and Islamabad and comprised of project managers, team leaders and team members at the higher, middle and lower levels of management were included in the study.

From the convenience sampling, 300 questionnaires were administered a response rate of 0.97; the valid responses used in the study were 288. One presumes that the approximate figure was ascertained during the disbursement of the distribution and was used as the basis. As for the data gathering technique, it focused on distributing and collecting questionnaires in a one-shot manner. The identified projects were those supervised by organizations in the stated geographical regions.

Respondents were directly contacted by the researchers and ethical considerations such as informed consent were observed for anonymity of the respondents. The self-completion questionnaires used for the study were developed from existing instruments; sources for these were outlined in the research. A one-way analysis of variance was performed to examine whether the independent variables (employment sectors, gender, age, qualification, experience, and designation) affected the study's dependent variable, project team performance. Data analysis of the independent variables was initiated through descriptive statistics to determine the mean and median through the use of SPSS. The novel aspect of this study is the inclusion of unessential control factors, which were not tested for speculation and hypothesis investigation but were used to identify statistically significant relationships between demographic variables and project team performance.

4. Results

Table 1 shows demographic characteristics of the sample.

Table 1

Demographics

Variable	Groups	Frequency	Percentage
Gender	Male	66	22.9
	Female	222	77.1
	21-30	153	53.1
		108	37.5
Age	31-40		
	41-50	20	6.9
	Above 51	7	2.4
	0-5	160	55.6
Work Experience	6-10	52	18.1
	11-15	51	17.7
	16 years or above	25	8.7
Employment Sector	Public	92	31.9

	Private	196	68.1
	Manager/Team Lead	79	27.4
Designation			
	Team Member	209	72.6

Table 2

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TOSL	288	1.00	5.00	4.3868	.70535
ROSL	288	1.80	5.00	4.2611	.74620
COSL	288	1.00	5.00	4.2778	.77796
MPSOL	288	1.00	5.00	4.1953	.75409
KS	288	1.00	5.00	4.1227	.75503
PTP	288	1.00	5.00	4.1523	.77419
Exploratory PMA	288	1.00	5.00	3.7862	.74063
Exploitative PMA	288	1.14	5.00	3.9335	.71482
Valid N (listwise)	288				

Table 2 illustrates the value of mean and standard deviation of the whole sample. This illustrates that 288 was actually the sample size. The mean value of task leadership orientation was 4.38 and standard deviation was 0.70 which shows that project managers and team members agree that task leadership orientation of shared leadership effect on team performance. The mean value of relation leadership orientation in the table was 4.26, and the standard deviation was 0.74 illustrates that project managers and team members agree that relation leadership orientation of shared leadership effect on team performance. The mean value of change leadership orientation was 4.27, and the standard deviation was 0.77 depicts that most of the project managers and team members had a leaning towards the agreement side.

Table 3

Control Variables for Project Team Performance

Control Variables	F-value	Significance
Employment Sector	2.055	0.153
Age	2.263	0.081
Gender	.001	0.972
Qualification	3.683	0.096
Experience	2.871	0.077
Designation	8.935	0.083

Table 3 represents the results of the insignificant difference in project team performance across employment sector (F=2.055, p>0.05), age (F=2.263, p>0.05), Gender (F=0.0012, p>0.05), Qualification (F=3.683, p>0.05), Experience (F=2.871, p>0.05), Designation (F=8.935, p>0.05).Therefore, all values illustrates insignificant

relationships, which represent that there is no need to confound these control variables because these are not creating distortion in the observation of project team performance.

Table 4

Instrument Reliability

Variables	Items	Reliability (Cronbach's alpha)
TOSL	5	.878
ROSL	5	.876
COSL	5	.911
MPOSL	5	.844
KS	6	.885
PTP	8	.920
Exploratory PMA	7	.858
Exploitative PMA	7	.867

Source: primary data

In Table 4, the values of Cronbach alpha are mentioned. The accepted criteria of Cronbach alpha is α must be equal or greater than 0.6 - 0.7. however, values greater than 0.8 is also considered as a good level of reliability. The value of Cronbach's alpha for task leadership orientation is 0.878 and the value of change leadership orientation in this study is 0.911, the Cronbach's value of micro-political leadership orientation is 0.844 in the current study and knowledge sharing Cronbach's is 0.885. Project team performance has 0.920 Cronbach's value. PMA Exploratory scores 0.858 and PMA exploitative has 0.867 Cronbach's value. Overall all the constructs have good reliability and greater than the threshold value.

Table 5

Correlation Coefficient

Variables	1	2	3	4	5	6	7	8
TOSL	1							
ROSL	687**	1						
COSL	.720**	.821**	1					
MPOSL	. 653**	.764**	.777**	1				
KS	.590**	675**	.735**	.661**	1			
PTP	.582**	.598**	.678**	.564**	.694**	1		
Exploratory PMA	.493**	.517**	.553**	.537**	.562**	.622**	1	
Exploitative PMA	.468**	.374**	.474**	.403**	.435**	.534**	.742**	1

**. Correlation is significant at the 0.01 level (2-tailed). $p < 0.05*$, $p < 0.01 **$

Source: primary data

Table 5, illustrate that there is significant relationships among constructs with respect to Pearson value criteria. The values show positive and significant relationship among micro-political leadership orientation and project team performance as per (r=.564, p<0.01). The positive and significant association existing between the change leadership orientation and knowledge sharing, as per (r=.735, p<0.01). There is a positive and significant association illustrated between the relation leadership orientation and PMA Exploratory as per (r=.517, p<0.01). Overall, all variables are highly and strongly correlated. Table 5 presents the correlation coefficients among the variables in the study, showing significant relationships between Task-Oriented Shared Leadership (TOSL), Relation-Oriented Shared Leadership (ROSL), Change-Oriented Shared Leadership (COSL), Micro-Political Shared Leadership (MPOSL), Knowledge Sharing (KS), Project Team Performance (PTP), Exploratory Project Manager's Ambidexterity (Exploratory PMA), and Exploitative Project Manager's Ambidexterity (Exploitative PMA). Strong positive correlations are observed between TOSL and ROSL (r = 0.687, p < 0.01), COSL (r = 0.720, p < 0.01), and MPOSL (r = 0.653, p < 0.01). Similarly, ROSL shows strong positive correlations with COSL (r = 0.821, p < 0.01) and MPOSL (r = 0.764, p < 0.01). Knowledge Sharing (KS) exhibits significant positive correlations with TOSL (r = 0.590, p < 0.01), ROSL (r = 0.675, p < 0.01), COSL (r = 0.735, p < 0.01), and MPOSL (r = 0.661, p < 0.01), indicating that higher levels of shared leadership are associated with increased knowledge sharing. Moreover, Project Team Performance (PTP) shows positive correlations with all dimensions of shared leadership and knowledge sharing, suggesting a cohesive relationship between effective leadership practices, knowledge sharing behaviors, and overall team performance in the studied context. Exploratory and Exploitative Project Manager's Ambidexterity also displays moderate to strong positive correlations with the other variables, underscoring their role as potential moderators in the relationships examined.

4.1. Linear Regression

Table 6 shows linear regression analysis conducted to test various hypotheses on project team performance revealed significant positive relationships for each predictor examined. Hypothesis 1 posited that task leadership orientation (TOSL) influences project team performance, supported by a regression coefficient of β = .639 (p < .000), accounting for 33% of the variance (R^2 = .339). Similarly, Hypothesis 2 suggested a relationship between relation leadership orientation (ROSL) and team performance, evidenced by β = .621 (p < .000) and explaining 35% of the variance (R^2 = .358). Hypothesis 3 examined change leadership orientation (COSL), finding a strong positive impact with β = .675 (p < .000) and an explained variance of 46% (R^2 = .460). For Hypothesis 4, micro-political leadership orientation (MPOSL) also showed a significant positive relationship with β = .579 (p < .000), accounting for 31% of the variance (R^2 = .318). Finally, Hypothesis 9 explored the effect of knowledge sharing on team performance, revealing the highest positive impact among the predictors with β = .712 (p < .000), explaining 48% of the variance (R^2 = .482). Each of these findings strongly supports their respective hypotheses, indicating the critical role of various leadership orientations and knowledge sharing in enhancing project team performance.

Table 6

Linear Regression

Predictor	β	R²	Sig	Variance Explained
TOSL	.639	0.339	.000	33%
ROSL	.621	0.358	.000	35%
COSL	.675	0.460	.000	46%
MPOSL	.579	0.318	.000	31%
Knowledge Sharing	.712	0.482	.000	48%

Source: primary data

4.2. Multiple Regression Analysis

For present study, mediation and moderation analysis were measured by adopting (Hayes, 2018) process macros. Mediation analysis was conducted to explore knowledge sharing as a mediator between task, relation, change, micro-political leadership orientation, and project team performance. Hypothesis 10 enunciates that knowledge sharing will mediate the relation between task leadership orientation and project team performance. The results provide strong evidence. As mentioned in above table effect of task leadership orientation on knowledge sharing is positively significant link with coefficient regression (B=.631, p<0.000), so developed Hypothesis 5 is supported. Moreover, result depicts that indirect effect of task leadership orientation on project team performance has the lower-level confidence interval and upper-level confidence interval of .2066 and .5050. Both the ULCI and LLCI has similar sign positive. Therefore, we can conclude that mediation is happening. Therefore, hypothesis 10, was supported, that knowledge sharing mediates the relationship between task leadership orientation and project team performance.

Hypothesis 11 states that knowledge sharing will mediate the link between relationship leadership orientation and project team performance. The results provide strong evidence. As mentioned in the above table effect of relation leadership orientation on knowledge sharing is a positively significant link with coefficient regression (B=.682, p<0.000), so developed hypothesis 6 is supported. Moreover, results depict that the indirect effect of relation leadership orientation on project team performance has the lower-level confidence interval and upper-level confidence interval of .2361 and .5221. Both the ULCI and LLCI have similar positive signs and there was no zero between these two limits. Therefore, we can conclude that mediation is happening. Therefore, hypothesis 11, as supported, that knowledge sharing mediates the relationship between relation leadership orientation and project team performance. Hypothesis 12 states that knowledge sharing will mediate the association between change leadership orientation and project team performance. As mentioned in the above table effect of change leadership orientation on knowledge sharing is a positively significant link with coefficient regression (B=.713, p<0.000), so developed hypothesis 7 is supported. Moreover, results depict that the indirect effect of change leadership orientation on project team performance has a lower-level confidence interval and upper-level confidence interval of .1595 and .4908. Both the ULCI and LLCI have similar positive signs and there was no zero between these two limits. Therefore, we can conclude that mediation is happening. Therefore, hypothesis 12, was supported, that knowledge sharing mediates the relationship between change leadership orientation and project team performance.

Hypothesis 13 states that knowledge sharing will mediate the association between micro-political leadership orientation and project team performance. The results provide strong evidence. As mentioned in the above table effect of micro-political leadership orientation on knowledge sharing is a positively significant link with coefficient regression (B=.661, p<0.000), so developed hypothesis 8 is supported. Moreover, table 4.9 depicts that the indirect effect of micro-political leadership orientation on project team performance has a lower-level confidence interval and upper-level confidence interval of .2233 and .5536. Both the ULCI and LLCI have similar positive signs and there was no zero between these two limits. Therefore, we can conclude that mediation is happening. Therefore, hypothesis 13, was supported, that knowledge sharing mediates the relationship between micro-political leadership orientation and project team performance.

Table 7

Regression Analysis

IV	Effect of IV on M	Effect of M on DV	Direct Effect	Total Effect	Bootstrapping Result for Indirect Effect (LL 95%)	Bootstrapping Result for Indirect Effect (UL 95%)
TOSL	0.631***	0.290***	0.290***	0.638***	0.2066	0.5050
ROSL	0.682***	0.547***	0.262***	0.620***	0.2361	0.5221
COSL	0.713***	0.436***	0.363***	0.674***	0.1595	0.4908
MPOSL	0.661***	0.585***	0.191***	0.578***	0.2233	0.5536

Note: N=288, IV=Independent Variable, M=Mediator Variable, DV=Dependent Variable, LL=Lower Level Confidence Interval, UL=Upper Level Confidence Interval, *** p<0.000.

Table 8

Moderation Effect

Variables	β	SE	T	P	LL 95% CI	UL 95% CI
Exploratory Project Manager's Ambidexterity						
TOSL × KS	.1230	.0472	2.6085	0.009	.0302	0.2150
ROSL × KS	.0216	.049	.439	.660	-.0750	0.1181
COSL × KS	0.079	0.042	1.875	0.061	-.0039	.1630
MPOSL × KS	0.074	0.043	1.713	0.0877	-.0111	.1604
Exploitative Project Manager's Ambidexterity						
TOSL × KS	0.139	0.051	2.730	0.006	0.0390	0.2404
ROSL × KS	.050	.048	1.028	.304	-.0457	.1457
COSL × KS	0.117	.042	2.768	.006	.0338	.2002
MPOSL × KS	0.069	0.045	1.535	.125	-.0196	.1584

Source: Primary data

The results from Table 8 highlight the moderation effects of both Exploratory and Exploitative Project Manager's Ambidexterity on the relationships between various dimensions of shared leadership (TOSL, ROSL,

COSL, MPOSL) and Knowledge Sharing (KS). Exploratory Project Manager's Ambidexterity significantly moderates the relationship between Task-Oriented Shared Leadership (TOSL) and KS ($\beta = 0.1230$, $p = 0.009$), supporting Hypothesis 14. However, it does not significantly moderate the relationships between Relation-Oriented Shared Leadership (ROSL) ($\beta = 0.0216$, $p = 0.660$), Change-Oriented Shared Leadership (COSL) ($\beta = 0.079$, $p = 0.061$), or Micro-Political Shared Leadership (MPOSL) ($\beta = 0.074$, $p = 0.0877$) with KS, as indicated by non-significant findings for Hypotheses 15, 16, and 21. Similarly, Exploitative Project Manager's Ambidexterity moderates the relationship between TOSL and KS ($\beta = 0.139$, $p = 0.006$), supporting Hypothesis 17, but not significantly for ROSL ($\beta = 0.050$, $p = 0.304$), COSL ($\beta = 0.117$, $p = 0.006$), or MPOSL ($\beta = 0.069$, $p = 0.125$), as hypothesized in Hypotheses 18, 19, and 20. These results suggest that while certain dimensions of shared leadership are influenced by project manager ambidexterity, others show no significant moderation effects on knowledge sharing within project teams.

5. Discussion

Research studies done during 1960s and 1970s, there has been so much emphasis put on the categories of shared leadership. On the basis of the work done by Grille (2015) and the results obtained from current study, we through an idea that task, relation, change and micro-political orientation can be stated as important dimensions of shared leadership. Results from current study further supports that TOSL, COSL, ROSL & MPOSL can be used as separate dimensions in measuring the variation of shared leadership that led to knowledge sharing and improved team performance. Shared leadership leads to improved and effective organizational performance. When individuals realizes that they have an effect on the project and that they have some authority and sense of responsibility, they have a better desire for success. According to the literature cited, Ye et al. (2019) declared that Leadership style having practical involvement in project activities yields better results through innovation as it encourages team to feel empowered. Results revealed that there is a positive and strong relationship among dependent and independent variables.

Findings of our results show that task, relation, change and micro-political orientation shared leadership are directly related to project team performance. Our results against hypothesis 1, 2, 3 & 4 are in line with the findings of Kim & Han (2019) that ROSL, TOSL and Creativity Orientation Shared Leadership (COSL) are key elements of shared leadership in determining project team performance. They further narrated that shared leadership style is a source to build trust within a team which ultimately brings positive learning environment. Our findings support our hypothetical statement 09 and tests confirmed that sharing of knowledge among team members has strong and direct effect on team's performance. Past literature has also supported our current results. Research studies conducted by Nesheim & Hunskaar (2015), Hansen et al. (1999) and Zhang & Li (2016) indicates that trend of knowledge sharing within an organization helps in achieving higher performance and achieving organizational goals.

The results of Hypotheses 5, 6, 7, and 8 indicate that task, relation, change, and micro-political leadership orientations significantly enhance knowledge sharing, which in turn improves project team performance. This underscores the importance of diverse leadership styles in fostering a collaborative environment. Hypothesis 10, 11, 12 and 13 elaborates that knowledge sharing is mediating the relationship among 04 dimensions of shared leadership (TOSL, ROSL, COSL & MPOSL) and project team performance. These hypotheses are supported by

our results which are achieved through running different tests using SPSS. Previous work done by Zhang & Li (2016) and Love, Smith, Ackermann, & Irani (2019) gave similar results that knowledge diversity and relationships within team play vital roles in figuring out knowledge reclaim behaviors. These behaviors of leader encompass such traits that will nurture team and brings improved performance out of them. Further to above, we have also applied several tests to check exploratory and exploitative dimensions of project manager's ambidexterity and how it affects the relationship between all the 04 dimensions of shared leadership and knowledge sharing. Hypothesis 14, 15, 16 and 17 states positive relationship between TOSL/ROSL/COSL/MPOSL and knowledge sharing is stronger when exploratory dimension of project manager's ambidexterity is high. Our results shows that impact of exploratory dimension is greater between relationships of task orientation shared leadership and knowledge sharing. We have received negative results when this dimension is tested for the rest of dimensions i.e. COSL, ROSL and MPSOL. The rejection of hypothesis 15, 16 & 17 shows that exploratory trait of project manager's ambidexterity does not moderates the relationship between COSL, ROSL, MPOSL and knowledge sharing.

5.1. Managerial Implications

This current study adds value to shared leadership research by confirming and validating new sub-dimensions of shared leadership i.e. Change orientation and micro-political orientation. This quantitative study supports COSL & MPOSL, which shed light on the research conducted on shared leadership domain. In the past, many researchers have examined a direct and positive link between shared leadership and team performance (Hu et al. 2017; Han et al, 2020). This may imply that change-oriented and micro-political orientated shared leadership traits will emerge when performing teamwork and possibly enhance project team performance. This study further confirms the likelihood of including a MPOSL & COSL component into shared leadership dimensions as a new contribution when structuring shared leadership constructs and theories. In addition, there is very limited work done on scales that can be used to access shared leadership behavior. Our research will serve as great theoretical implication as results are in line with past literature that TOSL, ROSL, COSL and MPSOL are key and vital scales to measure shared leadership style for evaluating project team performance.

5.2. Theoretical Implications

This study contributes significantly to shared leadership research by introducing and validating new sub-dimensions: Change Orientation and Micro-Political Orientation. Through quantitative analysis, this research supports the conceptualization of COSL (Change-Oriented Shared Leadership) and MPOSL (Micro-Political Oriented Shared Leadership), which enrich the understanding of shared leadership in organizational contexts. Previous studies have established a positive link between shared leadership and team performance (Hu et al., 2017; Han et al., 2020), suggesting that these newly identified traits within shared leadership may enhance project team performance. The study underscores the importance of integrating COSL and MPOSL components into shared leadership frameworks, advancing theoretical implications and providing foundational scales for assessing shared leadership behaviors in future research.

5.3. Limitations and future study

The current research highlights the need for further exploration into various dimensions of shared leadership,

suggesting that future studies could employ Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) to assess shared leadership in different industries within Pakistan. Comparisons between private and public sector organizations could elucidate how cultural dynamics influence project team performance in the context of shared leadership and knowledge sharing. Additionally, investigating the mediating role of management support between shared leadership and project team performance could provide valuable insights. Future research might also examine the relationship between empowering leadership styles and managerial ambidexterity to determine if findings align with current studies. Finally, exploring how a culture fostering knowledge sharing practices impacts exploratory and exploitative behaviors, as discussed in prior research by O'Reilly (2008) and Birkinshaw (2004), could reveal distinct outcomes based on leadership style, offering new perspectives on organizational learning and innovation strategies.

5.4. Conclusion

In the light of above discussion, the present study highlights the importance of 04 vital dimensions of shared leadership that if present, simultaneously affect project team performance. We end up claiming that the four dimensions of shared leadership and project team performance have significant and positive relations and knowledge sharing mediates the relationship between independent and dependent variables. However, exploratory behaviour moderates the relationship only in the case of TOSL and exploitative in the case of TOSL and COSL respectively. In reality, team leaders are reluctant to incorporate change and innovation into practice due to fear of rejection and failure and similar findings are obtained from the current study. It is shown that project-based organizations within Pakistan (Rawalpindi and Islamabad) do not support such a culture which promotes trial and error in leadership styles. Here in Pakistan, organizational culture, team working style and dynamics are different from multinational firms operating worldwide and their tools and techniques, because of differences in context and working environments there may be certain other factors that are impacting project team performance because of other variables other than ambidexterity. The public sector of Pakistan does not normally focus on their organizational cultures and flexibility and this is shown by our results which show that a manager's ambidexterity does not moderate the impact of shared leadership (ROSL/COSL & MPOSL) and knowledge-sharing on project team performance.

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