

The Effect of Fundamental Knowledge Management on Optimizing Infrastructures of Trading Companies (Case Study: Shiraz, City, Iran)

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Abstract: The aim of this study was to investigate the effect of fundamental knowledge management on optimizing infrastructures of trading companies in Shiraz city, Iran. The research method was correlation. The population was included all managers and experts of trading companies (300 individuals) that 170 individuals were selected according to Morgan table. Data were collected as data collection of books, articles and questionnaire. To test hypotheses, Kolmogorov-Smirnov test and single-parameter regression and Pearson's correlation coefficient was used and SPSS software version 22 was used. According to the results, acquiring knowledge, creating knowledge, storing knowledge, distribution and maintenance of knowledge has effect on optimizing infrastructures of trading companies. Also, the fundamental knowledge management has the ability to predict optimizing infrastructures of trading companies in Shiraz, Iran and high correlation was observed between indices of knowledge management and optimization indices of infrastructures of trading companies in Shiraz, Iran.

Keywords: Knowledge Management, Infrastructure Optimization, Trading Companies.

Introduction

In line with the growing trend of economic, social and cultural developments that affect all aspects and elements of organizations and has created new expectations, the role of managers has also been radically altered. In recent years, fundamental changes have been created in the organization of these developments and these changes has been led to the emergence of modern methods and principles management and one of its most important is knowledge management. Knowledge management is a process that helps organizations to identify, select, organize and publish information and critical skills, which are a form of institutional memory and are normally not organized. This issue enables organization to learn problem solving, planning and dynamic decision-making strategy as efficient and effective. Knowledge management emphasizes the identification and delivery of knowledge, so that, it can officially be shared and as a result is re-used (Alvani, 2012).

The basic characteristics of Smart organizations in the 21st century emphasize on knowledge and information. Unlike previous organizations, today organizations have high and modern technology that need to capture, management and exploitation of knowledge and information to improve efficiency, manage and endless track changes. Knowledge is a powerful tool that can create global changes and enable innovation. Data is transferred, information is shared, but knowledge is an attribute of individuals and communities that simply is not movable. Knowledge management is an important tool which organizations can better manage knowledge and information

through it. Unlike other techniques, the definition of knowledge management is often not easy because have associated a wide range of concepts, management tasks, technologies and practices with spontaneous. Today's competitive and global environment has included management practices growth such as total quality management, modeling, reengineering, restructuring, downsizing and outsourcing, strategic planning, organizational learning and knowledge management. In the 21st century, organizations are inherently competitive, consistent and pioneer. Developing strategic competitive advantage needs new organization that they have ability to create knowledge in maximizing competition and strategic success. Organizations need to have mechanisms to create and control knowledge. However, many organizations still did not study knowledge management activity formally, consciously or not, which probably the reason for this neglect is that most organizations have not the concept of knowledge management and does not understand its importance. Knowledge management still has a framework for itself, because the literature and research in this area is low (Fathi, 2014).

The cost for Knowledge management in 1998 reached to 776 million dollars and this figure in 2003 reached to 8 billion US dollars. Today, the new organizational wealth is TQM, reengineering, intellectual and social capital and in the 21st century, organizations will be successful that are excel in the field of knowledge (Izadian et al., 2013).

Although, the gaps between primary and secondary processes of commercialization have been destroyed in developed countries due to weak infrastructure commercialization, but certainly does not mean that developed technology has been commercialization. Consequently, to promote technology commercialization, it is not required only to development of organized activities in this field and direct investment of society traditionally, but technology and information should perform beside necessary infrastructure for organized production activities, standardization, technology testing and etc. Along with these factors, systems, policies and programs should be modified in relation to the development of such infrastructure and institutions should be formed for technology commercialization activities effectively and efficiently (Taghavi, et al., 2012).

Materials and Methods

The aim of this study based on purpose was applied research. The research method was correlation. The population was included all managers and experts of trading companies (300 individuals) that 170 individuals were selected according to Morgan table.

Results

First hypothesis of research

Acquiring knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz. To investigate this hypothesis, knowledge acquisition parameters were analyzed with infrastructures of trading companies. To analyze above hypothesis, Pearson correlation test was used.

This means that:

H0: there is no significant relationship between Acquiring knowledge and infrastructures of trading companies.

H1: there is significant relationship between Acquiring knowledge and infrastructures of trading companies.

Table 1. The analysis of the first hypothesis.

Hypothesis 1) Acquiring knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.						
	IT infrastructures	Research and development Infrastructures	Communication Systems Infrastructures	Network marketing Infrastructures	Financial funding infrastructures	Acquiring knowledge
1	IT infrastructures	1				
2	Research and development Infrastructures	0.371**	1			
3	Communication Systems	0.291**	0.360**	1		

Infrastructures						
4	Network marketing Infrastructures	0.226**	0.235**	0.362**	1	
5	Financial funding infrastructures	0.350**	0.192*	0.269**	0.335**	1
6	Acquiring knowledge	0.519**	0.548**	0.412**	0.161*	0.255** 1

Table 2. Analysis of the first hypothesis.

Hypothesis 1) Acquiring knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.			
infrastructure of trading companies	Pearson correlation coefficient	Sig.	Number
IT infrastructures	0.519	0.000*	170
Research and development Infrastructures	0.548	0.000*	170
Communication Systems Infrastructures	0.412	0.000*	170
Network marketing Infrastructures	0.161	0.036*	170
Financial funding infrastructures	0.255	0.001*	170

According to the table above, it is clear that the hypothesis H0 is rejected, and therefore, there is a significant relationship with high correlation coefficient between knowledge acquisition and optimization of infrastructures of trading companies.

The second hypothesis of research

Creating knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz. To investigate this hypothesis, creating knowledge parameters was analyzed with infrastructures of trading companies. To analyze above hypothesis, Pearson correlation test was used.

This means that:

H0: there is no significant relationship between creating knowledge and infrastructures of trading companies.

H1: there is significant relationship between creating knowledge and infrastructures of trading companies.

Table 3. The analysis of the second hypothesis.

Hypothesis 2) Creating knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.						
	IT infrastructures	Research and development Infrastructures	Communication Systems Infrastructures	Network marketing Infrastructures	Financial funding infrastructures	Creating knowledge
1	IT infrastructures	1				
2	Research and development Infrastructures	0.371**	1			
3	Communica	0.291**	0.360**	1		

	tion Systems Infrastructures					
	Network					
4	marketing Infrastructures	0.226**	0.235**	0.362**		1
	Financial					
5	funding infrastructures	0.350**	0.192**	0.269**	0.335**	1
	Creating knowledge					
6		0.363**	0.351**	0.364**	0.254**	0.257**
						1

Table 4. Analysis of the second hypothesis.

Hypothesis 2) Creating knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.			
infrastructure of trading companies	Pearson correlation coefficient	Sig.	Number
IT infrastructures	0.363	0.000*	170
Research and development Infrastructures	0.351	0.000*	170
Communication Systems Infrastructures	0.364	0.000*	170
Network marketing Infrastructures	0.254	0.001*	170
Financial funding infrastructures	0.257	0.001*	170

According to the table above, it is clear that the hypothesis H0 is rejected, and therefore, there was a significant relationship with high correlation coefficient between creating knowledge and optimization of infrastructures of trading companies.

The third hypothesis of research

Storing knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz. To investigate this hypothesis, Storing knowledge parameters was analyzed with infrastructures of trading companies. To analyze above hypothesis, Pearson correlation test was used.

This means that:

H0: there is no significant relationship between storing knowledge and infrastructures of trading companies.

H1: there is significant relationship between storing knowledge and infrastructures of trading companies.

Table 5. The analysis of third hypothesis.

Hypothesis 3) Storing knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.						
	IT infrastructures	Research and development Infrastructures	Communication Systems Infrastructures	Network marketing Infrastructures	Financial funding infrastructures	Storing knowledge
1	IT infrastructures					1
2	Research and development Infrastructures	0.371**				1

3	Communication Systems Infrastructures	0.291**	0.360**	1			
4	Network marketing Infrastructures	0.226**	0.235**	0.362**	1		
5	Financial funding infrastructures	0.350**	0.192*	0.269**	0.335**	1	
6	Storing knowledge	0.372**	0.229**	0.523**	0.280**	0.456**	1

Table 6. Table analysis of third hypothesis.

Hypothesis 3) Storing knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.			
infrastructure sf trading companies	Pearson correlation coefficient	Sig.	Number
IT infrastructures	0.372	0.000*	170
Research and development Infrastructures	0.229	0.003*	170
Communication Systems Infrastructures	0.523	0.000*	170
Network marketing Infrastructures	0.280	0.000*	170
Financial funding infrastructures	0.456	0.000*	170

According to the table above, it is clear that the hypothesis H0 is rejected, and therefore, there was a significant relationship with high correlation coefficient between storing knowledge and optimization of infrastructures of trading companies.

The fourth hypothesis of research

Knowledge distribution has effect on infrastructure optimization of trading companies in the city of Shiraz.

This means that:

H0: there is no significant relationship between Knowledge distribution and infrastructures of trading companies.

H1: there is significant relationship between Knowledge distribution and infrastructures of trading companies.

Table 7. The Analysis of fourth hypothesis.

Hypothesis 4) distribution of knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.						
	IT infrastructures	Research and development Infrastructures	Communication Systems Infrastructures	Network marketing Infrastructures	Financial funding infrastructures	Distribution of knowledge
1	IT infrastructures	1				
2	Research and development Infrastructures	0.371**	1			

3	Communication Systems Infrastructures	0.291**	0.360**	1		
4	Network marketing Infrastructures	0.226**	0.235**	0.362**	1	
5	Financial funding infrastructures	0.350**	0.192**	0.269**	0.335**	1
6	Distribution of knowledge	0.440**	0.220**	0.217**	0.223**	0.536**

Table 8. The analysis of fourth hypothesis.

Hypothesis 4) distribution of knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.			
infrastructure of trading companies	Pearson correlation coefficient	Sig.	Number
IT infrastructures	0.440	0.000*	170
Research and development Infrastructures	0.200	0.009*	170
Communication Systems Infrastructures	0.217	0.004*	170
Network marketing Infrastructures	0.223	0.003*	170
Financial funding infrastructures	0.536	0.000*	170

According to the table above, it is clear that the hypothesis H0 is rejected, and therefore, there was a significant relationship with high correlation coefficient between distribution of knowledge and optimization of infrastructures of trading companies.

The fifth hypothesis of research

Maintenance of knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz. This means that:

H0: there is no significant relationship between maintenance of knowledge and infrastructures of trading companies.

H1: there is significant relationship between maintenance of knowledge and infrastructures of trading companies.

Table 9. The analysis of fifth hypothesis.

Hypothesis 5) maintenance of knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.						
	IT infrastructures	Research and development Infrastructures	Communication Systems Infrastructures	Network marketing Infrastructures	Financial funding infrastructures	Maintenance of knowledge
1	IT infrastructures	1				
2	Research and development Infrastructures	0.371**	1			

3	Communication Systems Infrastructures	0.291**	0.360**	1		
4	Network marketing Infrastructures	0.226**	0.235**	0.362**	1	
5	Financial funding infrastructures	0.350**	0.192**	0.269**	0.335**	1
6	Maintenance of knowledge	0.440**	0.200**	0.217**	0.223**	0.536**

Table 10. The analysis of fifth hypothesis.

Hypothesis 5) maintenance of knowledge has effect on infrastructure optimization of trading companies in the city of Shiraz.			
Infrastructures of trading companies	Pearson correlation coefficient	Sig.	Number
IT infrastructures	0.440	0.000*	170
Research and development Infrastructures	0.200	0.009*	170
Communication Systems Infrastructures	0.217	0.004*	170
Network marketing Infrastructures	0.223	0.003*	170
Financial funding infrastructures	0.536	0.000*	170

According to the table above, it is clear that the hypothesis H0 is rejected, and therefore, there was a significant relationship with high correlation coefficient between maintenance of knowledge and optimization of infrastructures of trading companies.

Hypothesis 6) knowledge management can have an effect on predicting optimization of infrastructures of trading companies. To test this hypothesis, linear regression analysis was used. The results of univariate regression were as follows:

Table 11. Summary of model.

Statistics	Value
Pearson correlation coefficient	0.757
The coefficient of determination	0.574
Adjusted coefficient of determination	0.571

Table 11 shows that Pearson correlation coefficient was 0.757 which showed a significant positive correlation between optimizing infrastructures of trading companies and knowledge management of organization. The coefficient of determination was equal to 0.574 that shows the organization's knowledge management justify about 57% of optimization changes in infrastructures of trading companies and the rest are belong to other variables.

Table 12. Analysis of variance.

Model	sum of squares	Degrees of freedom	Mean square	F statistic	The level of significance
Regression	11.665	1	11.665	226.038	0.000
Residuals	8.670	168	0.52		
Total	20.335	169			

In Table 12, the null hypothesis (The regression is not significant) are examined in contrary to H1 (The regression is significant). This is done by using the F-test through following hypotheses. Since, the significance level was 0.00 and was less than the acceptable error (0.05), so, the null hypothesis was rejected and the regression was statistically significant.

Table 13. Regression coefficients.

Variables	Parameter estimation	statistic T	Sig.
Intercept β_0	0.900	4.890	0.000
Knowledge management β_1	0.751	15.035	0.000

So, regression was significant, so, statistical hypotheses will be examined in Table 13. To test this hypothesis, the t-statistic is used. if a significant level of test be less than acceptable error (0.05), the null hypothesis is rejected, which means that the coefficient is significant. According to the results of Table 13, the significant coefficient of intercept was equal to 0.00 and less than 0.05. Also, the significance level of knowledge management coefficient was 0.00 and less than 0.05. Therefore, we can say that knowledge management has effect on Optimizing infrastructures of trading companies. Considering the estimated value of the coefficient of 0.751 which is positive, it can be said that knowledge management has a direct and positive effect on optimizing infrastructures of trading companies and regression equation was as follows:

$$\text{Optimizing infrastructures of trading companies} = 0.900 + 0.751 \text{ knowledge management}$$

Conclusion

Knowledge management can be expected to optimize infrastructures of trading companies. Univariate regression analysis was used to evaluate this hypothesis that the use of prediction and its correlation indicates that knowledge management can predict 57 percent of optimizing infrastructures of trading companies and help to improve and to optimize infrastructures of trading companies. Part of the results of this study hypothesis are in line to optimize infrastructures of trading companies conducted study by Fozouni-ardakani and Zamani (2014) entitled "the optimal system of ideas commercialization and achievements of academic research" as well as research conducted by Matin and Mohammad-zadeh (2013) entitled "review of commercial linear models".

Conflict of interest

The authors declare no conflict of interest

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