

# Knowledge Management and SMEs: A Study of Knowledge Management Utilization by SMEs in Iran

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## Abstract

Creating and sustaining a competitive advantage is a knowledge-based activity and those companies that are aware of knowledge management concepts and utilize it within their organizations have an edge over their competitors. Small and medium-sized enterprises (SMEs) play a major role in developing countries' growth agenda. The purpose of this study is to examine the degree of KM utilization in Iranian SMEs and it conducts a comparative analysis of SMEs in Taiwan and Hong Kong. In order to gauge the degree of utilization, infrastructure and process capabilities of Iranian SMEs are investigated. It is found that KM in Iranian SMEs is partially, not fully, deployed. Further, the results of regression analysis indicate that organizational culture has a significant role in KM adoption amongst Iranian SMEs.

**Keywords:** Knowledge management, Infrastructure capability, Process capability, SMEs, Iran.

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## Introduction

This century is called the knowledge century, a new period of time when it is possible to have a thoroughly distinctive perspective toward business activities and processes with different business boundaries (Van, 1999). It is evident that the word knowledge management (KM) has been used for diverse activities intended to administer, produce, improve and raise the merit and worthiness of intellectual resources within an organization. KM has multiple definitions and there is no unanimity on its definition (Choi, 2000). But in broad concept we can define it as activities that result in knowledge acquisition, absorption, dissemination and sharing of suitable knowledge to parties, business units or persons in the proper and required occasions (Van Ewyk, 2000). Furthermore, there is a multidisciplinary approach (Davenport et al., 1998) to KM due to its contribution in organizational culture, business process, business strategy,

business activities, organizational learning, leadership and technology (Silver, 2000).

Nowadays, KM is definitely a necessary approach to solving business problems such as innovation and competitiveness, since organizational performance is measured by the degree of innovation and extent of competitiveness. In this respect, KM is the formulation of knowledge, expertise and experience that provides new opportunities and capabilities, as well as allowing superior performance and supporting innovation (Beckman, 1997). Small and medium sized enterprises (SMEs) play a major role in innovation practices. It has been a profound interest for many researchers to practically implement KM in SMEs (Chan and Chao, 2008) since they are the industrial wheels of almost all countries worldwide.

SMEs comprise 90 percent of all enterprises in Iran (Bayati, 2007). In Iran, enterprises with employees between 10 and 49 are considered small enterprises.

SMEs in Iran are defined as enterprises with employees between 10 and 99. Employment growth by SMEs during 1996 to 2006 has been nearly 0.60 percent. Additionally, a study conducted by “Ministry of Industries in Iran about the role of industrial SMEs in total exports” indicates that the nation’s entire exports will increase up to 108 billion dollar by the year 2020/2021. Moreover, there is a growing interest in SMEs from Ministry of Industry in Iran due to their potential benefits to economy. The country has a vision named 20-year development plan in which the role of SMEs is clearly stated.

In this era, creating and sustaining a competitive advantage is a knowledge-based activity and those companies that are aware of KM concepts and utilize it within their organizations have an edge over their competitors. Utilization of KM is a must for those companies struggling in a competitive market (Valaei, 2011). This study is aimed to examine the degree of KM utilization in Iranian SMEs. It extends the study conducted by Lee and Lan (2011) and has a comparative analysis of KM in SMEs in Taiwan, Hong Kong (Lee and Grossman, 2007; Lee and Lan, 2009) and Iran.

### **Knowledge Management**

Philosophically, the nature of knowledge has been a topic that invites discussion for many generations (Drucker, 1993). Nonaka (1991) defines KM as a process of “catching expertise and intelligence in an organization and utilizing them to boost innovation through continued organizational learning”. Main objectives of KM are to achieve the summit of success and prosperity within organizational context to ensure that KM activities will be feasible and achievable, and to harvest the most output from its intangible resources (Wiig, 1997). The aim of KM, however, is to nurture an organization's knowledge capital in order to obtain a long lasting competitive advantage. Researchers have had a unanimity in which KM will reveal a potential for competitive advantage in the 21st century (Drucker, 1993; Stewart, 1997). It is obvious that KM is vital for

business success and is treated as a medicine for today’s business dilemmas.

KM is being practiced as a course of action within organization that causes intangible resources, including “explicit and tacit knowledge”, to turn into much fertility, add worth and income as well as augment the elasticity to tackle the rivals. It facilitates collaboration between all entities whether managers or employees within organization (Murray, 1998). Furthermore, a wide range of technologies are involved in KM practices and processes, such as expert systems, decision support systems (DSS), knowledge management systems (KMS), relational and object oriented databases, data mining, document management and artificial intelligence (Barclay and Murray, 2000). The point is that enterprises must acknowledge and draw their attention to the fact that a tiny percentage of KM prescriptions consist of technological and systematic aspects (Halawi et al., 2006). However, there is another side which involves the human capital. Most efforts regarding KM examined the issues pertaining to “cultural, managerial and behavioral” characteristics. In other words, to date, KM implementations have considered mainly the machine or technological aspects of KM, but in recent years the importance of human element has been conceived.

Broadbent (1998) summed up four steps in KM initiatives:

1. Representing a business context within which knowledge is visible and can be circulated easily;
2. Making an atmosphere in which the manner of practicing KM activities is influenced by all entities;
3. Maturing a “knowledge culture” or influencing the existing culture; and
4. Set up a “knowledge infrastructure” that facilitates all KM processes.

These steps imply that an organization must have a background to embrace KM initiatives in which knowledge culture and

knowledge structure are essential requirements in its implementation.

### ***Knowledge Management Systems (KMS)***

Knowledge is a significant asset and the prosperity of the firm relies on its KM capacities (Spender and Grant, 1996). IT application, particularly KMS, play a major role in developing KM capabilities. Alavi and Leidner (2001) define KMS as a wide range of IT systems and applications for knowledge absorption, production, assimilation as well as sharing. KMS technologies consist of databases, data warehouse, intranet, groupware, search engines, etc. Furthermore, KMS comprise a broad class of software to absorb, administer, utilize and exploit the “intangible assets” related to all different sources available within organization (Cody et al., 2002).

The major role of KMS is to leverage organizational resources for the sake of obtaining a durable core competency. In resource-based view (RBV) perspective, KMS has a critical role in gathering and disseminating knowledge to develop innovation process and in maintaining a long lasting competitive advantage. Barney (1997) declared that the enterprise is obliged to have the power, capacity as well as capability to productively and efficiently take advantage of its resources. In accordance with (RBV) theory, an organizational resource (i.e. KMS) must be valuable, rare, inimitable and irreplaceable. But this advantage can be unsustainable due to technological changes. Thus, it can be inferred that blending of KMS with all infrastructural capacities and capabilities is a necessity to stay competitive.

New knowledge is required to be gathered and administered via KMS in such a way that exploits opportunities emerge from all business divisions in a company to learn more. In addition, these internal KMS create an opportunity to transfer knowledge to external environment entities whose participation increases the performance of the company.

### ***Advantages of KMS***

The main objective of KM is to foster creativity and innovativeness. To obtain creativity and meet the objectives as well as magnifying the merits which could result from an impressive and efficient KM, many organizations are spending a great deal of resources in launching KMS to support their knowledge work and cultivate learning behavior within organization (Davenport et al., 1998). Further, according to these authors, the organization which develops its KMS obtains a system that will give the firm strategic advantages it needs to deal with severe competition.

KMS plays a vital role in survival of enterprises. Approximately, most of the organizations that are successful in competitive industries are taking advantage of various KMS that facilitate the business processes. KMS tools and applications have the capacity to improve flexibility and adaptability, and eventually the company's prolonged core competency (Gold et al., 2001). SMEs are prone to be more flexible and adapt easily to changes (i.e. technological and structural changes) compared to big companies within which any changes won't take place without difficulty.

KMS are appropriate for maturing agility (the ability of organizations to discover and exploit market opportunities) as the role of KMS is to build a repository of knowledge, combine issues related to knowledge, enable an extensive access to knowledge repository as well as facilitate knowledge creation comprising imperatives for having an agile enterprise (Grant, 1996). Furthermore, KMS usage intensifies knowledge-intensive capabilities, i.e. “agility and innovativeness” that results in high performance among SMEs.

### ***KM Model Applied in This Study***

Gold et al. (2001) indicated that an effective and efficient KM is affected by two spheres of “KM capability” which are “infrastructure and process capabilities” that must take advantage of and utilize

them thereby promising a sustaining corporate prosperity. Chan and Chao (2008) quote that "A balanced combination of management support, technology, and organizational structural factors is necessary for successful KM program implementation as well as adequate capability to acquire, combine, apply, and create knowledge".

In this research, a model used by Chan and Chao (2008) is applied to investigate KM infrastructure and process capabilities in Iranian SMEs. According to this KM model the three infrastructure capabilities examined are technology, structure and culture. Process capabilities are knowledge acquisition, conversion, application and protection. In this study, a sample of 63 companies is drawn for data analysis within which 22 utilize KM systems.

For the purpose of collecting primary data from SMEs in Iran, the survey questionnaire is adopted from Lee and Lan (2011). The first part of the questionnaire taps the questions related to demographic data. The second part of the questionnaire (KM utilization) consists of four subsets: technology, organizational culture, organizational structure and KM process

capability to measure and identify the extent to which enterprises utilize KM within their settings. The third part of the questionnaire indicates reasons for adopting KM.

Table 1 summarizes the demographic information of Iranian SMEs participating in this study. Respondents are categorized based on three industry sectors including manufacturing (67.5%), service (6.5%), and others (26%). Most of participants are chief executive officers (47.6%). Other executives and managers consist of 36.5% and 15.9% respectively. Regarding size of company, 14.3% have below 10 employees; 25.4% have employees between 10 and 30; 17.5% have employees between 30 and 50; 23.8% have employees between 50 and 70 and 19% have employees between 70 and 99. Most of companies participated in this study are registered under Limited (LTD) Co. which stands for 90.5%. 7.9% of companies are registered under Cooperative company as well as 1.6% for Limited liability partnership (LLP). Most of the companies (66.6%) have annual sales of below 10 million dollars. 49.1% of companies have been in business for 5 to 10 years and 30.1% of them are with more than 20 years of experience.

**Table 1: Demographic Information of Iranian SMEs**

Industry sector	Manufacturing (67.5%) Service (6.5%) Others (26%)
Position in the company	CEO (47.6%) Other executives (36.5%) Managers (15.9%)
Number of employees	Below 10 (14.3%) Between 10-30 (25.4%) Between 30-50 (17.5%) Between 50-70 (23.8%) Between 70-99 (19.0%)
Registration status of company	Limited (LTD) Co. (90.5%) Cooperative company (7.9%) Limited liability partnership (LLP) (1.6%)
Annual sales	Below 5 million dollars (33.3%) Between 5-10 million dollars (33.3%) Between 10-15 million dollars (14.3%) Between 15-20 million dollars (12.7%) More than 20 million dollars (6.3%)
History of the company	1-5 years (8%) 5-10 years (49.1%) 10-20 years (12.8%) More than 20 years (30.1%)

### Validity and Reliability

Since the measurement instrument applied for this study has been used before, there is no need to test their validity again for each study (Sekaran, 2003). For testing the reliability of measures (consistency and stability), the "Cronbach's alpha reliability coefficient" is applied. Sekaran (2003) mentioned that "the closer the reliability coefficient gets to 1.0, the better". Reliability between .60 and .70 are

considered acceptable. Those over .80 are considered good reliability.

Cronbach's alpha for technology and structure capabilities are .659 and .773 (table 2) which is acceptable. Alpha value for culture capability is .832 which is considered to be good. Cronbach's alpha for knowledge acquisition construct is .709 which is acceptable. Cronbach's alpha for knowledge conversion, application and protection constructs are .827, .818 and .885 respectively which are considered to be good.

**Table 2: Reliability Analysis**

<b>Variables</b>	<b>Cronbach's Alpha</b>
<b>Technology</b>	0.659
<b>Structure</b>	0.773
<b>Culture</b>	0.832
<b>Knowledge acquisition</b>	0.709
<b>Knowledge conversion</b>	0.827
<b>Knowledge application</b>	0.818
<b>Knowledge protection</b>	0.885

### **KM Utilization**

Following are the analyses of constructs pertaining to “infrastructure capability (technology, culture and structure) as well as process capability (knowledge acquisition, conversion, application and protection)” regarding KM readiness in Iranian SMEs. As adopted from Lee and Lan (2011), variables are analyzed based on their average respondent point (ARP) to delineate the current KM practices as well as examining issues and dilemmas regarding KM adoption. Each variable is measured based on a seven-level Likert Scale as (0) Don't know/Not sure, (1) Totally disagree, (2) Disagree, (3) Somehow disagree, (4) Somehow agree, (5) Agree and (6) Totally agree.

#### ***Technology***

Generally, in considering the technology capability of Iranian SMEs, executives strongly agreed that IT has a major role in facilitating knowledge sharing with an ARP of 5.20. In addition, respondents to an extent agreed that the organization has IT platform in place to support knowledge sharing between employees (ARP: 4.20). Companies do not utilize communication

channels to share knowledge (between organizations or partners) with the lowest ARP of 3.50.

#### ***Structure***

Respondents agreed that the organizational structure encourage collaborative rather than individualistic working behaviour with an ARP of 4.90. Furthermore, they to an extent agreed that the organization support knowledge sharing amongst employees with an ARP of 4.40. Few companies (ARP: 4.10) agreed that their organization possess a system to obtain various successful and failed experiences.

#### ***Culture***

The main concern in knowledge sharing is “trust” between employees. Unfortunately, the primary issue in Iranian SMEs utilizing KMS is lack of trust in knowledge sharing which has a low ARP 3.30. Furthermore, respondents agreed that the organization understands that the benefits of sharing knowledge outweigh the costs with an ARP of 4.90. They to an extent agreed that senior managers bolster the role of knowledge in organization's success with an ARP of 4.30.

### ***Knowledge Acquisition***

Respondents agreed that the organization has course of actions to obtain new knowledge about products as well as rivals' related knowledge with an ARP of 4.80. Moreover, they agreed that the organization has procedures to obtain the customer and supplier related knowledge (ARP: 4.67). There is a low ARP of 3.40 for having procedures to apply standardized guidelines for knowledge acquisition.

### ***Knowledge Conversion***

In knowledge conversion, respondents accepted that the organization takes advantage of procedures to convert knowledge to new products with an ARP of 4.50. Furthermore, they to an extent agreed that the organization takes advantage of procedures to change competitive intelligence to operational plan with an ARP of 4.40. Less agreement of organizations having procedures to update obsolete knowledge achieved an ARP of 4.0. In addition, there is less agreement regarding organization's capability to promote operational knowledge and convey it to employees (ARP: 4.20).

### ***Knowledge Application***

Respondents to an extent agreed that the organization has the capability to take advantage of knowledge obtained from the failures as well as successful experiences with an ARP of 4.30. Further, they agreed that the organization is capable of taking advantage of knowledge to solve problems with an ARP of 4.10. There is a less agreement (somehow disagree) regarding organization's capability to instantly supply the requisite knowledge (ARP: 3.50).

### ***Knowledge Protection***

There is a moderate level of knowledge protection amongst SMEs in Iran. For instance, respondents agreed that the organization has procedures to protect organizational knowledge and restrain unauthorized access with an ARP of 4.6. Furthermore, they somehow agreed that there are a login and access policies to

protect organization knowledge from unauthorized access.

### ***Purpose of KM Adoption***

Amongst those companies that utilized KMS, 77.3% suggested that the purpose of KM adoption is to increase profit and motivate innovation. 72.8% suggested that the purpose of KM adoption is to obtain competitive advantage; and 63.7% voted for reducing the duplication of work, 68.2% for improving business processes, 63.6% for managing knowledge resources and 59.1% decided that the purpose of KM adoption is to manage information overload.

### ***Discussion***

Further to investigations carried out regarding KM utilization, this part examines the knowledge management adoption maturity level of SMEs in Iran. A knowledge management growth structure for Iranian SMEs is developed. At last, the results of regression analysis will be elaborated.

### ***Knowledge Management Adoption Maturity Level***

The maturity level of KM adoption is all about the degree of infrastructure and process capabilities involved in business context. It gauges the level of adherence of company to infrastructure and process capabilities. The maturity level is measured by the degree of contribution of these capabilities within organizations. The more participative these capabilities are, the more mature would they be in KM adoption context.

### ***Iran, Taiwan and Hong Kong SMEs' Level of Maturity***

The maturity level of Iranian SMEs is illustrated in table 3. Regarding the level of maturity, five categories are defined which varies between low, medium and high level. These categories are low (L) with a percentage of 0-20, medium-low (ML) with a percentage of 21-40, medium (M) with a percentage of 41-60, high-medium (HM)

with a percentage of 60-80 and high (H) with a percentage of 81-100. Iranian SMEs' level of maturity is evaluated using the data

analysis method performed in KM utilization (section 5).

**Table 3: KM Adoption Maturity Level in Iran, Taiwan, and Hong Kong SMEs**

KM adoption maturity level	Iran					Taiwan					Hong Kong				
	H	HM	M	ML	L	H	HM	M	ML	L	H	HM	M	ML	L
Technology			X					X					X		
Structure			X			X						X			
Culture				X			X				X				
Acquisition			X				X					X			
Conversion			X				X					X			
Application				X			X					X			
Protection			X				X					X			

As illustrated in table 3, the results in Iran illustrate that all infrastructure and process capabilities, except culture and knowledge application, are in medium level of maturity. Culture and knowledge application capabilities have a lower maturity level (medium-low). The result of this table relies on the fact that the KM adoption and development strategy in Iran requires much effort to be applied and transformed within SMEs. Results in Taiwan and Hong Kong conducted by Lee and Lan (2011) show that both economies are in same maturity level with a slight difference in structure and culture capabilities. Therefore, Taiwan and Hong Kong SMEs appropriately adopted KM within their business settings.

Culture can neither be generated nor changed but it can be influenced. However, the critical role of Iranian top-managers and executives pertaining to cultural issues is evident. Furthermore, when corporate knowledge is not applied in business operations, it is futile and worthless. Iranian companies, therefore, must support employees to apply their knowledge for problem solving and supply required knowledge to appropriate parties.

**Regression Analysis**

Further to this study there could be some hypotheses regarding the dependant variables (i.e. knowledge acquisition, conversion, application, protection) and independent variables (technology, structure and culture) which will be tested through regression analysis. Hypotheses are:

- H1:** “the three independent variables will significantly explain the variance in knowledge acquisition”.
- H2:** “the three independent variables will significantly explain the variance in knowledge conversion”.
- H3:** “the three independent variables will significantly explain the variance in knowledge application”.
- H4:** “the three independent variables will significantly explain the variance in knowledge protection”.

Amongst these hypotheses, H1 and H2 were substantiated as follows:



The First hypothesis is accepted with a significance level of .001 (table 4). R-square value is .595 which means that the

variation in knowledge acquisition can be explained by the variation in culture, structure and technology.

**Table 4: Model Summary of Knowledge Acquisition**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.772 <sup>a</sup>	.595	.528	2.29822	.595	8.828	3	18	.001	2.240

a. Predictors: (Constant), culture, technology, structure

b. Dependent Variable: k.acquisition

From the ANOVA table, the p-value is .001 which is less than .05 (p-value is significant). This means that at least one of

these three variables (i.e. culture, structure and technology) can be used to model knowledge acquisition.

**Table 5: ANOVA of Knowledge Acquisition**

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.882	3	46.627	8.828	.001 <sup>a</sup>
	Residual	95.073	18	5.282		
	Total	234.955	21			

a. Predictors: (Constant), culture, technology, structure

b. Dependent Variable: k.acquisition

The independent variables culture and technology have a coefficient of .444 and .159 (table 6) respectively. The structure construct has a small value of .062. It can

be inferred that culture and technology has a significant role in knowledge acquisition process amongst Iranian SMEs.

**Table 6: Coefficients of Knowledge Acquisition**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.037	4.932		-.210	.836		
	technology	.159	.192	.139	.832	.416	.812	1.232
	structure	.062	.189	.073	.326	.748	.443	2.255
	culture	.444	.145	.658	3.058	.007	.486	2.057

a. Dependent Variable: k.acquisition

The second hypothesis has been substantiated with a significance level of .000 (table 7). Regarding independent

variables, culture and technology have a coefficient of .559 and .189 (table 9) respectively.

**Table 7: Model summary of Knowledge Conversion**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.840 <sup>a</sup>	.705	.656	2.15339	.705	14.350	3	18	.000	2.026

a. Predictors: (Constant), culture, technology, structure

b. Dependent Variable: k.conversion

From the ANOVA table, “the p-value is .000 which is significant”. This means that at least one of these three variables (i.e.

culture, structure, and technology) can be used to model knowledge acquisition. Therefore, H2 is substantiated.

**Table 8: ANOVA of Knowledge Conversion**

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.623	3	66.541	14.350	.000 <sup>a</sup>
	Residual	83.468	18	4.637		
	Total	283.091	21			

a. Predictors: (Constant), culture, technology, structure

b. Dependent Variable: k.conversion

Structure has a small value of 0.028 (table 9). Based on the first hypothesis, it can be pointed out that culture and technology has

a significant role in knowledge conversion process amongst Iranian SMEs.

**Table 9: Coefficients of Knowledge Conversion**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.085	4.621		-.235	.817		
	technology	.189	.180	.150	1.053	.306	.812	1.232
	structure	.028	.177	.031	.159	.875	.443	2.255
	culture	.559	.136	.755	4.113	.001	.486	2.057

a. Dependent Variable: k.conversion

Even though hypotheses three and four have not been substantiated with significance level of .054 and .151, culture has a coefficient value of .339 and .159 for knowledge application and protection respectively. Thus, based on these findings, culture plays a significant role in KM process capabilities amongst SMEs in Iran. This highlights the role of leadership in influencing culture by stimulating and motivating employees toward process

capabilities. To summarize, based on the findings of regression analysis of SMEs in Iran, culture is the most significant factor in KM adoption.

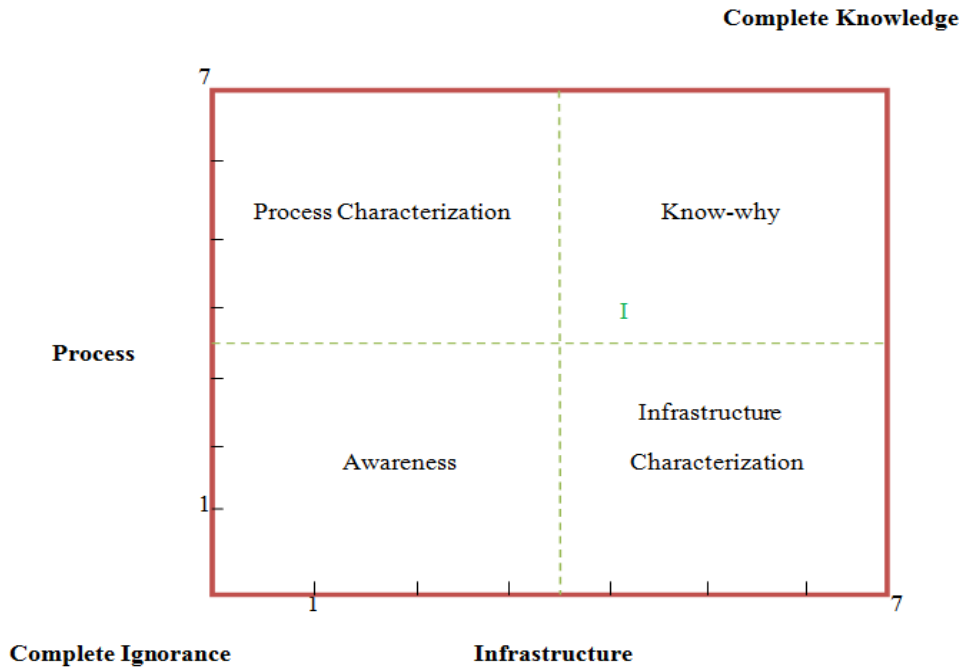
**Knowledge Management Growth Structure**

By virtue of infrastructure and process capabilities, figure 2 depicts a proposed KM growth structure. Complete ignorance is

assigned to organizations that do nothing about infrastructure and process capabilities. The awareness square in figure 2 illustrates that the companies are aware and concerned about the significance of knowledge.

The infrastructure characterization square in this figure shows that the company or organization has pondered on

infrastructure capabilities. The process characterization square shows that the company is familiar with organizational as well as knowledge processes. Know-why square in top-right of figure implies that the organization has thoroughly implemented and deployed KM. Therefore, high score in process and infrastructure capabilities relies on the fact that the company had fully implemented KM.



**Figure 2: KM Growth Structure of Companies that Utilized KMS**

The above figure shows the KM growth structure in Iranian SMEs. This study utilizes a seven-level Likert scale, thus the figure has seven-scales from 1-7. The (I) symbol is derived based on the means obtained from table 10 and 11 which

represents Iranian companies KM growth structure. This symbol is derived from the survey results. The average respondent point (ARP) of all infrastructure capabilities is 4.342 among Iranian SMEs (table 10).

**Table 10: Mean of all Infrastructure Capabilities**

	N	Mean	Std. Deviation
Mean.of.infrastructure.capability	22	4.3420	.51162
Valid N (listwise)	22		

Table 11 shows the mean of all ARPs obtained from process capabilities which is 4.312. Therefore, based on figure 2, we can

conclude that KM in Iranian SMEs is partially, not fully, deployed.

**Table 11: Mean of all Process Capabilities**

	N	Mean	Std. Deviation
Mean.of.process.capability	22	4.3125	.62162
Valid N (listwise)	22		

### Conclusion

In order to obtain a competitive advantage, utilizing a KM strategy is imperative to businesses nowadays. SMEs are the industrial wheels of all economies particularly developing countries like Iran. KM has a profound contribution in innovativeness and competitiveness. This study examines KM utilization amongst Iranian SMEs and compares the results with the same study done in Taiwan and Hong Kong. Unsurprisingly, Iranian SMEs lag behind Taiwanese and Hong Kong SMEs and they situated themselves in a medium level of KM maturity compared with latter economies which have a high maturity level. It should be noted that KM practices are at initial stages amongst SMEs in Iran and it requires the parameter of "Time" to shift to a new stage of KM within which it passes through the traditional stage to a public and collaborative setting.

This research considered the infrastructure and process capabilities of Iranian SMEs for developing and improving the implementation of KM. In infrastructure capability, companies need to utilize communication channels for sharing of knowledge (between organizations or partners). Organization should possess a system to obtain various successful and failed experiences. In process capability, organizations must pose procedures to update obsolete knowledge as well as instantly supplying the requisite knowledge.

This study has surfaced all challenges related to KM implementation. It provides a platform for Iranian companies to notice the benefits of implementing a KM strategy. Moreover, since the primary issue in Iranian SMEs is lack of trust, they must draw attention to the role of culture in KM

adoption. They must pose course of actions to motivate a knowledge sharing culture.

Future studies should consider the role of leadership in KM models. Persuasive leadership is an imperative to a "healthy" organizational culture. Leaders can influence the culture to incentivize employees to participate in KM processes. However, the role of leadership should not be forfeited in KM implementation outline.

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