Mediation of Organizational Culture on the Relationship between Knowledge Management and Organizational Performance in Higher Education Institutions of KP

Khalid Rehman *, Shadi Ullah † and Tufail Nawaz ‡

Abstract

The purpose of the present study is to investigate the mediation of organizational culture on the relationship between knowledge management and organizational performance. The study is Descriptive in nature. A questionnaire developed for data collection. A sample of 285 teachers was selected through stratified random technique. Data were analyzed through Pearson correlation, Linear Regression and mediation was tested through using PROCESS macro by Hayes (2015). Validity and reliability of the research instrument were also checked. For data normality, Kolmogorov-Smirnov and Shapiro-Wilk test was also checked. The findings of the study depicted that there is a significant relationship between Knowledge management and organizational performance. The results also suggested that organizational culture acts as a partial mediator in the relationship between knowledge management and organizational performance.

Keywords: Knowledge Management (KM), Organizational Culture (OC), Organizational Performance (OP), Higher Education Institutions (HEIs)

Introduction

Today, the use of knowledge and information has been increasing in each sector in order to streamline all such activities and enhance the procedural decisions making. Many research studies have been reported the link between culture and performance of the organization besides with knowledge management practices (Lund, 2003; MacIntosh & Doherty, 2005).

Strong Organizational Culture is essential for Human Resource Management (HRM), Knowledge Management, and attitude of employees towards work and overall performance of the organization (Allen, 2006;

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Kirkman et al., 2006). In the same way, knowledge sharing is a key to success of Knowledge management practices in all organizations including educational institutions. Different strategies were used by organizations in managing valuable knowledge assets in the form of catalogue to give benefits to its workers (Narayanamma. 2014).

Therefore, effective Knowledge management enhances the overall performance of the organization, whether it is public or private (Awan, 2015). Different results have been found that KM improves OP (Valmohammadi & Ahmadi, 2015), while few analyses reveal that KM slightly improves OP (Wu & Chen, 2014). Additionally, the organizational culture mediating the relationship between KM and OP is well reported (Chang & Lin, 2015; Wang et al., 2011). The main aim of this study is to explore the mediation of OC on the relationship between KM and OP in HEI’s of KP, Pakistan.

Every organization has naturally store, access and impart knowledge in some precise way. According to Awan et al. (2015), an effective Knowledge Management Practices increase the efficiency of the organization, whether it is private or Government. Universities are the highest seat of learning and center of innovation that mainly created intellectual capital management (Awan & Kashif, 2014). Knowledge retention and effective training of the employees not only enhance the skills, but also boosts the level of confidence. If employees in the organization actively participated in knowledge sharing, this built their creative thinking to compel them for innovation (Awan & Kaleemullah, 2014). Knowledge management practices play a significant role in organizational performance. Such kind of environment motivates the Head of the institution as well as employees to share their knowledge and experiences. Due to the lack of tradition in the universities, academicians are reluctant to share their knowledge. Universities are the place where knowledge is created, therefore universities may develop web pages and invite academician to float their knowledge and the viewers can read and comment (Awan & Toﬁque, 2015).

Research objectives

- To determine the relationship between KM and OP.
- To explore the relationship between KM and OC.
- To find out the relationship between OC and OP.
- To find out whether the OC mediates the significant relationship between KM and OP.

Review of Literature

Knowledge Management (KM)

There is little attention given by the academicians and practitioners on Knowledge Management and as a result, there is no comprehensive definition has yet been developed. Knowledge management has an approach to making
data, documentation, presentations and applications (Bhatt, 2001). It is a philosophical arrangement, frameworks and particular managerial gadgets, laid out towards making, sharing, using data and information in and around the organization (Bounfour, 2003). Many empirical studies recommend that the effective KM practices play a vigorous role in the performance of the organization. The conception of knowledge management established on knowledge and different resources which present the implementation of knowledge in the organization (Mills & Smith, 2011). There are different strategies employed for creating, securing, and application of knowledge which comprise Knowledge Management (Mahmoudsalehi et al. 2012). The prime objective of Knowledge management practices is to enhance the efficacy of the organization and to protect the misuse of knowledge-assets (Inkinen, Kianto, & Vanhala, 2015). There are four components of Knowledge Management, including the creation of Knowledge, documenting and storage of knowledge, sharing and using of knowledge (Chang & Lin, 2015). According to Ho (2009), KM practices comprise five components, including creating, sharing, assimilation and application. There are four components identified by Wong (2013), namely the acquisition of knowledge, alteration, protection, and application.

**Organizational Performance (OP)**
The term performance is referring the end results of the activities. The organizational performance is measured by achieving its goals (Zaied et al. 2015). There are many ways to measure organizational performance. According to Hunitie (2015), organizational performance refers to the effectiveness and efficiency of an organization can be determined by achieving organization its objectives. The performance of the organization is assessing by using financial and non-financial indicators. Usually, the performance of business organizations has been determined in accounting and profit terms. Sink and Tuttle (1989) argued that the performance of an organization should not be determined by the financial aspect, but no financial aspect also is considered while assessing the performance of an organization. Additionally, the effectiveness and efficiency of an organization can be assessed by the satisfaction level of its customer (Vorhies & Harker, 2000).

**Organizational Culture (OC)**
The term culture may define as norms, belief, and attitude set by the people that influence the behavior of the employees in the organization (Aktas, Cicek & Kiyak, 2011). Whereas the organizational culture may be viewed as common philosophy, ideology, norms, values, belief, and behavior that bound the employees together in the organization (Kilmann et al. 1985). There are different kinds of technique employed by an organization in order to enhance
the performance of the organization such as supportive organizational culture is one of the key elements that play a significant role in enhancing employee performance. Organizational culture is one of the vital and essential elements which formed through the interaction among the employees of the organization (Denison, Janovics, Young & Cho, 2006).

Knowledge Management (KM) and Organizational Performance (OP)

All educational institutions, especially Higher education institutions (HEI’s) like Universities are considered ‘knowledge Hub’ where different academic activities are performed for the generation, acquisition, transmission, and application of knowledge. Researchers, teachers, and students are an essential part of educational institutions and involved in all academic activities (Metaxiotis & Psarras, 2013).

Knowledge Management is a mental process to obtain appropriate knowledge to the right people at a right time, which may be shared and implemented (Aziri, Veseli & Ibraimi, 2013). Knowledge Management viewed as the process organizing and implemented the collective knowledge of the organization so that the right people are obtaining the right information at a right time (Robbins, Judge & Sanghi, 2007). The Organization has a core competency and enhances the organization performance, if there are effective Knowledge Management Practices (Robbins et al, 2007). There are many research studies have been investigated regarding Knowledge Management and Organizational Performance. According to Gholami et al. (2013), the relationship between KM and OP is statistically positive. Knowledge management has a direct impact on the organization's performance. Furthermore, Knowledge Management enhances the practices regarding Knowledge and institutional performance (King, 2009). In the same way, Knowledge management significantly correlates with the performance of the organization such as an increase in the quality of products and services, improvement in the overall efficiency of the organization (Maseki, 2012). According to Fugate et al. (2009) point out that Knowledge Management and Organizational Performance are significant and positively associated. Mohamad, Mehrdad, Salman and Noruzy (2013) recommended that KM practices have a positive effect on the Organization Performance in Small and Medium Enterprises. According to Abdel, Gawater, and Mohamed (2012), all components of KM (Acquisition, Documentation, transfer, creation, and application) have a positive role in improving the performance of the organization. On the basis of above literature, Following hypotheses is generated:

H1: Knowledge Management significantly and positively correlated with Organizational Performance.
Knowledge Management (KM) and Organizational Culture (OC)

Culture refers to the norms, attitude, and behavior set by the people in the organization. One of the challenges organizations face is creating and sharing organizational knowledge. To tackle this challenge, the organization employs many strategies such as adopting the technologies to altering the organizational structure. These technologies play an important role in knowledge management, but they did not consider a cultural factor. The overall performance and success depend upon the supportive culture (Kaur, Kahlon & Randhawa, 2012).

Organizational Culture plays a significant role in the implementation of Knowledge Management. In KM Process, cultural change in the organization is one of the vital aspects. Therefore, the organization should establish an effective culture for the implementation of Knowledge Management (Najafbeigi et al., 2011). There is a statistically positive and significant relationship between OP and KM. Knowledge Management Practices will be effective if there is a strong organizational culture. Such kind of culture boosts trust, a sense of cooperation and learning among workers in the organization. People interact and share their ideas and knowledge with each other in a cooperative culture (Gold, 2001). According to Yousefi et al. (2016) knowledge-oriented culture and employee supporting infrastructure, enhance the organization to successfully execute the Knowledge management. Additionally, statistics reveal that 50% of problems related to cultural factors. So on the basis of the above discussion, following hypotheses is generated:

\[ H_2: \text{Knowledge Management (KM) significantly and positively correlated with Organizational Culture (OC)} \]

Organizational Culture (OC) and Organizational Performance (OP)

According to Kotter (2012), Organizational culture plays a vital role in enhancing the job satisfaction level and problem-solving techniques and enhancing organizational effectiveness. The term Organizational culture refers to an attitude, belief, and norms set by the people, influence the employees thinking styles and feelings in the organization (Schein, 2011). Nelson and Quick (2011) identified four functions of Organizational Culture, which included a sense of identity to employees, developing an organizational commitment of the employees, strengthening the values of the organization and organizational values and shaping the employees’ behavior through a control mechanism.

Organizational culture theoretically and empirically correlates with organizational performance (Xenikou & Simosi, 2006). Organizational culture is associated with performance are observed that culture plays a significant role in generating competitive advantage. As culture is the character of an
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organization, and that character interacts with the mindset and organizational behavior which ultimately leads towards a good or poor performance (Scholz, 1987). Organization culture plays a vital role in employee commitment, an increase in the productivity and quality of services of organizations (Avolio et al., 1991). Many studies have been investigated regarding organizational culture and performance (Denison, 2000). According to Kotrba et al. (2012) reputable the relationship between OC and OP. According to Imam et al. (2013) conducted a study regarding the mediating role of individual readiness with the relationship between Organizational Culture and Performance of Higher Educational Institutions. The results of their findings depict that there is a statistically positive and significant link between OC and OP. Therefore, on the basis of above discussion following hypotheses is generated

\[ H_3: \text{Organizational Culture (OC) significantly and positively correlated with Organizational Performance (OP)}. \]

Knowledge Management (KM) and Organizational Performance (OP) with the mediation of organizational culture (OC)

The organizational culture may define as a set of unconscious belief and assumptions by which organization activates norms and values and at work are guided. In other words, people in the organization share their beliefs and guide their reactions whether the new approach and the relevant issues are good or bad and whether they are accepted immediately or can lead to fear or resistance. The organizational culture comprises of belief, values, and norms being applied by the workers in the organization (Berson, Oreg& Evir, 2006). There is a positive and significant relationship between KM, OP and OC (Rastegar & Davudi, 2016). Vaziri (2017) found partial mediation with the relationship between KM and OC. In the view of the above discussion, the following hypothesis is generated.

\[ H_3: \text{Organizational Culture (OC) significantly mediates the relationship between Knowledge Management (KM) and Organizational Performance (OP)}. \]

Figure 1: Conceptual Framework

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Research Methodology

Research Design
The purpose of this study is the testing of a hypothesis. The research design of the current research is descriptive in nature. In this study, the deductive method was followed. The nature of the study is also cross-sectional. Finally, researchers also examined the reliability and validity of the study questionnaire.

Population of the Study
To empirically test the hypotheses, the data collected by researchers using a questionnaire. The Population of the study consists of all the faculty members working in six universities of Southern Districts of KP were selected as a Population. The sampling frame consists of 4 public sector universities and 2 private sector universities. The survey questionnaire was designed to administer the research sample and the respondents are all faculty members working in six universities in the Southern District of KP, Pakistan.

Sampling Technique and Sampling Size
Stratified sampling techniques were used. Stratum one consisted of public sector universities while stratum two consisted of private sector universities. The proportion of both strata was remaining equal (29% from each stratum according to population size). The sample size was determined using Yamane’s (1967) simplified formula (Israel 2013), which is as follows:

\[ n = \frac{N}{1+N*e^2} = 285 \]

Where
- \( n \) is the desired sample size
- \( e \) is the confidence level = 0.05
- \( N \) is the total population under study = 989

Data Collection Methods
A questionnaire was developed after going through related literature. A structured questionnaire was comprised of two sections. The beginning segment was comprised of demographic information about teachers, whereas the second section includes 49 items based on three variables (KM=21, OP=12, OC=16). For data collection, 300 questionnaires were dispersed between teachers. A total of 275 questionnaires was collected with a response rate of 91.66%. The 15 questionnaires turned out to be incomplete. Finally, 260 questionnaires were selected for regression analysis at a rate of 86.6%.
Results and Findings

Reliability of the Questionnaire

Reliability is defined as a measurement characteristic related to accuracy, precision, and consistency, conditions needed, but not enough for validity (Cooper & Schindler, 2006). Reliability is an indication of stability and consistency with instruments that measure concepts. Questionnaires were tested for reliability through Cronbach Alpha (α) which ranged from 0 to 1.

Table 1: Cronbach’s Alpha of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Management (KM)</td>
<td>21</td>
<td>0.91</td>
</tr>
<tr>
<td>Organizational Performance (OP)</td>
<td>12</td>
<td>0.83</td>
</tr>
<tr>
<td>Organizational Culture (OC)</td>
<td>16</td>
<td>0.86</td>
</tr>
<tr>
<td>Overall Reliability</td>
<td>49</td>
<td>0.95</td>
</tr>
</tbody>
</table>

The results in Table 1 depict that Cronbach’s Alpha for all variables above 0.7 reveals a very high level of reliability. Knowledge management has 21 items with Cronbach’s Alpha 0.91, organizational performance has 12 items and a reliability coefficient of 0.83, while organizational culture has 16 items with Cronbach Alpha 0.86. The overall value of the variables is 0.95 which is considered satisfactory for social science research instruments.

Normality

Table 2: Test of Normality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic df</td>
<td>Sig. Statistic df Sig.</td>
</tr>
<tr>
<td>KM</td>
<td>.028 260</td>
<td>.200 998 260 .981</td>
</tr>
<tr>
<td>OC</td>
<td>.032 260</td>
<td>.200 997 260 .952</td>
</tr>
<tr>
<td>OP</td>
<td>.037 260</td>
<td>.200 996 260 .824</td>
</tr>
</tbody>
</table>

Source: Primary Data (2018)

The results in Table 2 show the normality test using (Kolmogorov-Smirnov and Shapiro-Wilk) illustrates that the significant value for each variable is greater than 0.05. This is an indication that the data used in the analysis are normally distributed around the mean.

Descriptive Analysis

Table 3: Descriptive Analysis

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>157</td>
<td>60%</td>
</tr>
<tr>
<td>Private</td>
<td>103</td>
<td>40%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>182</td>
<td>70%</td>
</tr>
<tr>
<td>Female</td>
<td>78</td>
<td>30%</td>
</tr>
</tbody>
</table>
The result in Table 3 shows that 157 (60%) teachers from public sectors, whereas 103 (40) teachers are participating in the Study. The above table also indicates the Gender wise description of the sample. There are 182 (70%) male teachers while 78 (30%) female teachers participated in the study. The sample also comprised 5 (2%) professors, 3 (1%) Associate Professors, 94 (36%) Assistant Professors and 158 (61%) Lecturers. The table also indicates that 121 (47) teachers are participating from the faculty of Sciences whereas 139 (53%) teachers are participating from the faculty of Arts. The above table shows that 87 (34%) teachers having a Ph.D. qualification, 142 (55%) teachers having the M.Phil qualification and 31 (11%) teachers having Master qualification are participating in the study.

Table 4: Factor Analysis

<table>
<thead>
<tr>
<th>Constructs</th>
<th>No. of items</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Management (KM)</td>
<td>21</td>
<td>.746, .737, .714, .664, .661, .567, .556, .769, .772, .731, .678, .747, .709, .759, .646, .670, .694, .759, .691, .744, .732</td>
</tr>
<tr>
<td>Organizational Performance (OP)</td>
<td>12</td>
<td>.882, .798, .755, .638, .622, .827, .787, .557, .740, .623, .616, .751</td>
</tr>
<tr>
<td>Organizational Culture (OC)</td>
<td>16</td>
<td>.963, .841, .747, .612, .529, .733, .938, .782, .687, .580, .915, .594, .559, .646, .794, .702</td>
</tr>
</tbody>
</table>

Source: Primary Data (2018)

The result in Table 4 indicates the factor loading of each construct corresponding to the items. As shown from the table above, the value of each item is close to 1, which is considered a good load factor, greater than the minimum tolerance of 0.4 (Field, 2009).

Table 5 Correlation Analysis

<table>
<thead>
<tr>
<th>KM</th>
<th>OC</th>
<th>OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM</td>
<td>.744**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2 tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>260</td>
<td>260</td>
</tr>
<tr>
<td>OC</td>
<td>.713**</td>
<td>.745**</td>
</tr>
<tr>
<td>Sig. (2 tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>260</td>
<td>260</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed)**
The result in Table 5 shows the correlation matrix between KM, OC, and OP. The table also revealed that there is a statistically significant and positive relationship between KM and OP is .713 with P-value .000<0.05. It is also reported in the table that the association between OP and OC is .745, P-value .000<0.05. Further, the result also explains the association between KM and OC which is also significant and positive with r = .744, P-value .000<0.05.

**Mediation Analysis**

The PROCESS macro developed by Hayes (2013) is used to conduct a regression analysis of mediation to examine the results of the hypothesis associated with mediation developed for this study.

**Table 6: Mediation analysis: Knowledge Management**

<table>
<thead>
<tr>
<th>Model summary</th>
<th>R</th>
<th>R²</th>
<th>SE</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.782</td>
<td>.611</td>
<td>.507</td>
<td>202.029</td>
<td>.000</td>
</tr>
</tbody>
</table>

\(n=260\)

**Table 6a: Path coefficients**

<table>
<thead>
<tr>
<th>path</th>
<th>coefficient</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMOC (a)</td>
<td>.7490</td>
<td>.000</td>
</tr>
<tr>
<td>OCOP (b)</td>
<td>.4564</td>
<td>.000</td>
</tr>
<tr>
<td>KMOP (c)</td>
<td>.6808</td>
<td>.000</td>
</tr>
<tr>
<td>KMOCOP (c')</td>
<td>.3389</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Table 6b Direct Indirect effects**

<table>
<thead>
<tr>
<th>effect</th>
<th>95 CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>.6808, .7619</td>
</tr>
<tr>
<td>Direct</td>
<td>.3389, .4483</td>
</tr>
<tr>
<td>Indirect</td>
<td>.3419, .5651</td>
</tr>
</tbody>
</table>

**Table 6c: Sobel test or normal theory test for indirect effect**

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>.3419</td>
<td>.0456</td>
<td>7.4954</td>
<td>.000</td>
</tr>
</tbody>
</table>

The result in Table 6 and 6a depicts the relationship between KM and OP. As shown in the table, the relationship between Knowledge Management and Organizational Performance which is statistically significant (B= .6808, P<.05). Hence, the first assumption of mediation is confirmed (Baron & Kenny, 1986). The table 6b indicates the indirect effect of KM and OC and OC and OP. The table depicts that there is a statistically significant relationship between KM and OC (β=.8385, P=.000<.05). It is also revealed that there is a positive and significant relationship between OC and OP (β=.4287, P=.000<.05). Thus, the second and third assumptions of mediation are confirmed.
confirmed (Baron & Kenny, 1986). The table 6c indicates that after the addition of mediating variable OC, the effect of KM and OP is decreased from .7785 to .4190 and significant (P=.000<.05). Thus, it is concluded that OC partially mediates the relationship between KM and OP.

Discussion and Conclusions

There are four prime fold concerns in the findings of the current study. Firstly, Knowledge Management has a positive relationship with Organizational performance. Secondly, Knowledge Management has a positive relationship with Organizational culture. Thirdly, the mediating variable Organizational culture has a positive relationship with Organizational performance. Finally, the relationship between KM and OP is partially mediated by OC.

The findings of the current study indicate that knowledge Management has a positive relationship with Organization Performance. The finding of the current study is consistent with the study of Tang (2017) that Organizational culture is partially mediated the relationship between knowledge management (KM) and organizational performance (OP). Additionally, Organizational Culture has reduced the direct effect of Knowledge Management and Organizational Performance.

Higher education institutions are considered creating and developing knowledge. Therefore, Higher Education Institutions should ensure to identify the dimensions of knowledge management, which necessary for quality research-based programs that develop students into knowledge workers. Knowledge Management has a positive relationship with Organizational culture and organizational performance. In other words, the better the Knowledge Management practices, the higher the Organizational culture and performance. Moreover, the better the organizational culture, the higher the organization performance. Summarizing, effective use of knowledge management and supportive organizational culture act a significant role to enrich the performance of the organization.

Recommendations of the Study

The result of the study was found that Knowledge Management has a positive relationship with organizational performance. Therefore, knowledge Management environment may be established in the organization. There may strong coordination between Public and private universities regarding Knowledge sharing. For this purpose, seminars and workshop may be arranged in which employees from both sectors participated in knowledge acquisition, Knowledge documentation, knowledge sharing, and knowledge creation. Universities may develop web pages in which academicians share their knowledge and experiences.
References


