

## Impact of Leadership Styles on Knowledge Management Effectiveness: Moderating Role of Organizational Structure

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### *Abstract*

*This research aimed to explore the relationship of leadership styles, i.e. Transformational and transactional leadership styles with KM effectiveness in the presence of organizational moderation structure. To achieve the purpose of the study, we collect the data from faculty members (i.e. lecturer or professor) of all public sector universities located in Islamabad. The data were collected through adopted Likert type scale. Scale reliability and validity were ensured. We received a total of 300 valid responses out of 400 distributed sample with a response rate of 75%. The results revealed that transformational leadership has a significant association with KM effectiveness and transactional leadership has an insignificant relationship with KM effectiveness. Furthermore, we also found that organizational structure moderated the relationship of transformational leadership and KM effectiveness and did not moderate in the case of transactional leadership style and KM effectiveness. Limitations, recommendations and implications are also highlighted.*

**Keywords:** Leadership Styles, Organizational Structure, Knowledge Management Effectiveness, Universities.

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### **Introduction**

The firm's knowledge-based perspective recommended that intellectual resources are the main organizational assets that may able organizations to achieve sustainable competitive advantage (Teece, 2007; Hansen, 2001). Based on that, Schultze and Leidner, (2002) argued that the primary resource for an organization to survive for a longer time in today's cutthroat competition is knowledge. In the light of this argument, firms that properly and effectively manage their knowledge resources gained valuable outcomes i.e. innovation and creativity, effectiveness, customer services, improved corporate efficiency, reduced costs and manpower (Hansen, 2001). Thus, in today's knowledge-based economy, knowledge management (KM) is the key area of interest for organizations and practitioners. Although, KM received immense attention from policy makers and management scholars from the last few decades (Schultze and Leidner, 2002; Huber et al., 2001). This shift in organization environment is occur due to advancement in technologies, globalization, competition, everyday changing nature of customer demands, availability of information and knowledge and an intension to survive for a longer period (Massey et al., 2002). Researchers and practitioners considered a lot of questions based on KM domain like technical approaches, strategic issues, measuring intellectual capital, knowledge creation, motivating group work, fostering collaboration and capturing of best practices (Massey and Montoya-Weiss, 2006; Alavi et al., 2005). Knowledge management is a set of continuous and dynamic processes and practices embedded in all three

levels i.e. individuals, groups and organizational structures. In a particular organization, in any point of time, individuals and groups practices KM processes in different aspects with the help of organization's internal environment (structure) that support such activities (Pirkkalainen and Pawlowski, 2014; Pawlowski and Bick, 2012; McInerney, 2002).

Thus, KM is the sequence of interrelated activities (Knowledge creation, knowledge transfer, knowledge assimilation and knowledge application) that at the end lead to KM outcomes (Eaves, 2014; Newell et al., 2003; Rahman et al., 2019). The KM outcomes depends on the individuals or groups intention whether they actively involved in the creation of knowledge, storage of knowledge, transfer of knowledge and application of knowledge towards the organization.

However, in KM process, a clash may be found between individual efforts and organizational culture that may restrict the whole process of knowledge management (Bedford, 2013). Ajmal and Koskinen (2008) argued that organization culture consists of basic patterns and assumptions that practices in the organization. Nguyen and Mohamed (2011) argued that difficulties in KM adoption is due to psychological climate of an organization, which is due to organizational culture.

Furthermore, researchers also argued that the failure in knowledge transfer is because of cultural factors instead of technological oversights (Pirkkalainen and Pawlowski, 2013; Ajmal and Koskinen, 2008). That why organization culture is considered a main barrier to successful implementation of KM process (Elfar et al., 2017). Although, there are many dimensions of organizational culture (i.e. closed system, job-oriented, learning-oriented, open system, results-oriented, professional-oriented and controlled cultures) instead of single dimension (Eaves, 2014; Hofstede, 1990; Fey and Denison, 2003). However, the emphasis of KM process is that knowledge as being created, shared with others and practice it in the organization with help of social relationship and organizational culture. Therefore, it is essential to know how and make organizational culture supportive that motivates employees to create, store, transfer and practice knowledge in their respective organizations (Ajmal and Koskinen, 2008).

Past researches extol the benefits of knowledge management as it makes organizations able to gain sustainable competitive advantages. Nowadays, researchers focus to explore the ways how organization's internal environment facilitate and promote knowledge management practices, how to create a culture where employees share their knowledge and skills with their colleagues, and how leaders help and motivate their subordinates to engage and practice knowledge sharing behavior. Despite random growth in universities and ever-increasing learning curve, there is still a great void between what organizations learn over specific period of time and what they can retain in form of tacit or explicit knowledge. Several theories in knowledge management explain industrial level management which rarely apply to academic context of universities.

This proposes to conduct a fresh research in the area to address aforesaid problem. A lot of research has been conducted on leadership styles, knowledge management and organizational culture (Liao and Wu, 2010; Khattak et al., 2016). All of these studies share valuable contribution to the field, but a very little work has been done so far to link leadership, organization cultural factors and knowledge management (Lin and Lo, 2015; Hendryadi et al., 2019). Thus, this research tries to bridge the missing link by exploring how leadership styles impact knowledge management effectiveness.

Furthermore, a second possible reason that motivate the researcher to conduct research in this area as that past researchers suggested that organization structure may affect knowledge management processes (Kargas and Varoutas, 2015; Wang and Wang, 2016; Xue et al., 2011; Khattak et al., 2018; Khattak et al., 2017) but empirical investigation about how organizational structure affects knowledge management is rare. Thus, the focus of this study is to bridge the gap through empirically tested whether organizational structure moderate (affects) the relationship of leadership styles with knowledge management effectiveness.

## Conceptual Framework and Hypotheses

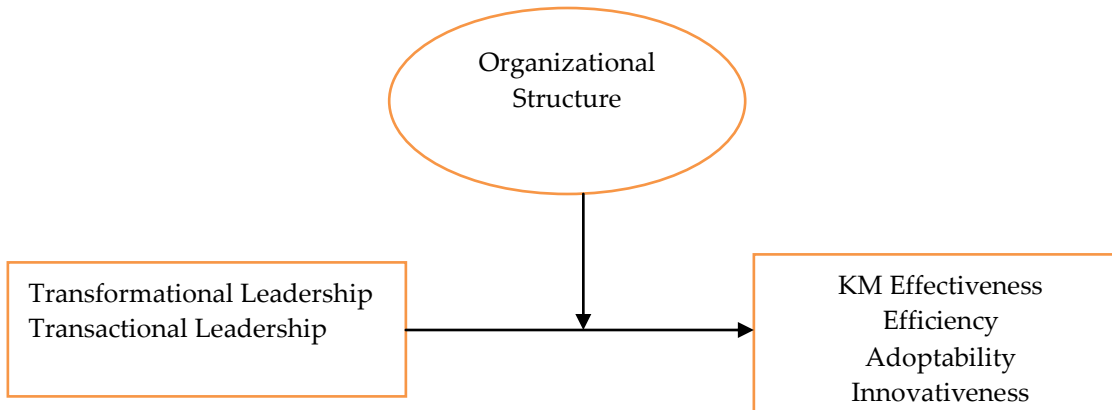


Figure: Conceptual framework of the current research

- H<sub>1</sub>:** Transformational leadership has significant relation to KM effectiveness dimensions.  
**H<sub>2</sub>:** Transactional leadership has significant relation to KM effectiveness dimensions.  
**H<sub>3</sub>:** Organizational structure moderates the relationship of transformational leadership with KM effectiveness dimensions.  
**H<sub>4</sub>:** Organizational structure moderates the relationship of Transactional leadership with KM effectiveness dimension.

## Procedure and Method

The population of this study are the faculty members of all public sector universities operated in the capital of Pakistan i.e. Islamabad. There are 14 public sector universities located in Islamabad having a full-time faculty member of 6119 ([www.hec.gov.pk](http://www.hec.gov.pk)). Thus, the target population of this study is faculty members of these public sector universities operated in Islamabad. Based on past recommendations, the current research selects a sample of 400. To decide that how many individuals will be selected from each university, a Yamane (1967) formula was used. The nature of this study is hypothesis testing and cross sectional. Quantitative data from the respondents were collected through a survey scale having measured on Likert scale.

## Measures

A leadership styles questionnaire (i.e. transformational and transactional) was originally developed by Avolio and Bass (1999). This scale consists of 16 items in which 11 represent transformational leadership style and 5 represent transactional leadership style. All items were measured on 5-point Likert scale. Organizational structure was measured through an eight items scale developed by Kim and Lee, (2006). All items were measured on 5-point Likert scale.

Previous researchers also used the same scale to measure organizational culture (i.e. Lee et al., 2016; Kim and Park, 2016; Hajir et al., 2015). For KM effectiveness a scale developed by Gold's et al., (2001) was used. This scale consists of 21 items in which 7 items measure innovativeness, 7 items measure adoptability and 7 items represent efficiency. All items were measured on 5-point Likert scale. Previous studies also used this scale to measure KM effectiveness (Wang and Noe, 2010; Witherspoon et al., 2013; Masadeh et al., 2019).

**Results**

Table 1: Reliability Statistics

Scale	N	Alpha Value
Transformational Leadership	11	.910
Transactional Leadership	05	.835
Innovativeness	06	.846
Adoptability	07	.873
Efficiency	07	.880
Organizational structure	08	.901

Table 1 highlights reliability statistics of all study variables. As depicted, for all variables the value of Cronbach’s alpha as well above the threshold level of 0.6 indicating that the scale adopted by the current research is reliable.

**Hypothesis Testing**

Table 2: Model Summary

R	R2	Adj. R2	Std. Error	DW
.861	.742	.737	.618	1.54
Predictor: TRANS, TRANSAC				
DV: KM				

Table 3: Coefficients Statistics

	Un Std. Beta	Std. Error	Std. Beta	t	Sig.
Constant	.441	.126		3.50	.000
TRANS	.162	.036	.184	4.53	.000
TRANSAC	.025	.032	.030	.761	.447

Table 3 represents coefficients statistics of Trans and transactional leadership styles with KM effectiveness. As we seen, Trans has significant association with KM effectiveness and transactional leadership was found insignificant.

**Moderating Effect of Organizational Structure**

Table 4: Coefficients

	Coeff	se	t	p	LLCI	ULCI
Constant	3.64	.02	157.64	.000	3.59	3.68
OS	.75	.03	22.93	.000	.68	.81
TRANS	-.02	.02	.94	.35	-.05	.02
Int_1	.01	.02	.33	.74	-.03	.05

The table highlighted above shows the moderation results of OS on the relationship of TRANS and KME. As the t -value of OS is 22.93 that is above the standard value of +-2 indicating that OS has significant relation with KME. The p-value is also significant i.e. 0.000. The t-value of TRANS is 0.94 which is below the standard value of +-2 indicating that TRANS has insignificant relation with KME. The p-value also confirms it, i.e., 0.35. The t-value of interaction effect (Int-1) is below the standard value and the p-value is also above 0.05 i.e. 0.74 indicating that the moderator OS did not moderate the relationship of TRANS and KME. Here in this table the decision about whether the moderator moderates the relationship or not depends on the t and p values of interaction effect (Int\_1). Furthermore, another criterion to confirm is that

lower level confidence interval (LLCI) and upper level confidence interval (ULCI) does not contain zero. In this case both LLCI and ULCI contains zero confirming that the moderator OS does not moderate the relationship of TRANS and KME.

Table 5: Coefficients

	<b>Coeff</b>	<b>se</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
Constant	3.64	.02	157.64	.000	3.59	3.68
OS	.74	.02	22.91	.000	.68	.81
TRANSAC	-.02	.02	.93	.34	-.05	.02
Int_1	.01	.02	.32	.73	-.03	.05

The table highlighted above shows the moderation results of OS on the relationship of TRANSAC and KME. As the t-value of OS is 22.91 that is above the standard value of +2 indicating that OS has significant relation with KME. The p-value is also significant i.e. 0.000. The t-value of TRANSAC is 0.93 which is below the standard value of +2 indicating that TRANSAC has insignificant relation with KME. The p-value also confirms, i.e. 0.34. The t-value of interaction effect (Int-1) is below the standard value and the p-value is also above 0.05 i.e. 0.73 indicating that the moderator OS did not moderate the relationship of TRANSAC and KME. Here in this table the decision about whether the moderator moderates the relationship or not depends on the t and p values of interaction effect (Int\_1). Furthermore, another criterion to confirm is that lower level confidence interval (LLCI) and upper level confidence interval (ULCI) does not contain zero. In this case both LLCI and ULCI contains zero confirming that the moderator OS does not moderate the relationship of TRANSAC and KME.

## Conclusion

This research was an attempt to examine whether there is any relationship exists among leadership styles (i.e. transformational and transactional) and KM effectiveness dimensions (i.e. adoptability, innovativeness and efficiency). Furthermore, the moderating role of OS was also checked on the stated relationship. There are 14 public sector universities having a total full-time faculty member are 6119. Through simple random sampling technique 400 faculty members were chosen to take part in the study. The respondents were aware about the objectives of the study. The 400 questionnaires were distributed and in return we get 323 questionnaires, but 23 responses were found either incorrect or not completely filled and thus not included in the study. The final analysis was conducted on 300 responses. The scale validity and reliability were checked and make sure that it has no issue of validity and reliability. The regression model assumptions like autocorrelation, data normality, heteroscedasticity and multicollinearity were tested, and the results show that the data is perfect in all aspects. After that, regression and moderation analysis were performed. We found that Transformational has significant relationship while transactional leadership has insignificant relationship with KM effectiveness. Thus,  $H_1$  of the study is accepted and  $H_2$  was rejected. Similarly, in case of moderation analysis, we found that Org Structure did not moderate the link between Trans and KM effectiveness dimensions and also did not moderate between transactional leadership and KM effectiveness dimensions. Based on these results, both  $H_3$  and  $H_4$  were rejected.

## Recommendations

Our study suggests the following recommendations;

1. It is recommended that the leaders of HIEs should focus to practice transformational leadership as such leaders facilitate knowledge management practices. One of the facets of transformational leadership that is intellectual stimulation mainly deals with how to gather, assimilate, arrange, and share knowledge in the organization.

2. It is also recommended that HIEs may not practice transactional leadership as we found that it has insignificant association with KM effectiveness and its dimensions (i.e. innovativeness, adoptability and efficiency).

### **Study Limitations and Directions for Future Research**

This research is not perfect in all aspects. Although, our study has many valuable additions to the literature in many ways, but it's also had some serious limitations as well that make avenue for future researchers. First, this study is only limited to public sector universities and ignore private ones without any strong arguments for avoidance. It will be bettered to select both sector and found any significant deviation in the behavior of employees of both sectors. Second, the current research only selects the universities located in Islamabad that may affect the generalizability of findings. In future one may selects universities from the whole country in order to generalize the findings and to deeply study the relationship. Third, the study selects only two types of leadership i.e. transformational and transactional leadership while the complete model of leadership styles of Bass and Avolio (1995) consists of Laissez-faire, transformational and transactional. It is suggested for future researchers to include Laissez-faire leadership style in the existing model to know whether such leadership style has any impact on KM effectiveness.

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