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INVESTIGATE THE EXCHANGE OF INFORMATION IN DIGITAL LIBRARIES, AND PROVIDE GUIDELINES FOR PUBLIC LIBRARY MANAGEMENT SYSTEM (NIKA)

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ABSTRACT

The purpose of this study is to investigate the information exchange in digital libraries and provide guidelines for public library management system (NIKA). The method used in this study is a survey and functional. Research Statistical populations of the research are public libraries of Iran. The data collection was a questionnaire, which was prepared according to the criteria and indicators of digital libraries, and public library management system, and a public library in the province, has been selected as example, in each province. Statistical analysis was performed on 145 questionnaires answered by using one-sample t-test, using the software spss, at the 0.05 level. Research findings showed that allow easy access for users in digital libraries (NIKA), with a mean of 3.14, indicating that he has created, making it possible for its users. In viewpoint of technology, used software and hardware are not compatible with the abilities of users, the design of public library management system, with a mean of 2.85. The exchange of information, with a mean of 3.28 in public library management system is desirable. Finally, guidelines are provided to promote the exchange of information, digital libraries, and public library management system according to the structural features of these libraries and standards.

Keywords: *Library, Digital, Management, Information Architecture*

INTRODUCTION

Given the dramatic growth of libraries, electronic collection development, digital libraries, or in other words, without the walls of the library, we are faced with another of the features and functionality of the library in the process of getting an exchange applied to the system, how to trade using certain software programs, consistency and homogeneity of information between digital libraries (Kleveland, 1998).

Digital libraries are the libraries, with same goals, practices, and ideals of traditional library

Means development and collection management, subject analysis, indexing, availability, reference works, and maintenance can be done in digital libraries (Nabavi, 2005).

Karsya- Lynch and Molina (1995), in a workshop in United States of America, noted that the exchange of information describing the objects and data repository, organizing collections, user interface and human interaction - the computer, as key challenges research in the realm of libraries - Digital (Warren and Alsamir, 2005). Based on the discussions that were raised, Today, Interoperability is one of the major challenges for digital libraries. So that, Paikheh and others, in their paper, they proposed information exchange as its main theme, the creation and development of digital libraries, it should be noted that. Therefore, the exchange of information, it should be possible so that users can use it easily and with minimal computer knowledge and skills (Miller, 2007). Today, the Web has become popular as an international gateway, so that it is the first place to search for information, and respond to the needs of individuals. Since one of the main reasons is they type, in contrast to the past, and accordingly, such as public libraries, are no exception to this, and they are facing, almost "with group of users, in all of these libraries are also required to advances in science and technology, new technology is to implement it and how to exchange this information in a digital library as a source of information, with a modern approach and set digital, with a particular standard form, the form, format, multiple files, and metadata, which constitute the content of a digital library, they are looking for, fast access, in any time and place, interoperability of interlibrary cooperation, for their users.

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Now faster access, needs to, planning, architecture and integration, in the context of the process, the digital library, will follow the target. Since each digital library is created to provide services to a specific community, of course, identify community and its amenities are important issues, which are of great importance in the design of digital libraries.

Based on the foregoing, exchange of information in digital libraries of public libraries, and strategies for improving the status of the transaction, are main objective of the present study.

Public Library Management System (NIKA)

Today, the distribution of information is one of the basic concerns of users in accessing information, in information society, including the scientific community, school, academic and public. So far, several approaches have been proposed by experts, to resolve this problem. One of the most effective strategies is to provide information, in an integrated and structured format. Institutions, public libraries, public libraries, for information integration, which are under its control, has perpetrated to integrate the libraries to retrieve and make available information to the user via providing web based software libraries library (NIKA).

Due to the proliferation of information sources and books in public libraries, public libraries, state agencies, the study of various software products, to launch in country's public libraries to improve library management software. NIKA is one of the recommended software, which can be named as the first step in the integration of public libraries across the country, and therefore, reduce errors and increase the speed of improvement of quality of service. Achieve the desired quality and libraries, and standard software, including its objectives.

Primary and specialized studies were carried out, with the specialized field of library and information technology experts on a variety of software and Bench marking (It is continuous and systematic process to identify and implement best practices that cause, enhancing organizational performance), a number of applications, including NIKA, were entered into the study more specific, practical, the first phase of the installation of the software implementation was conducted in the Central Library of Tabriz, in 2008 after initial studies and experimental researches.

The main base of the new software is the ability to use the Internet through ADSL lines. In libraries, there is the possibility of establishing a line of high-speed Internet, software, installation and commissioning will be internal. One of the most effective strategies to achieve the distributed data is to provide information, in an integrated and structured format. One of the greatest advantages of this is the public library's database. The second and third phases are plans, to the final implementation of the software, according to international standards, such as the Z3950 and Unmark, OAE and other required standards.

Entering information of libraries to this system began, Since May 13, 2012, and now, 31 provinces, use of this cultural project. 60 new libraries also are connecting to this network. In fact, we have integrated libraries, for the first time in the Middle East, through this connection. This system creates a great development library, and has changed the structure of services to its members. Also, the use of resources for policy and procurement of resources is possible through the system, and it provides a new context for the activities and supervision of public libraries, by staff, institutional and provincial experts. Requests to Join from any location, using internet, providing content (electronic and print), may order printed materials from any location, search users may request a deposit system, and run the audio application number, the ability to deliver content to specific groups (such as audio books for the blind), are other features this system. Other system features include integrated library management, inventory may apply to virtually create multiple portals, multiple building sites, and inter-library loan, renew and reserve online document, create a personal library for members, digitized documents, etc. Members using this system, can access to the digital version of the resource. After compiling the project, and identify features, and reviews proposed system, a good library system, which was most consistent with the needs of libraries, was selected.

So far, 1,132 public libraries, are linked to "integrated system of public libraries", and all of the libraries which have necessary conditions, they will be connected to the system by the end of 2013. Public Library Foundation has more than 2,000 libraries in the country.

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However, libraries are important to have high-speed Internet, and then, the libraries have slower connections. Rural libraries are connected to the system's internal network, so they are also placed under integrated management system.

The main features of this system are referred to as "the mechanization of processes", "electronic various services to members of the public libraries," and "creating a common database of all available resources in public libraries across the country."

Attitudes Study, digital libraries, and access to the digital version of the resource, the possibility of inter-library loan, you can create a website for every library, the ability to search for books in all of the libraries membership, renewal, or reserve online resources, and provide personal library for each member, are other features of "integrated management system of public libraries."

This project, in the size and volume, first performed in Iran, and is unprecedented in the field of books and reading in area, as well as the developments in the provision of public library services, so that, promoting good reading, including its goals.

Library Management Software is a comprehensive and flexible application, that all of its parts which are the web based. The system supports the entire range of available documents, such as books, journals, articles, audio, image, video, software, CDs, and more. With emergence of new evidence, the new evidence cannot be added to the library, conveniently, by introducing them into a system. Payam system has a rich collection of digitally and library services.

Payam Integrated Library System, the use of Unicode, in its structure, and has the ability to transform into a multilingual system. This system supports the metadata standards, such as ISO and brands. Support Protocol Z3950, is another feature of this system. This software is designed and implemented, using the technology of NET, and data are transmitted to, XML format, in it.

Literature

- Taheri (2002), in his Investigate titled "National libraries: digital or traditional", with glimpse, check the generation of libraries, fourth and fifth generation, Means digital libraries and virtual libraries, and fashion considering their characteristics, including e-books, and in end, he suggests, coexistence between traditional and digital library, the national Library.

- Alipour (2009), in his study entitled "Evaluation of exchanging data between information systems in digital libraries, and the proposed model" to determine the scope of exchange of information, and the status of digital libraries. He proposed a model based on the harvesting model, using the OAR, to exchange information about the study system. Also, he suggested, the exchange of the XML-based Dublin Core metadata standard.

- Aghai (2009), in their study, states: According to the new technological environment, traditional libraries are, by necessity, must acquire the ability to provide services in the new environment. Given the capabilities of the technology, and digital media, normally type of service, will be affected by the new environment. He describes the movement of traditional libraries in the digital library.

- Hariri and Firoozi (2011), in their study, titled "Measuring user satisfaction Payam digital library software in libraries," states that the average satisfaction of librarians, from some aspects, such as logging, metadata facilities, and search and retrieval of information, were slightly lower than the other dimensions. Due to the above average satisfaction level is indicative of compliance components of the library, in the design of software Payam. Desirability of size, will have a major role in the proper use of the software, and hence the efficiency of digital library services.

- Karimi (2011), in his dissertation, entitled "Assessment of the ability to search and display digital library software", aimed to evaluate the capabilities of digital libraries to search and display software, has concluded that, Payam the digital library software, the ability to search and display, located at the intermediate level, and needs to upgrade the components in the evaluation section. In general, the software achieved the rank fifth among 12 evaluated the software in general. He stated that the increased visibility and search, it is necessary for this application.

- Alipour *et al.*, (2013) conducted a study, entitled "Analysis of organizing information resources in digital libraries of Iran." This study has been formed, with the aim of identifying the organization's

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information resources in digital libraries Iran, in addition to understanding the current situation; we can draw clear of future activities that will take shape in the context of these activities. The findings of the present study suggest that the application of the study of digital libraries, there are numerous features to organize information. Among these features, one can refer to the capability of connection between the elements of bibliographic records, and related records in the form of documents, memorandum of client Z5039, allow a group of documents, some documents may not modify, etc. , which are used in the software review. In addition, digital libraries, there are many disturbances in the organization of digital resources. For example, research findings in this area showed that only fields for title, author, subject, publisher, year of publication, the author (added entry), with a frequency of more than 70 percent, fueled in common by Digital libraries in all applications to describe the source of Persian books. For other sources of information, unfortunately, there are no metadata fields, jointly, with a lot more than 70% of the software used by digital libraries.

- Sharma and Wishvanatan (2001), in an article entitled "Digital Libraries: Progress and challenges", states, some problems in the field of digital libraries and provide recommendations to overcome these problems, for effective operation of digital libraries. The objectives include: identifying practical ways to overcome the problems that arise from traditional to digital conversion, the role of digital libraries, and access to global knowledge, explore possibilities private partnerships for financing and human resources, and searching for ways to create a digital library of uninterrupted growth. They also suggest that, as long as we can overcome the technological gap that exists between developing and developed countries, globalization is a digital concept, is not possible.

in his doctoral dissertation, entitled "digital libraries", states that, digital libraries, they must keep pace with advances in technology and innovation. Therefore, there are limited standards, the architecture of these systems. The researcher argues that the philosophy and approach with OEI can be expanded easily to support the exchange of information in digital libraries. And digital libraries, they can exchange information with each other, using the average agreements, the use of XML, as an exchange mechanism. In this study, only a memorandum, addressed, and other agreements, has been investigated (quoting Liu, 2004), in his study entitled "Future requirements for digital libraries", says the future of digital libraries, there should be three general characteristics: (1) a comprehensive set which will be useful for research, teaching and learning (2) It should be easily accessible for all types of users, both novices and experts, (3) it must be managed and maintained by qualified personnel. He stated that, copyright and financial resources, are the main obstacles that exist in digital libraries (according to Reitz, 2004) in his study entitled "Development of a conceptual framework for creating user interfaces semantic metadata in digital libraries", stating that: the purpose of developing this framework to facilitate semantic interoperability of metadata in digital libraries. In this study conclude that the use of semantic metadata standards in digital library has a direct impact on the richness of the data cloud. It also leads to better understanding and cooperation in this library will help users to retrieve information.

Research Questions

1. How is the exchange of information in digital libraries?
2. Is technology software and hardware used in the design of digital libraries, consistent with the ability for users to recover data?
3. Is the Digital Public Library provides easy access and convenient for your users?

MATERIALS AND METHODS

Methodology

The research method is a survey, and is applied to the target. In this study, the definition of digital libraries, and public libraries in the country, according to a growing trend, and step into the digital line, as a first step, the Payam Integrated Library System, as the system NIKA, in management systems, public libraries, as well as features that a digital library should be discussed. Public Library Management System, is a subset of the entity's public library, the central library of the province, are considered as statistical community. The community consists of 31 provinces of Iran. As one province, was chosen as

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an example, for reliability, so the population of the study, including 30 provinces, and each province was selected from one library according to grade libraries (standard, center, second degree, third degree grade four and grade five (Note that the degree of libraries will be determined based on criteria, such as infrastructure, staff, resources, state building, and a librarian, the library is assigned, based on the degrees)). According to the statistical population (30 provinces), one of the libraries in each province were selected as examples. The community, in terms of grading libraries includes six standard libraries, 4 Central Libraries, 5 grade 2 libraries, 5 grade 3 Library, 8 grade 4 library, and 2 grade 5 libraries, which were selected due to the utilization of research. For data collection, the questionnaire, the questionnaire was designed, based on the criteria of digital libraries, and public library management system (NIKA). The questionnaire included 30 questions on a Likert spectrum (very high, high, medium, low, or very low) in Section 3, how the exchange of information in digital libraries? (14 items), the technology of software and hardware used in the design of digital libraries, are consistent with the ability for users to recover data? (9 items), and digital public library provide easy access for your users? (7 items). To examine the content validity of the questionnaire, the technical and metadata sections, was consulted by library professionals, as well as computer specialists, in person, and their comments were used in designing the questionnaire. Also, feedback from some of the masters, and was approved. Due to this, the province, the province of the successful test of the system, and the system is initially tested as a pre-test, in this state, then, was operating in the country, and was selected as in the pretest. The province has 19 libraries with the system NIKA, in every city, the questionnaire was sent to each city libraries, 35 questionnaires were completed by 19 libraries, and evaluated for reliability. Cronbach's alpha, the reliability index calculated as 0.887, which according to acceptable reliability of the results, the questionnaire was distributed at the public library, one library for each province. 145 completed questionnaires by the librarians were analyzed. One-sample t-test was used to analyze the data, using the software SPSS.

RESULTS AND DISCUSSION

Result

- One group t-test results in the exchange of information:

Table 1: Test results T one group for exchange of information

Standard error deviation	Standard deviation	Mean	Number	
0.040	0.492	3.25	145	Status of Information Exchange
One – Sample Test				
Test Value = 3				
The confidence between 95%	The mean	Significance level	Degrees of freedom	T
Upper bound	Lower bound			
0.333	0.171	0.252	0.000	144 6.17
Status of Information Exchange				

According to Table 1, there was no significant difference between the mean, and the mean is equal to the theoretical (0.000 = Sig), and the surface is smaller than (0.05), that is, the minimum level of significance, therefore, there is a significant difference between the observed mean and mean comments. The observed average, is equal to (M = 3.25) and the mean is speculative (M = 3). As a result, the exchange of information in digital libraries is desirable. If the observed mean, have led to higher than 3, the respondents often have too many options and too much, thus, the information exchange is desired.

- One group t-test results, the status of software and hardware technologies:

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Table 2: t-test results one group, for the software and hardware technology

Standard error deviation	Standard deviation	Mean	Number	
0.037	0.454	2.85	145	Status of technology
One – Sample Test				
Test Value = 3				
The confidence between 95%		The mean	Significance level	Degrees of freedom
Upper bound	Lower bound			
-0.065	-0.214	-0.140	0.000	144
				-3.17
				Status of technology

The results in Table 2, since the calculated t (-3.17), with 144 degrees of freedom, and at the 0.05 level for a two-tailed test, is smaller than the critical value of t (1.96), therefore, there no significant difference between the observed mean and mean comments. The observed mean (M = 2.85), and the theoretical mean (M = 3), the observed mean is smaller than the average theoretical (3), as a result, the technology of software and hardware used in the design Digital libraries are not compatible with the ability of users to retrieve information. That is, if the observed mean, have led to lower than 3, the respondents often have little choice and too little.

- One group t-test results, easy access to check:

Table 3: T-test results one group, to investigate the possibility of easy access

Standard error deviation	Standard deviation	Mean	Number	
0.046	0.559	3.14	145	Easy access
One – Sample Test				
Test Value = 3				
The confidence between 95%		The mean	Significance level	Degrees of freedom
Upper bound	Lower bound			
0.237	0.54	0.145	0.002	144
				3.13
				Easy access

According to Table 3, the significance of the observed differences between mean, and mean comments (Sig = 0.002), and this level is the minimum level of significance is greater than (0.05), therefore, there is a significant difference, between the observed mean, and mean comments. Is the observed mean (M = 3.14) and the theoretical mean (M = 3). As a result, digital libraries not provide easy access for users. If the observed mean, have led to lower than 3, the respondents often have little choice and too little.

Conclusion

A summary of findings is presented here:

- The obtained results from the first question, "the exchange of information in digital libraries", in total, there was no significant difference between the observed mean and mean. Is the observed mean (M = 3.28) and the mean is speculative (3 = M), therefore, the exchange of information in digital libraries, which have used the proposed features is desirable.
- The results of the second question, "Is the software and hardware technology used in the design of digital libraries, consistent with the ability of the users, the information retrieved?" Showed that the mean is observed (M = 2.85) and the mean is speculative (M = 3), the observed mean is smaller than the average theoretical (3), as a result, the technology used software and hardware design of digital libraries, is not compatible with users' ability to retrieve information.

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- The obtained results of the third question, "Is the digital public library, providing easy access for your users?", showed that, there were significant differences between the observed mean and mean comments. Is the observed mean ($M = 3.14$) and the theoretical mean ($M = 3$). As a result, digital libraries create easy access for your users.

Suggestions

- It is recommended to designers of digital libraries, the public library; consider the possibility of Information Exchange on national and international level, to share resources and universal access.
- Designing digital libraries for public libraries, librarians should use the theories and applications based on the use of localization, and structural characteristics of digital libraries.
- Standards, Protocols, and Protocol metadata to be used, that would be a good architectural, structural terms (expansion flexibility, interaction flexibility, integrity, usability, accessibility) (eg, OEI, Dublin Core, XML Mark, etc.) and apply them in the design of digital libraries, as well as designing the Digital Library architecture, based on user type, user type and the services they offer, and read its organizational structure, location, and use experts are of the opinion that organization.
- Organizations and institutions that have more bases and distribution, must often use an architecture to enable them to stay away from disorganization in the structure of bibliographic information, the exchange of data between sites

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