CASE STUDY

Investigating the knowledge management effect on managers’ skills improvement

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Knowledge is a key factor and strategic resource for gaining assets and non-functional organizational capabilities. Knowledge Management is the knowledgeable process of creating, validating, presenting, distributing and using the knowledge in an organization. Successful organizations consider human resource development as a fundamental principle. This study aims to investigate the Knowledge Management Effect on Managers Skills Improvement.

The present study is practical and the data collection method is descriptive. The statistical population includes 200 managers in Shiraz Municipality, out of whom 128 people were selected as the statistics sample by simple random sampling and Morgan’s table. The standard questionnaire of knowledge management variables and managers skills were used as the instruments for data collection. And Cronbach’s Alpha Coefficient confirmed the questionnaire validity to be 0.92. The data analysis of the study was investigated by Partial Least Squares and Statistical Package for Social Science software. The results show that knowledge management has a positive and significant effect on human, operational and perceptual skills of Shiraz Municipality managers.

INTRODUCTION

Human communities are formed of organizations with different goals and tasks. The most important thing to achieve effective goal is the management (Linstead et al., 2004). The manager is at top of an organization as the official representative to create and increase effectiveness and the organization success to achieve its goals and it depends on how s/he uses the management. Knowledge management development is considered to be a competitive advantage, nowadays. One of the main challenges in many organizations and firms is that little is known about the people’s knowledge and wisdom. Effective knowledge management is an important instrument to solve this problem (North and Kumta, 2018). In fact, knowledge management is a process that helps organizations to identify and choose discipline, to publish and transfer the important information and skills which are considered to be the organization experience and generally are semi-structured. Managers must own some management skills in order to be successful at their tasks and roles (Jacques, 2017). Kats (2009) classifies the management skills in three categories; 1. Human skills including working with individuals and groups, understanding and
motivating them. 2. Operational skills including using the instructions and related techniques and having the expertise knowledge related to the complex being managed. 3. Perceptual skill that is to create unity and harmony for organization efforts and activities, to understand the organization as a whole and how organization components communicate and to predict the change effects in an organization (Hersey et al., 2007). Accordingly, the undeniable fact about today’s organizations is that knowledge is being increasingly emphasized as an important asset and is managed to create a competitive advantage in governmental and private sectors. Recent research has coped with the knowledge management and managers skills but there has been no investigation on knowledge management effects on manager’s skills simultaneously. Therefore, the present study is going to deal with this issue, take a step forwards and find an answer for the following question; is there a significant relation between knowledge management and managers skill improvement in different levels of Shiraz Municipality? Knowledge is a key factor and a strategic resource to achieve assets and intangible organization capabilities which can bring about more growth, value-creation, and competitive advantage (Cao and Xiang, 2012). Knowledge is considered as a combination of documented experience, values and defined information that facilitates a framework to collect and evaluate the new experience and information (Davenport and Prusak, 1998). Knowledge Management is a process with definite order to achieve organization, maintain, apply and share knowledge so that the individual's knowledge background is renovated to improve the organizational performance (Huang et al., 2008). Organization knowledge not only exists in documents, but also is in process, methods and organizational norms (Mohammed et al., 2007). It is classified in two categories; tacit knowledge and explicit knowledge. Explicit knowledge is often in the form of tangible data, documents, reports, contents, and letters. It's mostly impersonal and official, written and easy to share with others (Nonaka and Nishiguchi, 2001). In contrast, tacit knowledge refers to the skills, created abilities, not documented experience and process, internal feelings that are personal and difficult to be written. It is rooted in personal experience and values (Holste and Fields, 2010). Therefore, extracting this knowledge from individuals mind and make it official is complicated and difficult to share with the others (Perez- Araos et al., 2007). Tacit knowledge is very personal and it is difficult to manage, share or make it official because it includes experience, operational knowledge and perceptions which are established in individual’s memory (Hosham, 2010). However, it is not possible to separate tacit from explicit knowledge, it can be a useful way to understand the different characteristics and identities of different types of knowledge that requires different process, procedures and instruments to manage and deal with (Jorna, 2001). Organization needs a knowledge management team with a knowledge senior manager in order to match organization knowledge activities with commercial goals. The managers are responsible for the organization knowledge management (Foote and Halawi, 2018). Knowledge management is a set of methods and activities that actualize the knowledge current by creating, sharing, saving and reusing that in new and related conditions (Migdadi et al., 2018). Hersey (2007) introduced the performance improvement in human, operational and perceptual skills as manager’s performance components. The knowledge management concepts and managers performance are increasingly getting more important to the organizations (Hersey et al., 2007).

Managers’ development

Changes in conditions of temporary organization have changed their attitudes towards human resources. The 21st century and globalization developed economy towards information technology and services evolution. Therefore, employees became the most important asset of the organization (Islam et al., 2015). Successful organizations pay attention to the human resources development as a basic principle (Ross, 2005). Using the competitive advantage of organizations means to have both new technology and expert and responsible employees in the organizations (Chadwick and Dabu, 2009). The organizations success depends on using suitable instruments, equipment, money, raw materials and human resources and it is possible if they apply skills, abilities, individual and group characteristics of the employees to achieve organizational goals (Jackson et al., 2009). The organization is more successful than competitors to achieve its goals when it employs more competent workforce (Alavi and Leidner, 2001). When the organizations provide opportunities for the managers to improve the quality of work life,
the human resources are employed and maintained (Harrison, 2012).

**Triple managerial skills**

Manager’s competence in skills is one of the most important factors in continuous success of every organization (Bratton and Gold, 2017). Managers effectiveness and competence relies on their skills and lack of them pales the chance of success for managers and ultimately for organization as a whole. All skills are important for the managers in order to do their tasks. Therefore, it’s hard to imagine successful managers without basic skills in the new organizations (Hersey et al., 2007). Katz (2009) classifies the required skills for managers into three categories; operational, human, perceptual (Katz, 2009). Managers skills i.e. to apply technology(operational) and work with people(human) in the framework of appropriate data processing and complete perception of the organizations (perceptual) to achieve the organizations goals(effectiveness) as a concept of modern management has drawn attention and it has been referred to in organizations analysis (Hersey et al., 2007). Mottaharinejad (2016) copped with a research on defining knowledge, skills and interests of school principals in the city of Khorramabad and compared that with the international standard. It showed that general state of principals knowledge and skills is higher than average but it’s lower than international standards. Manager’s skills are at the medium level in comparison with the standards average and is not significantly different. There’s a significant difference between managers in personal interests priority of all profiles. Accordingly, Akbari Langouri (2013) had a study on the relation between knowledge management and developing manager’s skills. The findings showed that achieving the knowledge management in various fields can improve managers perceptual, human and operational skills, investigated the knowledge management capacities and business strategies effect on performance and found that knowledge management capacities have a significant effect on organizational performance. The results also showed the direct and significant effect of business strategies on the performance of automobile company (Cohen and Olsen, 2015). Wiig (2002) had a complete study about knowledge management in state organizations and mentioned that it’s important to have a solid knowledge management in state organizations. This approach allows society to improve its stability by making people and organizations more hardworking and to improve the citizen's life quality (Wiig, 2002). Finally, Zack (2009) in their research with the title of Knowledge Management and Organizational Performance, an exploratory analysis, investigated the relation between knowledge management indices and performance outcomes and determined 12 indices for knowledge management. They showed that there’s a direct and significant relation between knowledge management indices and organizational performance and there’s also a positive relation between organizational and financial performance (Zack et al., 2009).

**MATERIALS AND METHODS**

In order to improve human resource efficiency and keeping the citizen rights in the organizational goals framework, Municipality of Shiraz, as an organization which is dependent on its own human resource abilities, is trying to take an important step towards promotion by hunting the talents and improving the quality of responsible human resource and using them as strategic partners in city management. By the approach mentioned, we’re looking for the answers in this research which has been conducted in Municipality of Shiraz, 2017. The research background shows that knowledge management as an effective factor has a relation with managers’ skills improvement. The following hypotheses are suggested by investigating dimensions of the two main structures (knowledge management and managers skills improvement)

**Main hypothesis**

There is a significant relation between knowledge management and improving managers’ skills.

*Sub-hypothesis 1:* there’s a significant relation between knowledge management and improving human skill of managers.

*Sub-hypothesis 2:* there’s a significant relation between knowledge management and improving perceptual skill of managers.

*Sub-hypothesis 3:* there’s a significant relation between knowledge management and improving operational skill of managers.

**Research theoretical framework**

Considering the main research hypothesis i.e. there’s a significant relation between knowledge management and improving managers’ skills, and the
sub-hypotheses, the research theoretical framework is shown in Fig. 1.

This is a practical study and the method is descriptive-correlative. The statistical population of the present study includes all 200 managers in municipality of Shiraz in 2017. 128 people were selected as the statistics sample by Morgan’s table (Krejcie and Morgan, 1970). The sampling is simple random by using random numbers table because the list of managers was available. The data were gathered using questionnaire and also from the library. The first section of the questionnaire contains demographic variables and the second part, contains 40 questions related to research variables such as Bukowitz (1999). The scoring is based on Five Point Likert Scale was used for scoring items (1=very low; 5=very high). Cronbach’s Alpha was tested for the questionnaire reliability. Cronbach’s Alpha Coefficient was used to test the reliability of the questionnaire. In order to analyze research data deductively and to study the simultaneous effect of independent variable on some dependent variables, a structural equations modeling software was used. The research subject is within the area of human sciences and investigates the knowledge management effect on improving managers and assistant’s skills. This study has been carried out in Shiraz Municipality in 2017. The main constructs of the present study include knowledge management and managers skills whose dimensions, along with question number, are described in Table 1.

Table 2 shows that Cronbach’s Alpha Coefficient and the compound reliability of all structures are more than the least acceptable number i.e. 0.7. So, the structures of the study are at a good level of reliability. Moreover, the validity of questionnaire content, has been studied and the convergent and divergent validity was investigated with the use of smart Partial Least Squares (PLS) structural equations model.

The structural equations software has been used because it’s capable of analyzing the complicated models however it’s small and not sensitive to structures normal distribution (Henseler and Fassott, 2010).

According to Fornel (1981), in order to investigate the divergent validity of the constructs, the extracted squared root of variance average for each construct is compared with the correlational coefficients of structures (Chin 2010).

Average Variance Extracted: this measure is defined as the total average of squared amount of indices (questions) corresponding to each structure. In order to confirm the convergent validity using Smart Partial Least Squares (PLS), the squared amount must be 0.708 and above and the Average Variance Extracted must be 0.5 and above.

As it is shown in Table 3, the bold numbers, in the main diameter of the table are the extracted square root of variance average. Studying values for each

Table 1: Items and Dimensions of Questionnaire

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers skills</td>
<td>1-10</td>
</tr>
<tr>
<td>Human skill</td>
<td>20-11</td>
</tr>
<tr>
<td>Perceptual skill</td>
<td>21-30</td>
</tr>
<tr>
<td>Operational skill</td>
<td>30-40</td>
</tr>
</tbody>
</table>

Table 2: Cronbach Alpha and the Construct Reliability

<table>
<thead>
<tr>
<th></th>
<th>AVE</th>
<th>Composite Reliability</th>
<th>Cronbachs Alpha</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptual</td>
<td>0.730023</td>
<td>0.964317</td>
<td>0.958845</td>
<td>0.730023</td>
</tr>
<tr>
<td>Human</td>
<td>0.786373</td>
<td>0.956285</td>
<td>0.949173</td>
<td>0.686373</td>
</tr>
<tr>
<td>Operational</td>
<td>0.812632</td>
<td>0.977439</td>
<td>0.974242</td>
<td>0.812632</td>
</tr>
<tr>
<td>Knowledge management</td>
<td>0.771442</td>
<td>0.971199</td>
<td>0.966952</td>
<td>0.771442</td>
</tr>
</tbody>
</table>

Average Variance Extracted: this measure is defined as the total average of squared amount of indices (questions) corresponding to each structure. In order to confirm the convergent validity using Smart Partial Least Squares (PLS), the squared amount must be 0.708 and above and the Average Variance Extracted must be 0.5 and above.

As it is shown in Table 3, the bold numbers, in the main diameter of the table are the extracted square root of variance average. Studying values for each

Fig. 1. The research theoretical framework
structure in comparison with the correlation between the mentioned structure and other structures show that the extracted square root of variance average for all structures is higher than the correlation between the related structures and the others. Therefore, the divergent validity of all structures is appropriately valid.

In order to investigate the divergent validity, it can be said that according to Fornell and Larcker (1981), divergent validity is the squared root of average variance extracted and this construct must be higher than the correlation between the related structures and the others.

The validity (convergence and divergence) and reliability (compound reliability coefficient and Cronbach’s Alpha Coefficient) of software output measurement have been acceptable. The structure model fitness (Fig. 2) the use of T coefficient says that these coefficients should be more than 1.96 in order to be confirmed significantly at the level of %95.

In order to test the main hypothesis, three sub-hypotheses were used.

**Sub-hypothesis 1:** there’s a significant relation between knowledge management and improving human skill of managers. According to T statistics that is 83.895 and more than 1.96, it can be concluded that knowledge management has an effect on improving human skill of managers with the significance level of %99. As the standard coefficient is 0.915, therefore, there’s a significant relation between knowledge management and improving human skill of managers.

**Sub-hypothesis 2:** there’s a significant relation between knowledge management and improving perceptual skill of managers. According to T statistics that is 56.100 and more than 1.96, it can be concluded that knowledge management has an effect on improving perceptual skill of managers with the significance level of %99. As the standard coefficient is 0.883, therefore, there’s a significant relation between knowledge management and improving perceptual skill of managers.

**Sub-hypothesis 3:** there’s a significant relation between knowledge management and improving operational skill of managers. According to T statistics that is 53.824 and more than 1.96, it can be concluded that knowledge management has an effect on improving operational skill of managers.

### Table 3. Divergent validity test matrix

<table>
<thead>
<tr>
<th></th>
<th>Perceptual</th>
<th>Human</th>
<th>Operational</th>
<th>Knowledge management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptual</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>0.912123</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>0.888870</td>
<td>0.881392</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>Knowledge management</td>
<td>0.883246</td>
<td>0.915455</td>
<td>0.862594</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

**Fig. 2: T values Model**
operational skill of managers with the significance level of %99. As the standard coefficient is 0.863, (Fig. 3) therefore, there’s a significant relation between knowledge management and improving operational skill of managers.

Table 4 shows that all three hypotheses have been confirmed; knowledge management effect on human, perceptual and operational skills.

According to the results from PLS software, knowledge management had the most effect on operational skill and after that on perceptual skill.

RESULTS AND DISCUSSION

The results show that there is a significant relation between triple managerial skills (perceptual, human and operational) and knowledge management. Accordingly, it can be concluded that municipality of Shiraz should be able to develop the triple managerial skills of perceptual, human and operational to share the knowledge management and improve managers’ performance. Knowledge management is an effective solution to upgrade the organizational production and services and this way we can boost the organization value added. Furthermore, knowledge management is a meaningful activity to maintain the organization potential ability and transforming the managers’ information into organizational asset. By using the communication patterns in organization hierarchy, and creating a partnership culture, we can boost the organization output value added. The managers should be skilled in order to be aware of their occupational performance and behavior. Municipality of Shiraz should promote its management skill to be an appropriate place for managers to improve their occupational behavior, to develop their characters and finally to improve their performance. Managers should develop their triple managerial skills (perceptual, human and operational) because knowledge sharing is a known necessity in organization and is considered as a component in human resource management. Self-confidence, rational caution, and courage to make decision can mature the management skills. In order to compare the present research results and considering the local and international background of the research, it can be said that there’s a significant relation between knowledge management and improving human skill of managers.

Table 4. Result from model directions by structural equations

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Effective coefficients</th>
<th>T values</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers Skills → Human Skill</td>
<td>0/915</td>
<td>83/895</td>
<td>Hypothesis Confirmed</td>
</tr>
<tr>
<td>Managers Skills → Perceptual Skill</td>
<td>0/883</td>
<td>56/100</td>
<td>Hypothesis Confirmed</td>
</tr>
<tr>
<td>Managers Skills → Operational Skill</td>
<td>0/863</td>
<td>53/824</td>
<td>Hypothesis Confirmed</td>
</tr>
</tbody>
</table>

![Fig. 3: Effective coefficients model](image-url)
based on the first sub-hypothesis result. This result is in accordance with Mottaharinejad, (2016) analyses that coped with the determination of knowledge, skills and occupational interests of school principals in city of Khorramabad and compared it with international standards. The first sub-hypothesis result is also in accordance with Akbari Langouri (2013) results which dealt with the relation between knowledge management and enabling manager’s skills. In the present study, it was confirmed that there’s a significant relation between knowledge management and improving perceptual skill of managers. This sub-hypothesis is in accordance with Arzeh (2012) which investigated the relation between knowledge management and communication skills of managers in Physical Education Organization of Iran. It is also in accordance with Wiig (2002) in which he had an extensive study on knowledge management in state organizations and mentioned that it’s important to have a solid knowledge management in state organizations. This approach allows society to improve its stability by making people and organizations more hardworking and to improve the citizen’s life quality. The third sub-hypothesis saying there’s a significant relation between knowledge management and improving operational skill of managers, is in accordance with Cohen (2015) which investigated the knowledge management capacities and business strategies effect on performance. It is also in accordance with Zack (2009) with the title of knowledge management and Organizational Performance, an exploratory analysis that investigated the relation between knowledge management indices and performance outcomes.

CONCLUSION

The research results show that knowledge management has a positive and significant effect on triple managerial skills (perceptual, human and operational) of managers in municipality of Shiraz. Considering the analyses results of the study, some suggestions are presented in the following: as human skill conceptually means to own an ability and power to use organization employees and also the manager as a member of the group to fulfill common and shared activities to achieve organizational goals, a training course for working with people should be presented for managers. As nowadays management is full of problems and challenges and it’s increasing because of knowledge progress, the company managers have a special responsibility. Taking this responsibility, managers need to develop their perceptual skill. As a result, it’s better to have training course on developing emotional intelligence at organizational level. As long as employees own a high emotional intelligence, they can understand and manage their own feelings and other’s thoughts to increase organizational innovative activities which affects managers and employee’s promotion (Tajpour et al., 2018). Therefore, it is suggested that organizations provide a situation in which the perceptual skill is improved and its dimensions are clarified to managers. As the service quality provided by organization is dependent on acquiring perceptual, human and operational skills, it is suggested that organizations provide facilities to acquire and learn skills with a higher quality than ever. As operational skill is achieved through education, experience and internship, the organization needs to provide an environment to train and educate managers. It is suggested that organization support solutions achieved by managers during their experience because these presented designs can pave the way to achieve organizational goals.

Research Limitations

Even if a research is perfect, the researcher encounters some challenges and limitations. In present research, there are limitations in research data collection using questionnaire such as, the paper questionnaire naturally has limitation, it was impossible to investigate how careful the repliers were, there was a time limitation and the data collection was delayed because of online distribution of questions.

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CONFLICT OF INTREST

The author declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy have been completely observed by the authors.

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