

**The relationship between knowledge management enablers and processes
in a Iranian community college**

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The relationship between knowledge management enablers and processes in a Iranian community college

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Abstract

This aim of this study is to discover the relationship of KM implementation and KM enabler among members in community college. It also shows relationship between demography of respondents with KM enablers in community colleges. The research hypotheses were examined while considering KM enabler (leadership, culture, process, explicit, tacit, hub, market, measure, skill and infrastructure) based on demographic variables (academic qualification, gender and job designation). This study was conducted using the correlation method. The statistical population consisted of 21 college members in Isfahan province Community College from January till October 2011. Survey question was developed based on previous research which consists of 10 questions of KM was distributed via online. We received 21 completed questionnaires. The results indicate that there is no significant relationship between KM implementation and enablers. In addition, there is a certain enabler have a significant difference between KM enabler and college members considering the variables of academic qualification, gender, and job designation.

Keywords: *Community college, Knowledge transfer, Lifelong learning, Local community.*

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1. Introduction

In Iran, knowledge management has been identified to be a key factor in ensuring organizational success (Dielewicz, 2007). KM is a wide concept involving the processes of identifying and collecting relevant information and knowledge currently available, its classification and storage, timely dissemination and updating. (Larrabure, 2007) APQC (formerly the American Productivity & Quality Council) defines knowledge management as a systematic approach that integrates people, processes, technology, and content to enable information and knowledge to be created and flow to the right people, at the right time, so that their work and decisions add value to the mission of the organization (Blankenship et al, 2009).

2. Background

Community College of the Ministry of Education Iran will become an institution that provides training and skill requirements at all levels and provide opportunities for post-secondary education prior to labor market or continue their education to higher levels. A total of 10 pilots Community College began operation in mid June 2001 and 2 more in December 2001. Until December 2010, a total of 65 Community Colleges has been operating in the country.

3. Research Study

3.1. Problem Statement

there is lacking of knowledge management surveys from Iranian perspectives. Most Iranians do not understand well about knowledge management and its functions. Understanding knowledge management within the Iranian context is difficult as there have been very little published work on it. In addition, a majority of the work written on knowledge management in Iran tend to be conceptual or theoretical with no primary research being conducted. Some of these papers attempted to achieve prescribing measures that have been found to be successful in other countries without fully understanding what is happening within the local context. However, some of the empirical research conducted has indicated that some key differences exist in managing knowledge in Iran.

3.2. Research Questions

Two research questions in this study. Firstly, is there any relationship between KM process and KM enabler? .Secondly, what is the relationship between demographic elements and knowledge management factors that can influence the implementation of KM process in community college?

3.3. Objectives

The researchers have defined the following objectives for this study:

- To get know how KM Process relates to KM Enabler.
- To identify the relationship between demographic elements and KM process also KM enabler that can influence the implementation of knowledge management practices in those organizations.

3.4 .Significance Of The Research

The purpose of this study is to provide a clear understanding of knowledge management research. Besides that, this study is to find out the current levels of knowledge management practices among community colleges in Iran. It allows better understanding of knowledge management practices in these institutions. Apart from that, it also allows organizations to understand all the process which is needed in knowledge management to build appropriate knowledge management strategies for competitive advantage.

3.5. Scope of Research

This research was conducted in Isfahan province Community College, in Iran.

4. Literature Review

This section highlights the basis of this study such as background of KM, definitions, and theories.

4.1 .Definitions Of Knowledge

There are many definitions of what is knowledge in the contemporary literature (Gajic&Riboni, 2009). Knowledge is a human and highly personal asset that represents the pooled expertise and efforts of networks and alliances.(Cranfield&Taylor, 2008). Knowledge builds the top of the hierarchy. Knowledge is not only the mere knowing of data or information, but the deep understanding of what the data and information means and also how it can be used to do something. Knowledge is the basis for problem solving and decision making, for instance (Goh et al, 2010). The knowledge has to be transferred and used in a successful way in order for the organization to have a competitive advantage.(Saremi,2009).

Knowledge is a rather abstract concept that is related to individual learning as well as social and cultural contexts.(Betancourt, 2009) No matter what is interpreted by the researcher on the study of knowledge but that knowledge is something that is beneficial to themselves in particular and the entire life of the world in general.

4.2. Types Of Knowledge

In general, knowledge is divided into two explicit knowledge and tacit knowledge. Explicit knowledge is easy to share and communicate, it is also formal and because it is static and public, it is often easy to identify the knowledge through its source (Saremi,2009). Explicit knowledge, on the other hand is clearly expressed in words, formulae or in any other way and can be easily exchanged through formal processes.(Betancourt, 2009) Explicit knowledge is knowledge that is easier to capture and communicate with words (Serrat,2010a). Explicit knowledge, unlike tacit knowledge, can be embodied in a code or language; therefore, it can be easily communicated and shared. Code incorporates numbers, words, or symbols. The fact that explicit knowledge is documented, public, structured, and of fixed content, makes it easier to be captured and shared through IT. Explicit knowledge is more about how and why things work, whereas tacit knowledge is more about what things work (Belegu, 2009). Explicit knowledge can be formally codified (numbers, facts) and therefore is suitable for fast transfer and storage.(Saremi,2009)

Tacit knowledge is knowledge that can't easily be expressed (Serrat,2010b). Tacit knowledge, which is found in individuals' understandings and actions, is normally part of the individual experience and is hard to be expressed, transferred or stored in verbal or written form.(Saremi,2009) Tacit knowledge on the other hand is vastly individual and difficult to formalize into words or meaning and hence difficult to communicate and transfer(Holfve&Pekar, 2010). Personal experience carries tacit and individual knowledge and it translates methods, tools and cases. Experience guides organizations in choosing which methods, tools and cases to take into consideration for a particular problem and how to adapt these to a specific case (Alder&Peterson, 2010).

4.3 .Definitions Of Knowledge Management

Unfortunately there is no universal definition for KM. Although it is now a concept that is over 20 years old there seems to be no consensus for a unified definition. The common thread in these definitions is that KM is the process of capturing knowledge and disseminating it to the members of an organization. (Khalid, 2010) Wikipedia defines knowledge management as "a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizational processes or practice."(Sodersten&Wall, 2010).

The aim of knowledge management is to organize and make available knowledge out of resources when it is needed.(Serrat,2010b) Knowledge management is a business strategy, best practice transfer, personal learning, customer intelligence, intellectual asset management and innovation(Retzer,2010). Knowledge Management is not just a mechanism process of collecting, storing and retrieving data (data processing or DP), thought that is a necessary step along the way (Rosmaini,Rusuli&Norazlin, 2010). Knowledge management is a large interdisciplinary field, encompassing anthropology, social psychology, organization theory, and economics (among others)(Bjørnson, 2007). In first generation of knowledge management, knowledge was considered a possession, something that could be captured, thus knowledge management was largely a technical issue on how to capture and spread the knowledge through tools like management information systems, data repositories and mechanistic support structures. The second generation of knowledge management is characterized by knowing-in-action. Knowledge is thought of as a socially embedded phenomenon, and solutions have to consider complex human systems, communities of practice, knowledge zones, and organic support structures. The change in knowledge management initiatives is seen to go from a planned change approach to a more guided changing approach (Bjørnson, 2007). Knowledge Management is the most general and it utilizes hardware and software of a KMS and the overall management of the corporate knowledge. Knowledge management is the management of an organization's knowledge resources(Feliciano, 2006).

4.4 .SECI Theory

Nonaka and Takeuchi's (1995) SECI model is the process of making one member's tacit knowledge to another member's tacit knowledge by making it explicit first cited (Khalid, 2010). It stands for Socialization, Externalization, Combination and Internalization.(Marlia et al, 2007; Nelke, 2010).

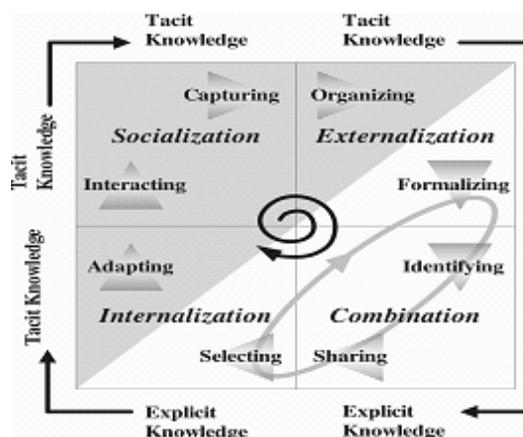


Figure 1: SECI Model Also Known As Knowledge Spiral (Mark, 2009)

- Socialization: Involving two or more individuals blending their mostly implicit insight to create new tacit knowledge.
- Externalization: Covers documenting this tacit knowledge to make it explicit. Can be done by creating analogies and metaphors.
- Combination: Combining the new explicit knowledge by adding, sorting, categorizing it into the existing knowledge base.
- Internalization: The act of making the codified explicit knowledge into new tacit knowledge. This can be achieved by learning-by-doing, goal-based training, etc. (Omarsson, 2010)

5. Knowledge Management And Community College (CC)

Knowledge management only really began to take off in the late 1990s. Iranian government through its "Knowledge Economy Master Plan" had inspired government agencies as well as local companies to adopt knowledge management. There is very few Iranian companies have initiated any knowledge management programs in Iran (Blankenship et al, 2009).

Government agencies are among the earliest organizations to initiated knowledge management approaches in Iran. Government Linked Companies are in advanced stage in term of knowledge management practices. Only few private companies have taken advanced approach in knowledge management initiatives.

As a government agency, community college seems still in the early stage of knowledge management initiative. Therefore the researchers stress why the knowledge management is important in community college environment. A businesses' ability to stay competitive in its market is one of the most important aspects in order to stay in business (Khalid, 2010). A competitive advantage largely results from innovation. Innovation often occurs when new knowledge is created and new knowledge is created in the organizational learning process (Edlund&Fried, 2007). As mentioned before, the acquisition of new knowledge is among one of the processes of KM is therefore and thus KM is an important part of having a competitive edge (Blankenship et al, 2009). These researchers believed knowledge management critically need to be implemented in Community College especially to transfer of knowledge and expertise (Edlund&Fried, 2007).

5.1. Knowledge Management Enablers In Community College

The analysis of critical success factors provides an important indication to organization to reflect KM performance (Retzer,2010). The researchers believe KM enabler refers to critical factors need to develop in an organization that serve as driving forces to solidify knowledge management. This part discussed about certain enablers that possible in CC environment.

5.1.1. Leadership

Leadership is often stated to be a driver for effective knowledge management in organizations (Leidecker&Undén,2007). When planning implementation of a KM program, the organizations need to consider whether to create a leadership role to develop and drive the process, for instance, a chief knowledge officer. Also the community colleges are systematic organization, director for example, could play a role as a leader in knowledge management projects are there any community colleges across the country. The study was carried out at TARC college example has shown, when the head is made up of top management, the organization encourages people to KM to welcome a more progressive and proactive approach from all angles, such as providing adequate facilities and funds [14.]

5.1.2. Culture/Structure

Consistent with the function of community colleges that emphasize the sharing of knowledge, the culture was supposed to have existed mainly to staff with Community College. As an enabler of community knowledge sharing culture must be incorporated or to practice so that it can spread to the local community. Culture became an important source to the implementation of KM (Clifford&Rashid, 2009)(Blankenship et al, 2009).

5.1.3. Processes

The knowledge spiral or SECI Model by Nonaka accommodates the conversion process of tacit and explicit knowledge. The knowledge transfer as a spiral process where each type of knowledge can be converted; Socialization, Externalization, Combination and Internalization (Marlia,Rafi&Wood, 2007). Knowledge sharing and replication that could help improve performance on critical business measures will no longer be a matter of chance or choice, but a mandatory activity like any other business process.

All cases have some form of training programs in place for staff members as they value the importance of learning in enhancing the knowledge and performance of their employees. These training programs include in-house training and external training sessions [14.]

5.1.4. Explicit Knowledge

Community colleges certainly make explicit sharing of knowledge as its core business. Knowledge has been recorded and module to facilitate their objectives. Explicit knowledge is not limited to achieving the objectives of the organization but in this aspect, how to maintain the performance of community colleges to always provide excellent service to the community. The basic that should be emphasized is knowledge arrangement in the preparation of community college. Organized knowledge will facilitate the users or members of the organization to carry out the purposes of their work.

5.1.5. Tacit Knowledge

An organization must utilize all resources at their disposal. Similarly, the tacit knowledge that is stored inside the head of an expert or knowledge-key holder. There should be a platform to translate tacit knowledge into explicit knowledge is easily accessible and used in times of need. If the efforts made in this direction, then the existing knowledge as an example of the community college will always be awake and not simply disappear.(Johnson, 2008)

5.1.6. Knowledge Hubs And Centers

In the community college environment, the function of knowledge hubs and centers should be considered from a wider angle. This is because community colleges are an organization which is central to the local community. Community colleges operate on a systematic basis in fact have sufficient capacity to be a source of knowledge. So is the relevant knowledge available in each community college maintained and stored so that it can become knowledge hubs and centers are not only local but also national level. So the people can rely on Community College as their library.(Aarenstrup,2009).

5.1.7. Market Leverage

What is a community college?, why they exist and what functions to the country?. There is no doubt there are some communities in Iran's plural society is not aware of and take the opportunity offered by community colleges. This situation can be avoided if the community college has published a newsletter or brochure of a place in community colleges. The focus here in terms of proliferation of knowledge, training is happening, will happen or has happened. Market the community colleges through the newsletter, or brochure is the catalyst for the study implementation of knowledge management at community colleges.(Leidecker&Undén,2007)

5.1.8. Measures

An evaluation of the services and functions to the community colleges should be done regularly. Since the community college is a center of knowledge and training is desirable it is judged from all aspects related, Evaluation can demonstrate the achievement level of an organization. With the evaluation of community colleges can improve or repair the existing weaknesses.(Serrat,2010b) With this move, not only to help community colleges in turn help the community as a whole.

5.1.9. People/Skills

The people involved with the implementation and management of a KM initiative play a vital role in determining its effectiveness within organization (Bishop et al, 2008) cited (Retzer,2010). Moreover, people are said to be true agents in business where all tangible and intangible assets are result of human action (Blankenship et al, 2009). For creating an organization-wide culture of knowledge sharing and replication, and to institutionalize KM, it's critical for all employees to engage in KM activities, not just a fraction of them.(Khalid, 2010)

5.1.10 Technological Infrastructure

Knowledge management systems (KMS) are technologies that support KM in organizations, being a significant element of organizational procedures. Information technology (IT) has long been recognized as an enabler to redesign radically business processes in order to achieve dramatic improvements in organizational performance.(Leidecker&Undén,2007). Technology can make the exchange of knowledge become faster, easier, and smoothly. (Feliciano, 2006)

5.2. Related & Similar Research

5.2.1. The KM Model for University (Mohd Ghazali Mohayidin et al, (2007)

Socio-technical factors (the three major layers of KM systems) are the components that will influence the KM process at university's level. Knowledge enterprising culture, knowledge entrepreneurship top management's role and communities of practice, are

taken as part of the info-culture components. Infrastructure consists of technical components such as hardware and software that enable communication between people via network. Choose the right tool and technology, which enables the practices and application of knowledge management in the organization.

5.2.2. The KM Implementation Model in Yung Ta Institute of Technology and Commerce, Taiwan (YTIT) (Y.M.C. Yeh, 2005)

Leaders or high level management influence the KM. Organization culture can inhibit or enhance organizational change efforts in KM initiatives. Core team is formed as center for KMS for each community to filter the knowledge process. This model concluded the IT infrastructure as mainstream for the knowledge process such as portal, intranet and internet. As wholly implementation the KMS have to be linked to the economic or industry value.

6. Research Study

6.1. Hypotheses

H1: There is a significant relationship between KM implementation and the KM enabler in community college.

H2: There is a significant difference between KM implementation and community college members in terms of demographic variables (academic level, gender and job designation).

6.2. Methodology

Correlation method was used in conducting this study. Correlations are calculated in order to verify the direction and strength of the association (Wahlroos, 2010). The statistical population consists of 21 individuals from the Isfahan province Community College. They were also been the sample of this study.

Table 1: The Sample Of College Members

Unit	Population	Sample
Administration	11	2
Supportive	23	2
Lifelong Learning	2	1
Information Technology	8	6
Automotive	8	3
Tourism	6	2
Food Processing	9	2
General Studies	9	3
Total	76	21

The tools for gathering data was a researcher-made questionnaire for KM process with 10 items and KM enabler with 10 items based on Likert five-point scale (5= strongly agree and 1= strongly disagree). In total, questionnaires we received 21 completed questionnaires. This response rate is quite suitable for this type of study. By using Alpha Cronbach coefficient, reliability coefficients were obtained equal to 0.70 for KM enabler. The analysis of the data was performed in two levels of descriptive (frequency, percentage, average, and standard deviation) and inferential level (correlation coefficient, ANOVAs and t-test), using PSPP statistical software.

6.3. Result

6.3.1. Mean Summarize And Comparison

Table 2: Mean For Every Item

Variable	N	Mean	Std Dev	Minimum	Maximum
leadership	21	3.29	.85	2.00	5.00
culture	21	3.52	.81	2.00	5.00
processes	21	3.10	.62	2.00	4.00
explicit	21	2.86	.91	1.00	4.00
tacit	21	3.00	.71	2.00	4.00
hub	21	3.38	.74	2.00	4.00
market	21	3.33	.80	2.00	4.00
measure	21	2.90	.94	1.00	4.00
skill	21	3.33	.86	2.00	4.00
infrastructure	21	3.24	.94	1.00	4.00

The table has shown very clearly that the KM implementation in community college still in early stage. Most of the respondents believe they have not been exposed to the KM. This fact is supported by the data above, which is 9 out of 10 items the mean is between 2.5 and 3.4. The items are leadership, processes, explicit, tacit, hub, market, measure and infrastructure. In other word this rate can be concluded that KM implementation is still unrecognized by the respondents whereby the said that they were not sure about the KM implementation in community college. However for the item number two, they agreed that the culture towards to KM is already existed in the organization, whereby the mean rate for that item is 3.52.

6.3.2. Result For The H1 Based On Correlation Coefficient

One-Sample Test				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Lower	Upper
leadership	-9.3020	.00	.00	-1.71	-2.10
culture	-8.3120	.00	.00	-1.48	-1.85
processes	-13.9720	.00	.00	-1.90	-2.19
explicit	-10.7820	.00	.00	-2.14	-2.56
tacit	-12.9620	.00	.00	-2.00	-2.32
hub	-10.0320	.00	.00	-1.62	-1.96
market	-9.6020	.00	.00	-1.67	-2.03
measure	-10.1720	.00	.00	-2.10	-2.52
skill	-8.9220	.00	.00	-1.67	-2.06
infrastructure	-8.3520	.00	.00	-1.76	-2.19

Figure 1: Correlation Coefficient Result For The H1

In Figure 1, the column labeled “Sig. (2-tailed)” is the P value for this test. Notice that the P value is listed as .00 for all KM enablers in community college. So, if the null hypothesis were untrue (significant relationship between KM implementation and the KM enabler in community college). This is smaller than our chosen alpha level of .05, so we can reject the null hypothesis. The researchers reject H_0 and conclude that there is no significant relationship between KM implementation and KM enabler in community college.

6.3.3. One Way ANOVA Analysis To Test The Relationship Between KM Enablers And Organization Demography

Table 3: The Demographic Of College Members

Hypothesis	Variable	Value	N
H2	Academic Level	Degree	9
		Diploma	10
		Certificate	1
		SPM	1
	Gender	Male	8
		Female	13
	Job Designation	Academician	17
		Support Staff	4

The organization demography included gender, academic qualification and job designation of respondent. The significant value in One Way ANOVA is 0.05 (5%). For any values more than 0.05, it means that the variables have no significant difference. On the other hand, if the value is less than 0.05, it means that the variables have significant differences between the dependent list and factor.

Table 4: Summary Of ‘F’ Value Of One Way Anova

	Gender (f)	Academic Qualification (f)	Job Designation (f)
Leadership	0.08	0.10	0.01
Culture	0.08	0.25	0.16
Process	0.60	0.90	0.18
Explicit	0.16	0.99	0.44
Tacit	1.00	0.41	0.37
Hub	0.96	0.82	0.05
Market	0.14	0.33	0.71
Measure	0.57	0.60	0.01
Skill	0.05	0.42	0.25
Infrastructure	0.17	0.45	0.33

It is clear for the enablers for KM, the significance difference just only for the skill with the gender and the rest there are no significances difference between leadership, culture, process, explicit, tacit, hub, market, measure and infrastructure. The second factor, academic qualification the table depicts very clearly that there is no significance different between the KM enablers and the academic qualification. The third factor, job designation, there are three KM enablers that have significance difference which are, leadership, hub and measure but the rest there is no significance different between them and the job designation factor.

7. Conclusion

The researchers found this scenario of KM in community college has just opened a space to improve the KM. In future researchers will recognize what is the main activities in community college that can be defined clearly as part of KM. Then researchers will introduce and proposed a framework for those activities and can be used as practically by the community college's members especially to the academician and the support staff. By using the framework as guidance, the KM will be particularly defined. As community colleges the researchers identify as a development of socioeconomic center with strong links to the government, coordinated by a management, which actively supports the technology and knowledge transfer and provides communities with facilities and services. This attracts mainly local communities which expect benefits and synergies from the college community existence. These co-operations between community colleges and local community depict with the different ways, through formal or informal linkages and through human resources based issues. Additionally, the social and physical structure influences the performance and the style of working in community colleges. This study is basically focused on all of these issues as long they influence the knowledge transfer between the different parties.

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