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Knowledge Management in an Iranian Health organization: Investigation of Critical Success Factors*

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Abstract

Purpose – According to the applied studies knowledge, management implementation can improve organizational performance. The main objective of this study is to develop an understanding of critical success factors that enhance the successful implementation of knowledge management.

Research design, data, and methodology – This study used Analytical Hierarchy Procedure (AHP), which is a multi-criteria decision making model that works on fuzzy logic. Using this method, researchers can find the proportion of success due to the contribution of the critical success factors (CSFs).

Results – The results show that more than 70% of respondents indicate the possibility of success in knowledge management implementation. Further, the results show that top management support has the greatest relationship with the success of knowledge management implementation. This was followed by information technology, performance measurement, and culture, which had a high relation with knowledge management success. Process and activities have a moderate positive relation, while education and training has a low relation with success. Because of an inappropriate p-value, knowledge management strategies show no relation to the success of knowledge management in the Iranian health Industry.

Conclusions – This study was conducted because of a critical issue in the Iranian health industry that indicated that a significant portion of the workforce would retire in 5 to 10 years. Most highly experienced and knowledge oriented employees would become eligible for retirement. Therefore, knowledge management is presented as a complete solution in the Iranian health sector.

Keywords: Knowledge Management, Critical Success Factors, Health Sector, Iran.

JEL Classifications: D40, I10, M20.

1. Introduction

These days , organizations associate knowledge to survive in quick changing environment (Wolfe and Loraas, 2008 Renata Simoes Guimaraes e Borges, 2012 ; Ghasseemzadeh et al., 2013). knowledge management is critical to achieve organizational effectiveness and effciency (Anand et al., 1998 Renata Simoes Guimaraes e Borges, 2012 ; Ghasseemzadeh et al., 2013). According to studies in this field, knowledge is foundation of competitive advantage, because that is driver of organizational value (Gold et al., 2001; Bock et al., 2005 Hojabri et al., 2012 Ghasseemzadeh et al., 2013). Moreover, knowledge management and organizational learning enhance compatibility and adoption of Firm in fast changing environment (Chen and Edigington, 2005; Hojabri et al., 2012; Borousan et al., 2012).

Knowledge management is a process that develop, storeand publishing knowledge to have better performance (Hojabri et al., 2012 ; Borousan et al., 2012 Ghasseemzadeh et al., 2013). Knowledge can be characterized as explicit and tacit (Nonaka, 1994; Borousan et al., 2012). Peter Drucker Knowledge is one of main resources in organization rather than capital and labor (Drucker, 1993).

Over the past decade, there were discussions about importance of knowledge management in scientific societies. Scholars from various field such as economics, sociology, and management and ...believed that transferring knowledge is critical for gaining competitive advantage (Davenport, De Long, & Beers, 1998). Strategic concept of knowledge management are promoted as crucial for organizations in order to gain their competitive advantage (Mayrtensson, 2000; Brousan, 2011) knowledge management is considered for organizational learning (Hojabri er al., 2012) and also is necessary for higher flexibility

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and productivity in both private and public sectors (Brousan , 2011).

Flexibility and adoption are two critical capabilities that needed for surviving in this business environment (Hojabri et al., 2012). in such environment ,some strong forces are going to restructure global economy (Brousan, 2011). The first force related to higher degree of complexity in globalization and increasing competition by introducing new technologies to meet customer needs (Brousan, 2011). Secondly organizations are realized technology base advantages are temporary and for sustaining pioneer-ship, they must keep their knowledge workers (Black & Synan, 1997).

In economic and strategic perspectives, learning curve is a critical advantage and most important barrier for new entrants, so development has made learning curve as organization struggle to better adoption (Allee, 1997). To maintain competitive advantage, and to remain at the top, organizations must have sufficient capacity to retain, organize, develop, and utilize their employee competencies (Nordhaug, 1998). Develop organizations now understand the importance on knowledge management (Brousan, 2011; Hojabri et al., 2012). In Iran, there are limited implementations are reported (Brousan, 2011) this limitations occurred because most of knowledge management's benefits didn't identify in Iran (Brousan, 2012). According to Wang and Ahmed (2003) advantages and disadvantages of knowledge management are important to be identified.

1.1. Significance and Benefits of Knowledge Management

As mentioned, business environment is changing and this issue should responses by changing in attitude, mind, and approaches. Because, growing focus on creating values for customers by developing customer services; market trends to increase competiveness with rising rate on innovations; organizations attempt to reduce time to Market; fast adoption with changing environment; and finally some kind of changes within the strategic directions and workforce displacement which cause knowledge loss. The rate of new innovations has been increased. At the same time there is an evolution in customer preference and customer's needs. Managers' shouldn't investigate more on their customers superficially. indeed, managers must explore more deeply; not only doing surveys and collecting data forms (Brousan, 2011). Perfect knowledge management is a system including knowledge sharing , storing , consuming and creating (Hojabri et al., 2012).

After finding the significance of knowledge management for organizations it would be necessary to mention some benefits of KM. Scholars believed that knowledge management can minimize loss and risk; improving productivity, efficiency and effectiveness and embracing innovation. Brousan (2011) mentioned some benefits for knowledge management, those are:

- It facilitates processes better, and makes decisions more informed.
- Knowledge management contributes to the intellectual capital in an organization.
- Knowledge management encourages free circulation of ideas which can lead to a broader view and also leads to innovation in the organization.
- It eliminates redundant processes, streamlines, operations, and increases employee retention rates.
- Knowledge management improves customer service and efficiency of processes.
- And finally, it leads to a greater productivity in the organization.

As mentioned, most of above items related to economical measures .better decision making , providing free circulation of ideas that, improving processes efficiency, and improving productivity of company , can provides economical benefit for organization. Norris in 2001 examined organizational dynamics of knowledge based economy and find out that (Norris, 2001; Edgington, 2002):

- On average, companies were projected to lose half their employees in 5 years
- Workers quitting their jobs for better offers would jump from 6 million in 1995 to a projected 17 million in 2000
- A young graduate was projected to have nine jobs in approximately 10 years
- Replacing a worker cost roughly half of that person's salary, in addition to the burden and stress put on colleagues and the organization as a whole
- The uncalculated costs of unwanted turnover (loss of talent, customer satisfaction, employee morale, productivity and quality) were projected to exceed any costs that the organization normally tracks

1.2. Problem Statement

These days in current competitive market gaining an advantage from organizational capabilities is vital for survive. Health industry is a knowledge intensive industry that most of activities operate via professional's knowledge, in this route health organizations try to keep knowledge that is usable in core activities (hojabri et al., 2012; Ghassemzadeh et al., 2013). According to Iranian statistics center reports, most of employees that operate in public sector are close to retirement age or will retire in next 10 years (Borousan, 2011). There are average age in public sector is 45 years (Borousan et al., 2012). On other hand, according to 4th and 5th Iranian development law, government must minimize its authority in all fields (4th Iranian development law, 2006; 5th Iranian development law, 2010).

Health organizations in Iran want to follow all new managerial techniques to prevent any potential professionalism crisis. This crisis may occur because of lack of training; high staff turnover, tendency to maintain status, these issue will enhance on knowledge management implementation in negative way. Finally, unsuccessful implementation and professionalism crisis and other treats can influence on organization growth (Brousan, 2011).

when knowledge worker leave an organization ,then exclude huge amount of knowledge about their jobs, so healthcare organizations like other knowledge oriented organizations, try to implement knowledge management to prevent these kind of problems in long term. on the other hand, knowledge management is new concept and may seems unfamiliar in organizations , this issue may be cause of lot of problems that organizations must make great prompt to deal with such problem (Nonaka, Toyama, & Konno, 2000). For estimation and evaluation of these issues, managers must know about influential domains that apply impact on knowledge management implementation.

There are so many studies in field of "identifying critical success factors in knowledge management implementation ". According to Brousan (2011) study that introduced seven critical success factors that we aim to test that framework in Iranian health industry.

1.3. Objectives of study

Main objective of this study is to evaluate critical success factors of knowledge management in Iranian health industry. To achieve this objective, in first step, researchers must evaluate each factor. So defining goals are necessary:

- To assess the relationship between organizational culture and success of Knowledge Management implementation in Iranian Health Industry
- To evaluate relationship between management and leadership support and success of Knowledge management implementation in Iranian Health industry.
- To address the relation of Information Technology infrastructures in Iranian Health industry in line with the success of Knowledge Management implementation
- To identify the level of which Knowledge Management strategies in Iranian Health Industry can affect Knowledge Management implementation process.
- To state the importance of performance measurement in Knowledge Management implementation in Iranian Health Industry
- To assess the extent to which training and education can influence Knowledge Management application in Iranian Health Industry
- To evaluate the relation between processes and activities and success of Knowledge Management implementation in Iranian Health Industry

After defining objectives, and variables, should scan literatures to support our framework.

2. Literature Review

Literature review is essential part of every studies .in this part authors tried to find conceptual support for variables and factors. Sources of this study are from published work in particular area (of research).

2.1. Knowledge Management

First concept is knowledge management. Main source of this concept is knowledge that Nonaka argue that is source of any competitive advantage (2007). Relationship between knowledge management and success of business is proved by (Nonaka & Takeuchi, 2007). Brian (1995) believed that process of dissemination, creation and utilization of knowledge in core activities is knowledge management (KM). One of the most important elements in decision making and action taking is knowledge (Brousan, 2011 Brousan et al., 2012 Hojabri et al., 2012). In another definition, Bertels & Savage (1999) define knowledge management as managing a knowledge renewal system. Maarten Sierhuis is the one who defined knowledge management as follows (Alavi & Leidner, 2001; Davenport, De Long, & Beers, 1998; Wiig, 1997).

"The capability of managing knowledge is called knowledge management (KM)."

The terms Information Planning and Analysis come from Knowledge Management(KM) (Brousan, 2011). As mentioned in introduction, organization is looking for knowledge as a critical resource to gaining competitive advantage (Brousan, 2011 Brousan et al., 2012 hojabri et al., 2012). There are so many methods developed for analyzing knowledge through organizations (Chong, 2006; Gold, Malhotra, & Segars, 2001; Nonaka & Takeuchi, 2007; Wong & Aspinwall, 2005). Knowledge management comprises of different activities that organizations gain from their own experiences or others and they can fulfill their organizations" mission by the reasonable and rational observation of that knowledge (Brousan, 2011). These kind of activities are helpful by emerging organizational structure , Technology and knowledge-oriented strategies that play role of improving yield of existing knowledge to promote organizational performance (Brousan , 2011; Brousan et al., 2012).

2.2. Critical success factors

2.2.1. Management Support

One of the important keys that is critical for a successful implementation of knowledge management is top management support (Horak, 2001; Pan and Scarbrough, 1998; Holsapple and Joshi, 2000; Ribiereand Sitar, 2003). Top management in all knowledge –oriented organizations should be pioneer to share their knowledge with others (Davenport, et al., 1998; Holsapple & Joshi, 2000; Mårtensson, 2000; Wong, 2005). These kinds of activities make employees eager to join knowledge management project (Chong, 2006; Holsapple & Joshi, 2000; Rosacker & Olson, 2008; Wong & Aspinwall, 2005). Brousan(2011) in his study introduce more responsibilities for top management and those are :

- Steering the change effort

- Conveying the importance of KM to employees
- Maintaining employees" moral
- Creating a culture that promotes knowledge sharing and creation

Furthermore, Top management's role enhance on KM implementation, KM adoption, and finally influence on knowledge management effectiveness (Brousan, 2011; Brousan et al., 2012). Some studies show that Top management support applies strong impact on other factors as well (Davenport, et al., 1998; Mårtensson, 2000). So this issue increase critical role of this factor. As Storey and Barnett in 2000 investigated, support from the management should be continuously used in a specific manner (Chong, 2006; Davenport, et al., 1998; Holsapple & Joshi, 2000; Mårtensson, 2000; Rosacker & Olson, 2008; Wong, 2005; Wong & Aspinwall, 2005). Top management and leadership support can be helpful for knowledge management success (Brousan, 2011).

2.2.2. Organizational Culture

Organizational culture is second factor that enhance knowledge management implementation (Ashkanasy, Broadfood, & Falkus, 2011; Brousan, 2011; Brousan et al., 2012). Culture is the act of employees who behave in organizations, beliefs, social customs and social norms. According to studies ,culture is the biggest challenge for implementing successful knowledge management (Cameron & Quinn, 2011; Hofstede & Hofstede, 2005; Long & Fahey, 2000; Mårtensson, 2000). Culture has variety of domains which include many aspects (Brousan, 2011). Culture is one of the major conditions for transferring knowledge between employees (Ashkanasy et al., 2011; Cameron & Quinn, 2011; Hofstede & Hofstede, 2005; Schein & Pettigrew, 2005; Wong & Aspinwall, 2005). Transferring knowledge needs individuals to gather for interacting, exchanging ideas and sharing knowledge with each other. Moreover, by trial and error collaboration has been represented to be an important collaborator to knowledge creation. Another axiomatic facet of a friendly culture is Trust (Ashkanasy et al., 2011; Homburg & Pflesser, 2000).

In this field one of important aspects is trust. Existence an open knowledge sharing process needs trust that should build between employees (Long & Fahey, 2000; Mårtensson, 2000; Schein & Pettigrew, 2005). For encouraging new knowledge, ideas, and solutions ceaselessly, an innovative culture should be fostered among individuals (Brousan , 2011). Goh (2002) argued that culture can detect and solve problem.

2.2.3. Information Technology

Information Technology is the most important infrastructure and key component of knowledge management accomplishment (Brousan, 2011; Brousan et al., 2012 ; Hojabri et al., 2012). because humans can connect with others by information technology facilities (Hojabri et al., 2012). Searching , managing , recovering , restoring of information can be operated by information technology facilities (Brousan, 2011). Information technology provide facilities for better coordination and communication between organizational members (Brousan, 2011; Levina & Ross, 2003; Rosacker & Olson, 2008; Sher & Lee, 2004; Wong & Aspinwall, 2005). Luan and Serban (2002) categorized IT facilities as follows:

- Business intelligence
- Knowledge base
- Collaboration
- Content and document management
- Portal
- Customer relationship management
- Data mining
- Workflow
- Search
- E-learning

Information Technology as major infrastructure in knowledge management can provide facilities to KM implementation process become easier:

- Simplicity of technology
- Ease of use
- Suitability to users" needs
- Relevancy of knowledge content
- Standardization of knowledge structure or ontology

Are benefit of information technology in knowledge management (Brousan, 2011). According to studies these are key factors that influence on improving Knowledge Management System in an organization (Dewett & Jones, 2001; Sher & Lee, 2004; Wong & Aspinwall, 2005).

2.2.4. Knowledge management Strategy

According to literatures, clear strategy for implementing knowledge management is most critical for success (Liebowitz, 1999). Strategy is helpful to find capabilities and resources that lead organizational members to achieve knowledge management goals (Brousan, 2011). There are varieties of strategies that introduced for implementing knowledge management system but one thing that may be important for organizations is, those strategies must be well adjusted with organizational situation (Liebowitz et al., 1999; Liebowitz & Suen, 2000; Liebowitz & Wright, 1999). Moreover, a clear strategy can be recognizable for everyone and they can understand the objectives, purposes and goals of the strategy (Brousan, 2011). The concept of KM has to be completely dictated in order to create enthusiasm among employees and management to implement it (Chong, 2006; Holsapple & Joshi, 2000).

2.2.5. Performance management

Performance management is one he significant success factors for measuring knowledge management . Brousan (2011) illustrated that.

"It cannot be managed if it cannot be measured"

There are studies (Arora, 2002; Ahmed et al., 2001) argue that it is necessary to utilize measuring knowledge management to ensure all objectives are achieved . Performance measure-

ment provide organization to monitor organizational improvement as well as effectiveness and benefits (Brousan, 2011). Measurement can show progress of knowledge management to the organizational leaders and stakeholders. Measurement is important to assess influences of knowledge management, from final level indicators to assess financial outcomes. This is very difficult to separate financial outcomes of knowledge management from other activities because there are so many activities that influence on financial results. However, it should be taken into account, not to claim a clear causal relationship (Hong & Kim, 2002). There is so many methods that can measure intellectual capital, but it isn't absolute solution (Brousan, 2011).

2.2.6. Training and education

Training and education is critical for every complicated project such as knowledge management .initial training for employees is necessary for successful implementation because by training ,employees can realize concept of knowledge management and provide mutual language for organization (Brousan et al., 2011 ; Akhavan et al., 2006; Chourides, et al., 2003). On the other hand, by utilizing knowledge management system, employees can access to training and education source to improve their capabilities (Akhavan et al., 2006; Chourides et al., 2003; Ju et al., 2006; Nelson & Cooprider, 1996). According to studies after implementation of knowledge management system, employees face to knowledge oriented activities and training can help those to do their duties ad tasks. According to research, for successful implementation skill evolution should arise in the following areas (Horak, 2001) :

- Communication
- Soft networking
- Peer learning
- Team building
- Collaboration
- Creative thinking

In addition, Yahya and Goh(2002) illustrated that training linked to team building, problem solving, creativity, and documentation skills had a positive impact on the KM process (Yahya & Goh, 2002).

2.2.7. Process and Activities:

There are variety of arguments in categorizing type of processes . Alavi and Leidner (2001) found four crucial processes that are (Alavi & Leidner, 2001):

- Creation
- Storage/retrieval
- Transfer
- Application

According to Holsapple and Joshi (2002) study, coordination applies high impact on knowledge management process because knowledge management process divided to inter-OU processes and in some cases those must merge . so coordination across daily activities is critical and they will be routine practices in the organizations (Holsapple & Joshi, 2000, 2004; Holsapple & Joshi, 2003; Holsapple & Joshi, 2002).

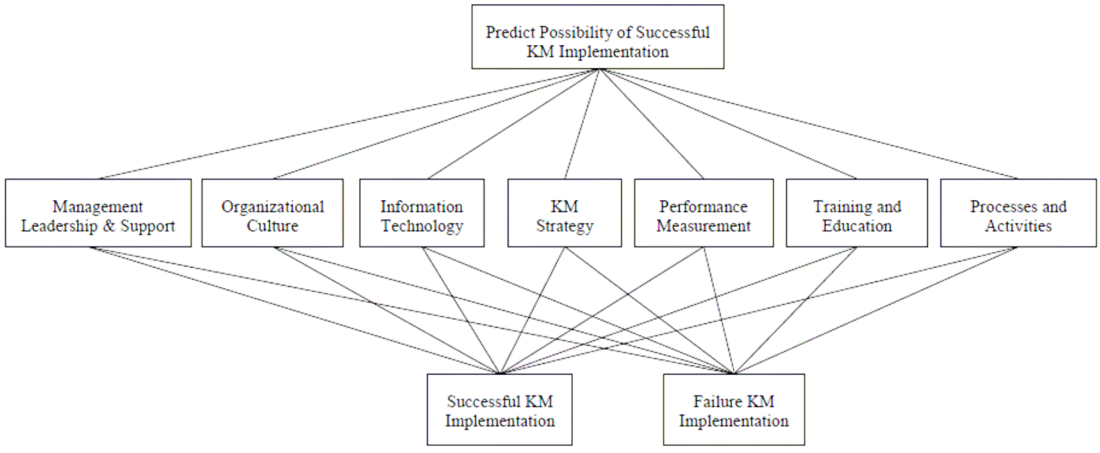
3. Methodology and Summary Statistics

This study use Analytical Hierarchy Procedure (AHP) that is a multi-criteria decision making model that works on fuzzy logic, base on this method researchers can find percentage of success due to Critical success Factors'(CSFs). From 110 questionnaires, 72 questionnaires were collected from National level health organization in Iran. Results show that more than 70% of respondents prove possibility of success in knowledge management implementation. In AHP, it does not need to use ponderous mathematics. It involves:

- Principle of decomposition
- Pair wise comparisons
- Priority vector generation
- Synthesis

Main objective of this study is to find out a business model to highlight critical success factors . such this approach has specific limitation with multi-criteria of decision making (Saaty & Vargas, 2001). According to Brousan (2011) study AHP is one of the best approaches for solving those limitations. AHP supports Quantitative and Qualitative methods and is convenient approach for assessing the alternatives of multiple criteria including subject judgment. In AHP By doing a pair-wise comparison between multiple-criteria, a decision maker could adjust the weights (Chin, Xu, Yang, & Lam, 2008).

In this research, authors try to illustrate Iranian health industry beliefs in success of knowledge management and predict possibility of successful knowledge management implementation. there are not so many studies that used AHP for evaluating critical success factors (Brousan, 2011). There are seven critical success factors that mentioned were mined and alternatives in this projects are Successful and unsuccessful implementation, and asked specialists ,professionals and managers, impact of each factor on both alternatives. Following figure shows structure of research:



<Figure 1> Theoretical Framework

3.1. DATA Analysis

The Reliability of factors are tested from both stability and consistency. Choronbach's αis computed in terms of average inter-correlations among the factors measuring concepts. According to pilot study, results for reliability of questionnaire were mined. following tables include:

<Table 1> Results for Reliability of Questionnaire

Choronbach's α	FACTORS
0.813	Management and leadership support
0.854	Organizational culture on Success
0.782	IT infrastructure
0.701	KM strategies
0.754	Performance measurement
0.823	Training and education
0.875	Processes and activities

This study used Choronbach's αto test reliability. Overall score of reliability is 0.800 that presented in following table.

<Table 2> Overall Score of Reliability

Overall Choronbach's α	Number of variables
0.800	7

Sample are chosen to elaborate respondent's gender according to study's data from 62 respondents, 52% were female and 48% were male. This is normal in administrative unites in healthcare to have 50-50 gender distribution, our sample is close to this regulation. Age distributions are shown in following table. According to study's data, largest group have 30-49 years old after that 40 to 50 that is largest group. Which shows that majority of respondents were experienced employees. In following table, shows that majority of respondents have higher education.

<Table 3> Response Tracking

Kind of question		Q	%
Gender	Male	30	48%
	Female	32	52%
	total	62	100%
Age	20-29	8	12.90%
	30-39	27	43.55%
	40-50	24	38.71%
	51-more	3	4.84%
	total	62	100.00%
Education	Diploma	4	6.5%
	Undergraduate	10	16.1%
	Degree	27	43.5%
	Master	17	27.4%
	Doctorate	4	6.5%
	total	62	100.0%
Position	Knowledge based employee	54	87.1%
	Supervisor	4	6.5%
	Manager	4	6.5%
	total	62	100%

The results of factor's impacts provided in following table. These influences estimated in healthcare organization in Iran. All variable are evaluated on nine point scale. Performance measurement is largest impact with score of 7.08 and culture with point of 5.96 is smallest impact from respondents' point of view.

<Table 4> Results of Factor's Impacts

Row	factors	Average
1	Performance measurement	7.08
2	Process and activities	6.53
3	Top Management support	6.39
4	Training	6.36
5	IT	6.16
6	strategy	6.02
7	culture	5.96

All average are more than 5 and this shows that respondents agree with all critical success factors and their positive impact on successful implementation. in this scale 1 means, respondent disagree with impact of factors on successful implementation and 9 means respondent strongly agree with effect on successful implementation. The standard deviation which is another measurement for dispersion of interval and ratio scaled data, offers a scale of dispersion or the variability in the data. It is commonly used as a dispersion measurement tool, and is simply the square of variance.

<Table 5> Mean of Factors

Factors	Mean	Std. Deviation
Top management support	6.77	2.544
culture	6.26	2.429
IT	6.42	2.061
strategy	6.19	1.974
Performance measurement	7.10	1.762
training	6.48	1.998
process	6.68	1.480

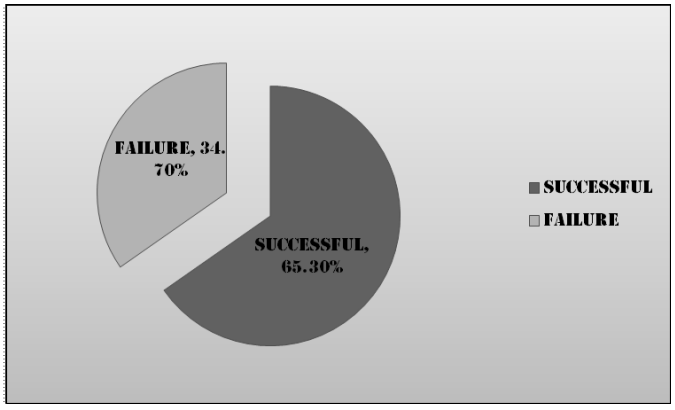
According to study aim, relationship between seven independent variables and successful knowledge management implementation were examined and summarized in following table.

<Table 6> Relationship between Independent Variables and KM Implementation

Factors	Correlation Coefficient	Level of Significant	Relationship
Top Management Support	0.774	.000 (< 0.05)	High
Culture	0.509	.000 (< 0.05)	High
IT	0.584	.000 (< 0.05)	High
KM Strategy	0.150	.903 (> 0.05)	No Relation
Performance Measurement	0.564	.000 (< 0.05)	High
Education and Training	0.131	003 (< 0.05)	Very Low
Process and activities	0.346	.000 (< 0.05)	Moderate

As shown in above table, four of variables have high relation with successful KM implementation. Strategy has no relationship with successful implementation and training and education has low relationship with Successful implementation. Finally, Process and activities has moderate relationship. Second part of questionnaire related to rating of variables .each variable's priority to other variables was computed from average of respondent's ratings. All variables were rated in nine point scale that is standard for AHP use. Following tables shows priorities of variables.

According to results from collected questionnaires in petroleum industry health organization, and after analyzing with software, authors find that, 65.3% of respondents believed that knowledge management implementation in this industry can be successful and 34.7% think there is a possibility of failure in knowledge management implementation.

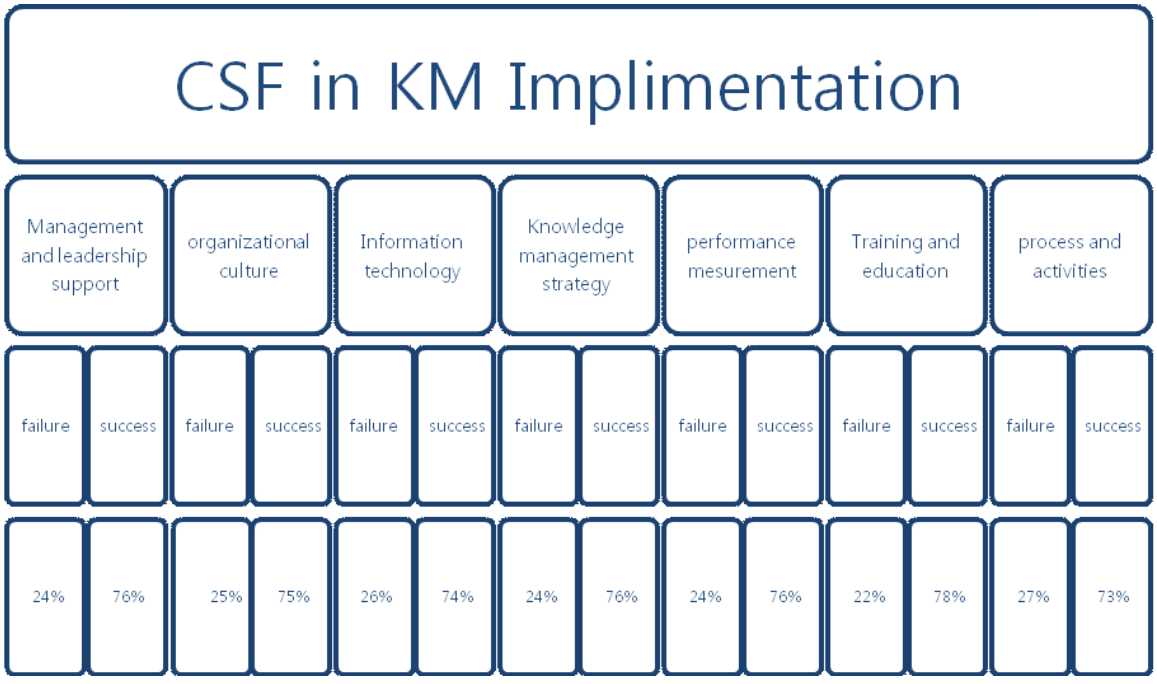


<Figure 2> Percentage of Possibility

<Table 7> Priorities of Variables

Factors	organizational culture	Information technology	KM strategy	Performance Measurement	training and education	process and activities
Management & leadership	1.2	2.5	4.2	4.4	5	7.4
Organizational culture		2.2	4.8	5.3	6.1	7.9
Information Technology			3.8	4.1	4.4	5.5
KM strategy				3.8	2.8	4.4
performance measurement					2.8	3.5
training and education						2.5

Priorities of dependents and independent variables extracted from expert choice. in following figure shown relationship of each independent factors and amount of its relation with success and failure of KM implementation.



<Figure 3> Structured Figure

4. Conslusion

Knowledge management is a new concept especially in developing countries and become managerial and strategic issue for executives. Knowledge management is in beginning of the route in Iran (Borousan, 2011). Health industry like other industries are eager to utilize this Information system to improve performance. Total62 questionnaires were collected from mid-managers and employees of national level health organization in Iran. Results show that there are significant relationship between critical success factors and success of knowledge management implementation.

As mentioned in introduction, this study spouses to examine relationship between seven critical success factors and success of knowledge management implementation. Results show that top management support has greatest relationship with success of knowledge management implementation. After that Information technology, performance measurement and culture had high relation with KM success. Process and activities has moderate positive relation and education and training has low relation with success. Because of inappropriate p-value, KM strategies show no relation to KM"s success in Iranian health Industry.

This study conducted because of a critical issue in Iranian health industry that face large amount of retirement in 5 to 10 years. Most of high experience and knowledge oriented employees become eligible for retirement. So knowledge management presented as total solution in Iranian health Industry. Findings of this research would strongly suggest that, before applying knowledge management into the organizations ,pay attention to support of management, information technology infrastructure, joining KMS with performance measurement, developing knowledge sharing culture into the organization, are necessary for success KM implementation. With improving critical factors, we expected to improve possibility of success.

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