

THE EFFECT OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL HEALTH IN MEDICAL LIBRARIES

Hossein Vakilmofrad¹, Morteza Hemmat^{2*}, liyla Masuomi¹, Nafiseh Rezaei¹,
Meysam Rahmani Katigari³

1. Department of medical library and information sciences, school of Para Medicine, Hamadan University of Medical Sciences, Hamadan, Iran.

2. Assistant Professor in Health Information Management ,Social Determinants of Health Research Center, Saveh University of Medical Sciences, Saveh, Iran.

3. Msc of Medical Informatics, Social Determinants of Health Research Center, Saveh University of Medical Sciences, Saveh, Iran.

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ABSTRACT

Objective: Implementing knowledge management in university libraries can increase the level of organizational health and employees of this environment will be dynamic and innovative. Accordingly, it is necessary for organizations to consider their own situation in order to gain the benefit of this skill if possible. In this regard, the purpose of this study was to survey the status of organizational health and the effect of knowledge management on it in Hamadan University of Medical Sciences libraries.

Material and Methods: This is a descriptive and survey research. Two researcher-made questionnaires were used to examine the goals. Organizational health questionnaire based on Miles organizational health components and knowledge management questionnaire were designed based on four components. Reliability of the questionnaires was performed in a sample of 16 people and its rate was calculated by Cronbach's alpha (0.85). The research population was all staff of Hamadan University of Medical Sciences libraries. Due to their small number (28 people), sampling was not done. Data analysis was done at descriptive and inferential level using SPSS software.

Results: The findings indicated that the components of focus on goal (3.5), optimal distribution of power (3.38), resource use (3.3), and alliance and correlation (3.32) were more than average in terms of organizational health. In terms of knowledge management, the three components of knowledge extravagance (3.35), knowledge integration (3.28) and knowledge internalization (3.26) were higher than average. The results of the study on the effect of knowledge management on organizational health showed that most organizational health components are affected by knowledge management components.

Conclusion: According to the results of the research, library managers should follow up on the improvement of the organizational health of the library in order to increase the morale of the workforce, increase communication, autonomy, adaptation to the environment, and the adequacy of solving the problems. Also, by focusing on organizational health factors that are affected by KM, they will take steps to enhance these two aspects of the library and information center.

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Introduction

Knowledge is regarded as a competitive and key resource in organizations and it has influenced the selection and using the affairs in many organizations (1). This knowledge needs to be produced in order to be used and classified and modified (2). Knowledge management is a new approach, which its goal is investigating the challenges of the business to enhance the productivity and effectiveness through using strategies, techniques, and tools in the processes (3). Given the emergence of new knowledge producers in the education sector, universities also seek for knowledge management systems (4). The essential characteristics of successful knowledge management include collecting, sharing, and keeping the data, information, and knowledge (5, 6).

Corresponding Author: Morteza Hemmat, Assistant Professor in Health Information Management ,Social Determinants of Health Research Center, Saveh University of Medical Sciences, Saveh, Iran.

Knowledge management for organizations is discussed at both individual and organizational levels. At individual level, the conditions to enhance the skills and experience of experts through cooperating with others, sharing their knowledge, and learning, and finally achieving professional growth will be provided. Four benefits might be regarded for the organization at the organizational level: enhancing the performance of organization through increasing the efficiency, productivity, quality, and innovativeness (7). Several models have been proposed so far for knowledge management, involving various processes. Nonaka and Takeuchi model considers the transformation of knowledge in an organization by its employees, leading to creation of organizational knowledge in four classes: 1. Knowledge socialization, 2. Knowledge externalization, 3. Knowledge combination, 4. Knowledge internalization (8).

One of the best findings of successful using of knowledge management methods and techniques is ensured organizational health. Organizations need to use their maximum knowledge for more coordination with environmental conditions and move towards knowledge-oriented management and this can be regarded as one of the outcomes of a strong and positive culture of organizational health (9). Employees of an organization can carry out their functions properly, when they have required skills, knowledge, and ability and work in a healthy organization. Hence, using knowledge management can be very useful in developing a healthy organization. Moreover, organizations should use updated knowledge for their excellence and growth so that they can maintain their proper management of the organizational health. Implementing knowledge management can enhance organizational health level, leading to dynamic and innovative employees (10).

The organizational health concept was first used by Argyris in the 1950s and it was developed by Mathew Miles in 1965 (11). Miles argues that organizational health depends on organization survival and maintenance. He considers the characteristics of a healthy organization in satisfying the three major needs, including task needs, maintenance needs, and growth and change needs of the organization (12). Miles views the organizational health dimensions in ten components, divided into three main classes. Task needs class includes the components of goal focus, communication adequacy, and optimal power equalization. The class of maintenance needs includes the components of resource utilization, cohesiveness, and morale. The class of growth and change needs of the organization includes the components of innovativeness, autonomy, environment adaptation, and problem-solving adequacy (13, 14).

Goal focus means that in healthy organizations, the goal of the system is completely clear and acceptable for its members. In addition, these goals should be consistent with environment demands based on the available resources. Communication adequacy means communication in organization without destruction in horizontal and vertical direction and in mutual way between the organization and its environment and the information is circulated well. In a healthy organization, optimal power equalization and its influence are fair, and subordinates can be effective and the cooperation between substitute individuals is compulsory. Resource utilization in a healthy organization ensures that inputs of system, especially its employees, are used effectively. Cohesiveness means that employees love the organization and they are willing to stay in it and cooperate with each other. Morale is result of personal emotions, which welfare and satisfaction are based on it (15).

Innovativeness is another component of organizational health leading to development of goals, methods, and their growth over time. Autonomy means a healthy organization, which does not react passively to external demands and does not consider itself as tool for environment, but its reaction to environment is not destructive and rebellious. Environmental adaptation means that a healthy organization should change, modify, and adapt faster than its environment. In a healthy organization, the presence or absence of problems is not important, but the way system works in solving these problems is important. A healthy organization uses various mechanisms to identify and understand the issues and to find sustainable solutions with less pressure, which they refer to component of the problem solving adequacy (16).

Examining the impact of knowledge management on organizational efficiency in Jordan, Akroush and Al-Mohammad found that knowledge management capabilities had a positive impact on the general performance of Jordan telecommunications organizations at all their dimensions (17). In another research conducted by Shieh, the impact of knowledge management on organizational performance was examined and the findings provided some suggestions for organizations looking for using knowledge management (18). Tseng and Lee also examined the impact of knowledge management and the dynamism capability on organizational effectiveness. They concluded that when dynamism capability increases, organization effectiveness will also increase, leading to competitive advantages (19). Abdi and Amatsenin investigated the impact of knowledge management on organizational innovativeness. They concluded that experts of knowledge and innovativeness management should be aware of the systematic relationship between the two concepts, which help them in creating and maintaining the competitive advantage in organization (20). Singh and Jha conducted a study in 2017 to evaluate the organizational health model by using multivariate analysis of variance. They concluded that organizational health model can be applied in research and development organization and even all structural model methods can be used significantly (21).

In studies conducted on the organizational health so far, its relationship with concepts such as productivity, stress, performance, innovativeness, organizational commitment, collaborative management, self-awareness, inter-organizational communications and organizational environment has been investigated (22). While one of the factors influencing the organizational health of knowledge management and organizational health can be ensured through successful using of organizational management, limited number of studies has been conducted on the relationship between organizational health and knowledge management. However, no study has been conducted so far to examine the relationship between knowledge management and organizational health in university libraries. As university libraries need to enjoy organizational health to achieve the goals of universities, this makes the importance of using knowledge management unjustifiable. Given the role of libraries of Hamadan University of Medical Sciences in achieving the goals, it is better to move in line with university goals by using the knowledge management and helping to organizational health. Accordingly, the current position of the organizational health and knowledge management should be determined in these medical libraries and its impact of knowledge management on organizational health to be assessed to take steps in health and development of these libraries by specifying the current situation and finding that if knowledge management affects the organizational health and what is the level of this impact.

Methodology

The current research was a descriptive cross-sectional research carried out in 2017. This research was conducted at Hamadan University of Medical Sciences and the required data were collected from central libraries, faculties, and hospitals of this

university. The population of study included all managers and employees working in libraries affiliated to Hamadan University of Medical Sciences. The population included 28 people, which all of them participated in the research. Two researcher-developed questionnaires were used to collect the data. One questionnaire was used to measure knowledge management in libraries affiliated to Hamadan University of Medical Sciences. It was developed based on the Nonoka and Takeuchi model (23). The second questionnaire was developed to measure organizational health in libraries affiliated to Hamadan University of Medical Sciences according to Miles organizational health model (13) based on the characteristics of the university library. Knowledge management questionnaire was developed based on four components of knowledge management (knowledge externalization, knowledge socialization, knowledge combination, knowledge internalization). It included 24 questions with 5-point Likert scale (strongly agree, agree, no idea not, disagree, and strongly disagree) and the scores 1, 2, 3, 4, and 5, respectively, were assigned for them. Organizational health questionnaire was developed according to Miles theory and based on the characteristics of university libraries. The questionnaire includes 30 questions, developed based on ten organizational health components (goal focus, communication adequacy, optimal power equalization, resource utilization, cohesiveness, morale, innovativeness, autonomy, environment adaptation, and problem solving adequacy). The questions of this questionnaire were in the form of closed responses scored on the 5-point Likert scale. Both questionnaires were implemented on 16 people and their reliability was calculated to be 0.85 by Cronbach's alpha. Data extracted from the research were analyzed at the level of descriptive and analytical statistics and using SPSS 24 software. To compare the mean of organizational health and knowledge management components with its certain value, independent t-test was used. To examine the impact of knowledge management on organizational health, regression equation was used.

Findings

In the current research, a questionnaire was provided to employees and managers of all 12 medical libraries affiliated to Hamadan University of Medical Sciences. The demographic characteristics of the participants, including sex, age, and work experience are summarized in Table 1.

Table 1. Characteristics of the participants

Variables		Frequency (%)
Sex	Men	7 (25%)
	Women	21 (75%)
Age	20-29	7 (25%)
	30-39	8 (28.6%)
	40-49	11 (39.3%)
	50-59	2 (7.1%)
Work experience	1-5	7 (25%)
	6-10	2 (7.1%)
	11-15	5 (17.9%)
	16-20	3 (10.7%)
	21-30	11 (39/3%)

Determining the relationship between knowledge management and organizational health in the libraries

According to information obtained by conducting the research, the impact of knowledge management components on organizational health was measured. Table 2 illustrates the findings of the knowledge internalization component on libraries affiliated to organizational health in Hamadan University of Medical.

Table 2. Results of regression coefficient of net and gross weights of knowledge externalization component on organizational health components

Organizational health components	Standard error	Regression coefficient	T value	Coefficient of determination	p-value
Goal focus	0.53	0.42	1.70	0.06	0.09
Communication adequacy	0.35	0.24	0.86	0.06	0.43
Optimal power equalization	0.23	0.46	1.86	0.33	0.009
Resource utilization	0.19	0.34	1.53	0.06	0.12
Cohesiveness	0.25	0.33	1.54	0.33	0.001
Morale	0.22	0.30	1.45	0.06	0.13
innovativeness	0.23	0.28	1.01	0.06	0.28
Autonomy	0.39	0.86	3.80	0.33	0.002
Environment adaptation	0.34	0.94	4.05	0.33	0.004
Problem-solving adequacy	0.21	0.42	1.74	0.06	0.06

According to data of Table 2, the component of knowledge externalization has impact on the components of cohesiveness, autonomy, and environment adaptation and it can remain in the regression equation, while it did not have impact on the components of the goal focus, communication adequacy, optimal power equalization, resource utilization, morale, innovativeness, and problem-solving adequacy. The coefficient of determination suggests that 0.33 percent of the scores of components of cohesiveness, autonomy, and environment adaptation are affected by knowledge externalization.

Table 3 illustrates the results of impact of knowledge socialization component on organizational health in libraries affiliated to Hamadan University of Medical Sciences.

Table 3. Results of regression coefficient of net and gross weights of knowledge socialization component on the components of the organizational health

Organizational health components	Standard error	Regression coefficient	T value	Coefficient of determination	p-value
Goal focus	0.23	0.41	1.60	0.07	0.21
Communication adequacy	0.26	0.31	1.48	0.30	0.009
Optimal power equalization	0.42	0.73	2.91	0.30	0.004
Resource utilization	0.39	0.31	0.89	0.007	0.41
Cohesiveness	0.25	0.47	1.88	0.30	0.008
Morale	0.34	0.52	1.89	0.07	0.09
innovativeness	0.19	0.25	1.09	0.30	0.001
Autonomy	0.21	0.25	1.04	0.07	0.23
Environment adaptation	0.42	0.36	1.21	0.30	0.005
Problem-solving adequacy	0.31	0.89	3.87	0.30	0.006

According to data of Table 3, the component of knowledge socialization has impact on the components of communication adequacy, optimal power equalization, cohesiveness, environment adaptation, and problem-solving adequacy and it can remain in the regression equation, while it did not have impact on the components of the goal focus, resource utilization, morale, and autonomy. The coefficient of determination suggests that 0.33 percent of the scores of components of communication adequacy, optimal power equalization, cohesiveness, environment adaptation, and problem-solving adequacy are affected by knowledge socialization.

Table 4 illustrates the impact of the component of knowledge combination on organizational health in libraries affiliated to Hamadan University of Medical Sciences.

Table 4. Results of regression coefficient of net and gross weights of knowledge combination components on organizational health components

Organizational health components	Standard error	Regression coefficient	T value	Coefficient of determination	p-value
Goal focus	0.26	0.31	1.39	0.05	0.15
Communication adequacy	0.24	0.32	1.54	0.35	0.001
Optimal power equalization	0.32	0.23	0.82	0.05	0.31
Resource utilization	0.43	0.89	3.08	0.35	0.007
Cohesiveness	0.43	0.34	1.92	0.05	0.11
Morale	0.21	0.27	1.04	0.05	0.25
innovativeness	0.31	0.52	1.87	0.35	0.008
Autonomy	0.24	0.48	1.77	0.35	0.006
Environment adaptation	0.17	0.29	1.09	0.05	0.21
Problem-solving adequacy	0.34	0.91	3.09	0.35	0.003

According to data of Table 4, the component of knowledge combination has impact on the components of communication adequacy, resource utilization, innovativeness, autonomy, and problem-solving adequacy and it can remain in the regression equation, while it did not have impact on the components of the goal focus, optimal power equalization, morale, and environment adaptation. The coefficient of determination suggests that 0.35 percent of the scores of components of communication adequacy, resource utilization, innovativeness, autonomy, and problem-solving adequacy are affected by knowledge combination.

Table 5 illustrates the impact of knowledge externalization component on organizational health in libraries affiliated to Hamadan University of Medical Sciences.

Table 5. Results of regression coefficient of net and gross weights of the component of knowledge internalization on the components of organizational health

Organizational health components	Standard error	Regression coefficient	T value	Coefficient of determination	p-value
Goal focus	0.14	0.28	1.04	0.06	0.11

Communication adequacy	0.21	0.32	1.37	0.06	0.11
Optimal power equalization	0.21	0.17	0.68	0.06	0.28
Resource utilization	0.24	0.32	1.53	0.33	0.009
Cohesiveness	0.16	0.32	1.08	0.33	0.009
Morale	0.34	0.27	1.05	0.06	0.13
innovativeness	0.23	0.41	1.64	0.06	0.08
Autonomy	0.35	0.91	4.11	0.33	0.002
Environment adaptation	0.36	0.83	3.76	0.33	0.004
Problem-solving adequacy	0.59	0.47	1.83	0.06	0.08

According to data of Table 5, the component of knowledge internalization has impact on the components of resource utilization, cohesiveness, autonomy, and environment adaptation and it can remain in the regression equation, while it did not have impact on the components of the goal focus, communication adequacy, optimal power equalization, morale, innovativeness, and problem-solving adequacy. The coefficient of determination suggests that 0.35 percent of the scores of components of resource utilization, cohesiveness, autonomy, and environment adaptation are affected by knowledge internalization.

Discussion

The objective of this research was to examine the impact of knowledge management components on organizational health in libraries of Hamadan University of Medical Sciences. Research findings revealed that organizational health components affected by knowledge externalization include cohesiveness, autonomy, and environment adaptation. The organizational health components affected by knowledge socialization include communication adequacy, optimal power equalization, cohesiveness, innovativeness, environment adaptation, and problem solving adequacy. The knowledge combination also affects the components of communication adequacy, resource utilization, innovativeness, autonomy, and problem solving adequacy, and the components affected by knowledge internalization include resource utilization, cohesiveness, autonomy, and environment adaptation.

In a study conducted to examine the relationship between knowledge management and organizational health and entrepreneurship of employees working in the social security organization, findings revealed a significant relationship between knowledge management and organizational health. The variables of knowledge management and organizational health jointly explained almost 58% of the variations in the variable of employees' entrepreneurship (8). In another research conducted to determine the relative share of knowledge management in organizational health in the General Department of Physical Education and Sports Departments of Isfahan, findings revealed that the r observed at the level of $p < 0.05$ confirmed the positive and significant relationship between knowledge management and organizational health.

A positive and significant relationship was also found between knowledge socialization, knowledge internalization, knowledge externalization, and knowledge combination and some of organizational health components ($r > 0.18$) (12). Another research examined the relationship between knowledge management and organizational health from the perspective of managers of departments in district 8 of Islamic Azad University and findings revealed a significant relationship between knowledge management and organizational health (24). Additionally, Jalali, Fakhimi, and Tabari carried out a study to examine the relationship between organizational health components and the feasibility of establishment of the knowledge management in the staff department of Iran University of Medical Sciences. Findings revealed a significant relationship between organizational health components and feasibility of establishment of knowledge management. The mentioned study recommended the strengthening of the support units and staff surveys to identify the main needs of the employees and distribute the resources fairly and to pave the way for paying much attention to health and welfare issues in the relevant organization (2). Tseng and Lee examined the impact of knowledge management and the dynamism capability on organizational effectiveness. They concluded that the dynamism capability is an important organizational mechanism, which has had effective impacts on the company through the benefits of knowledge management capability. In other words, knowledge management enhances the dynamism capability of organizations, leading to competitive advantages (19). Findings of other study, examined the impact of knowledge management on organizational innovativeness, revealed that knowledge management plays crucial role in organizational innovativeness. It is important for experts in the area of knowledge management and innovativeness to be aware of the systematic relationship between these two concepts, helping them to establish and maintain the competitive advantage of the organization (20). In a research that has already been done, The results indicated that the service activities in libraries of Hamadan University of Medical Sciences, is in the process of improvement (26). In the current research, it was found that knowledge management had positive impact on many of the organizational health components. However, some organizational health components were not affected by knowledge management and significant relationship was not found between them.

Conclusion

According to the research findings, the level of four components of organizational health (goal focus, optimal power equalization, resource utilization, and cohesiveness) in the libraries of Hamadan University of Medical Sciences was higher than the average level and the level of six components of communication adequacy, morale, innovativeness, autonomy, environment adaptation, and problem solving adequacy was less than average level. Hence, it is recommended for library managers to take steps to enhance the morale of the employees, increase the communication, autonomy, environment adaptation, and problem solving adequacy, so that they can improve the organizational health of the medical library. Moreover, high emphasis on knowledge socialization is recommended to increase the use of knowledge management. It is also recommended for them to take steps to enhance these two aspects of the medical library by focusing on organizational health components, affected by knowledge management.

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