ORIGINAL ARTICLE

Relationship between Organizational Culture and Knowledge Management from the Perspective of Faculty Members

Introduction: Organizational culture and knowledge management will affect all aspects of the organization. Successful knowledge management is required to improve of organizational culture. In fact the organizational culture is the base of knowledge management. The context of appropriate organizational culture provides more effective application of knowledge or knowledge management and case the promotion and development of organization. So in this study investigated between two components of organizational culture and knowledge.

Methods: Organizational culture and knowledge management were evaluated by pre-approved questionnaire. This study was examined on all faculty members of Research Centers Affiliate to University of Medical Sciences. After using Smirnoph Colomograph test to determine data normality, Descriptive and analytical statistics was performed by SPSS software (version 21).

Results: Current situation review of organizational culture and knowledge management of considrered centers were assessed as average (range, 3 to 4). Pearson correlation coefficient results was also showed a significant correlation between organizational culture and knowledge management (P= 0.926). Organizational collaboration and knowledge management relationship was not significant (P <0.001); also a significant relationship was found between organizational involvement, adaptability, consistency and Mission with Knowledge management (P <0.001).

Conclusion: In order to achieve the goals of proper management of knowledge in promoting organizational culture in research centers it is essential to provide the necessary training and skills because there was a direct link between knowledge management and organizational culture.

Keywords: Knowledge management, organizational culture, knowledge transfer

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دراسة العلاقة بين الثقافة التنظيمية وإدارة المعرفة من وجهة نظر أعضاء الهيئة العلمية

المقدمة: الثقافة التنظيمية وإدارة المعرفة تؤثر على جميع جوانب المنظمة. تعزيز الثقافة التنظيمية أمر ضروري لإدارة المعرفة الناجحة. بما أن الثقافة التنظيمية المناسبة توفر الأساسات الأكثر فعالية للمعرفة أو إدارة المعرفة، وتسبب تعزيز وتطوير المراكز، فإنه في هذه الدراسة، تم التحقيق في العلاقة بين الثقافة التنظيمية وإدارة المعرفة.

الطريقة: تم تقييم الثقافة التنظيمية باستخدام استبيان دنيسون، وإدارة المعرفة من خلال استبيان تم تأييده مسبقاً. أجريت هذه الدراسة على أعضاء الهيئة العلمية في جميع مراكز البحوث في جامعة إيران للعلوم الطبية (٢٩ مركز). بعد تحديد نطبية البيانات باستخدام اختبار كولموجروف سميرنوف، تم تحليل البيانات بواسطة برنامج SPSS (الإصدار ٢١) واستخدم اختبار ارتباط بيرسون لوصف وتحليل البيانات.

النتائج: أظهر تقييم حالة الثقافة التنظيمية وإدارة المعرفة في المراكز المدروسة أن هذين العنصرين في مستوى متوسط (من ٣ إلى ٤). أظهر معامل ارتباط بيرسون علاقة ذات دلالة بين الثقافة التنظيمية وإدارة المعرفة (p<٠/٠٠١، r=926/0). أيضاً كان هناك علاقة ذات دلالة بين جميع مكونات الثقافة التنظيمية أي المشاركة ، والتكامل ، والمهمة ، والقدرة على التكيف وإدارة المعرفة (P <0.001).

النتيجة النهائية: بما أنه وُجدت علاقة مباشرة بين إدارة المعرفة والثقافة التنظيمية، من الضروري من أجل تحقيق أهداف إدارة المعرفة الصحيحة في تعزيز الثقافة التنظيمية في مراكز الأبحاث الإنتباه والقيام بالتدريبات وإظهار المهارات اللازمة من أجل خلق بيئة تُحسّن نمو الموظفين بشكل أفضل وبالتالي تحسين أداء المنظمة.

الكلمات الدليلة: إدارة المعرفة، الثقافة التنظيمية، إنتقال المعرفة.

بررسی رابطه بین فرهنگ سازمانی و مدیریت دانش از نظر اعضای هیات علمی

مقدمه: فرهنگ سازمانی و مدیریت دانش بر تمام جنبه های سازمان تاثیر می گذارند. برای مدیریت موفق دانش، ارتقای فرهنگ سازمانی لازم است. از آنجاییکه فرهنگ سازمانی مناسب، زمینه های کاربرد موثرتر دانش یا همان مدیریت دانش را فراهم می آورد و سبب ارتقا و پیشرفت مراکز می شود، در این مطالعه به بررسی ارتباط بین دو مولفه فرهنگ سازمانی و مدیریت دانش پرداخته شده است.

روش: بررسی فرهنگ سازمانی با استفاده از پرسشنامه دنیسون و مدیریت دانش توسط پرسشنامه از پیش تایید شده سنجیده شد. این مطالعه بر روی اعضای هیات علمی کلیه مراکز تحقیقاتی دانشگاه علوم پزشکی ایران (۲۹ مرکز) انجام گرفت. بعد از تعیین نرمالیتی داده ها با استفاده از آزمون کولموگروف اسمیرنوف، داده ها با نرم افزار SPSS (نسخه۲۱) آنالیز و برای توصیف و تحلیل داده ها آزمون ارتباط سنجی پیرسون استفاده گردید.

یافته ها: ارزیابی وضعیت فرهنگ سازمانی و مدیریت دانش در مراکز مورد بررسی نشان داد که این دو مولفه در حد متوسط می‌باشند (دامنه ۳ تا ۴). نتایج ضریب همبستگی پیرسون رابطه معنی داری را بین فرهنگ سازمانی و مدیریت دانش نشان داد (p<۰/۰۰۱، r=926/0) همچنین بین تمام مولفه‌های فرهنگ سازمانی یعنی مشارکت، یکپارچگی، ماموریت، انطباق پذیری و مدیریت دانش رابطه معنی دار مشاهده شد (p<۰/۰۰۱).

نتیجه گیری: از آنجا که رابطه مستقیمی میان مدیریت دانش و فرهنگ سازمانی پیدا شد در نتیجه بایستی برای نیل به اهداف مدیریت صحیح دانش در ارتقاء فرهنگ سازمانی در مراکز تحقیقاتی توجه شده و آموزش‌ها و مهارت‌های لازم ارائه گردد تا بدین طریق محیطی ایجاد گردد که رشد بهتر کارکنان و در نتیجه بهبود عملکرد سازمان را موجب شوند

واژگان کلیدی: مدیریت دانش، فرهنگ سازمانی، انتقال دانش

اکیڈمیک کونسل کے اراکین کی نظر میں آرگنائزیشنل کلچر اور نالج مینجمینٹ کے درمیان ربط کا جائزہ

بیک گراونڈ: آرگنائزیشنل کلچراور نالج مینجمینٹ، آرگنائزیشن کے تمام پہلوؤں پر اثر انداز ہوتا ہے۔ کامیاب نالج مینجمینٹ آرگنائزیشنل کلچر میں بہتری لانے کے لئے ضروری ہے۔ چونکہ مناسب آرگنائزیشنل کلچر نالج کو صحیح طرح سے استعمال کرکے اھداف حاصل کرنے میں مدد کرتا ہے اور آرگنائزیشن کی ترقی کا سبب بنتا ہے لھذا ہم نے اس تحقیق میں آرگنائزیشنل کلچر اور نالج مینجمینٹ میں رابطے کا جائزہ لیا ہے۔

روش : آرگنائزیشنل کلچر کے بارے میں ہم نے ڈینیسن ماڈل پر سوالنامہ بنایا،ماہرین نے اس سوالنامے کی تائید کی تھی،اس تحقیق میں ایران کی میڈیکل یونیورسٹیوں کےتحقیقاتی مراکز کی اکیڈمیک کونسلوں کے اراکین نے شرکت کی تھی۔ یہ انتیس مراکز ہیں۔ڈیٹا کی نارمالیٹی کی تائید کے بعد گولموگروف اسمیرنوف ٹسٹ سے ڈیٹا کا تجزیہ کیا گیا اور ان دونوں امور میں رابطے کو واضح کرنے کےلئے ای پی ایس ایس سافٹ ویر استعمال کیا گیا۔

نتیجے: آرگنائزیشنل کلچر اور نالج مینجمینٹ کے لحاظ سے مذکورہ بالا تحقیقاتی مراکز کا جائزہ لینے سے پتہ چلا ہے کہ یہ دو فیکٹر متوسط حد تک پائے جاتے ہیں۔پئیرسن ریشیو نے آرگنائزیشنل کلچر اور نالج مینجمینٹ میں معنی دار رابطے کی نشاندھی کی ہے۔اس سے معلوم ہوتا ہے کہ آرگنائزیشنل کلچر کو بہتر بنانے میں، بھرپور شرکت، اتحاد، یکجہتی، ایک دوسرے کے ساتھ مل کر کام کرنے اور نالج مینجمینٹ میں قریبی ربط پایاجاتا ہے۔

سفارش:چونکہ آرگنائزیشنل کلچر اور نالج مینجمینٹ میں براہ راست رابطہ پایا جاتا ہے لھذا نالج مینجمینٹ کے اھداف حاصل کرنے کےلئے آرگنائزیشنل کلچر کو فروغ دینا ضروری ہے، اس ھدف کے لئے تحقیقاتی مراکز میں تعلی ماور مہارتی ٹریننگ کو بہتر بنانے کی ضرورت ہے تا کہ یونیورسٹی کے تحقیقاتی مراکز میں کارکنوں کی زحمتوں سے آرگنائیزیشن کو فائدہ پہنچے۔

کلیدی الفاظ: نالج مینجمینٹ، آرگنائزیشنل کلچر، تحقیقاتی مراکز۔

INTRODUCTION

In the world in which everything is changing, organizations are no exception, and each organization should do its best and create new skills and attitudes in order to adapt to the changing world. One of the rational responses to the environment is the promotion of knowledge. Knowledge as a strategic resource and a key competence is very important for organizations. Hence, today, for the proper use of this powerful source, the subject of Knowledge Management is on the agenda of leading organizations (1). According to Gupta et al., knowledge management is "a process that helps the organization find, organize, publish, and transfer important information and applies it to important cases such as problem solving, dynamic learning, strategic planning and decision making" (2). Looking at the 20-year vision document of the country, we clearly find that the acquisition of technology, having advanced knowledge, the ability to produce new sciences and technologies, such as biotechnology and health are the major goals toward which scientific units of the country should move (3). For this purpose, the study of factors that can lead to much more knowledge of the day is very important, one of the most important of these factors is organizational culture; organizational culture is described as "the prevailing values that are supported by an organization" or "a philosophy that guides the organization's policy towards employees and customers" (4). One of the important factors in the study of the status (situation) of organizational culture should be adaptability, consistency, organizational involvement and mission, because these factors are important indicators of the organization's culture (5). As a result, organizations will become knowledge-based if they have the cultural characteristics needed to implement knowledge management in the organization, and knowledge can be effectively created and distributed in the organization if it is supported by the organization's culture. As a result, organizations should provide their employees with conditions to create, share, and transfer knowledge and provide them with the necessary training in this regard. On the other hand, poor culture can be considered an obstacle to the growth of the organization. Pavlin and Mason (2002) in a study examined the obstacles and factors affecting the adoption of knowledge management programs. The study results showed that one of the main knowledge management obstacles is poor organizational culture (6). Obviously, only by examining the status of organizational culture, one can understand the way people interact with the organization and reform it. Also, by examining the status of knowledge management in each organization, any defects can be eliminated or corrected, and finally used in competition with other organizations (7). So far, there have been some studies on the status of organizational culture and knowledge management of some organizations in our country, including a study by Ali Akbar Amin Bidokhti et al., which evaluated the role of organizational culture in knowledge management and it was considered as the most important tool of establishing knowledge management (8), or studies by Karami et al. at Bahman Center (9) and Askari et al. at the Ministry of Labor and Social Affairs (10), in which the status is not satisfactory. However, this was desired in a study by Sadeghi et al. in Hashemi Nejad Hospital. Also, in relation to studies in other countries, it is clear that a positive correlation is between organizational culture and knowledge management; for example, Mario Donati et al. in industrial companies have shown that a significant correlation was between organizational culture and knowledge management (11). Also, in a study by Linder et al. in a production company aimed to determine the role of organizational culture in knowledge management, a significant relationship was found between these two topics and they identified the optimal knowledge management in the studied organizations as organizational culture grows (12). However, so far, no research has been conducted on the status of the organizational culture of research and knowledge-based centers, which themselves are the main producers of knowledge, and the existence of a strong organizational culture as well as optimal knowledge management in the centers. Since determining the status quo is the first step in solving problems related to organizational culture in these centers, determining this status is one of the main goals of this study. As mentioned before, no research has been conducted on the knowledge management status in these organizations, this study was conducted aimed to determine the relationship between organizational culture and knowledge management from faculty members' point of view in research centers of Iran University of Medical Sciences.

METHODS

This study is cross-sectional and descriptive-analytic that was conducted in 2016. The statistical population of this research was all faculty members of all research centers of Iran University of Medical Sciences. Given the limited number of faculty members, sampling was considered as a census.

The number of personnel included in this study was estimated n=190 in 29 centers. 159 questionnaires were distributed in person at the study Exploratory Meeting and the rest were sent by e-mail. Finally, 101 completed questionnaires were returned. Among these, 1 questionnaire was incomplete and excluded. At the end, 100 questionnaires comprised the research population (53% response rate) of the present study. Also, research centers' personnel who are not faculty members were excluded from the inclusion range of the study.

The data collection tool is a questionnaire whose validity and reliability have been proven in past research and ethical considerations have been followed. This questionnaire was provided to the relevant participants in the study and collected manually. The questionnaire consists of three general sections that include 6 demographic questions, 38 organizational culture questions and 22 knowledge management questions. In this study, for understanding the organizational culture, Denison's 38-question questionnaire has been used, which is a new and more complete model. This model, designed by Daniel Denison, evaluates organizational culture based on the four aspects of involvement, adaptability, consistency, and mission. In order to evaluate each of the four aspects mentioned, three

indicators are defined. Each question consists of 5 options, ranging from 1 to 5, so the minimum and maximum score in the questionnaire are 1 and 5, respectively. The average of responses indicates the score of that question.

22 questions related to knowledge management also examine the need for knowledge, knowledge creation, knowledge transfer, knowledge stock, knowledge processing, knowledge sharing, and knowledge application. Maleki et al. have confirmed the reliability and validity of this tool for the Persian language community of Iran.

After completing the questionnaires by the faculty members of the research centers of Iran University of Medical Sciences, statistical data were analyzed using software SPSS and the research hypotheses and variables' correlation test were used. In this study, descriptive statistics' indicators (including mean, frequency and standard deviation) and Pearson analytical test were used for data analysis. Kolmogorov-Smirnov test was used to confirm the normality of the data. The required calculation was done by software SPSS version 21.

Ethical considerations were observed including providing the written introduction letter and permission of Iran University of Medical Sciences to conduct the study, introducing oneself to each of the research units and explaining the research objectives and nature, assuring the research units about confidentiality of information, obtaining conscious consent, and respect for trust and honesty in reviewing texts and analyzing information.

RESULTS

The results of demographic variables of the study indicate that a large proportion of the personnel (48%) were in the age group of 51-60 years, which indicates that old faculty members in these centers. The reason for this is hiring experienced and sometimes retired personnel to manage and carry out research affairs at these centers.

In terms of the gender, most of the faculty members were male in these centers, 59% of respondents were male and 41% were female, but the little difference between these numbers indicates the matching between male and female faculty members working in research centers.

In terms of job type, also the majority of respondents have non-managerial jobs (52%) and 48% have managerial jobs.

In terms of the current work experience of respondents, the largest contribution is in the group of 0-5 years of work experience (66%), followed by the work experience of 6-10 years of work experience (28%). The reason for this can be due to the emergence of research centers in the country.

In terms of past work experience, most of respondents had 21-25 years of work experience (23%), which is due to the large number of old faculty members, followed by 1-5 years and 11-15 years of work experience with 19% in the next ranks.

In terms of education, most of the subjects studied had a doctoral degree (98%) and only 2% of the remainder was senior experts.

Tables 1 and 2 show the average of each of the components of organizational culture and knowledge management, accordingly the highest score in the knowledge management sector with an average of 3.79 was related to the knowledge creation and the lowest score with an average of 3.42 was related to knowledge stock and transfer. The highest average among the components of organizational culture with an average of 4.12 was related to the mission and the lowest score with an average of 3.51 was related to the involvement.

Table 1. The distribution of the questions' scores on average according to organizational culture questions

Characteristics	M	SD
Involvement	3.51	0.82
Consistency	3.63	0.73
Adaptability	3.99	0.87
Mission	4.12	0.96

Table 2. The distribution of the questions' scores as an average according to knowledge management questions

Indicators	M	SD
Knowledge transfer	3.42	0.91
Knowledge share	3.63	0.87
Knowledge need	3.78	0.81
Knowledge stock	3.42	0.95
Knowledge creation	3.79	0.75
Knowledge use	3.59	0.91
Knowledge process	3.56	0.90

In analytical and inferential statistics, Pearson correlation coefficient test was used to test the research hypothesis. It was found that a significant correlation is between knowledge management variable and organizational culture in the studied research centers ($r = 0.926$, $p < .001$) (Table 3). The results also showed that a significant relationship is between all four components of organizational culture and knowledge management (Table 4).

DISCUSSION

A healthy organizational culture provides an open, sincere, trusting, creative, collaborative, empirical, scientific, rational, logical and simple environment for the release of individual abilities and potential of centers (11). The results related to the status of organizational culture and knowledge management of the research centers of Iran University of Medical Sciences, according to Tables 1 and 2, indicate that the status of aspects of organizational culture and knowledge management in these centers is moderate or relatively desired (with an average of 3.62) . This score among different components of organizational culture and knowledge management is relatively uniform, and is obtained generally between 3 and 4.

Other studies conducted on evaluating the status of organizational culture also had the same results to some extent. Although these studies have been mainly conducted

Table 3. The results of organizational culture and knowledge management through Pearson correlation test			
Variable	**M**	**SD**	**Correlation coefficient**
Organizational culture	3.62	0.75	0.926
Knowledge management	3.60	0.75	

Table 4. The results of organizational culture and knowledge management components through Pearson correlation test					
	Variable	**Integrity**	**Consistency**	**Mission**	**Involvement**
Knowledge management	**Correlation coefficient**	0.688	0.729	0.828	0.723
	Significance level	0/001	0/001	0/001	0/001
	Number	100	100	100	100

among the less relevant groups such as employees of companies, hospitals, education organizations, academics, social security funds, banks, and other government agencies. For example, the study results of Nazari et al. on examining the status of knowledge management and its relation with organizational culture among organizational managers and experts of Departments of Physical Education of Ilam and Kermanshah Provinces indicate that the status of organizational culture and knowledge management of the Departments has been moderate. Hosseini et al. (2006) also in a study entitled "The comparison of organizational culture and knowledge management among employees of Tarbiat Modarres University" identified that organizational culture and knowledge management had a moderate status (13). Similar studies, such as the study results of Haleh Maleki on examining the status of organizational culture based on Denison model among the personnel of 14 research centers affiliated with the Ministry of Health in 2011, also reported a moderate organizational culture status (14 and 16).

The study results of Farhad Takavar among the personnel of 14 research centers affiliated with the Ministry of Health in 2011 also indicate the moderate status of knowledge management (15 and 16).

In a study by Jalal Haqiqat Monfared et al., among the managers and experts of the National Iranian Oil Company, the status of organizational culture was reported poor (17). The study results of Karami at the Bahman Auto Center showed that the knowledge management score was moderate and / or lower (9). This is not consistent with the findings of this research. It seems that in the studies conducted in educational and scientific centers, the status of organizational culture and knowledge management is better than other centers and organizations.

The results showed that the highest score among the studied components of organizational culture was related to the mission with an average of 4.12 (standard deviation = 0.96) and knowledge creation with an average of 3.79 (standard deviation = 0.75) for knowledge management. This means that these studied centers have clear vision and goals and all faculty members attempt to achieve the goals as fully aware of the goals of the centers.

But the low score of involvement suggests that the feeling of ownership and accountability in people is likely to be low. Of course, keep in mind that no significant difference is between the scores.

In a study by Sadeghi et al., the highest average of organizational culture was related to Hashemi Nejad Hospital (involvement), which was not consistent with this study result and the lowest average was related to consistency (11). Also, the results of knowledge management indicate that faculty members of these centers are successful on knowledge creation and entry in the centers. But knowledge transfer has the lowest score, indicating the lack of transferring knowledge from a group or individual to another. And also the low knowledge stock score indicates that knowledge is not available and kept in these centers, and according to the definition of the need for knowledge, the obtained score points out that the needs of the organization's knowledge are specified. In relation to the results of examining the relationship between knowledge management and organizational culture that used Pearson correlation test, Table 4-5 showed that "a positive and significant relationship is between organizational culture and knowledge management variables ($p < 0.001$, $r = .926$)". Also a significant relationship is between each of characteristics of organizational culture, i.e. involvement, consistency, integrity, mission, and knowledge management ($p < 0.001$). This means that by improving the four components of consistency, integrity, mission, and organizational involvement better knowledge management can be achieved and vice versa. Organizational culture as the character and basis of the organization has an effective role in knowledge management. And if an organization desires to be able to effectively improve the knowledge system and spread throughout the organization, the organization should first focus on organizational culture and, as much as the organizational culture is stronger, the implementation of knowledge management will be more successful.

In this study, the highest correlation was found between organizational mission and knowledge management. This means that the targeted organization is very important to achieve the organization's knowledge management goals.

In some studies, similar results have been seen, such as the study by Ali Hossein Keshavarzi and Yousef Ramezani entitles

"Examining the relationship between knowledge management process and organizational culture indicators among 190 managers and experts of the central organization of municipality of Mashhad. Finally, a significant relationship was found between the process of knowledge management and organizational culture indicators (18). Also, in a study by Ali Akbar Bidokhti et al. aimed to examine the relationship between organizational culture and knowledge management in Semnan organization of education finally it was found that a positive and significant relationship was between organizational culture and knowledge management (8). In a study by Amin Nikpour and Sanjar Salajegheh on examining the relationship between knowledge management and organizational culture, from the viewpoint of faculty members of Kerman University of Medical Sciences, finally it was found that a positive correlation was between knowledge management and organizational culture. Their study results showed that organizational mission had the highest correlation coefficient and knowledge production had the lowest correlation coefficient (19).

Among the advantages of this study, it can be noted that it was new for the faculty members of the research centers of Iran University of Medical Sciences. So far, no similar research has been conducted among these centers. While these centers are the main centers of science production. Also, the use of all samples by census and relatively good involvement of samples (n = 100) is another advantage of this research. The limitations of this research are as follows: Using the questionnaire because of the simplest method, the distribution of medical sciences' research centers and as a result difficult access to them, the unwillingness of employees to respond to the questionnaires because of lack of time, and lack of proper accountability because of the large number of the questionnaire questions.

CONCLUSION

In general, the obtained results showed that in order to manage knowledge properly, the culture of the organization should be considered and its status should be identified and analyzed, because organizational culture forms a complex part of the values and beliefs of the employees, and this values affect their attitudes and finally their behaviors in the workplace. In this case, with a poor culture, the organization's employees are accustomed to existing organizational practices, become reluctant to innovate and create new ideas, not even share their knowledge with others and will not respond to changes appropriately. These conditions endanger the survival of the organization.

The study results show that, despite the current organizational culture, faculty members can, by implementing knowledge management, add to or enhance the competitive advantages of the organization. Knowledge management has many benefits to research centers, including improving work quality, having up-to-date information, better decision-making and better response to customers (clients). Since a direct relationship is between knowledge management and organizational culture, therefore, in order to achieve the goals of proper knowledge management to promote organizational culture in research centers, it is necessary to provide the necessary training and skills in order to create an environment that improves employees' growth and, consequently, organizational performance.

Finally, it is suggested to managers to address knowledge stock and transfer with a lower average among the components of knowledge management, and consider appropriate strategies to strengthen them such as the formation of a working group to maintain information in the organization to identify the key and knowledge-based employees approaching retirement and prevent them from leaving the research centers. It can also help create an environment of trust in research centers so that people do not feel at risk from transferring their job knowledge to other people. Finally, it is suggested that holding related training courses and training related skills can help the optimal management of knowledge in these centers.

In order to conduct future studies, it is also recommended to carefully examine knowledge management, its relationship with other infrastructure elements such as organizational structure, information technology and human resources. Also, in order to obtain comprehensive generalization of this research from the Ministry of Health's Research and Technology Assistance, this study should also be carried out at other research centers affiliated to the Medical Sciences Universities.

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