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The impact of shared leadership on project success: Mediating role of degree of autonomy and team performance

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ABSTRACT

This study seeks to investigate the effect of shared leadership on project success directly and through the mediation of Team Performance and Degree of Autonomy. The other objective of the current study is to measure the moderating role of communication on the relationship between team performance, job autonomy and project success. Data was collected from 266 team members working on software development projects in Pakistan and was analyzed through SPSS and Smart PLS. The results show that shared leadership directly influences project success in a favorable way (positively), and that this link is mediated by team performance and degree of autonomy. It has been discovered that communication moderates the relationship between team performance, degree of autonomy and project success. The current research work delivers a theoretically useful framework for understanding the success and worth of shared leadership in software development. Specifically, the current results recommend the importance of considering team performance and the appropriate degree of autonomy to increase the success rate in software development projects.

Introduction

In project management literature, the research on leadership has attained a significant importance. But a single leadership style may not reap as much benefits as in an organizational setting because every project is different than the others. Poor Leadership style can be considered one of the primary causes of project failure since in traditional projects, a designated leader at the top provides orders and then solely monitors the

The Shared leadership is defined as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both (Pearce and Conger, 2002, p. 1)." It may be a more successful strategy of managing a project team. While shared leadership and Team Performance have traditionally been researched separately (Innocenzo et al., 2014) there is a lot to be gained by merging the two (Hoch 2014).

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Project success is extensively discussed in the literature (Pinto and Slevin 1985 & 1989, Koops 2016, Bakker et. all, 2010 etc.). Project based organization traditionally focused on triple constraints (budget, time, and performance) for defining project success (Koops, Bosch and Koman 2016). The pioneers of project success studies, Pinto and Sliven (1989) found in their research work that both the willpower and the understanding of project success are subject of global and universal research and many research work and papers have been published. Pinto and Rouhiainen (2001) concluded that critical success factors are those, if addressed properly, will substantially improve the probability of project to be successful. An investigation, led in the UK by Oxford University as a team with Computer Weekly in 2003, revealed that just 16% of the 421 Software projects analyzed, were completed on schedule within the budget and with the settled functionalities, just 55% of projects were finished on time. Based on the norms and customs in the field of software development projects, the most customary blend of models used to decide the achievement of a venture intrigues meeting the time, cost, usefulness as well as quality targets and objectives (Anda et., al, 2009; Atkinson, 1999; Kappelman et al., 2006; Summer et al., 2006). But however, as discussed earlier, Bakker et al. (2010) have raised questions over these criteria and say that the literature they reviewed, only relying on the traditional project success criteria like schedule, requirements, and the cost, shows that a software development project has failed, without a doubt.

Communication can play a vital role in a team's work enthusiasm. Communication can impact the project success in both, formal as well as informal way of communication. The formal communication channel enables the team members to grasp on-time project information regarding purpose, tasks and resources in order to make sure the project is smoothly progressing ahead and take corrective actions where necessary. On the other hand, informal communication can lead to alteration of information and cause conflicts in team (Wu, Liu, Zhao and Zuo, 2017). Study conducted by Hoch (2014), built a relationship among shared leadership, knowledge sharing and team diversity. He also proposes researching the connection of shared leadership with team efficiency as well as other factors that need to be investigated to impact the shared leadership and team performance. Christina, Young, Georgy & Grisinger, (2019) successfully developed a new Shared Leadership model and found that the new model was well established in accordance with team literature. They were successful in determining how Shared Leadership affected individual teams and projects. Therefore, this study is aimed at investigating the impact of shared leadership on project success directly and through the mediation of team performance and the degree of autonomy.

2 "Literature Review"

2.1 "Shared Leadership and Project Success"

More than the past two decades, there is a swing occurred in understanding the organizational phenomenon. The newly adopted leadership models recognized that, rather than individual and heroic leadership, the effectiveness of a living system is dependent on leadership practices established at many levels of an organization.

A project's success is largely affected by the leadership style employed (Turner and Muller, 2017) and people that share a leader's stance have a common understanding of aims and objectives of the projects (Crevani et al., 2018). According to this study, shared leadership is an invisible project resource that enables team members to develop mutual respect and trust while being receptive to outside influences that enhance team performance, enabling them to satisfy the success criteria (Carson, Tesluk, & Marrone, 2007). Many researchers have found the constructive relationship of shared leadership with project success (Ensley, Hmieleski, & Pearce, 2006). When other team members are accepting the colleagues' leadership and respect their leader's decision, the working team functions effectively and efficiently on getting the complex tasks to be completed (Moe et al., 2019). In this regards, Shared leadership makes feedback and communication easy and effective, leading to the Software Development project success. Clients may approach the development team with a concept in mind in software development projects, for example, and talk about it with them in light of their changing business needs, which may change over time depending on market/business requirements and if the development team has been given the shared leadership role, when faced with a situation like this, the team will discuss the most effective plan of action to finish the task (Imam and Zaheer, 2021). Hence, it has been hypothesized that

Hypothesis 1: Shared Leadership has significant influences on the project success of Software Development project.

2.2 Shared Leadership Degree of Autonomy and Project Success

The high degree of autonomy inherent to sharing leadership within a team positively affects the job perception of project team members working in a group (Michael Shane and Dail, 2007). Recent study has been published that aims to strengthen the link between emergent leadership inside autonomous teams and the empowering leadership of team-external leaders in encouraging the growth of shared leadership by the leaders (Gilstrap 2018; Zhang Walsman and Whang, 2012). While focusing on shared leadership, Bergman et al. (2012) stated in his research work that shared leadership is an indication of high levels of emergent leadership across many team members, arising from high levels of empowerment (i.e., empowering your work team members), have evolved, with only a broad, general examination of any antecedents for shared leadership. "The team's autonomy is vital to the success of Shared Leadership process. Shared Leadership may be more effective when examining the required team autonomy to segment the lead, influence one another, and make collaborative decisions (Fausing et al. 2013).

But the question arises when the discussion is taking place upon the degree of autonomy whether it should be high, should be too low or should be in the range between i.e., neither too low nor too high. The answer to the question found in the research work conducted by the researchers. The outcomes of autonomous teams may be harmed by having too much or too little autonomy (Hess, 2015). Members of a work group with shared leadership have the autonomy and motivation to take verdicts and bring out actions. It is crucial to clarify that this term does not suggest a lack of formal leadership; rather, it denotes a level of independence that allows for team autonomy (Conger & Pearce, 2003; Chiu et al., 2016). In the framework and implementation of shared leadership, individual team members are collaboratively and cooperatively active in leading the team. In this sense, team members might be viewed of as members of a working group who operate independently (Liang, 2021). When there is too little autonomy in the team, it prevents team members from using their abilities and talents to their full potential (Parker, 2003), while in other case, giving too much autonomy increases team-member stress to meet the expectations of the external leaders (Godard, 2001). According to Kuipers and Stoker (2009), it has been claimed that suitable amounts of autonomy (not too high nor too low) can promote team member well-being and organizational success.

Hypothesis 2: "Degree of autonomy has a mediating effect on the relationship between Shared Leadership and project success in the software development projects".

2.3 "Shared Leadership, team performance and Project Success"

Innocenzo and Kukenberger (2014) in their research work stated that as the complexities of various forms of shared leadership become more commonly understood, the researchers want to see more links between team performance, theory, and measurement. In this regard, Team performance refers to "the assessment of teamwork outcomes. The team's ability to accomplish project goals and objectives, product quality, operational performance, and the team's ability to work as a unit are all factors to consider."

Shared leadership has been related to enhanced team performance on numerous occasions (Lowe 1996; Hoch, Kozlowski, & Steve, 2014) and also has proved as a superior interpreter of team performance than heroic leadership (Ensley, Hmieleski, & Pearce, 2006) or which also called a heroic leadership (Carson, Tesluk, & Marrone, 2007). The most of shared leadership work conducted has been focused on team performance (Liang, 2021). Fundamental to shared leadership is that the team members work self-directed (as not relying on or wait for management decision that usually takes long time for approvals), the project team members cooperatively lead the team in interest of the goals and objectives (Carson et al., 2007). As he continues to work on assessing team performance, Okoronkwo (2017), argues that standards may be developed on the application of quantitative methods that provide information on the key aspects of the team's activity. Non-financial performance and intangibles assessments may be difficult to measure, yet they are critical for a project's success. Because high team performance is regarded as critical to project development success, it is critical to understand which aspects of project team interaction have a significant impact on performance (Okoronkwo, 2017).

There has been a lot of research done on team performance and how it affects project success (Okornkwo 2017). A number of researchers correlated team performance positively with shared leadership (Innocenzo, 2014). When team members take on leadership responsibilities, Katz and Kahn (1978) claim that they will devote more resources to the work, share supplementary information, and feel more dedicated to the organization. Due to the dynamic nature of todays' paced environment, heroic or

individual leadership may not effectively achieve organizational goals. Such demands suggest that teams cannot wait for the leader's decision to pushed up to the top management for actions. In such conditions, leadership needs to be shared within the organization to cope with these demands, enabling Shared Leadership as a significant tool in achieving high performance (Cruz, 2019). Shared Leadership, where the leader's authority is shared among the team members., offers significant benefits or team process and performance (Wu and Cormican, 2016). Hence, it is hypothesized that,

Hypothesis 3: "Team performance mediates the relationship between Shared Leadership and project success in the software development projects.

2.4 Intervening role of communication

According to the definition by Mesmer-Magnus & DeChurch, 2009, "The process of communicating information between two or more team members, which can be vocal or nonverbal, is known as communication". According to the study conducted by (Hoch, Kozlowski, & Steve, 2014), Various aspects of team communication can be assessed, such as the clarity with which team members receive information. Despite the undeniable need of communication for team effectiveness, shared leadership arrangements involve a higher level of communication because several work team members must make decisions. There should be no discrepancies in their judgments of the relevance of conflicting priorities and goals in their organization if there is seamless communication among managerial professionals at all levels inside the corporation (Kathuria, Porth, Kathuria, & Kohli, 2020). As a result, firms must prioritize efficient and effective communication at all levels of the organization. (Boyer & McDermott, 1999). As research suggested earlier that, multiple leaders emerge as a result of shared leadership because leadership duties and responsibilities are distributed among team members. As a result, enhanced communication quality and frequency are essential to avoid duplication and redundancy of efforts and to encourage synchronization (Marlow et al., 2018).

Having conducted study on shared leadership and communication, Jabarzadeh, Sanoubar, Vahdat & Saghezchi, (2019), whereas grounded on a assessment of strategic management literature as well as the findings of their research, they proposed that in decision-making processes, Procedures and discussion sessions, adopting a shared leadership style, and increasing communication among management team members can all help the organization work better. According to the study conducted by Bloch, Blumberg & Laartz (2011), It is obvious that a lack of communication among project team members leads to misconceptions within the project team, which ultimately leads to the project's failure. These lack of communication issues can be addressed by encouraging team members to share their ideas, skills, and information with other project team members, which helps to create trust and strengthen interpersonal relationships (Nerur, Mahapatra, & Mangalaraj, 2015; Hackman, 1990; Jehn, Northcraft, & Neale, 1999).

Okoronkwo (2017) goes on to suggest that organizational altering aspects developed through communication and feedback processes can enable and nourish shared leadership in project teams, which is a threat to team autonomy. Regular, face-to-face communication generated the most beneficial input from external leaders and was viewed as a valuable tool for team collaboration and consensus by team members. Contributors also agreed that contact with external leaders and other team members should occur on a regular and frequent basis to provide constructive feedback that does not pose a danger to the team's autonomy or the leader's image. This has been hypothesized that,

Hypothesis 4: "Communication has a moderation effect on the relationship between degree of autonomy and project success in the software development projects"

Hypothesis 5: "Communication has a moderation effect on the relationship between team performance and project success in the software development projects"
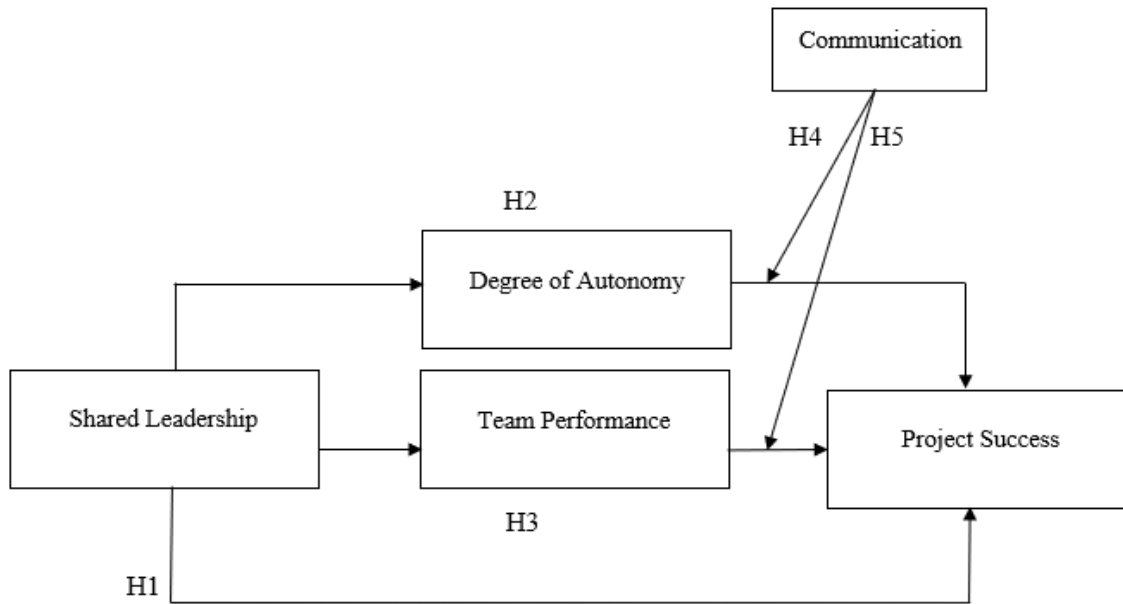
Figure 1: Hypothesized Research Model

3 Research Methodology

3.1. Sampling Method

For the current study, the researcher used the positivism philosophy. The research is based on questionnaires and is quantitative. Since the target population is the Software Development Industries of Pakistan therefore, the researcher used Simple random sampling techniques, and within the organization of the respondents – responding to the questionnaires, the Convenience sampling technique is used. One of the basic random sampling's most appealing characteristics is how easy it is to assemble the sample. It is also viewed as a fair method of choosing a sample from a population because each member has an equal chance of getting chosen. Research Model Developed

3.2 Population and Sample Size

The population of the current study was 548 Software Development companies registered in Pakistan according to the Company Directory of Pakistan Software Export Board (PSEB), (Date Accessed May 28, 2021). The sample size was calculated by employing the formula derived by Krejcie and Morgan (1970) the result of the sample size was 226. So, we selected 226 firms from the list of 548 Members of PSEB.

3.3. Data Collection

To collect the data, a well-structured questionnaire with the above-mentioned measuring scale was created. To begin, the organizations were personally contacted through phone and email and informed of the study's aims, procedures, and expected results. After receiving consent from the appropriate authority, questionnaires were personally distributed to personnel working in groups. They were informed about the study's goals and potential benefits for project-based organizations, and they were asked to share their thoughts on the role of leadership, the Degree of Autonomy given to them, assessing their Performance as a team, the way of **communication** they process information and the role of all these variables on the ultimate goal – the project success. Any query about the measurement scale or question was addressed on spot or resolved via electronic means (phone call and email) by the researcher. Also, the respondents were encouraged to feel no hesitation while asking any query.

3.4 Measures

The study's questionnaire was based on previous research that is widely used by several researchers and articles published in reputed journals for measuring

the variables. Questionnaire items are based on a 5-point Likert scale i.e. (1) "Strongly Disagree" to (5) "Strongly Agree".

The scale consists of 26 items adopted by "Hoch, Dulebohn, and Pearce (2010)" which has been used to measure Shared Leadership. The degree of Autonomy has been measured on the scale developed by Breaugh (1989) and then validated by Breaugh (1999). Communication was measured on an abridged version of the Goldhaber and Roger (1979) scale. Team Performance has been measured on a scale established by Handerson and Lee (1992). Project Success has been measured based on the scale settled by Pinto (2009).

4 "Data Analysis and Results"

4.1 Common Method Bias
An exploratory factor analysis (EFA) using SPSS was carried out and it turned out that all measuring items comprised 63.11% variance overall, although the first (largest) factor has a variance of 32.345% of the total variance. This means that common method bias was not a problem.

4.2. Model Measurement"

4.2.1 Reliability
The reliability and Validity of the data were ensured before the inferential analysis. To assess the internal consistency of the variables, the Cronbach Alpha test was conducted. Nunnally & Bernstein (1967)

suggested that any value of Cronbach alpha greater than 0.70 is considered satisfactory. In the current research, the Cronbach Alpha of all the under-study constructs was above 0.70. Furthermore, the composite reliability scores
of each construct were also assessed. Nunnally & Bernstein (1994) suggested the acceptable range for composite reliability that is between 0.70 to 0.90. Values of all the constructs were falling in the satisfactory range suggested by Nunnally & Bernstein, (1994), hence proving that data is reliable for further testing.

4.2.2 Validity
The next step after reliability testing was to assess the validity of the data. Values of Average Variance Extracted (AVE) were computed to ensure convergent validity. AVE values greater than 0.50 are considered acceptable values (Petter, Straub, & Rai, 2007). For the current study, the values of each construct were above 0.50 which reflects the good convergent validity as per the criterion. Furthermore, the discriminant validity of the data was also tested. we also ensure discriminant validity through the heterotrait-monotrait ratio of correlations (HTMT). According to Henseler, Ringle, and Sarstedt (2015), discriminant validity is established if the HTMT value is less than 0.90. In the case of sampled firms, the HTMT values for all of the variables are less than 0.90 which means that there is no issue of discriminant validity.

Table 1: Discriminant Validity: HTMT Ratios

Variable	CR	Cronbach's Alpha	AVE	COM	DOA	PS	SL	TP
COM	0.903	0.856	0.699					
DOA	0.931	0.917	0.601	0.725				
PS	0.887	0.840	0.610	0.839	0.217			
SL	0.873	0.871	0.584	0.536	0.747	0.100		
TP	0.915	0.880	0.730	0.447	0.752	0.209	0.438	

Note: COM= Communication; DOA= Degree of Autonomy; PS= Project Success; SL= Shared Leadership; TP= Team Performance

"The square roots of AVE (the diagonal numbers in bold in the given table) are higher compared to the correlation coefficients among the factors and others, showing each factor has an acceptable discriminant validity".

4.3 "Evaluation of Structural Model"

"4.3.1 Hypotheses Results"
The option in PLS is "bootstrapping" while using the subsamples option of five hundred to find path coefficients of the hypotheses. The running of the model has given the outcomes in the form of results and hypotheses results after testing the PLS-SEM (Fornell & Larcker, 1981). "The outcomes gave the info about the direction of the relationships among the variables whether it is direct or inverse and the relative strength of the impact of an independent variable over the dependent variable. If the path coefficient is higher, it means there is a stronger impact of the independent variable over the dependent variable. Correspondingly, when the P-value is lesser than 0.05, and the T-value greater than 1.96, demonstrates that the relationship is significant" (Fornell & Larcker, 1981) and also it shows that the researcher is 95% confident about the results. After running PLS-SEM, it was revealed that H4, "Communication moderates the relationship of degree of autonomy and project

success" is inconsequential, whereas the other hypotheses were significant given that "p-values" are lesser than 0.05 and their "T-values" are higher than 1.96.

Moving ahead towards the succeeding step, the model was given over to work additional to produce the results for the intervening variable. In the current study, Communication has been hypothesized in the form of a moderating variable. It looks into its effect on the relationship between (1) - Degree of Autonomy (DOA) and Project Success (PS), (2) – Team Performance (TP) and Project Success (PS).To calculate the moderating effect of the moderator in the research model, a "moderation by interaction term" technique in SmartPLS was applied. This technique compares the effect of the complete product to the dependent variable by taking the product of the moderator variables and the independent variable. In table 2, hypotheses testing results from SmartPLS 3.3 are summarized. It can be seen clearly that the moderating effect of communication on the Degree of autonomy and project success was insignificant having a P (significance) value of more than 0.05 and T statistics less than 1.96. Therefore, these values stand out to not supporting hypothesis H4. Consequently, the intervening effect of communication on team performance and project success was significant because its P value was lower than 0.05 and the T statistic value was larger than 1.96. Therefore, these values support our hypothesis H5.

Table 2: Hypotheses Results

Sr. #	"Hypothesis"	"Path Coefficient"	T Statistic	P Values	"Hypotheses decision"
1	SL -> PS	0.391	5.342	0	Significant
2	SL -> DOA	0.718	14.537	0	Significant
3	DOA -> PS	-0.285	3.683	0	Significant"
4	SL[a] -> TP	0.425	7.692	0	"Significant"
5	SL -> TP -> PS	0.058	2.44	0.015	"Significant"
6	SL -> DOA -> PS	-0.205	3.769	0.000	"Significant"

7	COM*TP -> PS[b]	0.304	5.386	0	Significant
8	COM*DOA -> PS[c]	-0.041	0.796	0.427	"Not Significant"

In the present study, there was partial mediation in both the cases of Team Performance and Degree of Autonomy because both the direct and indirect effects were significant.

[a] SL → Shared Leadership

[a] COM*TP → PS represents the moderating effect of communication on the relationship of team performance and project success .

[a] COM*DOA → PS represents the moderating effect of communication on the relationship of degree of autonomy and project success .

The graphs produced by Smart PLS show simple slope analysis. Figure 1 demonstrates that communication has no moderating impact on the relationship between the degree of autonomy and project success, while Figure 2 demonstrates that communication has a moderating impact on the connection between team performance and project success, but the lines will intersect each other beyond the range of values showing in the graph.
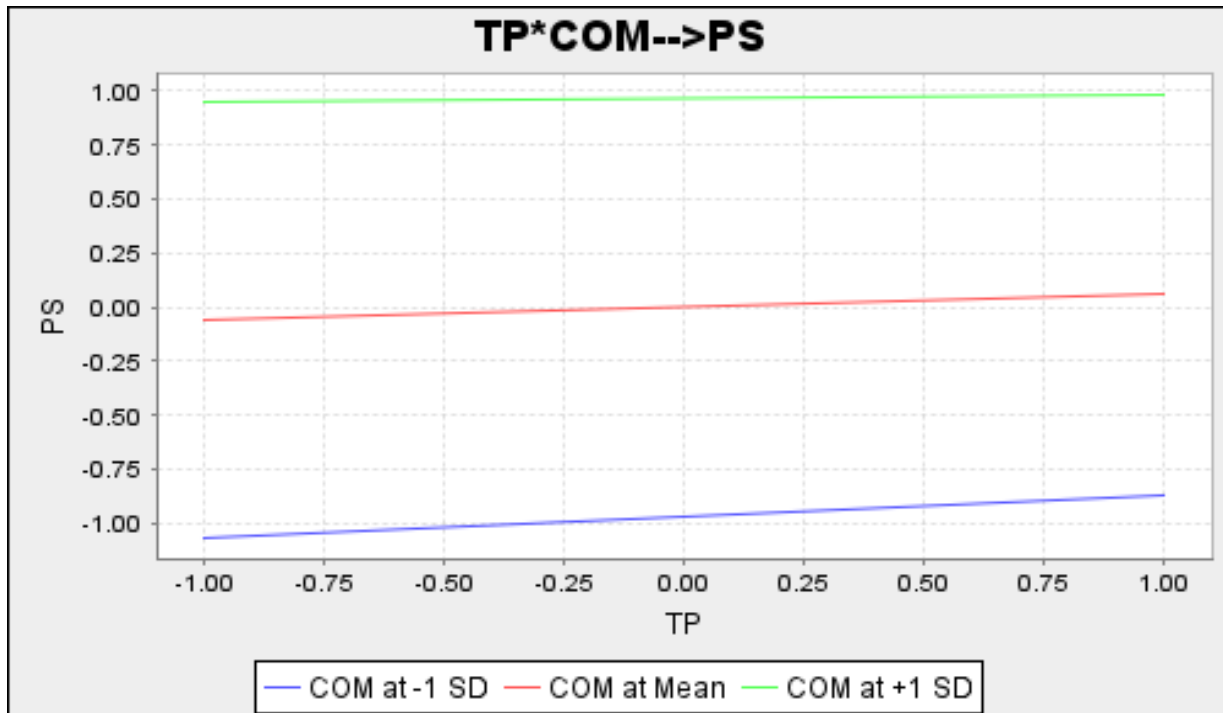
Figure.2: Moderating effects DOV*COM ☐PS

Figure.2: Moderating effects TP *COM □PS

5. Discussion

5.1 Direct Effects

As the researcher hypothesized, Shared Leadership has a significant impact on project success. In the analysis, it was revealed that SL--> PS has been marked as significant while having the characteristics (β = 0.391, t = 5.342, and P value = 0.000). Therefore, hypothesis H1 has been supported. Also, it
was found in previous literature that Shared leadership has a substantial direct relation with project success (Imam & Zaheer, 2021); (Geoghegan & Dulewicz, 2008); (Jiang, 2014); (Muller & Turner, 2005) and the current findings support the literature. The direct outcome of shared leadership on the degree of autonomy was positively related and significant (β = 0.718, t = 14.537, and P value = 0.000), the direct effect of mediating variable i.e., degree of autonomy on project success was found to significant but related negatively (β = -0.283, t = 3.683 and P value = 0.000).

The direct impact of shared leadership over team performance is positively supported (β = 0.425, t = 7.692 and P value = 0.000) and also the path coefficient or direct effect is positively significant (β = 0.136, t = 2.788 and P value = 0.006).

5.2 Mediating Effect

The indirect effect in the presence of DOA of mediating variable was found significant (β = -0.205, t = 3.769, and P value = 0.000). Since the direct and indirect paths both are significant, that is why the relationship has partial mediation, but this variable has a mediation relationship between shared leadership and project success negatively. According to the work conducted by Godard (2001), he found that when there is a high degree of autonomy given to the team members, this leads to team-members stress in meeting the expectations of their leader. Similarly, it has been advised that shared leadership is supposed to be inhibited if team members preserve traditional expectations of team leadership (Bergman et al., 2012). Fausing et al., (2013) found that shared leadership may also harm project team members' performance when there is a significant degree of team autonomy. The outcomes of the current study by taking a degree of autonomy supported both schools of thought. One criterion discussed in the literature in chapter 2 is that degree of autonomy mediates the relationship between shared leadership and project success which is supported by the analysis – significant but the results were negative instead of positive mediation. The other school of thought that has been discussed in literature by several researchers, is the negative effect of having a high degree of autonomy in the teams. Hence the results got by the researcher supported both views of the researchers.

Team performance successfully mediates the relationship between shared leadership and project success (β = 0.058, t = 2.440, and P value = 0.015). Since both direct and indirect effects are significant, therefore partial mediation exists. Hence what has been hypothesized as the relatedness of team performance with shared leadership has been signified. Therefore, this result supported the literature review (Lauren, John, and Michael, 2016; Carson, Tesluk, and Marrone, 2007; Hongwei and Hu 2021; Okoronkwo, 2017).

5.3 Moderating effects

Communication was hypothesized to moderate therelationship between the degree of autoomy and project success and moderate the relationship between team performance and project success. The moderating effect has been represented as,

• Moderating effects of communication over the relationship of degree of autonomy and project success is represented as "COM*DOV-->PS"

• Moderating effect of communication on team performance and project success is represented as "COM*TP-->PS"

In the results of the current study, it was found that the moderation impact of communication over the relationship of degree of autonomy and project success was not significant (β = 0.041, t = 0.796, and P value = 0.427). Since all the values were not in the acceptable range for a hypothesis to be significant, therefore, hypothesis H4 has been rejected and did not support the literature. There might be several clarifications that why communication has not been linked with the relationship between the degree of autonomy and project success. Communication has been divided into two categories – formal communication and informal communication (Parker, 1980) and informal communication channels are usually supposed to be unstable, and random and impacted negatively on the project's success (Wu et al., 2017). Communication was also used as a moderator on the relationship between team performance and project success. The given results depicted that communication successfully moderated

the relationship between team performance and project success (β = 0.304, t = 5.386, and P value = 0.000). Hence, the hypothesis was accepted as P<0.05 and t > 1.96 and supported the literature review authored by (Lauren, John, and Michael, (2016), Okoronkwo, (2017), "Avolio et al., 1996 & Carson et al., (2007)", Ruben (1982), Garnett, Marlowe and Pandey (2008), Kathuria, Porth, Kathuria, & Kohli, (2010).

5.4 Theoretical Implications

With the assistance of theoretical opinions, a detailed literature review, and the data analysis results, this study strongly recommends that shared leadership underwrites project success directly as well as through the degree of autonomy and team performance in the software development project team members by motivating them to achieve project goals and desired results. A theoretically sound framework for comprehending the effectiveness and value of shared leadership in software development project teams is provided by the current research. The findings specifically stress the need of taking into account team performance and the proper level of autonomy in connection to shared leadership approaches (used as mediators). On the other side, project teams are expected to benefit from shared leadership (Fausing et al., 2013).

5.5 Managerial Implications

The growing significance of leadership in project management must be recognized by project managers and other professionals. They should also permit their team members by explaining their leadership responsibilities to them. The project managers should be aware that sharing their leadership role with the team members will make them sure that the management is providing them a certain degree of autonomy which will ultimately lead toward their job satisfaction and delivers clarity to the project team members around the project and its deliverables. A system or culture of having an appropriate degree of autonomy comprised of leadership roles will make the project team members take frequent decisions unlike in the case of heroic or vertical leadership where leadership is centralized, and dominant power is had with one individual. For example, as supported by the literature review, software development projects are highly vulnerable to changes in the requirements by the stakeholders, and when such frequent changes occur during the project execution, the degree of autonomy combined with leadership shared among team members plays an energetic role in smooth functioning and decision making.

6. Conclusion Limitations and Future Recommendations

6.1 Conclusion

Organizations comprising software development project teams should give the necessary devotion to the influence of the leadership style of leaders or managers toward employees working there on a development project to incorporate shared leadership in teams to maximize the project's success. This research work has studied how shared leadership can influence project success utilizing a sample size of 266 respondents working or have worked on a software project in the software development industries of Pakistan. The findings show that shared leadership positively influenced project success and that both team performance and degree of autonomy served as partial mediators between shared leadership and project success, team performance, and degree of autonomy in the software project teams. Communication has significantly moderated the relationship between TP and PS but unlike in the case of DOA, where the moderation effect was insignificant and therefore, leads the hypothesis toward rejection.

6.2 Limitations of the study

The primary restriction of the current research work is that it focuses on the project environment in Pakistan and keeps only its national context into consideration when assessing the influence and impact of shared leadership on project success. This is important because such findings cannot be deduced from some other nation in the same context as its organizational culture and working environment will be different. The outcomes of this research work should be taken with attentiveness and consideration because it involves the responses from such respondents who are either working currently on software development projects or they have worked recently on such project as a project team member. So, this aspect of the current study should be kept in consideration while reporting or interpreting the results.

6.3 Future Recommendations

The current research work has taken only two mediators, but future researchers should take in their model some other variables like project risk management (i.e., requirements risk) that also contributes toward the project success. Also, the current study is focused on the software industries of Pakistan, but future researchers may work on some other sectors as well like telecom and construction industries.

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