The relationship between uses of IT-based knowledge management and learning organization from the viewpoints of physical education experts

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Abstract

Purpose: This study aims to investigate the relationship between IT-based knowledge management and its small scales and learning organization from the viewpoints of PE experts at chosen sports offices in the city of Mashhad.

Methodology: The research included (N = 144) PE experts at offices of: Sport and Youth, Municipality and Education and Training in the city of Mashhad among whom a sample of 108 people were selected randomly using Morgan table. In the research, three standard questionnaires about knowledge management (QKM) and learning organization (DLOQ), and a questionnaire about demographic investigation into the sample were used. The current research is an applied one from the standpoint of type and aim, and is correlational descriptive from the standpoint of nature for which data were gathered though a survey. The reliability was calculated through Cronbach's alpha coefficient test which was 0.89 for the knowledge management questionnaire, and 0.97 for learning organization questionnaire. Descriptive statistics were used to analyze the data (Kolmogorov-Smirnov test, t independent, and Pearson’s correlation coefficient).

Findings: The results showed that there are a significant relationship between IT-based knowledge management and learning organization from the viewpoints of PE experts at chosen sports offices in the city of Mashhad. (p = 0.006). IT-based knowledge management predicts learning organization. There is no significant difference between men and women experts from the standpoint of between IT-based knowledge management and learning organization.

Conclusion: According to the research’s findings regarding the relationship between IT-based knowledge management and learning organization, it seems very important to pay more attention to the training of presidents and employees and teaching the concepts of IT-based knowledge management and learning organization to them, to setting up a knowledge base to record employees’ skills and to holding appropriate training courses to teach employees how to manage various situations, and it is recommended that sports organizations emphasize more on the above mentioned.

Keywords: information technology (IT), knowledge management, learning organization, PE experts.
Introduction

Based on a categorization introduced by business experts, the 80s is considered the decade of quality rise (emphasizing on utilizing employees’ power of thought to gain better quality), and the 90s is considered the decade of re-engineering (use of technology to improve business processes and to decrease costs), and the present decade is considered the decade of knowledge management (Ebrahimzadeh, 2004). Knowledge is regarded as a defining crucial factor in competitiveness in public sector. Employee retirement and transfer is a new challenge to face for the survival of knowledge in an organization and subsequently for the training of new employees. Knowledge management possesses some capabilities to improve state effectiveness and competitiveness in a changing environment. Private and public sectors must face these challenges and take opportunities created through globalization, knowledge-based economy, and the expansion of IT and communications, otherwise opportunities offered by knowledge management are missed (Ebrahimzadeh, 2004). Due to the nature of the present era, there is much difference between today’s organizations and the past’s, since today’s organizations are set up based on learning. Thus presidents and employees always learn and get new skills, since any organization’s power comes from educated and trained staff (Asadolah and Fahim, 2014).

Davenport and Prusak (1997), and Hang (2006) conducted many researches on knowledge management some of which are published in their book titled “Knowledge Management”. Components and dimensions on which the researchers rely include: concealed knowledge in the social dimension and revealed knowledge in the technical dimension. Davenport and Prusak defined knowledge so as to get closer to the social and concealed concept of knowledge by which ever increasing importance of social aspect for knowledge management is expressed. The defined knowledge as “a flexible and changeable combination of opportunities, values, significant and meaningful information, and experts’ insights which form a framework for the analysis and integration of new information and experiences”.

It is very essential to have knowledgeable presidents and employees to develop knowledge management plans. Knowledgeable presidents play a more important role. They should support learning of knowledge, establish good relationships with information providers and knowledge teachers, strengthen processes leading to the creation and use of knowledge, and support adopting appropriate strategies for and developing proper prospects of knowledge (Asadolah and Esmaiilzadeh, 2015).

Ebrahimzadeh (2004) conducted a research titled “an investigation into the effects of knowledge management on learning organization”, and realized that a significant relationship exists between the two variables, and also all aspects of knowledge management (control, culture, structure, technological infrastructure and leadership) have a significant relationship with learning organization (Ebrahimzadeh, 2004). Mirzaii (2011) conducted a research titled “the relationship between components of organizational learning and knowledge management among official financial employees at hospitals”, and found that since employees’ organizational learning and knowledge management grades are low, we can predict the emergence of quick changes in various areas of science and technology; and presidents at the studied hospitals should have plans for the expansion of learning and knowledge in their respective organizations (Asadolah and Esmaiilzadeh, 2015, 55). Lormenz (2002) stated in his research that knowledge management is a prerequisite for the creation of a learning
organization. Concepts such as knowledge management, organizational learning and learning organization interconnect as chain links (Asadolahi, 2012, 145). Markwart (1996) conducted a research titled “the effects of knowledge on organizations’ learning”, and found that knowledge is the essence of learning organization; knowledge enable an organization to grow and improve. People may come and go, but if valuable knowledge is lost, the organization perishes (Lashkarbluki, 2003: 11).

Markwart (2002) suggested (based on his own personal experience of having relationships with hundreds of learning organizations over 15 years) that organizational learning is not feasible nor stable without knowing and developing the following 5-subsystems. The subsystems include learning, organization, staff, knowledge management, and technology (figure 1).

Figure 1- systemic model of knowledge management at learning organization (Markwart, 2006).

All the 5-subsystems in figure 1 are essential for a consistent and frequent organizational learning, and a certain and guaranteed organizational success. In the model, the subsystems organization, staff, knowledge management and technology are essential to improve and increase learning affecting in turn other 4-subsystems. The systems are crucial factors in establishment and maintaining of organizational learning and efficiency. If a system is weak or lacks existence, other systems will obviously be weak. IT cannot strengthen employees to share information on a big scale without the existence of the infrastructure which in turn includes methodology, concept, same environment, and basic technology (Lashkarbluki, 2003: 25).
According to the above, the current research questions that is there any significant relationship between IT-based knowledge management and learning organization from the standpoints of PE expert at chosen offices in the city of Mashhad? The offices were selected regarding their long-term prospect of expanding public sport, their efforts to expand sport and health among people especially among teenagers and youths, discovering of new talents and establishment of championships based on desirable sports facilities and equipment, and more expanded organizational charts to produce better research goals considering the management concept of research. It seems answer to the question will facilitate appropriate decision-making based on information to improve the changing course of offices towards becoming learning organizations.

The research methodology

The current research is an applied one from the standpoint of type and aim, and is correlational descriptive from the standpoint of nature for which data were gathered though a survey, and included (N = 144) PE experts at chosen offices in the city of Mashhad among whom a sample of 108 people were selected randomly using Morgan table. Standard 20-question knowledge management questionnaire (QKM) developed by English College of Commerce (2006), standard 43-item learning organization’s degree of realization (DLOQ) developed by Watkins and Marsik (1996), and questionnaire about the demographic investigation into the sample were used to gather needed information. In the current research, the questionnaires were developed based on analytic survey model and analysis of the research, and standard questionnaires were used, then confirmed by experts at the department of Physical Education and also president of Islamic Azad University of Mashhad to assess the validity of survey tools. Thus, the validity is affirmed. The questionnaires’ reliability were reported utilizing Cronbach's alpha coefficient (α = 0.89) for knowledge management and α = 0.97 for learning organization’s degree of realization. In the current research, descriptive statistics (frequency and percentage tables, mean and standard deviation) and inferential (Kolmogorov-Smirnov test, Pearson correlation and independent t tests) methods were adopted.

Research findings

1. Descriptive findings

Findings related to gender show that out of the total 108 people studied, 37.2% were women and 62.8% were men; 15.7% were single, 84.3% were married. 2.5% of the total sample were below 25, 53.7% were 26-35, 30.6% were 36-45, and 13.2% were above 45 years old. Findings related to job experience show that 28.9% of the total sample had and experience of less than 5 years, 18.2% had an experience of 6-10 years, 23.1% had an experience of 11-15 years, 8.3% had an experience of 16-20 years, and 21.5% had an experience of above 20 years. Findings related to education showed that 17.4% of the total sample had Diploma and a Technician’s degrees, 62.8% had a Bachelor’s degree, and 19.8% had Master’s and Ph.D. degrees.

2. Pearson correlation coefficient test at α = 0.05 was used to analyze data and the research’s hypotheses test. Tables 1 show statistical result of the relationship between IT-based knowledge management and its small scales and learning organization.
Table 1: the result of Pearson correlation coefficient test for investigation of the relationship between IT-based knowledge management and its small scales and learning organization.

<table>
<thead>
<tr>
<th>Items</th>
<th>Statistical index</th>
<th>Pearson coefficient</th>
<th>correlation</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT, knowledge management and learning organization</td>
<td></td>
<td>0.248</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Infrastructure, IT-based knowledge management and learning organization</td>
<td></td>
<td>0.253</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Content, IT-based knowledge management and learning organization</td>
<td></td>
<td>0.211</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Education, IT-based knowledge management and learning organization</td>
<td></td>
<td>0.234</td>
<td>0.001</td>
<td></td>
</tr>
</tbody>
</table>

According to the results, there is significant relationship between IT-based knowledge management and learning organization at $\alpha = 0.05$ ($P = 0.006$). This means that the more IT-based knowledge management principles are applied in organizations, the more the organizations move towards becoming learning organizations.

3. IT-based knowledge management predicts learning organization

Now, we process the regression model between dependent variable of learning organization’s degree of realization and IT-based knowledge management using regression variance analyzing table (tables 2, 3).

Table 2- the results of variance analysis of between IT-based knowledge management and learning organization

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degree Freedom</th>
<th>Mean Squares</th>
<th>Statistics F</th>
<th>Level Significance</th>
<th>R</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>25436.839</td>
<td>5</td>
<td>5087.368</td>
<td>4.251</td>
<td>0.001</td>
<td>0.395</td>
<td>0.156</td>
</tr>
<tr>
<td>Remaining</td>
<td>137631.18</td>
<td>115</td>
<td>1196.739</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>163068.02</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of variance analysis table and the statistical characteristics of regression (using coding of effects) show that there is a linear relationship between IT-based knowledge management and learning organization.

Table 3- the results of regression coefficient of IT-based knowledge management and learning organization

<table>
<thead>
<tr>
<th>Index</th>
<th>Regression’s coefficient</th>
<th>The coefficient’s Standardized regression</th>
<th>Statistics t</th>
<th>Significant level</th>
</tr>
</thead>
</table>
Thus, considering the above results, we can state that there is a linear relationship between IT-based knowledge management and learning organization predicting learning organization (P > 0.024). Additionally, mathematical model developed for the above variable follows:

\[ Y = 78.493 + 5.449X_1 + 2.761X_2 + 872X_3 + 0.53X_4 - 0.747X_5 \]

A comparison between standpoints of men and women about the relationship between IT-based knowledge management and learning organization utilizing mean values test (t test) showed that there is not a significant difference between men and women experts from the standpoint of IT-based knowledge management and learning organization (table 2).

Table 2: the comparative test of men and women experts’ viewpoints

<table>
<thead>
<tr>
<th>Statistical Index Item</th>
<th>Statistics F</th>
<th>P-value of Hem variance test</th>
<th>Mean values difference</th>
<th>Statistics t</th>
<th>Degree of freedom</th>
<th>Value of P</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT-based knowledge management</td>
<td>0.239</td>
<td>0.626</td>
<td>0.1544</td>
<td>0.071</td>
<td>119</td>
<td>0.943</td>
</tr>
<tr>
<td>Learning organization</td>
<td>6.998</td>
<td>0.009</td>
<td>-9.4</td>
<td>-1.277</td>
<td>75.373</td>
<td>0.205</td>
</tr>
</tbody>
</table>

**Discussion and conclusion**

There is a significant relationship between IT-based knowledge management and learning organization at \( \alpha = 0.05 \) (P = 0.006). Considering the research results based on the positive significant relationship between IT-based knowledge management and learning organization, we can state that organizations generally facilitate the process of becoming learning organization through strengthening of knowledge and its components to be able to reach their organizational goals. Thus, if knowledge management is able to cause employees through establishment and strengthening of IT to share what they learn with others by exchange of knowledge, information and ideas with others, nature of the organization possesses the competence to be regarded as a learning organization.

IT-based knowledge management predicts learning organization’s degree of realization (P> 0.024). The existence of IT in an organization also influences becoming learning organization, since the adoption of such changes is much more facilitated in organic and flexible organization compared with non-organic and inflexible ones. The results of multiple regression analysis show that IT-based knowledge management significantly predicts
learning organization. These findings are consistent with researches conducted by Goleman et al. Goleman et al. found that leadership, infrastructure of IT, culture and structure all influence the prediction of learning organization (Asadollahi, 2012: 189).

A comparison between standpoints of men and women about IT-based knowledge management and learning organization’s degree of realization showed that there is not a significant difference between men and women experts from the standpoint of IT-based knowledge management and learning organization’s degree of realization. The research findings are consistent with Hosseini’s (2010) and Markwart’s (2003). Hosseini argues that IT-based knowledge management in any organization has roots in the organization’s strategies for organizing, saving, sharing, using and producing information, and is not related to gender. Markwart suggests that there is no relationship between gender and organizational processes, and becoming learning organization is based on some special educational criteria which are adopted for employees by themselves or the organization (Lashkarbluki, 2003: 17; and Razaghi and et al, 2013).

The current research confirms other similar researches conducted previously. Sobhaninezhad et al. (2005) conducted a research titled “knowledge management in learning organizations” and found that there is a significant relationship between the two and that one cannot achieve knowledge and organizational knowledge without trying to learn. Learning is the key to achieving knowledge assets and as a result, to an increased intangible investment (Hendi, 1999: 50). Lormenz (2002) stated in his research that knowledge management is a prerequisite for the creation of a learning organization. Concepts such as knowledge management, organizational learning and learning organization interconnect as chain links (Armstrong, 2003: 74). Martin (2000) conducted a research titled “knowledge management in a management concept” and emphasized on the importance of learning and the need for creation of processes supporting organizational learning.

Now, according to the research’s findings regarding the relationship between IT-based knowledge management and learning organization, it seems very important to pay more attention to the training of presidents and employees and teaching the concepts of IT-based knowledge management and learning organization to them, to setting up a knowledge base (IT) to record employees’ skills, to holding appropriate training courses to teach employees, to awarding inventive and creative employees, to delegating authority to employees according to their maturity level, to persuading staff to cooperate, to acting as whole in organization, to strategic planning to manage organization, and it is recommended that sports organizations emphasize more on the above mentioned.
References

4. Asadollahi, Ehsan, 2012, an investigation into the relationship between knowledge management and learning organization from the standpoints of Physical Education experts, thesis for Master’s degree, College of Physical Education, Islamic Azad University of Mashhad.