Study of Knowledge Management Status in Municipalities of the Country (Case Study: Karaj Municipality)

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Abstract

We live in a world that because of globalization is changing fast and inevitably. New organizations paid more attention to understanding, adapting and managing environmental changes around and are trying to learn and use the knowledge and updated information in order to improve the operation and providing clients services and more desirable products. Such organizations need to use a new management style called knowledge management. This article reviews knowledge management and then it assesses the success of knowledge management in municipalities (Karaj municipality) as a service provider and identifies the status of the organization in each aspect of success rate and in the end, it provides some solutions to improve this status.

1. Introduction

In recent decades significant changes in the business environment changed the focus of organizations from tangible assets to intangible assets which among them knowledge is one of the most important. Knowledge management in organizations has been registered as a useful activity at least 18 years ago [1] and existed for many years -probably centuries- before that. However, many organizations -or rather their directors- still, consider achieving knowledge management a hard fight, especially when it comes to implementing the plans set before.

One of the problems of Iranian organizations is the implementation of knowledge management processes. Studies have shown that some of the implementation barriers are related to the lack of relevance of knowledge management programs and their sub-elements with large-scale programs and in other words, organizations strategies. The alignment of knowledge management programs with organizational strategies, since the knowledge management itself becomes an organizational perspective, also facilitates the implementation of knowledge management in addition to ensuring that knowledge management is implemented [2, 3].

Once organizations were looking for data and information, but today they are facing a huge amount of data and information, which in many cases managing and using them yet is another problem. Today, organizations increasingly diverge on the basis of their own knowledge, and in fact, knowledge can be considered the greatest competitive advantage of organizations in the global economy. Today, intellectual assets, as a powerful force, are being used instead of physical assets. Knowledge (knowledge based on experience) is a key resource in any organization. The more someone knows, the better he/she can do. In today's world, knowledge is considered not only as an asset but also as the most important asset for organizations. Therefore, the same as the management of physical resources such as money, knowledge management should be part of the organization's standard policies. Knowledge management refers to the systematic use of knowledge in an organization and using it in activities, in order to realize the goals and objectives of the organization (the same source).

A lifelong organization should be able to take advantage of opportunities, resist environmental tensions and eliminate threats. Relying on the strengths of the organization and reducing weaknesses is an essential requirement of an effective

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work strategy plan. In recent years, knowledge management has been considered as an internal advantage and strength of the organization for updating, enhancing the competitive ability and having dynamic organizations.

Knowledge management is an interdisciplinary concept that has attracted the attention of researchers and organizations in Iran in the recent decade. Knowledge management refers to any kind of activity that focuses on the experience and mental knowledge of individuals so that they can contribute to knowledge through sharing and disclosure. Increasing knowledge together can relate to common knowledge producing. This sharing in the creation of knowledge is not a direct collaboration in it but refers to the creation of knowledge based on the knowledge (previously created knowledge) that has been shared. Therefore, knowledge management refers to a process that has a starting point and an evolutionary process. This process involves the following stages of gaining knowledge about hidden knowledge, revealing, sharing, spreading and understanding and utilizing it in the creation of new knowledge. In this process, the initial stage, which focuses on identification and awareness of the hidden knowledge in the mind, reaches the stage of maturity that is understanding, using and recreating. This process, revealing the hidden knowledge, hiding the revealed knowledge and recreating knowledge is called the cycle of knowledge management by Nonaka and Takeuchi [1].

Defining knowledge management is not easy. Different authors from different perspectives and with different approaches have defined knowledge management. From Rabitz's point of view, knowledge management includes all the ways in which an organization manages its own knowledge assets, including how to collect, store, transfer, use, update, and create knowledge. Graver and Madhaum also define knowledge management as the explicit and systematic management of crucial knowledge and processes for the creation, organization, dissemination, using and discovery of knowledge. Creating and re-creating of knowledge causes transformation, growth, and change. Therefore, knowledge management, which always deals with discovery and creation, is a process for transformation, development, and growth [4]. Perez believes that knowledge management is the accumulation of knowledge, rational capabilities, and experiences of individuals in an organization and the ability to retrieve them as an organizational asset. Newman believed that knowledge management is a set of events that involve the creation, dissemination, and application of subjective and objective knowledge in an organization [5].

Knowledge management is a process by which organizations will be able to turn data into information and information into knowledge, and will also be able to effectively utilize their knowledge in their decisions [6].

Knowledge management is a system that manages collective knowledge across the whole organization (explicit and implicit knowledge) and is a spiral process that involves identifying, validating, storing and refining knowledge for users to access it, and follows the following results:

- Reuse knowledge by others for similar needs
- Delete knowledge due to lack of credit
- Changing the form of knowledge and creating it in a new form [7]

Knowledge management refers to the process of capturing collective expertise and utilizing intelligence in an organization and using them to nurture innovation through continuous organizational learning [8].

To properly understand these definitions, we need to define and explain knowledge apart from data and information.

**Data:** Data is a fact of a situation or an item of a particular context without relation to other things.

**Information:** Adding fields and interpreting the data and their relationship to each other creates information.

**Knowledge:** Adding comprehension and memory to information leads to natural development after information.

In this state, we can define knowledge insights coming from information and data which can be useful and distributable in various ways and situations. Knowledge is the reduction of collecting and reading information not increasing access to the information. Efficient knowledge helps purging unwanted information and data [9, 10].

The process of knowledge management involves 4 stages:

In the first stage, the existing knowledge in the organization and its sources (such as subjective and objective knowledge, information banks, and documents and…) must be identified and then collected and saved in a proper way. Then for the knowledge to become valuable and lead to recreation, it must be shared amongst the people. Then the gained knowledge must be used in the direction of the organization's goals and in the last stage the knowledge is created using the new information in the system [9, 11].

The fast pace of the new technologies developments and digital communications has led to the increasing value of knowledge as a crucial source for gaining competitive advantages [12]. The lack of a competitive atmosphere among governmental organizations is not an excuse for not paying attention to knowledge management. Governmental organizations must try to improve the service provided to the client by comparing the past and the current situation and...
do their inner activities effectively. Knowledge management could nurture knowledgeable employees to answer the needs of the clients by sharing the knowledge in the organization and memorizing individual’s knowledge in organizational memory (the same source).

Also, the knowledge management ways could be categorized under four styles: dynamic, systematic, humanist and passive [13].

Explicit: analyzes the level of encryption and saving the required organizational knowledge for the individuals to access and use with ease.

Implicit: is related to the style and sharing of knowledge via personal interactions. Companies using implicit style have a little tendency to use knowledge management, these companies aren’t run with a systematic method.

Culture organizational structure or information technology is not used for knowledge management. These companies don’t use knowledge properly. In the tumultuous workplace, this method will reduce the effectiveness of the company very fast.

The systematic companies emphasize more on encryptions and using knowledge. These companies increase encryption using information technology hence reduce the difficulties to access and use knowledge. Quick answers to clients and the low cost of knowledge transformation are possible in this style. The humanist style emphasizes the style and sharing of implicit knowledge and personal experiences. The human aspect is crucial for knowledge management. Therefore the useful knowledge can be retrieved from databases or repositories. Communication and trust are of important factors of success. The companies which use the dynamic method are emphasizing both explicit and implicit knowledge. These companies manage their implicit and explicit knowledge in a dynamic way and use registered knowledge and seek new potentials [14].

The most important goal of using knowledge management in various organizations is a quick adaption to the around the environment to enhance the performance and more profit. So, knowledge management refers to the process of creation, publishing and using knowledge in the organization. In other words, the final goal of knowledge management is sharing the knowledge among the employees to upgrade the value of the organization's knowledge. One of the goals of knowledge management is making a connection between knowledgeable people, so individual knowledge could become organizational. The other function or goal of knowledge management is knowledge growth between the employees. To achieve this it's necessary to learn information technology and understand its effects in this process. In fact, the final goal of knowledge management is increasing the smartness or IQ of the organization. Knowledge management has valuable pros, unfortunately documenting them or counting them directly is not easy. Denham Grey in a continuous debate in knowledge management assembly has discussed the main benefits of knowledge management in this manner [15]:

1. Preventing knowledge loss: predicts the knowledge needs of the organization and prevents knowledge loss.
2. Decision-making improvement: explaining this we must say that a human being can make the best decisions when he/she has enough knowledge about the subject.
3. Flexibility and adaption: the employees will get a better understanding of their jobs and propose innovative solutions.
4. Competitive advantage: makes the organization able to understand customers and the competitions better and identify competitive chances.
5. Increasing wisdom: the knowledge in the organization gains an intellectual property.
6. Increasing production: knowledge serves product development and increase.
7. Customer orientation: makes organizations able to attend to customer needs considering knowledge.
8. Using investment in the human resources section: via knowledge system in document processing organization and..., the organization can invest in recruiting and internship of the employees. The successful execution of knowledge management could lead to understanding market status and customer needs and optimize services and productions.

2. Study method

The knowledge building basis model is used as the study model. This model is called knowledge management building basis model. The designers of this model have considered knowledge management as a dynamic cycle. It consists of 8 stages which are introduced in two inner and outer cycles [16]. Regarding this, the conceptual model of the study is stated in figure 1.
Considering that the results of this study could be used in Karaj municipality, this study’s goal is practical and considering being present in the organization and retrieving information from experts using survey, is a field study. By the way, the result of the study relates to Karaj municipality, so it’s a case study.

3. The goals and questions of the study

This study attempts to analyze the knowledge management in Karaj municipality and identify the gaps and provide some solutions. The questions of the study regarding the goals are:

1. What is the level of each of the factors of knowledge management in The Karaj municipality and how wide is the gap comparing to standard level?
2. What is the level of success of knowledge management in The Karaj municipality and how wide is the gap in each aspect comparing to the standard level?
3. What are the solutions for repairing and improving the gap in each aspect of knowledge management in The Karaj municipality?

4. The statistical society

The great city of Karaj is the country’s fifth most populated city and closest of them all to the capital. The Karaj municipality was founded in 1330. At first, this municipality was a very small organization with limited duties and authority. As the city expanded, the organization was also expanded in the framework of law, such that in addition to the central office, 12 regional municipalities are involved and consists of different sections such as official and financial, architecture, city services, transportation and traffic, social and cultural, technical and developmental and planning.

In implementing knowledge management in The Karaj municipality, the reference method is the survey method. The statistical society involves superior, middle and executes managers working at the time of the study. The sample consists of 30 people chosen randomly and the volume of the sample is specified using the Cochran formula.

5. Findings

The first question: What is the level of each of the factors of knowledge management in The Karaj municipality and how wide is the gap comparing to standard level?

Considering the gathered information using a survey and concluding them. The status of knowledge management is The Karaj municipality in every factor is determined as shown in table 1. Regarding the level of organizational maturity and the experts, 75% is identified as the optimal level for The Karaj municipality.
### Table 1. The status of knowledge management is The Karaj municipality in every factor

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Factor</th>
<th>The average (percent)</th>
<th>Gap level (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The goals of knowledge</td>
<td>The Karaj municipality to what level the perspective and future needs of the organization is clarified?</td>
<td>43.33</td>
<td>33.67</td>
</tr>
<tr>
<td></td>
<td>How much the Karaj municipality has put knowledge management as a priority?</td>
<td>34.33</td>
<td>40.67</td>
</tr>
<tr>
<td></td>
<td>How much the Karaj municipality is aware of its weaknesses in its special fields?</td>
<td>48.67</td>
<td>26.33</td>
</tr>
<tr>
<td>Knowledge identification</td>
<td>The Karaj municipality how much of the information banks and documents are identified?</td>
<td>45.67</td>
<td>29.33</td>
</tr>
<tr>
<td></td>
<td>The Karaj municipality how much of the knowledge of employees is identified?</td>
<td>39.67</td>
<td>35.33</td>
</tr>
<tr>
<td></td>
<td>The Karaj municipality how much of the information banks and documents outside the organization are identified?</td>
<td>36.77</td>
<td>38.33</td>
</tr>
<tr>
<td></td>
<td>The Karaj municipality how much of the knowledge of employees outside the organization is identified?</td>
<td>39.67</td>
<td>35.33</td>
</tr>
<tr>
<td>Knowledge gaining</td>
<td>The Karaj municipality how much is the use of inner and outer experts and counselors for learning the needed knowledge?</td>
<td>44.67</td>
<td>30.33</td>
</tr>
<tr>
<td></td>
<td>The Karaj municipality to what extent does the common research project with other organizations and research centers?</td>
<td>40.67</td>
<td>34.33</td>
</tr>
<tr>
<td></td>
<td>What is the level of involvement of The Karaj municipality in holding national conferences?</td>
<td>31.00</td>
<td>44.00</td>
</tr>
<tr>
<td></td>
<td>What is the level of involvement of The Karaj municipality in holding international conferences?</td>
<td>53.00</td>
<td>22.00</td>
</tr>
<tr>
<td></td>
<td>How active is The Karaj municipality in holding educational courses and special workshops?</td>
<td>24.67</td>
<td>50.33</td>
</tr>
<tr>
<td></td>
<td>How is the access to first-hand resources (Articles, journals, thesis, inventing and…) in The Karaj municipality?</td>
<td>37.67</td>
<td>37.33</td>
</tr>
<tr>
<td></td>
<td>How is the access to second-hand resources (books, cyclopedia and …) in The Karaj municipality?</td>
<td>50.00</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td>How are access to sites and important national databases?</td>
<td>33.33</td>
<td>41.67</td>
</tr>
<tr>
<td></td>
<td>How are access to sites and important international databases?</td>
<td>47.33</td>
<td>27.67</td>
</tr>
<tr>
<td></td>
<td>How is access to the internet and intranet in The Karaj municipality?</td>
<td>32.67</td>
<td>42.33</td>
</tr>
<tr>
<td></td>
<td>How much attention does The Karaj municipality pay to use electronic communication such as Email?</td>
<td>42.00</td>
<td>33.00</td>
</tr>
<tr>
<td>Knowledge development</td>
<td>Regarding environmental and plan changes of the Karaj municipality how updated is the knowledge of the Karaj municipality?</td>
<td>52.00</td>
<td>23.00</td>
</tr>
<tr>
<td></td>
<td>How does the learned knowledge help The Karaj municipality to change goals and work procedures?</td>
<td>28.33</td>
<td>46.67</td>
</tr>
<tr>
<td></td>
<td>How fast the Karaj municipality operates in recruiting people with needed knowledge?</td>
<td>36.00</td>
<td>39.00</td>
</tr>
</tbody>
</table>
How active are the science committee members in holding meetings to share knowledge? 30.33 44.67
How much attention does the Karaj municipality pay to create forums to discuss ideas? 42.67 32.33
TheKarajmunicipality to what extent does job cycling (human resources transfers) exist? 35.33 39.67
How teamwork is in The Karaj municipality? 34.33 40.67

How much attention does the Karaj municipality pay to use university student’s knowledge? 34.00 41.00
What is the importance of analyzing new and existing documents and reports? 39.33 35.67
What is the importance of risk-taking in executing innovative plans? 32.67 42.33

How active is the Karaj municipality in saving and keeping the methods of doing work? 34.67 40.33
How active is the Karaj municipality in creating knowledge banks (such as libraries and online bases and…)? 37.67 37.33
How active is the Karaj municipality in keeping the knowledge bases updated? 41.67 33.33
The Karaj municipality to what extent can the employees access each other’s scientific and word experiences? 39.67 35.33

To what extent the critics and suggestions system is used in the Karaj municipality? 36.00 39.00
To what extent does the Karaj municipality prefer knowledge quality to its quantity? 32.00 43.00
How much do individuals receive feedbacks regarding their knowledge performance? 33.33 41.67

The second question of the study: what is the level of success in knowledge management in the Karaj municipality and how wide is the gap comparing to the optimal level in every aspect?

The comparison of the level of each aspect of knowledge management and the gap with the optimal level is shown in table 2 and figure 2.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Average (percent)</th>
<th>The gap (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The goals of knowledge</td>
<td>41.44</td>
<td>33.56</td>
</tr>
<tr>
<td>Knowledge identification</td>
<td>40.42</td>
<td>34.58</td>
</tr>
<tr>
<td>Knowledge gaining</td>
<td>39.73</td>
<td>35.27</td>
</tr>
<tr>
<td>Knowledge development</td>
<td>38.78</td>
<td>36.22</td>
</tr>
<tr>
<td>Knowledge sharing</td>
<td>35.67</td>
<td>39.33</td>
</tr>
<tr>
<td>Using knowledge</td>
<td>35.33</td>
<td>39.67</td>
</tr>
<tr>
<td>Keeping knowledge</td>
<td>38.42</td>
<td>36.58</td>
</tr>
<tr>
<td>Knowledge assessment</td>
<td>33.78</td>
<td>41.22</td>
</tr>
<tr>
<td>Conclusion</td>
<td>38.37</td>
<td>36.63</td>
</tr>
</tbody>
</table>
The third question of the study is what are the solutions for repairing and improving the gap in each aspect of knowledge management in The Karaj municipality?

According to table 3 results:

- Regarding knowledge goals aspect, the best score is of the level of municipality's awareness of its own knowledge's weaknesses in its special fields and the least score is of prioritizing organizational knowledge management in the organization strategy.

- Regarding the knowledge development aspect, the best score is of the factor of updating the knowledge of the municipality considering environmental changes and the least score is of municipality's quick act in recruiting knowledgeable persons.

- Regarding the knowledge sharing aspect, the best score is of the factor of doing jobs as a team and the least score is of the factor of creating forums.

- Regarding the using knowledge aspect, the best score is of the factor of analyzing the documents and reports and the least score is of municipality's risk-taking in executing innovative plans.

- Regarding the knowledge keeping aspect the best score is of the factor of keeping the knowledge bases updated and the least score is of the factor of keeping the way of doing jobs.

- Regarding the knowledge assessment aspect, the best score is of the factor of using the critics and suggestions system and the least score is of the factor of preferring knowledge quality to its quantity.
### Table 3. The solutions for repairing and improving the gap in each aspect of knowledge management in The Karaj municipality

<table>
<thead>
<tr>
<th>Aspect</th>
<th>The solutions</th>
</tr>
</thead>
</table>
| Knowledge goals   | To improve the 33.67% gap in the factor of perspective and future needs, it’s recommended to analyze and review the perspective and future needs carefully and design them according to 20 year perspective of the country.  
To improve the 40.67% gap in the factor of knowledge management, it’s recommended to try more for increasing this factor considering intellectual assets of the municipality.  
To improve the 26.33% gap in the factor of knowledge weaknesses, it’s recommended to change weaknesses into strengths considering the knowledge cycle and knowledge exchange development. The cycle of knowledge is: inside awareness, outside responsibility, and outside awareness and it’s a set of actions which creates the innovation organizational cycle. |
| Knowledge identification | To improve the 29.33% gap in the factor of identifying information banks and the documents inside the Karaj municipality, it’s recommended to share knowledge among the people and use the gained knowledge to realize organizations goals.  
To improve the 35.32% gap in the factor of identifying the knowledge and specialties of the employees, it’s recommended to create systems to create and keep knowledge sources, nurturing and making learning easy and consider knowledge as an asset in the organization.  
To improve the 38.33% gap in the factor of identifying information banks and documents outside the municipality, regarding the wide gap it’s recommended to evaluate and gain information about the environments outside the municipality via key employees and identifying strategic factors. |
| Gaining knowledge | To improve the 34.32% gap in the factor of executing common research projects with other organizations and research centers, it’s recommended for the municipality to expand its virtual borders and face its physical challenges using software programs and internet and intranet.  
To improve the 44% gap in the factor of holding inner conferences, it’s recommended to act via informing and advertising and cooperating with scientific and research centers.  
To improve the 22% gap in the factor of holding international conferences, it’s recommended to make a connection to global markets using the internet and develop this connection every day.  
To improve the 50.33% gap in the factor of holding educational courses and workshops, it’s recommended to create the knowledge management system and educational services bank.  
To improve the 39.67% gap in the factor of accessing the first-hand resources, it’s recommended for the planning department to publish magazines and create online bases to overcome this problem. |
| Knowledge development | To improve the 39% gap in the factor of recruiting the persons with needed knowledge, it’s recommended to sign contracts with universities and industries to recruit experts. |
| Using knowledge   | To improve the 39.67% gap in the factor of job cycling, it’s recommended to act based on the job guideline table. |
| Keeping knowledge | To improve the 37.33% gap in the factor of knowledge banks, it’s recommended to improve the online bases and electronic publications of the municipality. |
| Knowledge assessment. | To improve the 41.67% gap in the factor of assessing the individual’s knowledge performance, it’s recommended to pay more attention to the activities based on science to replace the traditional approach with the scientific one. |

### 6. Conclusions

Unfortunately, it seems like the knowledge management field is not of the needed importance at the moment and there are many obstacles in its way. It seems like in this case the city management must encourage municipality to use knowledge management so they can answer the constantly changing environment and the more knowledgeable clients. It’s recommended to do some research about other effective factors in knowledge management in municipalities and how to invest in this field. If it's possible, make connections with the successful organization in the field of knowledge management and prepare the background of employees effective partaking. Imitating the organizations which have implemented knowledge management successfully in their organization could help municipalities to make quick progress toward this crucial subject. In the end, we must point out that for effectively implementing knowledge management at first we must choose the knowledge management strategy considering the hidden and obvious knowledge in the municipality and then specify the municipality's main direction to invest in knowledge management.
References


