Relationship Between Transformational Leadership And Innovative Work Behavior: The Mediating Role Of Knowledge Sharing And Moderating Role Of Trust

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ABSTRACT

Innovation has become an integral part of every organization to outperform their competitors in this competitive environment and organizations have realized the need of enhancing innovative work behavior among their employees to achieve their goals and it can be accomplished through an appropriate leadership style which is transformational leadership. So, the purpose of this study is to examine the impact of transformational leadership on the innovative work behavior of employees in the IT sector of Pakistan along with the mediation of knowledge sharing. In addition, this study also examines the moderation of trust between transformational leadership and employees innovative work behavior. The data collection was done through the questionnaire-based survey with the cross-sectional approach. The respondents of this study were selected randomly based on convenience sampling technique. A total of 520 questionnaires were circulated from which 403 responded back. The results revealed that transformational leadership positively affect employees' innovative work behavior and knowledge sharing behavior also mediates the relationship between transformational leadership and innovative work behavior. Further, this study noted that employees with high level of trust are more likely to share knowledge working with transformational leaders. This study has several practical implications. This study can help managers to achieve employee's innovative work behavior by providing the training to the managers so they can be more concerned towards their employees and articulate the vision in a way that they can know the meaningful purpose of the organization's existence more clearly so they can be influenced and can get themselves involve in the new ways of doing things.

Keywords: Transformational leadership, Innovative work behavior, Knowledge sharing, Trust.

Introduction:

The ways of doing business are changing rapidly and global market has become very competitive so to cope with these challenges organizations need to create the capabilities of being innovative among their employees (Woods et al., 2017). Mytelka and Smith (2002) claimed that through organizational innovation, organizations can gain competitive edge and innovative work behavior of employees is one of the factors which can make it possible. Bringing the innovative work behavior in organization is not usually a part of employee's job. It is a voluntarily performance that they do along with their expected roles and it is not even a part of organization's reward system (Coetzer et al., 2018). Now a days, the organizations encourage their employees to engage in activities by which they can generate useful ideas to improve their performance that will directly help the organizations to achieve their goal (Edghiem & Mouzughi, 2017; Li & Hsu, 2016).

Employee's innovative work behavior can create new ideas which can be implemented to improve the operations within the organization that will lead to organizational success (Janssen, 2000). Innovative work behavior can be enhanced through an appropriate leadership style by which

employees can be encouraged to improve their innovative skills that will lead the organizations to gain competitive edge (Patiar & Wang, 2016; Schuckert et al., 2018). Masa'deh et al. (2016) emphasized in his study about transformational leadership importance in enhancing innovative behavior.

According to the Garcia-Morales et al. (2012), Transformational leadership is a leadership style that transforms an individual interest of employees into collective interest in which every employee works towards the common goal and also claimed that innovative behavior can be enhanced by the qualities of transformational leadership. Transformational leader encourages employees to brain storm and to generate new ideas through the innovation. Thus, the organizations could gain more effective outcomes, customer's loyalty and most importantly the goal of an organization which is to enhance the innovative work behavior of its employees (Kindström et al., 2013).

According to the Bass and Avolio (1994), transformational leader has four qualities and those are inspirational motivation, ideal influence, individual consideration and intellectual stimulation. The followers of this type leader accept him as a role model for them. Northouse (2004) claimed that this type of leader is supposed to have the great moral values and they have a clear vision for the followers and then in return follower gives the respect to leader due to the sense of reciprocity. Transformational leaders transform their follower's thinking of self-interest into collective interest and promotes team work so that their followers can outperform at work (Rubin et al., 2005). Transformational leader has the ability to identify the need to change in the organization and can articulate the vision to the followers in a way that they can work towards the common goal by sharing the knowledge with each other (Bass & Avolio,1990).

Therefore, this study examines that how the knowledge sharing mediates the effect of transformational leadership on innovative work behavior. The act of sharing the information with the peers is called knowledge sharing behavior (Lin, 2007). When employees share the information with each other and work towards the

same goal that directly leads towards the innovation (Ritala et al., 2015). So, transformational leadership is one of the factors which can enhance knowledge sharing behavior among the employees that will result into innovative behavior enhancement. Organizations where the knowledge sharing exists as a culture so it becomes very helpful for the transformational leaders to increase the level of innovativeness in the employees. It is about sharing the knowledge with each other and not only the knowledge but skills and experiences as well (Lin, 2007). Kim et al. (2013) claimed that with the relation of transformational leadership, knowledge sharing is a very important factor to enhance innovation in the organizations.

This study also aims to observe that how trust moderates the association between transformational leadership and knowledge sharing. The trust effects the relationship between employees and leader in a way that if employees will trust each other then they will be more engaged in knowledge sharing behavior (Holste & Fields, 2010). Dirks and Ferrin (2002) claimed that when employees trust their leaders then they will be more likely to promote knowledge sharing behavior in the organization. If employees will feel that the leader is trustworthy and he will provide recognition to them for their work and will not exploit it then employees will show more willingness to share the useful knowledge (Lee et al., 2010).

The trust has impact on both leader and knowledge sharing behavior among employees. When the trust exists between the leader and employee and even between employees with each other then it will create the confidence, transparency and willingness to share knowledge Mayer et al. (1995) and to absorb the knowledge by other employees (Zand, 1972). The previous study claimed that trust among employees and in leader has significant effect on knowledge sharing (Lee et al., 2010). Co-workers who highly trust each other will engage in knowledge sharing more willingly (Cheng et al., 2008).

The organizations are now focusing on innovative work behavior of employees and they try to be more competitive so that they can survive in this competitive business environment (Ibbotson & Darsø, 2008; Janeiro et al., 2013). To

gain competitive advantage the most crucial factor is innovative behavior of the employees for the organizations (Jiang & Gu, 2016; Shin et al., 2017; Wang et al., 2015). The innovative work behaviors include the activities which can foster the development of employees and implementations of best innovative ideas in the organizations (Rank et al., 2004). Due to the globalization, organizations face so many challenges and discrepancies due to which organizations need to develop the innovative behaviors in their employees to identify these challenges and handle them effectively (Savelsbergh et al., 2012; Somech & Khalaili, 2014).

If organizations want to improve then they will have to be involved in innovative activities and the factors which can enhance innovation are very crucial for the organizational success (Janssen et al., 2004). De Jong and Den Hartog (2010) claimed that to promote innovation in the organization, it is important to build the innovative abilities in employees to ensure long-term benefit to the organization. If employees will have the innovative abilities, then they can generate and implement the useful ideas in organization for the sake of its success and this is what we call innovative work behavior (Janssen, 2000).

Previous research on creativity and innovative has been done by (Waight, 2005). According to Waight (2005), creativity is a multidimensional concept, it doesn't only produce by the new business or any new technological change but it can be produced by the employees in the organizations. While, the innovation is very important for the firm's competitiveness. Previous studies have shown that innovative work behavior has a positive relationship with the transformational leadership but in the findings of all showed the variations in the relationship between the transformational leadership and innovative work behavior (Afsar et al., 2014; Uhl-Bien & Arena, 2018; Vessey et al., 2014). Researchers have also worked with the different moderators that how they can impact the innovative work behaviors (Rosing et al., 2011). Through the quality of inspirational motivation, transformational leaders gain the trust and the confidence of their followers and articulate the vision in a way that engages the followers in

generating the useful ideas for the achievement of the organizational goals. And, the trust between the leader and followers encourages the employees to be more innovative (Shalley & Gilson, 2004). Transformational leaders always focus on the collective mindset and transforms the self-interest mindset of employees into the collective to achieve the common goal (George & Zhou, 2007). Transformational leaders encourage the employees to engage in the extra role performance to achieve the innovation in the organization.

To promote the innovation in the employees, organizations use so many different ways (Martins & Terblanche, 2003). To engage in the innovative activities in the organizational level, employees share the knowledge with each other and think of themselves as a very important part of the organization. Connelly and Kelloway (2003) claimed that in the organizations, innovative work behavior can be increased through the knowledge sharing. But the different factors which can promote the knowledge sharing are not studied so well. So, due to this research gap, this study aims to examine the knowledge sharing as a mediator in the relationship between the transformational leadership and innovative work behavior.

This study also examines the moderation of trust that if it weakens or strengthens the relationship between the transformational leadership and knowledge sharing which will have direct impact on innovative work behaviors of the employee. According to Whisnant and Khasawneh (2014), the trust on leader plays an important role in the knowledge sharing in the organization. When the employees trust their leaders so they are more likely to show the knowledge sharing behavior in the organizations and that will lead to produce more useful ideas which can be beneficial for the organization (Tuan, 2019). With the qualities of transformational leadership, the leader interacts with his followers and promote an open platform to communicate and also gains the trust of his followers (Bass & Avolio, 2000; Garcia-Morales et al., 2008).

The study focuses on the relationship between the transformational leadership and innovative work behavior in the presence of the mediating variable knowledge sharing and moderating variable trust. So, the research questions are the followings:

1: Does transformational leadership positively impact knowledge sharing and innovative work behavior?

2: Does knowledge sharing mediate the association between transformational leadership and innovative work behavior?

3: Does trust moderate the association between transformational leadership and knowledge sharing?

Research methodology

Research methodology includes all the information such as the approach of the study, unit of analysis, study setting, time horizon and methods which are used in the study. This chapter also includes details about the measures of variables of the study and methods of data collection. Lastly, the tools which are used to analyze the collected data such as statistical software and techniques, are discussed as well.

Research Approach: There are two research designs which are qualitative and quantitative approach. For the better understanding of the variables, in this study, the quantitative research design is used. Philliber (1980) claimed that the research design is a plan which is used by the researchers to check the validation, accuracy and impartiality of the research questions. It is used as a map to deal with the research problems such as what needs to be inquired, how to gather the data, and how to analyze it. For the better understanding of the variables, in this study, the quantitative research design is used. According to Creswell (1994), the quantitative research is defined as the inquiry strategies such as the surveys and experimental and data collection through planned instruments which provides the statistical data. In quantitation the research procedure takes less time to get complete and it is also easy to implement. While, the qualitative research refers as effective research which is done in a natural setting in which the researchers observe and get the better understanding through the actual experiences.

Unit of Analysis: The unit of analysis of this study are employees of the IT companies in Pakistan. The data was collected by more than 25 IT companies in Lahore. Now a days the organizational structure of the IT companies is totally team based and employees have to work on different projects and all of the IT companies are doing same thing so they need to differentiate themselves by doing things in new ways so it's important for them to be innovative.

Time Horizon: The time horizons which are being used in research are cross-sectional and longitudinal. This study used the cross-sectional study, in which the data is collected once in a specified period. According to Lavrakas (2008), In this type of study, the researcher works on the different variable at a time and if the whole process of cross-sectional study needs to be done then the same respondents cannot be used again in the process but for this time it will be easy to to collect the data and will be a lot cheaper. While, the longitudinal time horizon is defined as the collection of data from the same respondents repeatedly over a period of time (Saunders et al., 2015).

Study Setting: There are two types of study settings such as contrived and non-contrived. This study used the non-contrived study setting in which the influence of the researcher is minimum and the researchers can observe the real-time behavior of employees as it happens in the natural environment while in contrived, the study setting is artificial (Rahi,2017).

Methods:

In this heading of methodology, the population of the study, the data collection method and the study's sample and the sampling techniques are discussed.

Population of the Study: The employees of the IT companies in Pakistan. Lahore, are the population of the study. As, the innovative work behavior is the dependent variable and now a days, the organizational structure of the IT companies is totally based on the teams and they have to work on different projects on the daily basis Hence, it is reasonable to select the employees of the IT companies as the respondents. And, the total number of the employees who are working in the IT companies in Pakistan are unknown.

Sample and Sampling techniques: The Item Response theory has been applied in this study as the population is unknown. Accordance to the item response theory, the estimated sample for the data collection is 520 employees of the IT company. The respondents of this study are selected randomly and the convenience sampling

technique has been used for the data collection which is the data collection process from the population that is easy to reach and it is also a cost-effective way to collect data (Rahi, 2017).

Data Collection Method: The method used for the data collection is questionnaire-based survey. The data was collected by visiting the IT companies in Lahore and after taking the permission from the Human Resources Managers of the IT companies, the 520 questionnaires were circulated among the employees and 403 number of questionnaires were returned back and after eliminating the outlier the useful responses were 402. The questionnaires got filled by the employees who were ready to fill it willingly and conveniently. All the participants were guaranteed regarding the confidentiality of their personal information. The employees of the IT companies were examined on the basis of the two sections and the first one incorporated the Demographics information (Gender, Job Level, Job Type) and the second section included the scales to measure four observed variables of the study (Transformational leadership, Innovative work behavior, Knowledge sharing and the Trust). Data collected from 402 number of respondents shows that the 67.2 % of the employees are male and 32.8% of the employees are   female.

Response Rate: The data is collected through the questionnaire-based survey which was filled by employees of the IT companies in Lahore, Pakistan. The total 520 questionnaires were distributed from which 403 questionnaires were received back from the respondents. So, the response rate of the study is 77.5%. After removing the outliers and missing values, responses are left which results into the response rate of 77.3%.

Proposed Statistical Techniques: The collected data will be further analyzed in chapter 4. Data will be analyzed through the SPSS software. First, data will get transferred to SPSS and then multiple tests will be performed and it includes the preliminary analysis in which the data will be prepared for the hypotheses testing and it will start with the elimination of missing values and outliers which will lead to the data normality testing, skewness and kurtosis, histogram & probability plot, descriptive analysis and

reliability analysis to check the reliability of the measures. Once the data is ready for the hypotheses testing then pearson correlation analysis, regression analysis and hierarchical regression analysis will be used to test the hypotheses of the study and then the results will be discussed.

Data analysis and results

The questionnaires were used to collect data which includes two sections. The first section was about the demographics such as Gender, Job Level and Job Type while the other section was about the observed variables of the study which are Transformational Leadership (TL), Innovative Work Behavior (IWB), Knowledge sharing (KS) and Trust (T). To start the analysis of collected data, data got transferred into the excel sheet and then got pasted into SPSS. Different tests which were performed on SPSS. First, the preliminary analysis was done in which the data gets prepared for hypotheses testing and it includes the identification of missing values and outliers and then their treatment which leads to data normality testing, skewness and kurtosis, histogram & probability plot, descriptive analysis and reliability analysis to check the reliability of measures. After that, study's hypotheses were evaluated through the pearson correlation analysis, regression analysis and hierarchical regression analysis and then after all the tests, findings were analyzed.

Preliminary Analysis:

Data Recording: After the data collection from the IT sector employees, data has been recorded to the excel sheet and then transferred to the SPSS software for the further analyses. The control variables were added and the first is Gender which was recorded in two categories, 1- Male and 2- Female. Secondly, the job level was added in three categories, 1- Senior Level, 2- Junior Level and 3- Entry Level. Lastly, the job type was recorded in three categories, 1- Development, 2- Testing and 3- Design. The observed variables were coded on five points Likert scale from "1- strongly disagree to 5- strongly agree" and average variables were computed to do the further tests.

Missing Values: Missing values are defined as the values which are unanswered and are not

mentioned in responses (Graham, 2009). Due to the careful management of questionnaires, there were no missing values in it.

Reliability: To check the reliability of variables, Cronbach Alpha test was applied. According to Cronbach (1951), the test evaluates reliability of the measures. If reliability of the measure is more than and equal to 0.9 then it is considered as excellent and if reliability comes between 0.8 to 0.9 then it is considered as good and if it lies between 0.7 to 0.8 then it is acceptable. George and Mallery (2003) also claimed that if Cronbach Alpha's value comes less than 0.7 and more than 0.6 than it is considered as questionable. When reliability test was applied in the analysis of this study, results showed that all the Cronbach Alpha values lies between acceptable to good range.

Table 4.1: Reliability:

Variables	Cronback's Alpha (α)	Total Items
TL	0.834	6
KS	0.707	8
IWB	0.715	6
T	0.709	6

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust

Data Normality: The tests which were applied to check data normality are skewness & Kurtosis and Histogram & probability plots.

Skewness and Kurtosis: This test was applied to evaluate normality of the data. Skewness focuses on asymmetry and kurtosis focuses on the distribution's peakeness. Skewness can be positive or negative and kurtosis shows the flatness and the peak of the data by comparing it with normal distribution (Kim, 2013). Preacher and Hayers (2004) claimed that when skewness value lies between +/- 3 then kurtosis value lies between +/- 10.

Table 4.2: Skewness and Kurtosis:

Variables	Skewness	Kurtosis
TL1	-0.883	1.57
TL2	-0.927	1.006
TL3	-1.109	1.493
TL4	-1.176	1.573
TL5	-1.143	1.68
TL6	-1.167	1.787
KS1	-0.732	0.654
KS2	0.344	-0.372
KS3	-0.649	0.384
KS4	-0.745	-0.034
KS5	0.351	-0.341
KS6	-0.594	0.006
KS7	-0.683	0.061
KS8	-0.903	0.038

IWB1	-0.27	-0.672
IWB2	-0.564	-0.376
IWB3	-0.677	0.144
IWB4	-0.841	0.805
IWB5	-0.476	-0.62
IWB6	-0.801	0.966
T1	-1.18	2.726
T2	-1.037	1.716
T3	-0.87	1.349
T4	-0.749	0.358
T5	-0.822	0.96
T6	-0.037	-0.344

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust
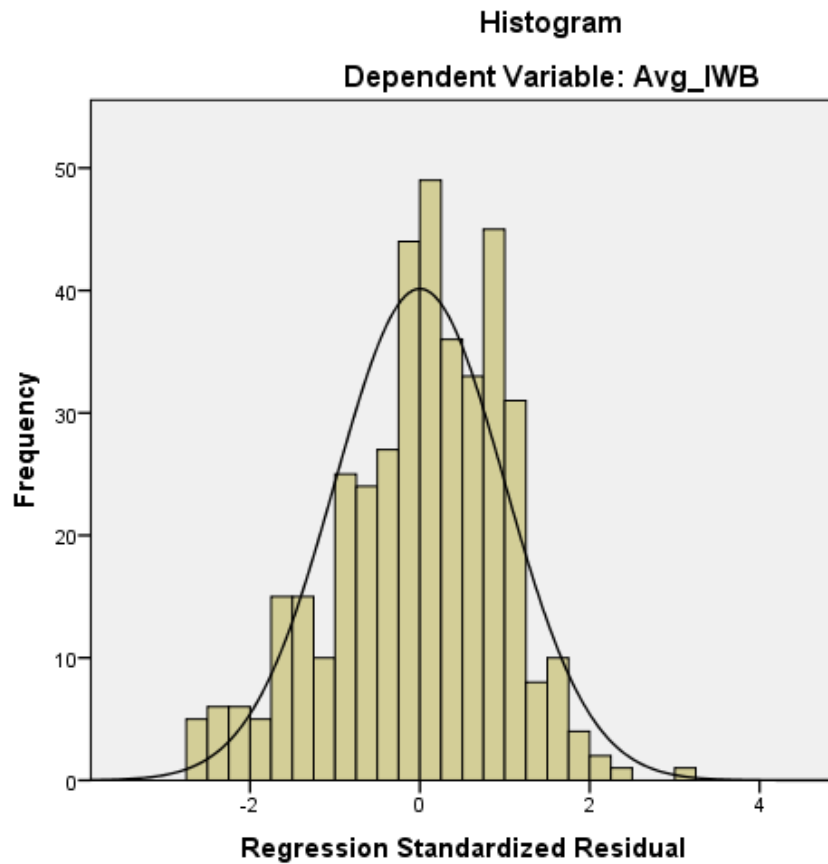
According to Table 4.2, data is distributed normally as all skewness values lie between +/- 3 which shows normality and symmetry. On the other hand, the values of kurtosis are between +/- 10 which shows the normal distribution of data.

Histogram and Probability Plots: This is a graphical representation of the collected data. It is used to check data normality whether data is distributed normally or there are outliers in it which are the extreme values. If frequency comes between the bell-shaped curve, it means data is distributed normally. Additionally, probability plots also show the data normality by plotting data with normal distribution in which points

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Avg_IWB

should come near the straight line (Chambers et al., 2017).

Histogram

Dependent Variable: Avg_IWB

Figure 4. 1: Histogram

According to Figure 4.1, data is normally distributed because in the histogram results show that frequencies are between the bell-shaped curve which means there are no outliers in it.

Figure 4. 2: Probability Plot

According to the Figure 4.3, probability plot shows that all points lie near the straight line of normally distributed data set which mean data was normally distributed.

Table 4.3: Demographic Variables Distribution:

Demographics		N	%
Gender	Male	270	67.2
	Female	132	32.8
Job Level	Senior Level	200	49.8
	Junior Level	157	39.1
	Entry Level	45	11.2
Job Type	Development	167	41.5
	Testing	141	35.1
	Design	94	23.4

According to Table 4.3, From 402 responses, Majority of the respondents of this study were male that was **67.2%** and **32.8%** were females. According to Job level, majority of the respondents were from senior level that was **49.8%**, **39.1%** were from junior level and 11.2**%** responses were from the entry level employees. According to Job type, majority of the respondent

4.2.5 Demographics Variable Analysis:
In this analysis, the control variables have been analyzed in which the total numbers and their percentages are recorded.

were from development team representing **41.5%**, **35.1%** were working in testing team and **23.4%** were from the design team.

4.2.6 Descriptive Statistics:
This test portrays the values of mean and standard deviation.

Table 4.4: Descriptive Statistics:

Variables	Mean		Std.Deviation
TL	4.2508	0.59043	
KS	3.7945	0.46913	
IWB	4.2753	0.44799	

| T | | | 3.9635 | 0.49539 |

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust

According to Table 4.4, results display the values of mean and std. deviation of average variables to check the responses trends of the IT sector employees. The responses were taken on five-points Likert scale from strongly disagree to strongly agree. By looking at the results, mean value of TL and IWB is 4.2508, 4.2753 which means that respondents gave the answers of these variables near to strongly agree to agree. The mean value of KS is 3.7945 so it is considered near to agree. Similarly, mean value of T variable is 3.9635 which means responses were near to agree and also shows that IT sector employees think that trust has a significant impact on the relationship between TL and KS.

4.3 Hypotheses Testing:

Correlation: The pearson correlation analysis is used to check the correlation among dependent and independent variables. This analysis was developed by Pearson (1985) claimed that it has values of +1, 0, -1 in which +1 means correlation is positive, -1 means correlation is negative and 0 means there is no correlation exist.

Table 4.5: Correlation Analysis:

Variables	1	2	3	4
1. TL	1			
2. KS	0.43**	1		
3. IWB	0.39**	0.52**	1	
4. T	0.61**	0.45**	0.42**	1

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust, ** $P < 0.01$

The values of Table 4.5 shows that all variables have significant correlation with each other. As, transformational leadership (TL) is positively correlated with knowledge sharing (KS) **(r=0.43, P<0.01)**, innovative work behavior (IWB) **(r= 0.39, P<0.01)** and Trust (T) **(r= 0.61, P<0.01).**

Regression Analysis: Regression analysis has been used in this study to evaluate the impact of independent variable on independent variable which will result into rejection and acceptance of the study's hypotheses.

Table 4.6: Regression Analysis:

Hypotheses	β	R^2	P	Result
TL-->IWB	0.30	0.15	0.000	Accepted

TL-->KS	0.34	0.18	0.000	Accepted
KS-->IWB	0.49	0.27	0.000	Accepted

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust, ** $P < 0.01$

According to Table 4.6, Beta (β) value shows the percentage change in dependent variable due to 1% change in independent variable while the R^2 values portrays the overall change in dependent variable due to 1 unit change in independent variable and P value shows the significant impact of independent variable on dependent variable. So, results show that TL has a positive impact on IWB **(β=0.30, P<0.01)** beta value shows that due to 1% change in transformational leadership caused 30% positive change in innovative work behavior and R^2 value shows that transformational leadership caused 15% change in innovative work behavior and in the 2nd hypothesis **(β=0.34, P<0.01)** beta value shows

that the 1 % change in transformation leadership caused 34% positive change in the knowledge sharing and the R^2 value shoes that transformational leadership caused 18% change in knowledge sharing which accept the first and second hypothesis of the study similarly, Knowledge sharing was found to have a positive impact on IWB **(β=0.49, P<0.01) i**n which β value shows that 1% change in knowledge sharing caused 49% positive change in innovative work behavior and R^2 values shows that the change in knowledge sharing caused 27% change in innovative work behavior , which accept the third hypothesis of the study.

Hierarchical Regression: This analysis is used to examine the mediation between the independent variable and the dependent variable when the mediating variable of the study is added. Arnold and Evans 1979 claimed that the moderating effect can also be analyzed through the hierarchical regression analysis. This analysis has been used to examine the moderation effect of trust (T) between the transformational leadership (TL) and knowledge sharing (KS). Also, to examine the mediation of knowledge sharing (KS) between the transformational leadership (TL) and innovative work behavior (IWB), this test has been used in this study. According to Kenny et al. (1998), there are some conditions for the mediation test and those are mentioned below:

- There should be significant relationship between independent variable and dependent variable.
- There should be significant relationship between mediator and independent variable.
- There must be significant relationship between mediator and dependent variable.

Table 4.7: Hierarchical Regression of Mediation:

Variables	M1 (β)	M2(β)	M3(β)

Control Variables			
Gender	0.08	0.04	0.05
Job Level	0.02	0.03	0.02
Job Type	0.02	0.001	-0.01
R^2	0.01		
Independent Variable			
TL		0.30**	0.16**
R^2		0.16	
ΔR^2		0.15	
Mediating Variable			
KS			0.41**
R^2			0.31
ΔR^2			0.15

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust, ** $P < 0.01$

The 3-step hierarchical regression was applied. In the 1st step control variables were added such as Gender (β=0.08, P>0.05), Job Level (β=0.02, P>0.05) and Job Type (β=0.02, P>0.05) and noted their significant impact. In the 2nd step we treated transformational leadership (TL) as independent variable (β=0.30, P<0.01) which mean Transformational leadership has 30% significant impact on innovative work behavior and control variables were also added such as Gender (β=0.04, P>0.05), Job Level (β=0.03, P>0.05) and Job Type (β=0.001, P>0.05) and

noted their significant impact. In the 3rd step, the control variables were added such as Gender (β=0.04, P>0.05), Job Level (β=0.03, P>0.05) and Job Type (β=0.001, P>0.05) and also, we treated knowledge sharing (KS) as the mediator (β=0.41, P<0.01) and noted its significant impact which means that knowledge sharing has 41% significant impact on innovative work behavior and transformational leadership impact remained significant after the addition of mediating variable which shows that partially mediation exists.

Table 4.8: Hierarchical Regression of Moderation:

Variables	M1 (β)	M2(β)
Step 1		
TL	0.19**	
T	029**	
Job Type		
R^2	0.24	
Step 2		
TL*T		0.25**
R^2		0.29
ΔR^2		0.05

Note: TL = Transformational Leadership, KS = Knowledge Sharing, IWB = Innovation Work Behavior, T = Trust, ** $P < 0.01$

The 2-step hierarchical regression was applied and, in the 1st, step the TL **(β=0.19, P<0.01)** and T **(β=0.29, P<0.01)** were treated as independent variables and noted its significant impact. In the 2nd step we added the interactional term **(β=0.25, P<0.01)** and noted its significant impact and this significant impact showed that the moderation exists.

Summary:

In this chapter, the analysis of collected data has been done which was collected from IT sector employees. The result and the impact of variables on each other also have been discussed. The mediation and moderation tests were also applied to examine their effect on independent and dependent variables. In the next chapter, the results of study will be discussed in detail and also the implications and the future calls for the future researchers will be discussed.

Discussion and conclusion:

In this study, there were 5 hypotheses and results showed that all of the variables have significant relationship with each other due to which all hypotheses were accepted. In this chapter, the results of hypotheses will be discussed. The result's justification is mentioned below:

1: Does transformational leadership positively impact knowledge sharing and innovative work behavior?

The first research question was tested by H1, H2 and H3 in which results showed that transformational leadership positively impacts employee's innovative work behavior and knowledge sharing and these results were generated by regressions analysis in SPSS to evaluate the impact of independent variable on dependent variable. The results of H1 showed that TL has a positive impact on IWB. Previous researchers Connelly and Kelloway (2003)

claimed in their study that knowledge sharing can impact innovative work behavior and the other variables but the factors which can enhance knowledge sharing are not studied well. So, due to this gap, this study examined the impact of transformational leadership on knowledge sharing and knowledge sharing impact on innovative work behavior. Transformational leaders inspire their followers by their different qualities in which leaders can communicate the vision of the organization in the best way and also inspire them and build the emotional bond with followers and converts the self-interest of employees into the collective-interest. The leaders increase the confidence level of employees, trust and also keeps them engaged in activities for generating the new ideas no matter what will be the results of those ideas (George & Zhou, 2007; Shalley & Gilson, 2004). They are focused towards providing the support and are concerned for each and every employee's need who works toward the common goal of the organization. Then. the followers reciprocate the leader by engaging in the activities which are not the part of their formal jobs and those are innovative work behavior and knowledge sharing (Zuraik & Kelly, 2018; Bednall et al., 2018). Lee et al. (2018); Maria et al. (2017) claimed in their studies that transformational leadership has positive impact on innovative work behavior. The results of this study showed the significant impact of transformational leadership on innovative work behavior of employees which accepts the first hypothesis.

To test the impact of transformational leadership on knowledge sharing, H2 was generated and the results showed a positive impact of transformational leadership on knowledge sharing behavior. In organizations, employees fear to share the information with others because they mostly think that their supervisors will

exploit the opportunities and will not give credit to the employees so the motivation is required to make them share knowledge with each other (Boer et al., 2011; Li et al., 2014). Bryant (2003); Li et al. (2014). claimed that transformational leadership can promote the knowledge sharing by inspiring the employees. According to the previous researches transformational leadership has the qualities which can influence the follower's behaviors that will lead them to share the knowledge with each other (Berraies & Abidine 2019; Le & Hui 2019; Shariq et al., 2019). So many studies have found that the transformational leadership positively impacts the knowledge sharing (Berraies & Abidine, 2019; Gowen et al., 2009; Le & Hui, 2019; Li et al., 2014; Liu & DeFrank, 2013; Shariq et al., 2019; Shih et al., 2012). The analysis was done by regression analysis on SPSS as results showed that transformational leadership has significant impact on knowledge sharing so it accepts the second hypothesis of the study.

The H3 was generated to test the impact of knowledge sharing on innovative work behavior in which the knowledge sharing was taken as independent variable and innovative work behavior was taken as dependent variable and results showed the positive relationship among these variables with the significant impact on each other. When employees share knowledge then it creates the sense of reciprocity for gaining the knowledge in return employees try to use that knowledge in a way that will result into innovation (Wang & Noe 2010; Watson & Hewett, 2006). The previous researches also shows that knowledge sharing is positively related to the innovative work behavior and can enhance it (Liebowitz, 2002; Lin, 2007; Ardichvili et al., 2003; Liao et al., 2007). According to Noruzy et al. (2013), followers of transformational leaders can be influenced in a way that they share knowledge with each other and in return, the innovative behavior will be enhanced when transformational leader tries to

build the culture of knowledge sharing in the organization. In the results, the knowledge sharing was found to have a significantly positive impact on IWB which accepts this hypothesis.

2: Does knowledge sharing mediates the association between the transformational leadership and innovative work behavior?

To test this research question, H4 was generated and 3 steps hierarchical regression was used to analyze the mediation of knowledge sharing, and in that analysis, the first step includes control variables and in second step the independent variable was analyzed and then in 3rd step, knowledge sharing (KS) as the mediator was analyzed and noted its significant impact which showed that the partially mediation exists because the knowledge sharing has significant impact on innovative work behavior and after the addition of mediating variable transformational leadership impact remained significant. According to the results of this study the transformational leader enhances the knowledge sharing ability in the followers and when they share knowledge with each other they are more likely to show innovative work behavior and has the significant impact on transformational leadership and innovative work behavior of employees. The previous studies also proved that transformational leader enhances the knowledge sharing ability in followers and when they share knowledge with each other they are more likely to show innovative work behavior (Dweck, 1986); Vandewalle, 1997; Choi et al., 2016). Hence, the knowledge sharing mediates the relationship between transformational leadership and innovative work behavior.

3: Does trust moderates the association between transformational leadership and knowledge sharing?

In this research question, the moderation was analyzed in which 2-step hierarchical regression was applied. In the 1st step the transformational leadership and trust were treated as independent

variables. In the 2nd step, the interactional term was used and noted its significant impact which showed that trust moderates the association between transformational leadership and knowledge sharing. One or two researches have discussed the trust relation with transformational leadership and knowledge sharing. But There is no research on the trust as a moderator between these two variables (Angreani et al., 2020; Mihardjo, 2019). According to the results of this study, Transformational leadership has a positive relationship with knowledge sharing. And, the trust in leaders creates an environment where they communicate and share knowledge more openly with each other. Hence, trust strengthens the relation between transformational leadership and knowledge sharing.

Theoretical Implication:

In several ways this study adds value to the existing literature. First, it examines the transformational leadership's relationship with innovative work behavior of employees along with the mediation of knowledge sharing and the moderation of trust. This study was done in the IT sector of Lahore, Pakistan as the previous studies were not so generalized Afsar and Umrani (2020); Grošelj et al. (2021) and were not applicable in the IT sector of Pakistan. So many studies have been done previously on transformational leadership and innovative work behavior in the western contexts but this study provides the better understanding of leadership, knowledge sharing, innovative behavior and trust in the Asian context where different type of people works with each other with the unique characteristics. This study also examines the transformational impact on knowledge sharing and how it leads to the innovative work behavior of employees. So, the innovative behavior can be enhanced by knowledge sharing Connelly and Kelloway (2003) but there are so many other factors as well which can increase the knowledge sharing behavior and those factors are not studies

well in the previous researches. This study also aims to examine the moderation of trust between the relationship of transformational leadership and knowledge sharing as the previous researchers have not studied it well there are only 2 or 3 studies which have discussed about the trust impact on transformational leadership and knowledge sharing.

The results of this study shows that the knowledge sharing provide an opportunity to the employees to generate new ideas and new solutions and the chances of the best solution are more when knowledge sharing becomes the norm in the organizations.

Practical Implication:

This study also has several practical implications. As per this study's findings, transformational leadership is related to the innovative work behavior of employees because this leadership style is the one which provides an open and trustworthy environment to the employees so they can involve in the innovative activities. So, IT companies in Pakistan can help managers to adopt transformational leadership style. This can be achieved by providing the training to the managers so they can be more concerned towards their employees and articulate the vision in a way that they can know the meaningful purpose of the organization's existence more clearly so they can be influenced and can get themselves involve in the new ways of doing things to achieve the common goal. According to the previous study, the transformational leadership has positive impact on innovative work behavior (Afsar & Umrani, 2020). In the organizational level, the transformational leadership can be used to improve the innovative work behavior among the employees. That's why, the managers should know the clear relationship between the innovative behavior and the transformational leadership so that they can increase the innovation among the employees. Managers should create the open environment where

employees can communicate with them and they can share the knowledge with each other without the fear of being exploited. This study can be beneficial for the managers by the deep understanding of the trust impact on the relationship between the transformational leadership and knowledge sharing. When there will be trust between the leader and employee and even between the employees with each other than the employees will be more engaged in the knowledge sharing behavior. As per this study' findings, the innovation can be increase through this leadership style which is transformational leadership so the managers should be aware about the relationship between the transformational leadership and innovative work behavior so they can enhance the innovativeness among their employees and can create an environment where employees can share the information without any fear that they will not get the recognition for their contributions.

Conclusion:

The current study shows that transformational leadership positively impacts the innovative work behavior and also shows partial mediation of knowledge sharing between these variables and findings of this study also demonstrates that moderation of trust between transformational leadership and knowledge sharing exists. In today's competitive environment, organizations need to realize the importance of being innovative so they can outperform their competitors and can achieve the competitive advantage. This can be achieved only if the organizations will promote the transformational leadership style in their managers who will enhance the innovativeness among their employees by providing them the trustworthy environment so that they can trust their leaders and can share the information to achieve the common goal of the organization without any fear of being exploited.

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