Requirements of Knowledge Management Implementation in Istanbul Aydin University

Fady MF Abughazi* and Ugur Sener

Department of Business Administration, Istaanbul Aydin University, Istanbul, Turkey

Abstract

Knowledge is power, after knowledge has started to play an important in the organization, then this paper proves the importance of knowledge management in the education sector. So this study aims to explore the requirements of knowledge management implementation in Istanbul Aydin University in Turkey. The descriptive analytical approach is used, and the population of the study was the staff working in Istanbul Aydin University. The questionnaire was `used as a tool for data collection. The collection of data done by sending an online questionnaire to staff working's emails and distributing the questionnaires to the university's staff by hand. (281) questionnaire were collected and analyzed statistically by SPSS program. The main conclusions that study reached, is that knowledge management assists Istanbul Aydin University to achieve their goals, and that there is a positive relationship between the implementation of knowledge management and the requirements of knowledge management (organizational structure, leadership, information technology) in Istanbul Aydin University.

Summary

This study investigates knowledge management practices in Istanbul Aydın University. The researcher used a descriptive analytical approach and the population of the research was the academic staff and administrative staff in Istanbul Aydın University. The survey was used as a data collection tool. Data collection has been completed in two ways. First, the researcher designed an online questionnaire and sent staff working by the university e-copy, and (30) the staff responded to the online questionnaire. The researcher has distributed questionnaire forms to the staff of the university. (290) (86.5%) (251) were collected. According to the results of the research; knowledge management helps Istanbul Aydın University achieve its goals and there is a positive relationship between the application of knowledge management and information management requirements (organizational structure, leadership information technology).

The results showed a positive relation between the requirements of information management (organizational structure, transformational leadership and information technology) in Istanbul Aydın University. Information technology (3.83) was in the first place with the average, followed by the organizational structure with the average (3.34). Leadership (3.10) is in the third place with an average. In the implementation of knowledge management and organizational structure areas, participants were found to have significant statistical differences with respect to the application requirements of information management due to position. Moreover, there were no significant statistical differences in answers depending on the position in the fields of leadership and information technology, and there were no significant statistical differences in responses due to gender and age experiences at the same time.

This research is based on a series of seminars, conferences, workshops, training courses and conferences in the university's information management field, and attention is given to such practices as knowledge management and information sharing culture. İstanbul Aydın University should evaluate creativity processes in information management by following new creative opportunities and choosing the best of them. In addition, knowledge management activities should provide a basis for competition among employees.

Introduction

Knowledge is progressively being acknowledged as the new imperative strategy for organizations, and the capability to manage knowledge is becoming progressively more critical in today's knowledge economy. The creation and propagation of knowledge have become increasingly significant factors in competitiveness. The emergence of the KM definition started with Peter Drucker's famous quote (1993): "The basic economic resource is no longer natural resources, nor labor, nor capital. It is and will be knowledge".

KM as an organizational innovation has been with us for more than a decade. As a discipline, it has reached a state of maturity where we can now discern the principles, practices, and tools that make it unique. As a discourse, it has engendered new concepts and categories for us to make sense of the many important ways that organizations use knowledge to create value. Thomas H Davenport defined KM as "KM is the process of capturing, distributing, and effectively using knowledge." KM is becoming increasingly important and effective in various sectors of society.

Knowledge sharing is considered the most significant resource for assuring a continuous survival, existence and success for the organizations. This study explains and discusses the most important subjects that help the success of KM implementation. This study tries to answer the question which is "what are the requirement for the organizations to be successful in KM implementation" through studying the three diminutions that affects the implementation of KM which are "organizational culture, leadership and information technology".

***Corresponding author:** Abughazi FMF, Department of Business Administration, Istaanbul Aydin University, Istanbul, Turkey, Tel: +904441428; E-mail: fadyabughazi@gmail.com

Literature Review

Knowledge management

Everyone manages. Managing our time, career, finance, relationship and life consider a managerial behavior. However, the complexity increases when the concepts of managing or being a manager are applied to the organization [1]. The practice of management can be traced to the twentieth century, in spite of the importance of management in all business and humanitarian activities, but there is no clear agreement among experts and researchers in the field of management on the standard definition.

The definition of KM concept varies according to the changing of the entrances of the concept, as well as the changes of the disciplines and the backgrounds of researchers and writers in this field. This contrast is also due to the breadth of KM concept or the rapid changes of the concept. KM can be defined as the exploitation of skills and expertise to facilitate the generation and sharing of knowledge among the members of the organization through group working and seeking for the necessary information to achieve the objectives of the organization.

There are so many features for the organizations that operate the concept of KM. Organizations of KM use the scientific research methods and other systemic methods as a basis for planning, thinking and decision-making. And also, they seek to ensure the development of knowledge from various internal and external sources, and the continuous updating of the available knowledge. They also use the current available knowledge appropriately in setting goals and objectives.in addition to the high-speed rate of processes of creativity, innovation and the development of products and services.

Organizational structure

The most appropriate organizational structures for the implementation of KM in organizations are structures that help to develop the spirit of teamwork, which is characterized by flexibility, and continuity and sharing of knowledge at all levels of the organization.

KM can be made successful by the organization when they know their needed knowledge. Even though some of best of the practices of KM can be transferred among organizations, internal and external situation of the organization should be taken seriously and KM activities should be adjusted to it [2].

The type of organizational structure is critical factors that influence the success of the organization with any KM activities. Nonaka and Takeuchi classified a three types of organizational structures, and there structures are (the bottom-up structures, top-down structures and combined structures (they also refer to combined structures as middle up down model) [2]. The best structure which helps the implementation of KM is the combined structure, because it is a hybrid structure, so organizations can use the benefits of the advantages of bottom-up and top-down structures and crush the disadvantages.

Transformational leadership

Leaders are strongly effective in the practices of KM. What leaders could do for making this factor more effective is to share their individual knowledge and also to fulfill and promote their knowledge skills [3]. Transformational leadership able to function such an important role in promoting the environment of organizations and it can help to apply knowledge efficiently by managing the knowledge in the desired way to improve the organizational learning [4].

All of the transformational leaders have the same common attribute that all of them try and attempt to encourage their followers to involve a higher degree of KM [5]. Transformational leaders improve an environment which aids to create, share, maintain, and imply knowledge. Especially, transformational leaders by using advantages of the mental inspiration, ideal and developmental support inspire their followers to generate and share knowledge.

The authors declared that transformational leaders generate and invent original ideas and support the workers in applying these ideas to develop the process of production. According to this, there is a positive relationship between transformational leadership and the employees' performance has been noticed. Eventually, organizations encouraging innovative performance among the employees support knowledge creation [6,7].

In general, KM's behaviors can be predicted by transformational leaders, and they function a very significant role in implying and managing KM. Those leaders show the same view and generate functional solutions to inspire the followers to make them more taking a part in the activities of KM. Transformational leaders prepare low-level individuals with information competencies, motivation, skills and duties that assist them to inspire, gain, create, share, keep and imply knowledge.

Information technology

Prusak and Davenport the core role of IT in KM is to quicken the rapidity of transferring knowledge. The software of KM advocates the flow of knowledge through communities and networks. The tools of KM aim to help the practices of organizing and gathering the knowledge of groups of individuals to make the knowledge obtainable in a shared base. The use of modern information technology to get the best results is the main requirement for organizations that want to be at the forefront. KM needs to apply IT in order to improve creating, organizing, sharing and applying knowledge. Therefore these technological tools are too important and without it, the organizations can not apply and practice the full KM. IT is playing an important role in ease the implementing of KM in organizations.

Today, numerous tools are available under the umbrella of KM. The discovery of knowledge by technological tools able to be very effective for organizations that wants to get a sustainable competitive advantage. Technology plays an important role in the management of knowledge, as in knowledge generation, acquisition, sharing and storing. So we can sum up the role of technology in KM in the following points:

- KM is often facilitated by information technology.

- supports the interaction of resources for the generation of new knowledge.

- Increases the "capability" and "efficiency" of KM by IT tool.

- Provides solutions to KM.

- Provides several means to facilitate the formation of joint workshops.

Methodology

A descriptive study in addition to a statistical analysis is used to describe and evaluate the requirements of KM implementation in the IAU. A questionnaire was used to test and analyze the requirements of KM implementation. The study represents a population of staff working including (deans, administration staffs, head of departments and academics) in IAU, however, (30) of staff working members answered

the online questionnaire and (251) collected questionnaire by hand and the number of the collected questionnaires was (281).

A Likert scale to measure respondents' responses to the question of the questionnaire. The questionnaire was composed of two parts: first part aims to collect personal and professional information including, gender, job title, years of work. Second part aims to measure the implementation of KM and the requirements of KM implementation (organizational structure, transformational leadership and information technology).

Kolmogorov-Smirnov test was used to make sure if the collected data distributed according to normal distribution or not. The next table shows the result of the test (Table 1).

A Pearson correlation coefficient test was used to the internal and structure scale of the questionnaire. And the results of the internal scale show the positive relationship between each element of the questionnaire with all elements of entire fields. Table 2 shows the lowest and the highest value of correlation for the elements of each filed.

Also, Table 3 shows structure validity results which are the coefficient relation between each field of the questionnaire and the whole fields.

In addition, in Table 4 a Cronbach's alpha test was used to measure the reliability of the questionnaire and the results shows a a good and mostly a very high consistency (Table 4).

Results

A Statistical analysis of the collected data from the questionnaire by using a statistical software program (SPSS) was performed to reach the results of the study that will be presented and analyzed.

One-Sample T-test was used to determine the statistical mean of each question and then compare the results with the neutrality degree of (3) and at the end conclude if the response to a questionnaire's item was equal to the neutrality degree of (3) or significantly differ than it.

Table 5 shows the result of one sample t test for KM implementation field. The second question of the field placed as a highest accepted question and thirteenth question placed as the lowest accepted question. However, the all the items of the field results show a general acceptance for the field of KM implementation

Table 6 shows the result of one sample t test for the organizational structure filed. The forth question of the field placed as a highest accepted question and sixth question placed as the lowest accepted question. However, the all the items of the field results show a general acceptance for the field of organizational structure.

And also, Table 7 shows the result of one sample t test of the leadership field. The sixth question of the field placed as a highest

Field	P-Value (sig.)
All Fields of the Questionnaire	0.0826

Table 1: One sample kolmogorov-Smirnov test.

The Filed Name	No.	Item (question)	Pearson Correlation Coefficient	P-Value (sig.)
Knowledge Management	1	Administrative behaviors such as (Knowledge appreciation, knowledge building, knowledge sharing) represent a model for workers in the university.	0.564	0.000
	2	The university provides a continuous updating of the information by communicating with the external environment.	0.768	0.000
Organizational Structure	1	Decentralization of work provides an opportunity to share knowledge among employees.	0.630	0.000
	2	The university provides a periodic review of the organizational structures according to the internal and external variables that required by the effective organizational structure.	0.804	0.000
Leadership	1	Managers have the ability to influence subordinates.	0.592	0.000
	2	The university encourages the employees to submit their ideas and suggestions.	0.821	0.000
Information Technology	1	The university provides an electronic means for helping to hold conferences and meetings and transfer experiments remotely.	.563	.000
	2	The University provides the necessary computer software to gain and easily share the knowledge.	.740	.000

Table 2: The correlation coefficient (internal scale).

No.	The Name of the Field	Pearson Correlation Coefficient	P-Value (sig.)
1	Implementation of knowledge management	0.883	0.000
2	Organizational structure	0.888	0.000
3	Transformational leadership	0.906	0.000
4	Information technology	0.712	0.000
5	Requirements of knowledge management	0.982	0.000

Table 3: The correlation coefficient between each field of the questionnaire and the whole fields.

No.	The Name of the Field	No. of Items	Cronbach's Alpha Coefficient
1	Knowledge Management	13	0.893
2	Organizational Structure	11	0.914
3	Leadership	11	0.902
4	Information Technology	10	0.857
5	Requirements of Knowledge Management	32	0.945
6	All Fields of the Questionnaire	45	0.958

Table 4: Cronbach's Alpha for Reliability.

Item's No.	Item (question)	Mean	P-Value (sig.)	Test Value (T)	Order
2	Knowledge management helps in achieving the objectives of the university.	4.1281	.000	21.868	1
13	The university seeks to attract highly skilled and qualified people from outside to help in generating knowledge.	3.3630	.000	5.072	13
All the items of the field		3.7473	0.000	19.218	

Table 5: One-Sample T test mean and P-value (sig) of the implementation KM field.

Item's No.	Item (question)	Mean	P-Value (sig.)	Test Value (T)	Order
4	The university provides an organizational structure achieves integration, coordination and interaction in cognitive assets.	3.5943	0.000	10.075	1
6	The university reduced the hierarchical levels of supervision to allow closeness between organizational levels.	2.8185	0.008	-2.669	11
All the Items of the Field		3.3381	0.000	6.970	

Table 6: One-Sample T test mean and P-value (sig) of dominant organizational structure field.

Item's No.	Item (question)	Mean	P-Value (sig.)	Test Value (T)	Order
6	The university participates in local and international scientific conferences which contribute acquiring a new knowledge.	3.6762	0.000	10.815	1
7	The university relies on a leadership style which based on granting authority to employees.	3.0641	0.365	0.907	8
8	There is justice in the distribution of rewards and bonuses among employees in the university.	2.4057	0.000	-8.532	11
All the items of the field		3.1016	0.037	2.092	

Table 7: One-Sample T test mean and P-value (sig.) of dominant transformational leadership Field.

Item's No.	Item (question)	Mean	P-Value (sig.)	Test Value (T)	Order
3	Mainstreaming of the internet connection service for employees at all levels in the university.	4.2420	0.000	24.913	1
6	The university provides an electronic means for helping to hold conferences and meetings and transfer experiments remotely.	3.6228	0.000	10.402	10
All the items of the field		3.8317	0.000	21.460	

Table 8: One-Sample T test mean and P-value (sig.) of dominant information technology field.

Field	Pearson Correlation Coefficient	P-Value (sig.)
Organizational structure	.764	.000
Transformational leadership	.683	.000
Information technology	.531	.000
Requirements of KM	.779	.000

Table 9: The correlation coefficient between KM and KM requirements.

Field	Gender	No. of Respondents	Mean	Std Deviation	T-Value	P-Value (sig.)
KM implementation	Male	127	3.6996	.63480	-1.121	.263
	Female	154	3.7867	.66507		
Organizational structure	Male	127	3.3658	.75415	.525	.600
	Female	154	3.3152	.86051		
Transformational leadership	Male	127	3.1167	.82050	.281	.779
	Female	154	3.0891	.81109		
Information technology	Male	127	3.7929	.68071	-.900	.369
	Female	154	3.8636	.62328		
Requirements of KM	Male	127	3.4136	.66107	.060	.952
	Female	154	3.4089	.65795		

Table 10: Two independent samples T-Test for testing the differences due to gender.

accepted question and eighth question placed as the lowest accepted question. In contrast, the results shows that the sample didn't agree on some questions of this filed, and we can see that there is a higher disagreement on the seventh question with a p-value (0.365) which is a way over than the level of significance (0.05). However, the all the items of the field results show a general acceptance for the field of leadership.

Table 8 shows the result of one sample t test for the information technology filed. The third question of the field placed as a highest accepted question and sixth question placed as the lowest accepted question. However, the all the items of the field results show a general acceptance for the field of information technology.

Table 9 shows the correlation coefficient between KM and the requirements of KM equals (.779)and the p-value (sig.) equals (0.000) which is less than (α = 0.05). This result confirms a positive and statistical significance between the requirements of KM and the implementation of KM in IAU.

The results of Table 10 shows purely that opinions regarding gender make no difference in the study. The results indicate to accept the sub-

Fields		Sum of Squares	DF	Mean Square	F-Statistic	Sig.
The implementation of Knowledge Management	Between Groups	4.538	4	1.135	2.736	0.029
	Within Groups	114.439	276	0.415		
	Total	118.978	280			
Organizational structure	Between Groups	11.616	4	2.904	4.619	0.001
	Within Groups	173.514	276	0.629		
	Total	185.130	280			
Transformational leadership	Between Groups	5.113	4	1.278	1.956	0.102
	Within Groups	180.417	276	0.654		
	Total	185.530	280			
Information technology	Between Groups	0.931	4	0.233	0.548	0.701
	Within Groups	117.237	276	0.425		
	Total	118.168	280			
Requirements of knowledge management	Between Groups	3.228	4	0.807	1.886	0.113
	Within Groups	118.071	276	0.428		
	Total	121.299	280			

Table 11: Analysis of variance (Job-title variable).

Fields		Sum of Squares	DF	Mean Square	F-Statistic	Sig.
The implementation of Knowledge Management	Between Groups	0.575	3	0.192	0.448	0.719
	Within Groups	118.403	277	0.427		
	Total	118.978	280			
Organizational structure	Between Groups	1.375	3	0.458	0.691	0.558
	Within Groups	183.755	277	0.663		
	Total	185.130	280			
Transformational leadership	Between Groups	2.353	3	0.784	1.186	0.315
	Within Groups	183.177	277	0.661		
	Total	185.530	280			
Information technology	Between Groups	1.214	3	0.405	0.958	0.413
	Within Groups	116.955	277	0.422		
	Total	118.168	280			
Requirements of knowledge management	Between Groups	1.374	3	0.458	1.058	0.367
	Within Groups	119.925	277	0.433		
	Total	121.299	280			

Table 12: The analysis of variance (Experience variable).

hypothesis which indicates that there are no differences among the respondents in their opinions over the study fields attributed to gender.

The results of Table 11 show that there are statistically significant differences among the respondents on the implementation of KM and organizational structure fields due to the job title variable. And also it shows that there are no statistically significant differences among the respondents on transformational leadership, information technology and requirements of KM fields due to the job title variable.

It can be concluded from Table 12 that there are no statistically significant differences among the respondents on these fields due to the experience variable.

Conclusion

The results showed the positive relationship between the requirements of KM (organizational structure, transformational leadership and information technology) in IAU. In addition, the study identifies that there are no differences among the respondents in their opinions over the requirements of KM implementation attributed to gender and years of experience. The study detected that there are significant statistical differences in the implementation of knowledge management and organizational structure fields between the answers of the respondents concerning the requirements of implementing knowledge management due to the position (job-title). The study also detected that there are no significant statistical differences in the

responses opinions at the transformational leadership, information technology and requirements of KM fields due to position (job-title).

Recommendations

The university should pay attention to hold a series of seminars, lectures, workshops, training courses and conferences in the field of KM to raise awareness and culture of KM and exchange of information and experiences in this field. The university also should hold workshops to explain to the employees their rights and give them information about its regulations and laws. And also, they should make the practice of KM activities as a basis for the competition among employees.

Next, the University should encourage its employees to share their ideas and suggestions by interacting with them and rewarding them for their significant ideas. The university should keep up with the management methods, methodologies and practices that related to KM to improve develop and invest the knowledge which is available in its human resources and pay attention to their knowledge as a great wealth that increases its success or turns its failure into success.

References

1. Darr K (2010) Introduction to Management and Leadership Concepts, Principles, and Practices. Jones & Bartlett Learning.

2. Mladkova L (2011) Analyze Of Interrelation Between Knowledge Management And Organizatıonal Structure Of Organization. Bilgi Ekonomisi ve Yonetimi Dergisi.

3. Gelard P, Boroumand Z, Mohammadi A (2014) Relationship between transformational leadership and knowledge management. International Journal of Information Science and Management.

4. Aragon-Correa JA, Garcia-Morales VJ, Cordon-Pozo E (2007) Leadership and organizational learning's role on innovation and performance: Lessons from Spain. Industrial Marketing Management 36: 349–359.

5. Bryant SE (2003) The role of transformational and transactional leadership in creating, sharing and exploiting organizational knowledge. Journal of Leadership & Organizational Studies 9: 32-44.

6. Birasnav M, Rangnekar S, Dalpati A (2011) Transformational leadership and human capital benefits: The role of knowledge management. Leadership & Organization Development Journal 32: 106-126.

7. Koenig MED (2005) Knowledge Management in Theory and Practice. Butterworth Heinemann.