

# The Strategic Factors of Knowledge Management Success in Achieving Organizational Agility on the Model (APQC) (Case study: Automotive-Related Companies)

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## Abstract

In this paper, various models were offered in the field of critical success factors for knowledge management. The quality and efficiency of America (APQC) that includes five factors of knowledge sharing culture, senior management perspective, teaching and learning, information technologies and reservoir maintenance documents were selected to check the status of organizational agility in the organization of the guidelines presented in this context. The agility of the organization was to check the status of Zhang honest. In this study, questionnaires were used to collect the information and the reliability of the questionnaire was checked through Cronbach's alpha and the reliability of organizational agility questionnaire was obtained 0.946 and knowledge management questionnaire reliability was 0.989. The study population were managers, experts and employees of Company A in the automotive industry. The company had 1400 members and 91 subjects were selected as sample by sampling method. The questionnaires provided by the two models were randomly distributed among them. The regression analysis showed that in separate relationship with the agility of these factors, the five factors were effective in achieving organizational agility, but at the same time examining these factors, only three factors including senior management perspectives, learning and container's documents, and the agility of effective organization played a role.

**Keywords:** Organizational agility, knowledge management, knowledge management critical success factors

## Introduction

Today's business environment is volatile, unpredictable and dynamic. Today, the organizations are much faster than imagined and they can easily adapt to these changes and the challenges facing the organization's survival (Dove, 1999). In this environment, competitive advantage, target in any organization, and the smallest slip can lead to a deterioration of the organization. Changes in the external environment force organizations to react and change and try to increase their speed and flexibility. One of the paradigms that increases the flexibility, speed and quality is organizational agility. Organizational agility means the high ability to adapt without having to make changes. According to Goldman organizational agility is the ability to succeed in an ever-changing environment (Mousavi, 2009).

On the other hand, organizations are now progressing towards a knowledge-based economy and knowledge as intellectual capital and assets of the fundamental issues is of interest to organizations in order to meet the environmental challenges facing the environment and take advantage of the most important issues facing today's organizations. Therefore, the discussion of knowledge management is needed. In fact, knowledge management is the right knowledge at the

right time and in the right place (Kantnr, Joel Smith, 2009). There are many factors that affect the successful implementation of knowledge management in organizations. In this study, the key success factors of knowledge management based on the model (APQC)<sup>1</sup> and their role in achieving organizational agility were studied in the Iranian automaker. Besides that, the main purpose of the research was the introduction of knowledge management and critical success factors that determine the critical success factors in achieving organizational agility to evaluate the impact of each of the critical success factors of effective knowledge management to achieve organizational agility and recommendations for the use of knowledge management in order to achieve organizational agility.

Accordingly, this study seeks to answer the question:

How is the impact of the strategic review of knowledge management critical success factor in achieving organizational agility a subsidiary of the automotive industry?

### **Research questions**

- Does knowledge sharing culture have a significant impact on organizational agility?
- Does senior management perspective have a significant impact on organizational agility?
- Does teaching and learning have a significant impact on organizational agility?
- Does the use of information technology have a significant impact on organizational agility?
- Do the container's documents have a significant impact on organizational agility?

### **Research hypotheses**

- Knowledge sharing culture has a significant impact on organizational agility.
- Senior management perspective has a significant impact on organizational agility.
- Teaching and learning have a significant impact on organizational agility.
- The use of IT has a significant impact on organizational agility.
- The container's documents have a significant impact on organizational agility.

### **Literature review**

*Data:* Davenport knows data as a set of discrete, objective facts about events. In an organizational context, more data can be described as records of transactions. Today's organizations often store data in the system. This data will be fed by different organizational units in the system (Davenport and Prusak, 2000)

*Information:* different definition is presented for information in the different studies. Vance (1997) considers it as the data that are interpreted in a meaningful framework, Machlup (1983) knows that the messages and meanings that can increase and improve the knowledge of receiver, and Dreske (1981) defines it as raw material for the production of information (Alaviand Leidner, 2001). Generally, the information can be seen as a message, usually in the form of a document or an audio or video connection, and like all message's information with transmitter and receiver. The recipient's understanding is what information is going to change the behavior and affect his judgment (Davenport and Prusak, 2000)

*Knowledge:* Knowledge is a mix of experiences, values, contextual information and expert in sight that provides a framework for evaluating and incorporating new experiences and information provided. In organizations, knowledge not only lies in documents or repositories of knowledge, but also in practices, processes, and norms (Davenport and Prusak, 2000)

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<sup>1</sup>APQC knowledge management program framework

### **Knowledge management concepts**

Organizations today understand that effective knowledge management is essential for the competitiveness of the organization and knowledge management is as an integral part of their business activities. Various definitions have been proposed for knowledge management. Gurteen (1998) defines knowledge management as "Knowledge management is a set of principles for the design of business processes and enterprise-specific processes, and technology-based application that helps knowledge workers to leverage the creativity and ability to create value for their business". In accordance with that definition, Davenport and Prasak (1997) believe that knowledge management projects have three objectives. The first goal of knowledge management is knowledge detection and the role of knowledge in an organization (Alavi and Lydner, 2001)

From a business perspective, knowledge management is a business activity with two primary aspects. The first aspect deals with other business activities as core business concerns in strategy, policy and practice at all levels of the organization and the second aspect deals with creating a direct link between an organization's intellectual capital and the positive results of the business (Theriou and Maditinos, 2009). Many researchers believe that knowledge management is to change data into information and then information into knowledge (Vaccaro, Partner and Veloso, 2010).

### **Critical Success Factors of Knowledge Management**

In discussing the implementation of knowledge management in the organization, all organizations are not equally susceptible to successful implementation. The key for understanding the success and failure of knowledge management in the organization is at identifying and assessing the preconditions necessary for the successful implementation of knowledge management in the organization (Gold, Malhotra and Segars, 2001). Dangho and colleagues in their study stated that effective knowledge management requires a combination of many organizational elements such as technology, experience, staffing, organizational structure and culture to ensure that the right knowledge is at the right time (Syed-Ikhsan & Rawland, 2004).

Critical success factors are known to play a key role in realizing opportunities and access to them is complicated. The absences of these factors are the main obstacles to achieving the goals of the organization. In the field of knowledge management, critical success factors are presented in various models like support of senior management, clear expression, and promoting the objectives of knowledge management, knowledge management projects to connect economic performance unit, multiple channels for transferring knowledge, motivational rewards for knowledge management, knowledge culture, technical infrastructure and strong organizational knowledge of standard and flexibility (Davenport, De Long and Beers, 1998). Among other models, critical success factors of knowledge management model is Skyrme and Amidan. In this model, seven key factors in the success of knowledge management include strong connection to the organization's business, prospects and robust architecture, leadership, culture, creation and sharing of knowledge, continuous learning, strong IT infrastructure, systematic process of organizational knowledge (Skyrme and Amidan, 1997).

Lebowitz proposed six key factors in the success of knowledge management as follows. It requires knowledge management strategy with the support of senior management, Chief Knowledge Officer or an equivalent post with knowledge management infrastructure, knowledge banks as enterprise storage, systems and knowledge management tools, rewards to encourage sharing of knowledge, culture supporter KM (Hasanholipour et al, 2009). Several studies have been done in the field of the key success factors in knowledge management that senior management, knowledge management culture, information technology, learning, goals and strategy, measurement, organizational structure and resources have been introduced in most studies as key success factors

(Gold and others, 2001). In this study among various critical factors, five factors were selected based on APQC which including senior management perspective, the culture of sharing knowledge, learning, information technology and document storage tank.

*Senior management perspective:* Managers play a vital role in the successful implementation of knowledge management and the behavior of managers is so important. Leaders of the organization regard knowledge management as a symbol and model for the organization's staff. Behavior of managers in sharing knowledge and ideas with others for free encourages staffs with practical behavior to participate in knowledge management. Other duties and responsibilities of managers in this area can be changing management, knowledge management for employees and also explaining the importance of creating a culture of sharing and knowledge creation in the organization (Wang, 2005).

Misra and others identify opportunities and threat's management tasks to maintain and manage the gates of knowledge, cross-linking with other departments, awareness seminars and workshops and to define knowledge management and knowledge gaps and to facilitate communication and provide feedback. Some important leadership capabilities include guided process of organizational change, creating understanding among employees, the importance of knowledge management, knowledge management incentives to maintain their morale and culture (Gold and others, 2001)

*Knowledge management culture:* Organizational culture in most studies in the field of knowledge management regarding critical success factors is charged as the most important obstacle to achieve effective knowledge management and knowledge-based organization (Al-Manrouk, 2006; Gould et al., 2001). Culture is the collection of shared history, expectations, unwritten rules, and social habits that shape behavior. Culture can be a set of fundamental beliefs that influences the perception of actions and communications of personnel in the organization. Corporate culture since the impact of variables such as technology or management practices to achieve knowledge management will determine the critical success factors known knowledge management. (Syed-Ikhsan and Rawland, 2004)

*The use of information technology:* Information technology is regarded as one of the most effective tools for receiving, storage, conversion and distribution of information. IT, search, access and retrieval of information make it possible to provide cooperation and communication between members of the organization and the processes of creating, sharing and transferring knowledge management support (Al-Manrouk, 2006) Therefore, without a coherent structure of IT in the organization, it is impossible to share information and knowledge. Technology including the main elements of the structural dimension of social capital that equips the organization to create and share knowledge (Gold and others, 2001).

*Repository of documents:* Each organization has a lot of documents that contain different information. The documents or records should be kept orderly, thus, they can be retrieved and used when necessary. Document management system is responsible for the task of receiving, sorting, storage and retrieval of these documents (Gurteen, 1998)

*Organizational agility:* Agility has different meanings for different people on different interpretations and this leads to confusion in discussions. Agility also points out to the potential and the ability to act (Schrage, 2004). From the perspective of Goldman, organizational agility is the ability to succeed in an ever-changing and unpredictable environment. The core of the concept of agility is speed and flexibility for an organization to act quickly and with flexibility to use technology and information systems, to capitalize on knowledge workers, to integrate business processes, along with virtual forms for organization and internal and external cooperation and to achieve integrated supply chain. The theoretical foundations of organizational agility mean that

improvement never stops. Agility is the ability to provide high-quality products and increase services (Farsijani, 2010)

Zhang in the field of organizational agility have done several studies and have provided one of the most comprehensive definitions. They believe that change is happening faster than ever and the confusion and uncertainty in the business environment are the main reason for failure. From their perspective, business agility is a new paradigm and a solution for gaining competitive advantage in times of uncertainty and turmoil in the business environment. They presented a paradigm of agility that enables organizations to benefit and maintain their competitive edge in the new era and enables organization to cope with unexpected changes and survive when face to threats from the business environment and also benefit from the changes as an opportunity. They believe that the concept of agility has two major factors. One response to unforeseen or unintended changes and other operations benefit from the changes as opportunities. One of the most comprehensive frameworks in the field of organizational agility is provided by two researchers. Sharifi and Zhang (2000) offered a framework in order to achieve agility capabilities in manufacturing companies. In this model, four aspects of agility have been introduced:

a. Drivers who need basic agility get the main driver of the environment and the organization makes changes to processes, strategy and reconsiders its position and convinces the organization to require agility and strategy for survival adopt agility. This setup is different from company to company. In this case, when the changes and pressures that companies face are different, the agility needed for each company will be different (Zhang and Sharifi, 2000).

b. Suppliers or agility enable the organization to meet the changes and tools that help organizations achieve agility through them. According to Zhang and Sharifi (2000), agility capabilities in the conceptual model are derived from 4 areas: people, innovation, organization and technology

c. Agility capabilities represent the agency's ability to deal with changes and to be as the basis for maintaining and developing agility. The four main features of agility capabilities include competence, speed, responsiveness and flexibility. However, other features such as quality, cost, confidence, etc. have been introduced in some studies as agility capabilities (Zhang and Sharifi, 2000).

### **Background of study**

Research conducted by Akhavan (2006) showed that organizational culture is one of the key success factors of knowledge management. Culture motivation, sense of belonging to the organization, trust, respect to the need to share, develop and use of knowledge are required (Heydari et al, 2015).

The study conducted by Chang and Huang (2008) showed that for the success of knowledge management systems, incentives for the creation of knowledge should be provided (Heydari et al, 2015).

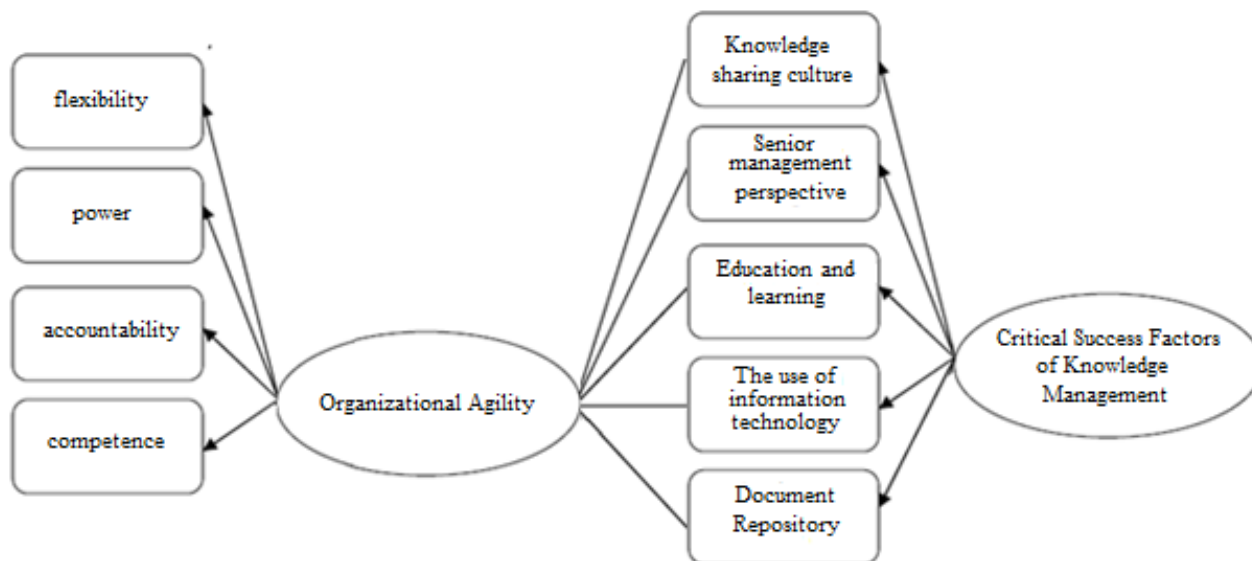
Lee Buitz (1999) in a study showed that having a clear and well planned strategy is one of the important factors for the success of knowledge management (Heydari et.al, 2015).

Pilar (2005) in a study showed that the human resources are considered as a key asset for success in a knowledge management system (Heydari et.al, 2015).

The study conducted by Andrew Mayo (1994) showed that the values and beliefs include values that support learning and corporate communications which are regularly referred to ( Heydari et al, 2015)

### Development of hypotheses and model

Based on the theoretical study and based on the critical success factors APQC of knowledge management and organizational agility framework Sharifi and Zhang (2000) established the conceptual model (Figure 1) and was designed and developed based on these model hypotheses.



**Figure 1: Conceptual model**

### Methodology

In this study, the library and field method were used to gather the required information. In this study, in addition to online resources and books, data were collected through questionnaires. The first questionnaire was used to review the critical success factors of knowledge management in company to evaluate knowledge management KMAT<sup>2</sup> provided by the company APQC. The first questionnaire investigated the status of knowledge management in the 5 critical success factors of knowledge management, knowledge sharing culture, senior management perspective, teaching and learning, the use of IT and storage, the utilization evaluation of documents which including 30 questions and every component has 6 questions. The second part evaluates the status of organizational agility in the organization so that the questionnaire for this organizational agility used Sharifi and Zhang model to evaluate the situation of organizational agility in the organization which contains 4 next accountabilities, flexibility, speed and competence with 67 questions. It should be noted that the reliability of the questionnaire was calculated by Cronbach's alpha in all aspects of the value was 0.729 to 0.903 and Cronbach's alpha for the first questionnaire was 0.946. The population of survey respondents included managers, experts and employees of Company in the automotive industry. 1400 respondents were selected as the whole population and random sampling was used among which 100 samples were selected. Then, the questionnaire was distributed. The formula used was as follows:

$$n = \frac{Nz^2pq}{Nd^2 + Z^2pq} \quad (1)$$

In the above formula Z refers to the statistic's normal distribution at the 95% confidence level which is 1.96. Pq represents the success probability and d is margin of error which is equal to 0.1.

<sup>2</sup>Knowledge Management Assessment Tools

### Data analysis

The main research question: whether critical success factors for knowledge management have a significant impact on achieving organizational agility. To answer this question first 5 critical success factors of knowledge management were examined through 5 questions individually. First, after examining the data normality by Kolmogorov-Smirnov test and ensuring about the normality of the data, the status of critical success factors in the company by one-sample t-test, the focus was on knowledge management and agility.

### The Relationship between the culture of knowledge sharing and organizational agility

In connection with the first hypothesis, according to the one-sample t test results because the p-value was less than 0.05, it can be said that variable determined by the significant difference test, in this case, as an average of about reviews. The higher number is 3, then it can be said about changing the culture of knowledge sharing at a significance level of  $\alpha=0.05$ , this factor is there strong population. The simple regression test, as in Table (2), the p-value was 0.00 that can be said at a significance level of  $\alpha=0.05$ , a knowledge sharing culture showed a significant impact on organizational agility. R-Square results indicated that 17.2% of the changes in the organizational agility was influenced by the culture of knowledge sharing. The first hypothesis was confirmed at 95%. (Table 1)

**Table 1: Testing hypotheses**

Co-Efficient	Statistics	ANOVA	R	Dependent	Independent	Hypotheses
B	F	(Sig.)	Square	variable	variable	
Constant =1.207 (A constant coefficient) =0/566Knowledge sharing culture	18.467	0.000	0.172	Organizational Agility	Knowledge sharing culture	The first hypothesis
Constant =1.684 (A constant coefficient) =0/477management	51.337	0.000	0.366	Organizational Agility	Senior management perspective	The second hypothesis
0.537Constant = (A constant coefficient) =0/735education	85.379	0.000	0.490	Organizational Agility	Education and learning	The third hypothesis
(A constant coefficient) Constant = 0.198 =0/841information technology	59.774	0.000	0.402	Organizational Agility	The use of information technology	The fourth hypothesis
(A constant coefficient) Constant = 0/269 =0.792Document Repository	113.149	0.000	0.560	Organizational Agility	Document Repository	The fifth hypothesis

### The Relationship between senior management and organizational agility comment

In connection with the second hypothesis, according to the results of the one-sample t-test, p-value of 0.00 and 0.05 because the amount is less, can be studied variable with a significant difference test, in this case, as an average of about reviews. The higher number is 3, then it can be said about the changing views of senior management at a significance level of  $\alpha=0.05$ , this factor is there strong population. With simple linear regression analysis as described in Table (2), the p-value was 0.00 that can be said at a significance level of  $\alpha=0.05$ , a senior management perspective on organizational agility significant impact. R-Square results indicate that 36.6% of senior management

perspective was influenced by changes in organizational agility. Therefore, the second hypothesis was confirmed at 95%. (Table 2)

### **Explore the relationship between learning and organizational agility**

In relation to the third hypothesis, according to one-sample t-test results, the p-value was equal to 0.00 which is less than 0.05, in this case, variable can be studied with a significant difference test because the average operating check was higher than the number 3, then it can be said that about learning and teaching variables at a significance level  $\alpha = 0.05$ , this factor is there strong population. With simple linear regression analysis as described in Table 2, the p-value was 0.00 that can be said at a significance level of  $\alpha = 0.05$ , a significant impact on teaching and learning in organizational agility. The R-Square indicates that 49% of organizational agility changes influenced teaching and learning. Therefore, we predicted at 95% in the company confirmed. (Table 2)

### **The Relationship between IT uses and organizational agility**

In connection with the fourth hypothesis, by taking into account one-sample t test results, the p-value was equal to 0.00 which was less than 0.05, can be studied variable with a significant difference test, as the average of the study. The higher number is 3, thus, the use of information technology can be at a significant level of  $\alpha = 0.05$ , this factor is there strong population. With simple linear regression analysis as described in Table (2), the p-value was 0.00 times that can be said at a significance level of  $0.05 = \alpha$ , there is a significant impact of the application of information technology in organizational agility R-Square results indicate that 40.2% of organizational agility changes influenced by the use of information technology. The fourth hypothesis is confirmed at 95% in the company. (Table 1)

### **The Relationship between containers and organizational agility documents**

In relation to the fifth hypothesis, according to one-sample t-test results, the p-value was equal to 0.00 that is less than 0.05, then the variable can be studied with a significant difference test, in this case, an average of about reviews. The higher number is 3, thus, the documents can be said of the tank using a significance level of  $0.05 = \alpha$ , this factor is there strong population. With simple linear regression analysis as described in Table (1), the p-value was 0.00 that can be said at a significance level of  $\alpha = 0.05$ , containers of documents on organizational agility significant impact. R-Square results indicate that 40.2% of the variable changes had effect on organizational agility containers. Therefore, fifth hypothesis was confirmed at 95%. (Table 1)

### **The effect of simultaneous independent variables on organizational agility**

Finally, multiple regression analysis to examine the impact of independent variables on the dependent variable was analyzed at the same time.

**Table 2: Results of multiple regression test**

R Square	Coefficients	ANOVA(Sig.)	Independent variables	Dependent variable
	B			
	Constants=0.154			
0.656	-	0.055	Knowledge sharing culture	Organizational Agility
	0.245	0.000	Senior management perspective	
	0.277	0.029	Education and learning	
	-	0.328	The use of information technology	
	0.404	0.001	Document Repository	



The results as shown in Table (2), showed a significant level of  $\alpha=0.05$ , linear relationship between variables of factor's vision of senior management, teaching and learning and containers and agility of IT applications showed no linear relationship between the factors and organizational agility. The R-Square indicated that 66.9% of variables were influenced by the views of senior management changes organizational agility, learning and containers are. (Table 2)

### **Prioritize the critical success factors of knowledge management**

As in Table (3) can be seen, Friedman suggests that a significant level of  $\alpha = 0.05$  indicates a significant difference between the average rank of each of the critical success factors of knowledge management based on the results of this test. The highest rank variable use of information technology and the lowest level of education are changing.

**Table 3: Test results Friedman**

Variable	Average Rating
Knowledge sharing culture	2.65
Senior management perspective	2.19
Education and learning	2.82
The use of information technology	4.23
Document Repository	3.11

### **Conclusion**

In today's unstable environment, one of the few reliable sources for sustainable competitive advantage is knowledge. Thus, knowledge management has become one of the most important tasks for organizations that are looking forward to taking advantage of this asset. However, since knowledge management is a complex process that cannot be done overnight, thus, implementation and effective use of knowledge management to accurate and transparent understanding of the factors that influence the knowledge management process require that these factors to be known enables and there are factors that are essential to improve knowledge management activities. On the other hand, many changes occur faster than ever, and the confusion and uncertainty in the business environment are the main reason for failure. The business agility, a new paradigm as a solution for gaining competitive advantage in times of uncertainty and turmoil, is presented in the business environment. Agility, the ability to provide high-quality products and services will increase, and hence, enables organizations to maintain their competitive edge in the new era and enables them to cope with unexpected changes, survive when face with threats from the business environment, work and take advantage of the changes. The study of the various enabling factors in the successful implementation of knowledge management, the critical role and application of the five knowledge-sharing culture, senior management perspective, teaching and learning, using information technology and focus on keeping the reservoir and then investigating the effect of five strategic factors in achieving organizational agility has been raised through hypothesis testing.

Due to the simple and multiple regression analysis hypotheses, it can be said that when the relationship between independent variables into a single organizational agility is considered, among all independent and dependent variables or critical success factors of knowledge management, study research or organizational agility and there is a significant positive relationship. However, when the relationship between the variables is studied concurrently with organizational agility, it is showed that the variables of the views of senior management, teaching and learning and container's documents simultaneously achieve organizational agility and significant positive relationship while at the same time evaluating the impact of independent variables on the dependent variable, variables of culture of knowledge sharing and application of information technology to achieve organizational

agility have no significant effect on the results of the independent variables in the company which showed that all independent variables in the company are higher than the average. The results of the study hypotheses can be effective through the implementation of knowledge management in organizations to achieve organizational agility in order to respond to the challenges facing the environment and benefit the environment and gain a competitive advantage.

In order to support the successful implementation of knowledge management in the organization and then use it to achieve organizational agility, enabling factors in the organization should develop a fertile ground for the move to a sustainable competitive advantage through organizational agility. In the meantime, it agrees with the organizational culture, knowledge management and organizational agility that in the first phase should be organized and supported by top management and in addition, it should be noted that many factors affect the success of knowledge management and paying attention to these factors are examined in this study. Although that can be very useful, will not be able to take full advantage of the deployment of the knowledge management system and organizational agility to make it. Therefore, it is recommended that each organization according to its own resources, general and comprehensive consideration of all factors in the implementation of knowledge management in the organization uses them to achieve organizational agility which in turn can be the subject of further research in the future.

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