An exploration study to detect important barriers for knowledge management

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C H R O N I C L E	A B S T R A C T
	This paper presents an empirical investigation to find the important factors influencing implementation of knowledge management in revenue agencies in Iran. The proposed study designs a questionnaire and distributes it among some experts and, using principal component analysis, the study detects important barriers for knowledge management implications. The study selects 170 people from 880 regular employees who work for revenue agency and distributes the questionnaire designed in Likert scale. Cronbach alpha has been determined as 0.70, which is well above the minimum acceptable level. In terms of knowledge management, the study determines six factors including support for creativity and innovation, knowledge sharing, trust, employee promotion plan, mission and training programs and they represent 66.57% of the described factors. In addition, in terms of barriers, job security, cultural issues, individual differences, infrastructure, organizational structure and lack of vision are the most important issues representing 61.98% of the factors.

1. Introduction

Knowledge management plays an important role on business development in most knowledge based organizations (Hedlund, 1994; Teece, 1998; Demarest, 1997; O'Leary, 1998). However, many organizations are not able to share their knowledge because of different reasons such as lack of having good infrastructure for sharing knowledge, cultural issues, etc. (Alavi & Leidner, 2001; Gold et al., 2001; Hsieh et al., 2009; Biasutti & EL-Deghaidy, 2012; Wu et al., 2013). During the past few years, there have been many studies to determine important factors influencing knowledge sharing. Riege (2005) reviewed and discussed over three dozen potential knowledge-sharing barriers, categorizing them into three main domains.

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Pirkkalainen and Pawlowski (2013) analyzed knowledge management literature extending the body of knowledge with barrier analysis. They concentrated on knowledge exchange and globally distributed collaboration activities in different firms and argued for contextualized understanding of the barriers, recognizing the challenges considered in similar activities. Hong et al. (2011) developed strategies for overcoming barriers to knowledge sharing based on conversational knowledge management in a case study of a financial firm.

According to Lin et al. (2012), a significant amount of work has been devoted to better understanding the barriers of knowledge flow and developing models of KM maturity to help in evaluating the progress of knowledge management initiatives within organizations. Kukko (2013) tried to understand the biggest potential knowledge sharing barriers that an organically growing software company may encounter.

Organizational culture is increasingly accepted as a major barrier to leveraging intellectual assets. David and Fahey (2000) identified four different methods in which culture could impact the behaviors central to knowledge creation, sharing, and implementation. First, culture could shape assumptions about what knowledge, second, culture explains the relationships between individual and organizational knowledge, determining who is anticipated to control specific knowledge, as well as who must share, third, culture generates the context for social interaction, which determines how knowledge could be applied under specific circumstances. Finally, culture shapes the processes with legitimated, and distributed in organizations. These four perspectives recommend specific actions managers could take to evaluate the various aspects of culture most likely to impact knowledge-related behaviors. This diagnosis was considered essential in developing a strategy and specific interventions to align the firm's culture in support of more effective knowledge implementation.

2. The proposed study

This paper presents an empirical investigation to find important factors influencing implementation of knowledge management in revenue agencies in Iran. The proposed study designs a questionnaire and distributes it among some expert and using principal component analysis detects important barriers for knowledge management implications. The sample size of the organization is calculated as follows,

$$n = \frac{N \times z_{\alpha/2}^2 \times p \times q}{\varepsilon^2 \times (N-1) + z_{\alpha/2}^2 \times p \times q}, \qquad (1)$$

where N is the population size, $p = 1 - q$ represents the yes/no categories, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. Since we have $p = 0.5, z_{\alpha/2} = 1.96$ and N=380, the number of sample size is calculated as n=170. The study selects 170 people from 880 regular employees who work for revenue agency and distributes the questionnaire designed in Likert scale and Cronbach alpha has been determined as 0.70, which was well above the minimum acceptable level.

2.1. Personal characteristics

In terms of personal charactersitics, the average, minimum and maximum age are 34.73, 23 and 60 years, respectively and they were mostly aged 30-40. In addition, 70.9% of the participants were regular employee and 29.1% of them were working based on different contracts. In our study, most participants hold university education since 46.35% of them hold bachelor of science, 11% of them hold masters degree and over 50% of them had at least 5 years of job experience.

3. The results

In this section, we present details of the implementation of factor analysis to detect important factors influencing knowledge management and barriers.

3.1. Knowledge management

The first part of the survey uses a quesionnaire in Likert scale to determine important factors influencing knowledge management in revenue agency organization and Table 1 demonstrates the results of our survey.

Table 1
The summary of factor analysis

Row	Factor	Eigenvalue	% of Variance	Accumulated
1	Support on creativity	8.87	15.52	15.52
2	Knowledge sharing	8.36	14.67	30.19
3	Trust	5.80	10.18	40.37
4	Employee promotion plan	5.64	9.89	50.27
5	Vision	4.99	8.76	59.03
6	Training programs	4.30	7.54	66.57

KMO = 0.722; Bartletts test =14229.61, df = 1025,sig = 0.00

As we can observe from the results of Table 1, all statistical observations are significant and support on creativity is the most important factor followed by knowledge sharing, trust, employee promotion plan, vision and training programs. These factors represent 66.57% of the changes on knowledge management. Table 2 demonstrates details of each factor as well as factor loading.

Table 2
The summary of factor loading associated with different factors

Factor	Description	Fact
Support on creativity	In this organization, creative employees are supported.	0.6
	To prepare plans and objectives all creative ideas are considered.	0.61
	Top management supports moving towards creative organization.	0.73
	In this organization, creative employees receive financial support.	0.73
Knowledge sharing	In this organization, creative ideas are exchanged among employees.	0.64
	This organization is in touch with universities.	0.70
	In this organization, past experiences are used to develop new ideas.	0.62
	In this organization, managers are involved in learning and growth.	0.79
	In this organization, all managers and employees share their thoughts.	0.86
Trust	In this organization, there is a trust among employees.	0.73
	All employees trust the organization and managers.	0.81
	Management team welcome new creative ideas.	0.74
	In this organization, group decision making is used to make necessary decisions	0.633
Employee promotion plan	In this organization, employees with good performance are rewarded.	0.62
	Managers support employees for changes they make and promote them, accordingly.	0.82
	This organization supports employees who learn and teach others.	0.67
Mission	There are some rules for knowledge sharing	0.78
	In organization's mission, knowledge sharing is cherished.	0.71
Training programs	There are good training program for knowledge sharing.	0.7
	There are necessary programs for knowledge sharing.	0.67

3.2. The barriers

The second part of the survey tries to determine important barriers for implementation of knowledge management in revenue agency organization in Iran and Table 3 demonstrates the results of our survey.

Table 3
The summary of the results of factor analysis on barriers for knowledge management implementation

Row	Factor	Eigenvalue	% of Variance	Accumulated
1	Job security	5.48	14.05	14.05
2	Culture	4.95	12.71	26.77
3	Individual differences	4.73	12.13	38.91
4	Infrastructures	3.53	9.05	47.97
5	Organizational structures	2.77	7.12	55.09
6	Lack of sufficient infrastructure	2.68	6.89	61.98

KMO = 0.826; Bartletts test =6532.09, df = 741,sig = 0.00

As we can observe from the results of Table 3, all statistical observations are significant and job security is the most important factor followed by culture, individual differences, infrastructures, organizational structures and lack of sufficient infrastructure. Table 4 demonstrates the results of factors leading associated with each factor.

Table 4
The summary of the results of factor loading on barriers for knowledge management implementation

Factor	Description	Factor
Job security	Employees consider knowledge as their power and are not interested in losing it.	0.611
	Employees try not to share their knowledge because management team does not give value to this task.	0.731
	Lack of trust to people who receive knowledge	0.691
	Employees have some concern about sharing knowledge since they think their job will be jeopardized.	0.798
	Employees are not aware about the reason behind knowledge sharing.	0.726
	Employees blame their managers for not being promoted	0.628
Culture	Care about documented knowledge and not to experience	0.604
	Lack of awareness that knowledge could be useful for others	0.619
	Organization does not care about taking care of knowledge and documenting it	0.787
	Lack of interest in working with computers because of unfamiliarity	0.633
	Inconsistency among different components	0.629
Individual differences	Differences between age, gender, etc.	0.789
	Different believes, religion, etc.	0.644
	Lack of necessary training program for knowledge sharing	0.604
	The gap between knowledge deliver and knowledge receiver in terms of experience	0.688
	Weak communication	0.606
Infrastructure	Lack of time to determine the necessary knowledge requirements	0.741
	Lack of space and equipment for sharing knowledge	0.698
	Insufficient financial support	0.735
Organizational structure	Structure of organization	0.774
	Insufficient infrastructure	0.634
Lack of infrastructure	Lack of explaining about the advantages of knowledge sharing	0.825
	Lack of knowledge management strategy	0.63

The results of Table 4 clearly show that job security is one of the most important barriers for implementation of knowledge management. There are several reasons to blame, for instance, employees do not share their knowledge because they are under the impression that they could lose

their jobs if they share their thoughts. Culture is among other important issues, which could jeopardize the organization identity. Unfamiliarity with the advantage of knowledge sharing, lack of awareness about the benefit of sharing knowledge, etc. are among the issues influencing knowledge sharing. Lack of having good infrastructure is one of the most important issues influencing sharing knowledge among employees. Organizational structure is also another important issue, which influences organizations for sharing their thoughts.

4. Conclusion

This paper has explained the relative importance of sharing knowledge among employees of organization. The proposed study of this paper has applied factor analysis to discover important factors associated with knowledge management and has detected six factors including support on creativity, knowledge sharing, trust, employee promotion plan, vision and training programs. The study has explained how to reach the organizational objectives on sharing knowledge by detecting important barriers through the implementation of factor analysis. The study has detected six factors including job security, culture, individual differences, infrastructures, organizational structures and lack of sufficient infrastructure. Among the most important issue, we can consider job security as a barrier. In fact, the study has found that many employees do not wish to share their knowledge because they are under the impression that they could lose their jobs if they share their thoughts.

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