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INFLUENCE OF INFORMATION TECHNOLOGY ON ACHIEVING KNOWLEDGE MANAGEMENT IN PUBLIC LIBRARIES OF WEST AZARBAIJAN

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ABSTRACT

Insomuch information technology (IT) has been appeared as a strong tool in management methods, knowledge management also uses the IT bed for developments. Therefore present research is carried out with the aim of applying IT on achieving knowledge management in Public libraries of West Azerbaijan. Research approach is descriptive-analytical and data gathering tool is two researcher made standard questionnaires which have been completed by the libraries staff. Study population is consisted of 190 people. The methods of sampling are random. Reliability of the questionnaire was tested by the Kohrenbach alpha test ($\alpha<92\%$) and its validity was supported by the professors. For data analysis, simple linear regression was used. Findings indicates that information technology and hardware facilities, internet and intranet, data resource sharing, e-learning and distance learning with significance level of less than ($P<0.05$) are effective in knowledge management in libraries and by *Coefficient* of *Determination R^2* the standard changes of variables could be predicted. Research results supports the implementation of information technology influence on realization of knowledge management in libraries, also it is suggested that need assessments and planning in field of information technology should take place and it is essential that knowledge experts, change their views toward their roles and equip themselves with acquiring new skills.

Keywords: Information Technology, Knowledge Management, Public Libraries

INTRODUCTION

Increasing knowledge in this era causes the society to look for identifying, organizing and transferring and making proper use of data and knowledge. Today knowledge is considered as the most important asset of the organizations and digital resources can be considered as the most prominent source of availability and means of transferring knowledge. So, modern societies inevitably need to have knowledge and information management and improve them in order to have access and make better use of electronic resources. Information technology gets considerable share in knowledge management so that it lays behind all knowledge management activities. But technology is not the only knowledge management component, but other factors like evolution of organizational structure and decision making process are also among the other components of knowledge management (Farhadi, 2004).

Information technology by decreasing geographical and local obstacles between the users of knowledge and improving their access to the knowledge helps knowledge management. Forming, collecting, personalization, access, encrypting, exploration and expanding knowledge are instances of information technology capabilities in knowledge management. At the same time information technology has undeniable role in supporting knowledge management activities. So far, Organization through automating their activities and systems, have improved their efficiency and capabilities, and now, the issue of increasing efficiency of systems is being discussed which fits in knowledge management field (Farhadi, 2004).

In current era when technology and specially information technologies and communications have improved amazingly, it's hard to see any professional which technology has not changed it yet or has not altered it or metamorphosed it. Librarianship science and informatics not only did not survive from these developments but it is also considered as one the major manifestation of new communication and

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informatics birth (Amel, 2009). Library like any other organizations was not kept away from effects of information technology, so that Samuel in 1964 had prognosticated that until 1984 there would no trace of paper libraries but in museums. The effects of these changes are so great that today digital libraries or libraries based on network environment are hot topics of day. These effects continued so that some groups discuss the issue of abolishing traditional libraries (Samouel, 1964).

Shan (2000) considers the unique role of knowledge in social development and as a result, increasing need of individuals and society to information and knowledge, put a optimal condition in front of libraries, he states that main concern of the libraries in not far away future is how to manage knowledge which requires focus on effective research, knowledge development and build its bases, interact and knowledge exchange among librarians and users, continuous staff training, precipitation of process and converting implicit knowledge to explicit, transfer and distribute them. Current century is a time during which libraries confront with different issues of knowledge management (Mokhtari *et al.,* 2004).Hence, it can be said that today library management, can be defined as evolution and change management. For being successful in this area, manager should know what should be changed first and in what direction they should move, along this using knowledge management is appropriate tool (Parirokh, 2003).

 The first records of using information technology in management of the libraries return to 1950s and early 1960s, however for the first time, in most University libraries this technology was introduced in late 1960s and early 1970s. At the beginning the aim of using this technology was to automate operation related to the libraries. On the other hand, the main aim of the libraries is to proliferate proper information. Achieving this point needs libraries to be totally aware of information technology and along progress of this technology updating users (Gandi, 2004).

The most important information technologies related to the knowledge management are as followings: Internet, intranet, extranet, storage architecture, management of database system, data cloud, data gathering, proliferation, informing, information recovery, information resource sharing, group ware, inter ware, continuous analysis process, multi dimension analyses and data-mining (Farhadi, 2004). On the other hand possibility of implementation and success of knowledge management in libraries which acting as learner communities, have strategic goals and its ability to use capabilities of information technology is high. Therefore present research tries to evaluate use of internet and intranet hypothesis, hardware equipment, information resource sharing, e-learning and distance learning and achieving knowledge management in public libraries of West Azerbaijan and through this, we put a step forward to achieve main responsibility of the libraries which is knowledge management.

MATERIALS AND METHODS
Research Method
 Present research has descriptive and analytical approach and it is conducted in survey method with applied aim. Sampling was random. Statistic population includes all public library staffs of West Azerbaijan and in order to determine sample volume Cochrane formula is being used. All member of the statistic population were 190 people and about 120 of questionnaires were returned. Data gathering tool is researcher made questionnaire including 25 questions. The questionnaire itself is being divided into two types of standard and researcher made questionnaire, reliability of the questionnaire is being supported by the Corenbach alpha test ($\alpha<92\%$). Also the researcher made sure of the evaluating the research variables by referring to the views of the professors and experts on the validity of their measuring tool. Questionnaires' is being rated by using Likert grading scale and it was (1, 2, 3, 4, and 5). Questionnaire is being completed by the all public libraries staffs and simple linear regression was used for data analysis. Also Kolmogorov test is applied to evaluate the normality of data.

RESULTS AND DISCUSSION
Findings
Demographic characteristics of participants in the test so: 67% of respondents (81 people) were male and 33% (39) of them were female. Job experience of the respondents were as following, 47% of the

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librarians (57people) have less than five year of experience, 34.2 of the respondents' experience were (41 people) between 5 to 10 years,16.7% of the respondents' experience were (20 people) between 10 to 15 years and 1.7% of them have experience (2 people) between 15 to 20 years. In other words most of respondents which is equal to 47.2% had work experience of less than 5 years and the least value is equal to1.7% had 15 to 20 years of work experience, also 60 %of the respondents (72 people) studied in librarianship and other librarians (40 %) were graduated from branches other than that. Meanwhile, most of the respondents including 64.2% had bachelor degree and other by 1.7% who was minority had doctorate degree.

Findings of table 1 indicates that the average use librarians of liber of information technology is 3.56, hardware facilities is 3.55 percent, the mean of using internet and intranet was3.88%, the mean of sharing information is equal to 3.41%, e-learning mean was equal to 2.70%. Also mean of knowledge management realization is equal to 4.11%. Therefore, it can be cited that mean of all variables except e-learning was higher than 3.

According to the table 1, for three variables namely hardware facilities, internet and intranet, also information resources sharing was 5, which was the highest score and e-learning and distance learning with score of 1 had the least score. Meanwhile, you can observe variance and standard deviation of variables in this table.

Table 1: Central indexes and distribution of research variables

Variable	Average	Mean	Mode	Standard deviation	Variance	Minimum	Maximum
Information technology	3.56	3.59	4	0.469	0.220	2.26	4.48
Hardware equipment	3.546	3.50	3.33	0.556	0.310	2.17	5
Internet & Intranet	3.88	3.80	3.80	0.605	0.366	2.20	5
Information resources sharing	3.41	3.25	2.75	0.841	0.708	1.50	5
E-learning and distance learning	2.70	2.83	2.50	0.670	0.449	1	4.17
Knowledge management	4.107	4.08	3.76	0.314	0.099	3.36	4.90

Kolmogorov and Smirnov test were used for assessing the normality of data which significance level (P-value) was significant for all data and it was above 0.05. According to table 2, the simple linear regression test with significance level was computed for main variable (information technology) it is estimated to be equal to 0.000, therefore we can conclude that information technology influenced the realization of knowledge management of West Azerbaijan public libraries. With regard to determining $R^2 = 0.166$ coefficient it can be stated that %17 of changes of implementation of knowledge management in Province public libraries can interpreted via changes of predict variable of IT. On the other side, the amount of Durbin-Watson index is estimated to be 1.969, since this amount is located between 1.5 and 2.5 we can conclude that errors are independent from each other and self-correlation does not exist.

Also in table 2 you can observe other results related to the variables tests, according to which, all variables have the significance level of ($P < 0.05$), and assurance level of % 95 are related to the knowledge management. Moreover, we can predict percentage of standard changes of knowledge management in any research independent variables through determining R^2.

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Table 2: Analysis of variance of the regression model, the independent variables with the dependent variables

Variable	Durbin – Watson statistic Test	Standard Error	Coefficient of Determination (R2)	Adjusted coefficient of determination	F	Degrees of freedom	Level of Significance
Information Technology	1.969	0.288	0.166	0.159	23.54	1	0.000
Hardware equipment	2.054	0.306	0.061	0.053	76.72	1	0.007
Internet & Intranet	1.989	0.304	0.073	0.065	9.330	1	0.003
Information resource sharing	2.007	0.300	0.097	0.089	12.675	1	0.001
E-learning and distance learning	1.923	0.304	0.074	0.067	9.483	1	0.003

On the other hand based on the table 3 findings, we can observe significant relationship between main variable of study "information technology" and sub-study variables (hardware facilities, internet and intranet, sharing information resources, e-learning, and distance learning) with realization of knowledge management on basis of the parameter coefficient in regression and t-test ($P < 0.05$).

Table 3: Related to the t-test and parameter coefficient in regression model

Variable	Coefficients before standardization	Coefficients after standardization	T test	Standard deviation	(P-Value)
Information technology	0.274	0.408	4.852	0.056	0.00
Hardware equipment	0.140	0.247	2.770	0.050	0.007
Internet & intranet	0.141	0.271	3.054	0.046	0.003
information sharing	0.117	0.311	3.560	0.033	0.001
e-learning and distance learning	0.128	0.273	3.079	0.042	0.003

In regression model of table 3, we can state that if standard deviation of information technology, hardware facilities, internet and intranet, information resources sharing and e-learning are increased, it can be predicted that realization of knowledge management will increase as much as 0.408, 0.247, 0.271, 0.311 and 0.273 of standard deviation increases, respectively. Therefore it can be concluded that test regression model would be significant from statistical perspective.

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Conclusion
Based on the research findings and related tests, there are significant and positive relation between information technology and other knowledge management realization study variables and ……. considered to be suitable metric for knowledge management realization prediction in libraries. It could be said that information technology and communications include extensive range of tools and technological resources which aids to create knowledge, identify, storing ,and build added value and knowledge management. In general information technology has inevitable role in supporting knowledge management activities. As it was stated, information technology plays a vital and functional role in knowledge management within organizations especially in libraries, so that without implementing information technology, optimal and effective management of knowledge is impossible. This issue has changed the role and duty of librarians and informers which implies that information experts should change their views toward their roles and equip themselves with the new skills.

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