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## Studying the Social Harm of Successful Deployment of Knowledge Management System in Urban Management of Iran

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### Article history:

Received date: 10 April 2017

Review date: 24 May 2017

Accepted date: 22 July 2017

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### Keywords:

Knowledge, Deployment of Knowledge Management System, Urban Management.

### Abstract

**Purpose:** The aim of this study was to investigate the harm of successful deployment of knowledge management system in urban management. **Methodology:** This was an applied study in terms of the purpose, and a descriptive-survey one in terms of method. The statistical population (403 ones) included all managers, deputies and experienced staff of selected municipalities in west of Mazandaran Province (Ramsar, Tonekabon, Noshahr, Noor, Amol and Mahmoudabad) in 2018; the research was done based on data collected from 201 participants were according to the Cochran formula with relative stratified sampling method. Kolmogorov-Smirnov test, single sample t-test, confirmatory factor analysis and Friedman test were used to test the research hypotheses. **Findings:** Chi-square statistic in the model was 37.241, the freedom degree of the model was 100, which was approximately in the range of acceptable value. On the other hand, the fit indices of model such as NNFI, NFI, GFI, CFI and IFI were all appropriate and the RMR index was 0.083. **Conclusion:** According to the results of standard coefficients, t values and R<sup>2</sup> values in confirmatory factor analysis, in all dimensions introduced in the conceptual model of the research including 1. Organizational structure, 2. Environmental factors, 3. Technology factors, and 4. Human resources, were effective as a social harm in the failure to the successful deployment of knowledge management in urban management.

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**Please cite this article as:** Rajabi Sangtarashani L, Mehrara A. (2017). Studying the Social Harm of Successful Deployment of Knowledge Management System in Urban Management of Iran. *Iranian journal of educational Sociology*. 1(4), 185-196.

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## 1. Introduction

In today world, knowledge has become a key source that the survival of organizations depends it directly or indirectly (Hosseini et al., 2015). It is considered as the most important capital and the main factor in the competitive advantage of organizations. Against the other assets of the organization, this capital becomes more valuable by the use. This is because the management of this vital capital has become one of the major goals of organizations and institutions seeking the competitive advantage (Mahmoud Zadeh and Sedaghat, 2013).

Knowledge in its true sense, is a collection of human skills and abilities that are associated with the awareness of better production methods. The application of such an understanding of knowledge in the current and future organizations has become very comprehensive. In this way, organizations seek to exploit their knowledge and environment in a timely manner. Such an approach has developed a new concept for KM (knowledge management), (Moskhani et al., 2013).

One of the most recognized challenges is the ability to understand the knowledge management and its goals. There is not a general agreement on the concept of KM. Levy and Hazan have identified knowledge management as a functional aspect of organizational culture, and believe that this change of culture requires an initiative in the management of knowledge (Ramezankhani et al., 2015).

Knowledge management has existed since the early years of human life (Mahmoodzadeh & Sedaghat, 2013). Knowledge management evolved as the body of knowledge after the advent of the age of knowledge economy. It is believed that knowledge, has brought a better change within the organization and transformed the field of business through its continuous improvement or its radical innovation (Lee et al., 2016).

Knowledge management as a process effectively uses the competencies, experiences, specializations, skills, talents, thoughts, ideas, actions and ideas of individuals and integrates them into the organization's information resources to achieve its goals (Salou, 2009). Knowledge management, as a new approach, means the conscious and systematic effort of an institution to publish, develop and apply knowledge in a way that adds value to it and has created positive results in achieving the ideal (Heydari et al., 2013).

In fact, knowledge management is a topic in which an organization collects and organizes, share and analyzes its knowledge consciously and collectively in the form of resources, documents and human skills (Yazdian et al., 2013); the success of its application is one of the most important factors of the organizations' success in a competitive environment and knowledge age. The importance of this issue is high, so that a number of organizations measure the existing knowledge, and reflect as an organization's intellectual capital and a scale for ranking the organizations in their reports (Ansari et al., 2013). Therefore, considering the emphasis of the government on knowledge-based economies in the country's development horizon, the need for knowledge-based organizations in today's highly changing environment, the benefits of knowledge management, and the need to recognize the factors affecting the deployment of the KMS, this study attempted to investigate the harms of successful deployment of knowledge management system in the selected municipalities of west of Mazandaran province; the main aim of this research is to investigate the harms of successful deployment of knowledge management system in urban management of selected cities of West of Mazandaran province.

## 2. literature Review

Husseinian and Farahani did a research titled as "Investigating the Factors Affecting the Successful Implementation of Knowledge Management in the Supreme Audit Court of Iran Using A Three-Dimensional Model" in 2016. The results of statistical tests indicated that the structural, content and environmental dimensions on successful Knowledge management deployment is influential in the Supreme

Audit Court of Iran. The results of Friedman test for factors ranking also show that the structural, content and environmental dimensions have the most impact on the effective deployment of KM in the Supreme Audit Court. In a study was done by Mohammadi Ahmar and Parvizi (2016), on identifying the factors influencing the deployment of the knowledge management system and its role in teacher training centers. The findings suggested that among the effective factors in deployment of knowledge management, the organizational culture, organizational structure, processes and resources are in an appropriate situation, and the human resources and technology are in an inappropriate situation. Human resources development and participatory culture are ranked higher in comparison with the other factors in terms of identifying the key success factors in KM deployment.

A study on the readiness of KM deployment showed that human resources, culture and technology have a special significance in establishing the knowledge management system. In a study did by Jalili and Rohani (2016), entitled "Investigating And Comparing Feasibility Study On Knowledge Management Deployment In University Libraries Of Kermanshah And Isfahan Cities Based On Bukowitz And Williams Model", the findings showed that the average mean of the possibility of KM deployment in Kermanshah University was 22.51 higher than the average of Isfahan (19.36). Also, the results of the research showed that the possibility of deployment for the components of the Bukowitz and Williams's model in academic libraries of both cities is not in desirable condition and requires more attention especially in sharing and creating knowledge. In 2016, another study titled as "Classifying the Company's Special Factors as a Part of the Knowledge Management System for Long Term Projects" was done by Bußwolder et al. The paper prioritizes the tasks and supports the relationships within the project team, and proposes a basic structure for the management system related to the main points. Finally, the research develops the integration of the organizational learning culture that leads to continuous recognition, classification, coherence and knowledge sharing.

Aaditya Desai and Sunil Rai released a study in 2016 entitled "Knowledge Management, Supply Chain Management for the General Division of Indian Oil Companies". The findings indicated that the supply chain management is a complex process that involves the most processes in the oil industry, and managing these processes is in fact a challenging task. The focus was on the public sector of Indian oil companies, its processes and shareholders throughout India, especially customers, retailers and warehousing. The study eventually explored that the knowledge management was beneficial for companies to improve the processes, make better decisions and set up a long-term, short-term business strategy. "The Relationship between Knowledge Management and Organizational Performance: A Test on Small and Medium-Sized Enterprises in Malaysia" was a study done in 2016 by Ha et al. This paper predicts that the ability of four knowledge management processes has a positive relationship with both the financial and non-financial performance of small-medium sized corporations. The findings of this study give entrepreneurs an insight and help in defining and developing the effective strategies for enhance the overall performance.

### 3. Methodology

This study was applied in terms of the purpose and descriptive-analytical (non-experimental) in terms of method; it was a cross-sectional study. The statistical population of the study (403 ones) consisted of all managers, assistants and experienced staff of selected municipalities in the west of Mazandaran province (Ramsar, Tonekabon, Noshahr, Noor, Amol, and Mahmoudabad) in 2016. The sampling method was stratified sampling with Cochran formula and 201 persons; each municipality represented a class. The data collection instrument was Safari's Knowledge Management Deployment Barriers Questionnaire (2015).

The researcher designed a 16-item questionnaire for the research hypotheses conducted based on referring to the previous studies, the study of external standard questionnaires and the research variables and hypotheses. One of the most reliable methods, i.e. Cronbach's alpha calculation, was used to

determine the reliability of the questionnaire. The value of reliability of each variable including: 1. Organizational structure, 2. Environmental factors, 3. Technology factors and 4. Human resources, based on the alpha coefficient Cronbach was 0.82, 0.86, 0.85 and 0.84, respectively; it indicated a high reliability of the questionnaire. The Cronbach's alpha of the entire questionnaire was calculated to be 0.84. Inferential statistics methods including Kolmogorov-Smirnov test, single sample t-test, confirmatory factor analysis and Friedman test were used for analysis. SPSS and LISREL software were used to test the hypotheses as well as the Kolmogorov-Smirnov test was used to investigate the normality of the data.

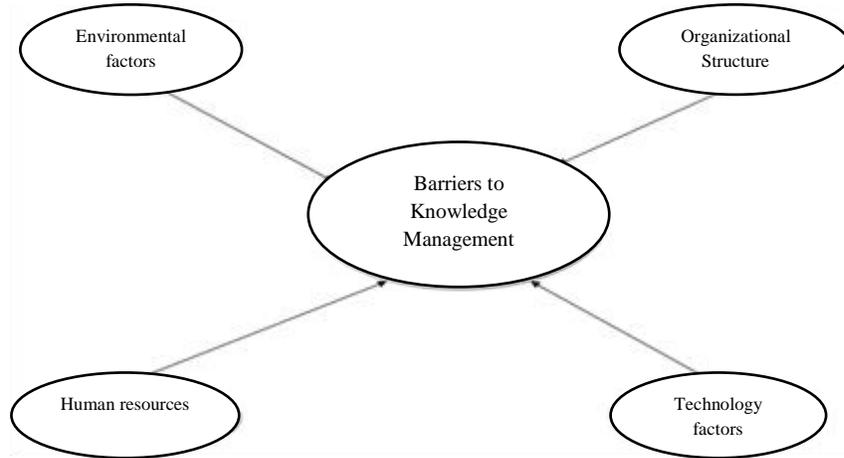


Fig1. Conceptual model of research (Safari, 2015)

4. Findings

In the descriptive study, there are 181 men (90%) and 20 women (10%), 46 single ones (22/9%) and 155 married ones (77/1%). In the age group of participants, 13 ones were younger than 30 years old (6/5%), 92 ones were between 31 and 40 years old (45/8%), 62 ones (30/8%) were between 41 and 50 years old and 34 ones (16/9%) were also older than 50 years old. In terms of education, 4 ones had associates degree (2%), 137 ones had bachelor's degree (68/2%), and 60 ones (29/8%) had master's degree and higher. In the service background, 28 ones (13.9%) were younger than 5 years old, 51 ones (25/4%) were between 6 and 10 years old, 60 ones (29/9%) were between 11 to 15 years old, 36 ones (17/9%) were between 16 to 20 years old and 26 ones (12/9%) were older than 20 years old.

Table 1, presents the descriptive indices such as mean, median, mode, standard deviation, minimum and maximum.

Table1. Descriptive indices of research variables

variables	numbers	mean	Standard deviation	minimum	maximum
Organizational Structure	201	3/47	0/80	1/50	5/00
Environmental factors	201	3/21	0/73	1/50	5/00
Technology factors	201	2/47	0/82	1/00	4/75
Human resources	201	2/82	0/84	1/00	5/00
Barriers to Knowledge Management Deployment	201	3/06	0/57	1/94	4/38

The results of table 1 show that the organizational structure variable has a mean of 3/47, a median of 3/50, a mode of 3/50, a standard deviation of 0/80, and a minimum of 1.50 and a maximum of 5/5. The environmental factors variable has a mean of 3/31, a median of 3/25, a mode of 3/35, a standard deviation of 0/73, a minimum of 1/50 and a maximum of 5/5. The technology factors variable has a mean of 2/74, a median of 2/7, a mode of 3/00, a standard deviation of 0/72, a minimum of 1/00 and a

maximum of 4/75. The human resources variable has a mean of 2/82, median of 3/00, mode 3/00, standard deviation of 0/84, and the minimum of 0/01 and a maximum of 0/005. Finally, the overall variable of the obstacles to the successful deployment of the knowledge management system has a mean of 3/06, a median of the 00/3, a mode of 00/3, and a standard deviation of 0/57, a minimum of 1/94 and a maximum of 4/38.

In this section, the single sample t-test was used to study the status of research variables.

**Table2.** Study of existing status of research variables based on the single sample t-test

variables	Consonant value of hypothesis 3					result	status
	mean	Standard deviation	Statistic t	df	Probability value		
Organizational Structure	3/47	0/80	8/27.	200	0/0009.	Reject the hypothesis zero	More than average
Environmental factors	3/21	0/73	4/11	200	0/0009	Reject the hypothesis zero	More than average
Technology factors	2/47	0/82	-4/44	200	0/0009	Reject the hypothesis zero	less than average
Human resources	2/82	0/84	-2/94	200	0/004	Reject the hypothesis zero	less than average
Barriers to Knowledge Management Deployment	3/06	0/57	1/53.	200	0/127	accept the hypothesis zero	average

The results of table 2 showed that from the perspective of employees and managers of the municipalities for the west of Mazandaran province, the status of the barriers to KM deployment (the overall score of the questionnaire) is moderate in the lack of successful deployment of knowledge management system.

In this section, the tests were performed using a two-stage confirmatory factor analysis (CFA). The methods of single sample t-test and path analysis were used to analyze the model. The path analysis, standard coefficients and t values were used to determine the relationships between variables and their importance coefficients. Chi-square index, normal fit index, normalized fit index, comparative fit index, adjusted goodness of fit index, estimated root mean square, incremental fit index and non-standard fit index were used in order to study the adequacy of model.

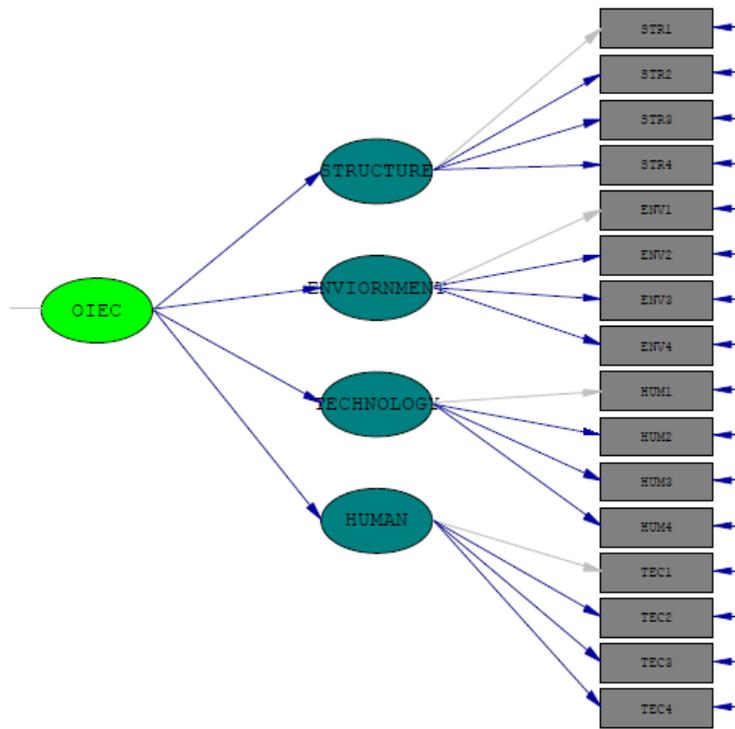


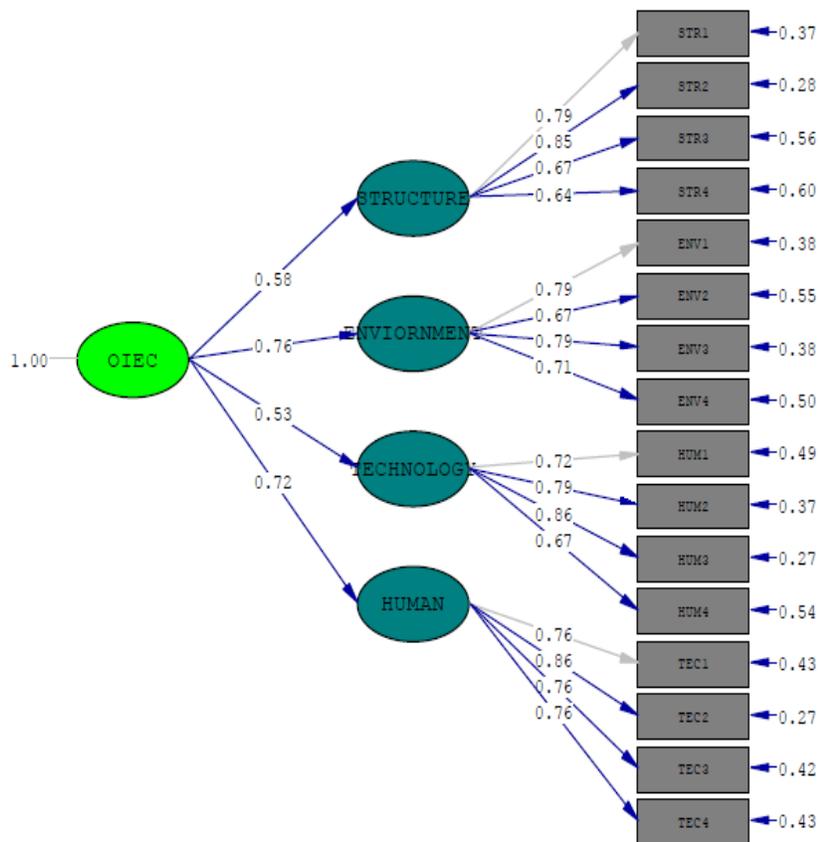
Fig2. Theoretical model of research

Before presenting the model, the variables used with their abbreviated symbols were presented in table

Table3. Specifications and Symptoms of Indices in the Research Model

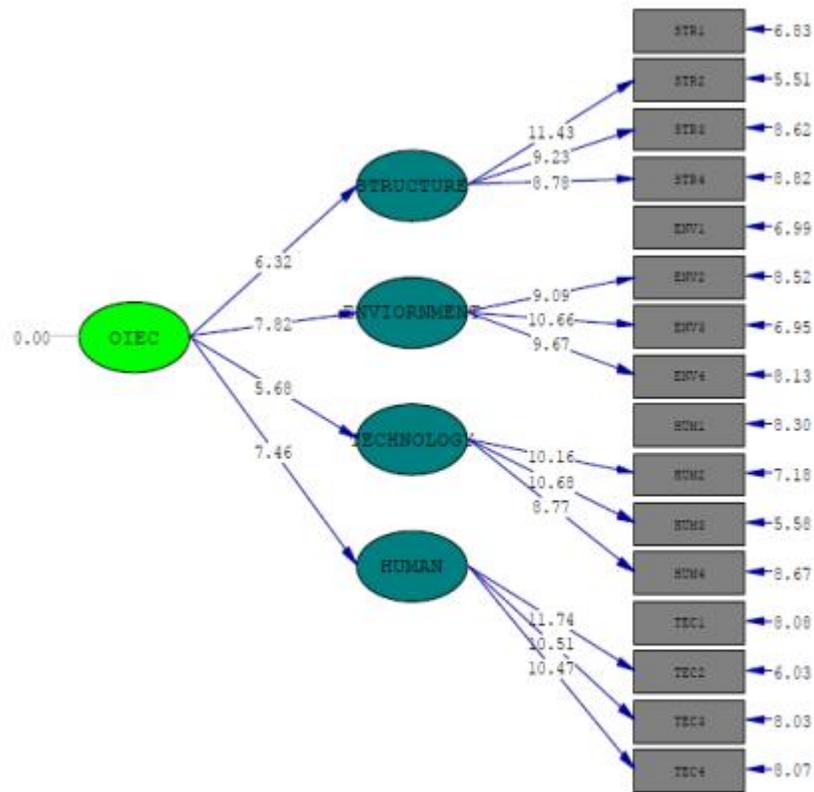
row	variable	symbol	Indices' symbol
1	Organizational Structure	STRUCTURE	STR1-STR4
2	Environmental factors	ENVIRONMENT	ENV1-ENV4
3	Technology factors	TECHNOLOGY	TEC1-TEC4
4	Human resources	HUMAN	HUM1-HUM4
5	Barriers to Knowledge Management Deployment	OIEC	

The following figure shows the output of the software in two states of standard and significant coefficients (t value).



Chi-Square=241.37, df=100, P-value=0.00000, RMSEA=0.090

**Fig3.** The main model of research in terms of standard coefficients



Chi-Square=241.37, df=100, P-value=0.00000, RMSEA=0.090

Fig4. The main model of research in terms of significance of coefficients (t values)

Table4. Analysis of the results of research hypotheses based on the confirmatory factor analysis

factors	Standard coefficients	t-values	value R <sup>2</sup>	results
Organizational Structure	0/58	6/32	0/34.	significant
Environmental factors	0/76	7/82	0/54	significant
Technology factors	0/53	5/68	0/28	significant
Human resourcces	.0/72	7/46	0/51	significant

Table 4 shows that the standard factor coefficient of the organizational structure variable in the failure to deployment of knowledge management in urban management was equal to 0.58, t value was 6.32, which was greater than 1.96, therefore from the viewpoint of the research participants, weaknesses in organizational structure was effective in the failure to deployment of knowledge management in urban management.

After analyzing the path, the adequacy of the fit model was investigated. Table 5 presents the fit indices of the analysis model.

**Table 5.** Fit indices of Research model

indices	Acceptable value	Value	Desirability
$(\chi^2)$	-	241/37	Confirmed
P-Value	-	0/000	Confirmed
Df	$df \geq 0$	100	Confirmed
$\chi^2/df$	$\chi^2/df < 3$	2/41	Confirmed
RMSEA	RMSEA < 0/1	0/090	Confirmed
NNFI	NNFI > 0/8	0/89	Confirmed
NFI	NFI > 0/8	0/88	Confirmed
AGFI	AGFI > 0/8	0/76	Not Confirmed
GFI	GFI > 0/8	0/82	Confirmed
CFI	CFI > 0/8	0/91	Confirmed
IFI	IFI > 0/8	0/91	Confirmed
RMR	closer to zero	0/083	Confirmed

The results of table 5 show that Chi-square statistic in the model was 37.241, the freedom degree of the model was 100, which was approximately in the range of acceptable value. On the other hand, the fit indices of model such as NNFI, NFI, GFI, CFI and IFI were all appropriate and the RMR index was 0.083. After examining the research hypotheses, Friedman test was used to assess the harm of non- deployment of knowledge management in urban management.

**Table6.** The rating of harm of knowledge management system deployment in urban management using Friedman test

Barriers to Knowledge Management Deployment	Mean of rating	priority
Weakness in organizational structure	3/09	first
Weakness in environmental factors	2/73	second
Weakness in the factors of technology	1/96	forth
Weakness in human resources	2/23	third

From the perspective of the participants, the organizational structure variable with a mean of 3.9 had the first priority, the environmental factors variable with a mean of 2.73 had the second priority, the human resources variable with a mean of 2.37 had the third priority and finally the technology factors variable with a mean of 1.96 had the last priority (fourth).

## 5. Discussion

The present study aimed to investigate the social harms of successful deployment of knowledge management system in Iranian urban management. Safari (2015), in his research on the obstacles to the establishment and development of knowledge management, identified four main factors of human resources, organizational structure, information technology and environment, effective in the lack of successful deployment of knowledge management plans in an organization. In this study, the model presented by the researcher was used and the results showed that four factors mentioned, are effective in the lack of successful deployment of knowledge management system in urban management. Therefore, the results of the Safari study are consistent with what was obtained from four hypotheses of the present study. Asgharzadeh and Ghareipour (2014), stated that the proper identification and use of knowledge and its methods and tools, is essential in the success of knowledge management, and, if its knowledge and instruments are well identified and applied, and the proper and coherent communication between them are established, they play a significant role in the success of organizations.

Soraraie et al. (2013), acknowledged in their research that attention to knowledge management plays a significant role in the development of organizations and neglect them, make a huge impact on the

organizations. Musivand (1391) stated in his research that knowledge development is of great importance in the development literature, and such a term is well known to experts in the field. It is clear that knowledge management staff, because they are considered to be the most important capital of an organization, can play a significant role in increasing productivity. Musivand (2012), in his research stated that knowledge-based development has the great importance in the development literature, and such a term is well known to experts in the field. It is clear that the staff with knowledge management can play a significant role in increasing productivity, because they are considered to be the most important capital of an organization. Zahedian and Ayati (2011), stated that today knowledge is considered to be a valuable source of power in educational organizations, and the most important assets of an educational organization are the knowledgeable, creative, and innovative staff, who with creating new organizational processes and new technologies lead the organizations to a sustainable competitive advantage. The research has acknowledged the impact of technology factors in the deployment of the knowledge management system; in the present study, the third hypothesis determined that the technological factors affect the deployment of knowledge management in the organization. Therefore, the results of this research are consistent with the results obtained from the third hypothesis of the present study.

Mohammadi and Khanlari (2006), in their research stated that the organizations should be constantly learning, and today an organization is successful whose employees are working to increase their knowledge, insight, awareness and innovation. Some of the learning activities are better and more durable than the others. Organizational learning and knowledge management, both have a fundamental and strategic role in the success of the organization. Joggalkar et al. (2014), describe the details of the knowledge management system based on the work flow and indicated its use in support of the performance of sample plant for the production of liquid pharmaceutical products. Edwards and Durast (2013), in their research stated a few researches have studied the progress of employees, innovation, customer satisfaction and organizational success as the results of using knowledge management in small and medium economic enterprises.

Antosova et al. (2013), in their research showed that the deployment of knowledge management is necessary in each organization. They also stated that knowledge management is a valuable asset and should be invested in and developed. Susantee et al. (2012), in their research concluded that the effectiveness of knowledge transfer is influenced by two factors: structural culture and organizational structure. The results also showed that the effectiveness of knowledge transfer is affected by the increase in market share and profits on the performance of the firm. In this research, the organizational structure factor has been introduced as an important and influential factor in the process of knowledge management. In the present study and in the first hypothesis, the organizational structure variable was considered and the results showed that organizational structure is an important and influential factor in the process of deployment of knowledge management in the organization.

Lindler and Wald (2011), in their research stated that there are vital factors that influence knowledge management along with the support of information technology and institutional elements of the organization. These factors compensate for the lack of organizational routines and structural memory. This research has also pointed to the technology factor, and it affects the process of knowledge management structures in the organization. In the third hypothesis of the research, it was determined that the technological factors affect the deployment of knowledge management in the organization. Therefore, the results of this research were consistent with the result of the third hypothesis of the present study. According to the data obtained and the results of the research hypotheses, the following suggestions were presented: 1) Reliable and appropriate relationship of staff with the colleagues of the executive units of the organizations involved in urban management. 2) The existence of incentive strategies to motivate the employees appropriate with services to the city administration, including promotion of organizational posts, salary increases, and so on. 3) The reasonably independent of employees in decision making for

urban affairs on the advancement of goals in urban management, based on the rules and regulations approved. 4) Improve the knowledge of employees about the knowledge management system by participating in seminars and holding relevant scientific and professional conferences in the field of urban management. 5) A quarterly survey from employees on the implementation of the appropriate training programs to the services provided by urban management and the effectiveness of it, or the survey of their development plans for better management of city affairs and services. 6) Use of expert advisors in the design of main and infrastructure affairs of the city and the deployment of knowledge management system in urban management. 7) The implementation of suggestions system in different parts of city management as a good way to strengthen the human resources dimension or even the urban affairs.

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