The Study Effect of Information Technology on Organizational Knowledge Management

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Abstract
This study seeks to use information technology in organizations and its impact on organizational knowledge management explains. The methodology in this research is a kind of correlation that is a part of field branch and it is a survey method. This method will be functional and sectional in terms of nature. The population in this research staff of the Economic and Financial Affairs Chaharmahal and Bakhtiari province are a total of 55 persons. Sample volume because of the lack of variance Morgan table against 48 persons. The method is sample random sampling. The required data were collected through questionnaires. SPSS program was used for data analysis. The results showed significant impact of IT on organizational knowledge management.

Keywords: Information technology, Knowledge management, Economic and financial affairs province, Morgan table

Introduction
The use of information technology and its application to organizations caused great changes in the world today that many pundits have called the Industrial Revolution II. In recent years, the rapid development of information technology development of communication networks dramatic has created changes in every human life. Today are spoken about ICT, digital age, computer, mobile, satellite and electronic everywhere. Internet considered to be as one of the manifestations of information technology and communications, before it is a source of information, a comprehensive and interactive media which are present all over the world. Technology necessary is irrefutable to achieve the goals of each organization in the communication. Various organizations and their goals should be based on the nature of the tools that help them achieve their goals faster. On the other hand, Due to rapid changes, using these tools is essential for the survival of. Organizations are being forced to apply IT today, otherwise they will be removed from the environmental field that acceleration of change is growing in its. Some researchers believe that the impact of IT on organizational efficiency depends on providing this technology in organizations (Such as process reengineering, IT strategic plan, etc.). The use of information technology in organizations requires different considerations administrative, cultural, and technical and etc. One of the important features of the new era is the emerging of knowledge management phenomenon. In recent years, various organizations and companies have begun to join the process of knowledge and concepts such ask knowledge work, knowledge of working, knowledge management and knowledge organizations show the intensification of this process. By coining these words, Peter Drucker informs about creation of new types of organizations in which, power of mind rules not strength of arms. Knowledge management is a process that helps organizations to discover, to select, to organize and publish important information and is an essential expertise to activities such as problem solving, dynamic learning and decision making. The emergence of the knowledge era undermined many traditional orientations and approaches. Modern orientations rely on intangible resources-based approaches. Studies have shown that Organizations do not use their whole knowledge, which is organization's most important intangible asset, because knowledge management does not occur.
by itself without planning. Access to knowledge requires the identification of knowledge resources and familiarity to knowledge management processes for all employees at different organizational levels. This research is following to explain the role of information technology in organizational knowledge management, Economic and Financial Affairs Chaharmahal and Bakhtiari province.

Definitions

Information Technology is comprised of hardware, software, human resources, information management, production and maintenance that interact with each other and create the space filled with stored information with a systematic and easily accessible. These spaces serve the needs of economic, social and cultural and increase productivity and quality of respective organizations' products (ESCAP 1998). IT is a set of tools, techniques and methods of production, processing, storage and dissemination. UNESCO defines IT is one of the aspects of information science and covers these cases: Computer capacity for storage, processing, technology, telecommunications, transport, record, edit, store, modify, and distribute information. Mansell considers the following potential and capabilities of information technology:

- Production data: provides new innovations in information technology and the availability of high speed networks to produce and manage large amounts of information tailored to the needs of users in order to development goals. Provide opportunities for production: increases information technology, opportunities for manufacturers' production.
- Support of scientific and technical knowledge sharing: the use of information technology plays an important role in scientific and engineering research. The use of information technology capabilities is the main outdoor activities of research and development centers.
- Economic and social norm change: As the people employ ICT, changes Norms and values of commercial, social and cultural. For example, the speed of communication and electronics, lead to an increase in the decisions rate.
- Data are the source of knowledge. Data are raw facts and figures (Kidol, 2000). Data is the reality of a situation or a particular field, without relation to other things, while information is created from the data in a specific context or environment. (Kidol, 2000). Information are integrative field-related data with the associated interpretation. In fact, information include summarized data which are categorized, stored, analyzed, refined, and organized to clarify the affairs. As Peter Dracker states: "The purpose of information is to communicate and achieve. Knowledge means thoughts and illusions, conception and learned materials over time. Knowledge is understood and a person acquires it from experience, reasoning, vision, learning, reading and writing. When people share their knowledge, it develops and when this knowledge combines with other people's information, a new field of knowledge emerges (Nourozian, 2005). Knowledge is a streaming mixture of experience, values, available information, and systemic attitudes which shapes a framework for appraisal and utilizing new information and experiences. It is created and applied in the mind of the learner. Organizational knowledge is manifested not only in recording sources and documents, but also in working trends, organizational processes, activities and norms. Some definitions of management are: knowledge management is a process by which organizations acquire the knowledge associated to learning (knowledge internalization), knowledge coding (knowledge externalization), and distribution and transmission of knowledge (Malhotra, 1997). Carl Whig believed that knowledge management means the creation of processes to identify and capture data, information and required knowledge from the internal and external environment and generalizing them to organizations’ and people's actions and decisions. Webant views it as a process through which organizations apply collected data. Organizations need to the IT to enhance the integration and standardization of processes, accelerating globalization, restructuring and frequent changes. Analyzes have identified four primary processes for IT, include:
  1. The ability to make organizational changes
  2. Solutions for Strategic Buyers
  3. Intellectual Capital Management
  4. Ensure that the following services are cost effective.

From the last four can be inferred that the IT can be felt and seen in all facets of the organization.

The application of information technology in organizations

IT organizations have used different. Most pundits have split the application into two categories: Operational and informational.

A: Operational Application: The use of information technology in an expertise which is called application of operational. A list of payroll, personnel orders, inventory forecasting, production planning, distribution and
labor allocation, costing and other specialized application are some of information technology operations applications.

B: Informational Application: Informational application of IT facilitates the collection and dissemination of information. In other words, computing and information technology, the role of operational use as a tool and Mechanical devices to convert input to output. While the role of information is considered as an element and a major factor in the collection, dissemination and transfer of information. The role of information helps to management and dissemination of information on the objectives, rules and organization standards. Planning, training, marketing research, sales forecasting and ... are among the application areas of information technology (Ahmadi, 2002).

Features of knowledge
The following features are expressed in the knowledge literature:
It can’t be stored easily; it is Scattered and easily lost; is self-organized; is community-seeking; transfers through language; is elusive, likes to release; it experiences, is a social phenomenon, has an organic evolution; is Multifaceted and multidimensional...

Principles of Knowledge Management
Davenport has suggested the following ten principles as knowledge management.
Principles:
1. Knowledge management requires investment.
2. Effective management of knowledge needs the connection between technologies to human beings.
3. Knowledge management is political.
4. Knowledge management requires knowledge managers .knowledge managers are those who can discover the hidden knowledge and valorize and verify it; and surely it is more important in the governmental section.
5. Advantages of knowledge management stem from knowledge design.
6. The allocation and utilization of knowledge is not innate.
7. Knowledge management means to improve the process of knowledge work.
8. Access to knowledge is only the beginning.
9. Knowledge management does not end.
10. Knowledge management requires a knowledge contract.

Advantages of knowledge management
1. Preventing loss of knowledge,
2. Improving the decision-making process,
3. Flexibility and adoptability
4. Competitive advantage,
5. Assets development,
6. Production growth,
7. Customer management
8. Utilizing Investments in the section of human capitals.

The key factors for knowledge management
Knowledge management in the organization requires providing specific intellectual, practical and skill foundations. Scientists consider several major key factors for the success of knowledge management .Below are some of the key factors for success of knowledge explained by related experts. 1.Organizational leadership: Today, the art of management in organizations is becoming the art of knowledge management in that, a manager does not manage the people, but their knowledge and leadership means to provide appropriate conditions to generate valuable knowledge by investigating on workforce intellectuality an encouraging the individuals to more accountability.

2. Management systems: Management systems embedded in the organizations are one of the main infrastructures to implement knowledge management. Some associated factors are: Reward and intellectual property, performance assessment, information processing system and educational system.Organizational competence culture: Successful implementation of knowledge management and knowledge-creation process in an organization requires providing the intellectual and cultural context. Actions such as promoting unity culture and employees' attachment feeling toward organization or creating a sense of confidence among them, providing them with an environment of sharing, and Transmission and
contrasting of knowledge not only minimize the Employees’ resistance to change, but let the organization benefit from the potency of employees’ participation and consultation.

3. Some of the more important components of culture supporting knowledge management include organizational learning, innovation, and degree of acceptance of change.

Types of knowledge

Knowledge is classified from different perspectives, some of them are:
1. Aristotle’s classification, which consists of theoretical knowledge, construction knowledge and functional knowledge.
2. The division of knowledge into implicit and explicit knowledge.
3. The individual knowledge and organizational knowledge.
4. Operational classification of knowledge which includes descriptive and progressive function.
5. Epistemological Classification of knowledge.
6. Formal and informal knowledge
7. Structured and non-structured Knowledge.
8. Declarative knowledge and procedural knowledge.
9. Basic and secondary Knowledge

Nonaka and Take Ochi describe the creation of knowledge by using two components: form and level. Thus, they considered two factors to create knowledge:
1. The interaction between implicit and explicit knowledge (interaction between two forms of knowledge).
2. The interaction between individual and organizational knowledge (interaction between two levels of knowledge).

Organizational knowledge is developed through social interaction between implicit and explicit knowledge and from the interaction between these two types of knowledge, four stages for knowledge transmission emerge:
1. Implicit knowledge to implicit knowledge (socialization): when a person directly shares his implicit knowledge to other people. In socialization process, a close relationship forms between two persons. In addition, a potential enriched knowledge is made between them through intellectual partnership (Alvani, 2003).
2. Implicit knowledge to explicit knowledge (externalization): Encoding the experience and insight in such a way that can be used to others. In this stage the unwritten knowledge changes to codified knowledge for example through writing an article.
3. Explicit knowledge to explicit knowledge (synthesis): combinations of various explicit knowledge and presenting it in a new form.
4. Explicit knowledge to explicit knowledge (internalization): Individuals create new knowledge using their mental innovations learned from implicit theories

Obstacles to the implementation of knowledge management

Ten of the most important failure factors in implementing knowledge management systems are briefly listed below:
1. Unfamiliarity of senior managers with dimensions of knowledge management and its necessities
2. Selecting inexperienced and uneducated people to lead knowledge management team
3. Incorrect selection of members of knowledge management team
4. Inappropriate programming and prediction for project
5. No separate budget for knowledge management project
6. Organizational culture
7. Loss of commitment and support from senior management department
8. Resistance to change
9. Inability of knowledge management team to recognize organizational relationships
10. Disobedience of current system to the new one

The role of information technology in knowledge management

Information technology plays an important role in the success or failure of a knowledge management system. Because knowledge management, capture, create, organize, store, transfer and dissemination of knowledge are all associated with the application of information technology. Further development of knowledge management is greatly influenced by information technology. Business requirements to develop a knowledge management in order to meet the requirements should be before addressing the issues related
to the information technology. Another aspect is business requirements gathering and cooperation and common development of the organization’s IT department, that In this regard, the role of information technology is imperative in the development of a knowledge management system. IT capabilities to search, index, collate, archive and transfer of information can provide change in the gather, organize, classify and disseminate information. Information technologies can have a major role in facilitating knowledge management such as database management systems, document management systems, the Internet, intranets, search engines, workflow tools, executive support systems, decision support systems, data mining, data warehousing, e-mail, conferencing video, news groups and etc. Highest value and importance of information technology in knowledge management is that provides more development of organizational knowledge domain also greatly increases the speed of knowledge transfer. Further IT plays an important role on integrating existing knowledge and creating new knowledge.

**Changing role of IT managers**

Information systems evolve every day and change their role to better meet the needs of the organization. Organizations also use IT to support information management. So institutional systems have become based information systems, obviously, if you want information to be used effectively by people in the organization. Information systems should be human-centered to support individuals with special needs. The main difference between knowledge management and information management is the role that individuals play. Information management is focused on information infrastructure while knowledge management focuses on people and their role in the organization. IT orientation toward knowledge management in development of high-level IT managements Responsibilities so it is evident that the change will be felt as a job. Initially, IT managers called their self as Data processing managers. They were responsible for setting up the management system that processed Trade and commerce. That time knowledge management in many organizations was management of data. As organizations begin to more analyze the data Such as summarization, or organize it in ways and forms or reports to managers, customers and orders, the data were presented at the premium level of data. With the growing recognition of the role that companies play in the success of information-based management and the main role of IT changed in many organizations and this time became the chief information officer. Recent developments have recently occurred in the course of evolution And the emergence of new job positions have boon the Chief Knowledge.

**Literature**

Vahedi and colleagues (2010) in their study titled "Information Technology for Knowledge Management," expressed that the use of information technology in the field of knowledge management can be a combination of two factors: An awareness of the limitations of IT and other fact, Any use of information technology without regard to global cultural change will be negligible compared to the value of knowledge. The researchers stressed that information technology plays a major role in supporting organizational knowledge. Zack and colleagues (2009) in their study, "Knowledge management and organizational performance: an exploratory analysis" examined the relationship between knowledge management methods and organizational performance. The results showed that the identified knowledge management method is directly related to organizational performance and the second, In turn, it is directly related to financial performance. No direct link was found between knowledge management method and financial performance. Goodarzi and aboutorabi (2008) in his study investigated the relationship between IT and KM managers of Physical Education Organization. The results showed that there is not a significant relationship between ICT infrastructure and knowledge creation. However, a significant relationship was observed between the infrastructure and knowledge transfer. Kavoosi and colleagues (2008) By examining the relationship between the use of information technology and its role in increasing organizational efficiency in NHS organizations of Fars Province showed that there is satisfaction relationship between IT in increasing organizational efficiency and improve customer satisfaction. Bhatt (2004) In his study entitled as "Strategies for managing individual and organizational knowledge" Acknowledging that a part of knowledge is internalized by organization and a part by individuals, believes that the dichotomy between individual knowledge and organizational knowledge needs different strategies of knowledge management. In this study, he implies that using individuals knowledge and skills depends on the nature of the tasks and interactions between individuals and If personal knowledge is not shared with others, it will have little
impact on organizational knowledge (Ashori, 2011). In their study, Rowland and Seyed Ehsan (2004) conducted in the field of knowledge management in public organizations, examined the relationship between organizational components (organizational culture, technology and human resources, and political orientations) and ability of knowledge creation in Ministry of Development and Entrepreneurship. Results showed that there is an important relationship between some of these variables and knowledge management. Bowen and colleagues studied about organizational learning in the public schools. In addition to implementing a profile of successful schools, they cited the impact of administrating organizational learning programs in empowering American public schools.

Hypothesis
Impact of information technology on knowledge management in organizations is positive and significant.
Sub-hypotheses
- Impact of information technology application on knowledge management in organizations is significant and positive.
- Knowledge management has a significant and positive impact on performance.
- Cost reduction has a significant impact on organizational knowledge management.
- Application of information technology on knowledge management in organizations has a significant and positive impact.

Research method
The research method has been a correlational field survey and is practical in nature and is sectional in the terms of time (summer, 2014). This study is correlational, since it examines the relationship between variables and this examination conducts using regression analysis. Survey research method is used to measure individuals' opinions, attitudes, and beliefs regarding different issues. Identification of a society in which the study is conducted, is the first step is in performing a research. Society is defined as all elements that have one or more common characteristics and maybe selected for a study. The study population consisted of 55 individuals of the staff of Economic and Financial Affairs organization in Chaharmahal and Bakhtiari province. In order to determine the sample size and due to lack of population variance, the Morgan scale was used and the sample size decreased to 48. The sampling method used in this study is random simple sampling. All population members have the same chance to be selected as sample participants. In this sampling method we use drawing, table of random members, and a systematic method have used to select sample members.

Data-collection methods
To collect data in this study, we used three sociological, organizational entrepreneurship, and knowledge management questionnaires in the terms of two questionnaires:
The first questionnaire is a sociological one including participants' personal information such as age, gender, education, work experience and an knowledge management questionnaire composed of 25 questions which is originated from standard questionnaires with some modifications and deletions in some statements.
The second survey questionnaire is IT that have 4 domains and 19 questions involving the work done quickly, efficiently, reduce costs and application of information technology in organizations.

Reliability and Validity of questionnaire
In this study, the face validity was used to assess the validity of the questionnaire in that, it was given to some associated experts and lecturers and they were polled to explain their opinions about questionnaires questions. In some cases required changes were made and the final questionnaire was developed and confirmed by lecturers. Given that the questionnaire is started with a simple and clear description of its objectives and how to answer it and questions and option have been designed in such a way that respondents could answer them easily, the questionnaire has a construct reliability. Reliability (reliance) is one of the technical features of measurement instrument explaining the extent that a measurement instrument provides similar result size in the same conditions. Three main ways of estimating reliability are to retest, a peer-Alternate forms and internal consistency which includes splitting and Cronbach’s Alpha (Khaki, 2012: p 244). Cronbach’s alpha is used to determine the internal consistency of measurement instruments such as questionnaires or tests that measure attributes. Cronbach’s alpha rate was 88% for knowledge management questionnaire and 85% for Information Technology.
Data Analysis
For this study Analysis was conducted at two levels: descriptive and inferential statistics. For this study, data analysis was conducted at two levels: descriptive and inferential statistics. At descriptive level, data analysis was done using statistical indices, frequency, percentage, graphs mean. At inferential level, in accordance with data measurement level and statistical assumptions, some methods was used as below.

To detect the binary relationship between available variables in the study, and to analyze the data in order to verify or reject every research hypothesis, we use correlation test.

<p>| Table 1. Frequency Distribution for age group |</p>
<table>
<thead>
<tr>
<th>Index</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>31-40</td>
<td>28</td>
<td>58</td>
</tr>
<tr>
<td>41-50</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
</tr>
</tbody>
</table>

<p>| Table 2. Frequency Distribution for Gender |</p>
<table>
<thead>
<tr>
<th>Index</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>32</td>
<td>67</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
</tr>
</tbody>
</table>

<p>| Table 3. Frequency Distribution for Education |</p>
<table>
<thead>
<tr>
<th>Index</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>BA</td>
<td>28</td>
<td>58</td>
</tr>
<tr>
<td>MA</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
</tr>
</tbody>
</table>

<p>| Table 4. Frequency Distribution for Work Experience |</p>
<table>
<thead>
<tr>
<th>Index</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 and below years</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>6-10 years</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>11-15 years</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>16-20 years</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>More than 21</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 5. Regression of Technology and Knowledge Management

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>work done quickly</td>
<td>0.697</td>
<td>20.116</td>
<td>0.000</td>
</tr>
<tr>
<td>Reducing the costs</td>
<td>0.731</td>
<td>19.280</td>
<td>0.000</td>
</tr>
<tr>
<td>Use of Technology</td>
<td>0.736</td>
<td>17.326</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 6. Use of IT in the organization Percent

<table>
<thead>
<tr>
<th>Choice of respondents</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very much</td>
<td>18.5</td>
</tr>
<tr>
<td>High</td>
<td>36</td>
</tr>
<tr>
<td>Average</td>
<td>33.5</td>
</tr>
<tr>
<td>Low</td>
<td>6.5</td>
</tr>
<tr>
<td>seldom</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Results
The results of descriptive data
Based on results listed in table 1, the highest frequency rate, and 58%, is for 31 to 40 years-old group and the lowest, 21%, and belongs to 41 to 50 group in under 30 years-old groups. Based on listed results in table 2 for gender factor, the men form the majority of participants by 67% and the remaining (33%) belongs to the women. Based on table 3, the highest rate, 58%, of participants hold a BA degree, and the lowest rate, 21%, belongs to those with an Associate’s Degree. Based on table 4, the largest number of participants, 32%, are categorized into 6-10 years-experience group and the smallest number, 9%, into more than 21 years-experience group.

The results of analytical data
Regression analysis was used to test the main hypothesis. IT coefficient in the regression equation with constant coefficients were B = 0.732 and t = 20.809 was determined, estimated coefficient is significant and not zero at α = 0.01. Then information technology has positive and significant impact on knowledge management. As explained regression model analysis of variance, is linear and significant. Because the F-test statistics for showing significant effect of independent variable on the dependent variable in significance level α = 0.001 is F = 433. Adjusted coefficient of determination Is obtained R\text{adj} = 0.927 and This factor suggests, Using the variance of the independent variable in the regression equation, the dependent variable explained 92.7% of the variance. Remaining variability is Due to the complex nature of the dependent variable and also some variables that are not coming to account that is influence on this variable. The results sub-hypotheses are in table 5. The results of the use of IT in the Organization of Economic Affairs and Finance are in Table 6. Shows the usage is above average and pretty good.

Suggestions
According to conducted research, the following suggestion suffered to the directors and officers of organizations: Improving the communications between organization’s sections, and communications among staff units to manage the organizational knowledge, to achieve management commitment, and to support the knowledge management plans consistently. Maintaining general and specialized workshops at different levels And General Conference of knowledge management, knowledge for designing statement and knowledge slogan for organization. Investment on knowledge management in order to expedite utilizing innovations and to increase knowledge of individuals in the organization. Organization administrators check out not using the majority of IT staff and take necessary action to interest people in using information technology. Holding off training courses in information technology appropriate to the needs of employees. Planning for creating a culture of appropriate use of information technology in business activities.
The study effect of information technology...

References