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## Comparison of Information Retrieval Capabilities in Library Software of Payam, Voyager and Aleph

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### Abstract

**Aim:** The purpose of this study was comparing Information Retrieval Capabilities in Web-based Library Software of Payam, with Voyager and ALEPH.

**Methodology:** A checklist designed and included six main traits for evaluation and comparing 73 scales. Data collected by experts' observing of the software's OPAC. Data analyzed by the descriptive statistics methods.

**Findings:** Findings shows the preferences in search capabilities in species of fields the Aleph with 97% is the most and Payam with 93.45% is the least, in search formula Aleph and Voyager with 100% has the most and Payam with 58.33% is the least, in possibility of species of searches Voyager with 83.9% is the most and Aleph with 78.73% is the least, in display of results Aleph with 96.36% is the most and Payam with 78.18% is the least, in help all of software with 92.85% are equal, and in web 2 capabilities Aleph with 80% is the most and Payam with 0% has the least preferences.

**Results:** The results show that Aleph with 91.30 percent is in first grade, Voyager with 87.24 percent is in the second grade and Payam with 75.50 percent is in the third grade. Payam has the least preferences of evaluation than the two other software.

**Keywords:** Library System, Payam Library Software, Aleph Library Software, Voyager Library Software, Information Retrieval

### Introduction

Today, information is the power for humanity. This means that each society that can access to information faster, will be more powerful. So how to access and retrieve information in any environment is very important. The information storage and retrieval systems have designed to accessible the information resources that users need. "The purpose of any information retrieval system is providing the most relevant information"(Bahmanabadi, 2002). With increasing the number of digital information resources, the information retrieval is very difficult. Comparing information resources from different the information resources needs to much time and discovering knowledge will be complicated (Kurniawati & Triawan, 2017). Internet technology has helped to bring the world closer to form a global village where everybody is a stakeholder. With a few clicks one can access all the resources available. "Information" is the buzzword for all developed nations and the information-rich are ruling the world. Everybody is trying to communicate or disseminate or learn something and gain knowledge. And the library is the right place for such information resources (Deb, 2006).

Libraries today have evolved from centralized, physical paper-based archives into distributed networks of quality digital knowledge, striving to seamlessly and proactively deliver information to the point of user need. No longer bound by four walls, the libraries of today have truly become a gateway to the world's knowledge. This transition has necessitated the implementation of newly emerging technologies to help reduce the problem of information overload that has beset libraries today. As more and more data is digitized, libraries are forced to make increasingly sophisticated use of new technologies to provide optimum user service (Lohani & Jeevan, 2007). As computer-based systems have become more pervasive in all aspects of library and information work, the term library automation has become an umbrella term for many kinds of applications that are used within the library. Various library software is being developed for automation. When we talk about the library software, we mean the software needed for library housekeeping routines and information retrieval services. It is also termed the "integrated library system" or "integrated library automation system" Library automation was started in the 1960s in America. Since then the trend of library automation has been spreading all over the world (Shafique & Mahmood, 2008). Integrated library systems (ILS) provide a set of applications to perform the business and technical functions of a library such as acquisition, cataloging, circulation, and the provision of public access (Kochtanek & Matthews, 2002). These systems allow users to search for books, periodical articles, and electronic resources such as computer files and web sites in one operation using a single interface, instead of searching online catalogs, bibliographic databases, and web search engines separately (Reitz, 2004). The integrated automated systems are now designed with the features of management information systems (MIS), open system, and integrated access. Most users of these systems have developed portal technology for unified search and access to the in-house resources and external systems of records and documents. Access to full-text databases and electronic resources are some of the norms of these systems (Rehman & Al-Huraiti, 2010). Students and instructors in higher education are expected to retrieve, use and apply information in their chosen field of study. In today's technology-rich education

environment, much of this information is found in, or with the help of, web-based indexes and databases (Stewart, Narendra & Schmetzke, 2005). Library software plays an important role in the management of libraries and information centers. Designers of these software working in competitive environment, try to succeed between their competitors in the national and international arena. Critical surveys of library software researchers improve their applications in different aspects. This is a basic principle that each library's important aim is to satisfy users and providing their information needs. Especially in competitive library conditions. Today library software capabilities are effective to increase the users' satisfaction. Study of these capabilities and struggle to improve them is a basic work to promote them.

The main question of this study is that library and information specialists have an important mission in recognition of more used systems in the international level. One important duty is acquaintance to these systems and their capabilities to select the suitable software. Therefore, before any action they can compare these systems to distinguish the current situation of affairs. As long as library software specialists and librarians don't aware about their current situation, cannot have a proper planning to achieve the desired status. This research has had this purpose to be a guide to library and information specialists and library system specialists in make a success of design and performance of these systems.

The main purpose of this study is the survey of Payam library software, as an Iranian sample in compare of Aleph and Voyager as the foreign samples in search capabilities in various fields, search formula, other search limitation capabilities, displaying search results, help capabilities, and OPAC 2.0 Usages.

### **Theoretical basis**

The growth of all aspects of online information retrieval (IR) has been truly remarkable. As Saffady (2000) pointed out, "the web has prompted the development of new online search services, forced existing services to reconfigure their offerings and improve their user interfaces, and catalyzed other industry trends, such as end-user searching and the development of new pricing models." A fundamental characteristic of web-based information retrieval systems is that they are inherently interactive and provide easier and cheaper access for direct end-user searching. These systems generally guide users to access to a variety of databases, facilitate multiple interactive search strategies, offer interactive help mechanisms, multiple manipulations of output, and provide iterative movement of links (Xie & Cool, 2000). Despite all these improvements, some recent studies (Ahmed, 2006; Ahmed, McKnight, & Oppenheim, 2006) reported that web-based interfaces are still difficult to use, learn and remember. The need for better IR interface designs that help end-user searching remains (Ahmed, McKnight & Oppenheim, 2009). The evaluation and selection of a library software package, whether it be for library housekeeping, text retrieval or the creation of some other database should be approached as a project. Appropriate strategies for the selection and evaluation of software packages can be based on systems analysis and design methodologies. Stages in the project should include: definition of objectives, evaluation of options, definition, selection and design, implementation and evaluation and maintenance. Some checklists of features to seek in

text retrieval and library housekeeping software are included. These are discussed in the context of new developments in library software (Rowley, 1990).

A review of the library literature found six studies on the comparison of OPACs in recent years. Harinarayana & Raghavan (2008) examined the comparative retrieval effectiveness of the two packages, viz., CDS/ISIS and LibSys. A set of eight well defined parameters have been employed to compare the two packages. The result shows that neither of the two packages provide support for all the features that may be expected of ideal retrieval software. There is a difference of 9.34% in the levels of performance of the two packages (Harinarayana & Raghavan, 2008). The study was conducted by Tanja Mercun & Maja Žumer (2008) investigated how much progress libraries had made toward the next-generation catalog. Six online catalogs were examined and evaluated, including WorldCat, the Slovene union catalog COBISS, and those of four public libraries in the United States. The study also compared services provided by the library catalogs in the sample with those offered by Amazon. The comparison took place primarily in six areas: search, presentation of results, enriched content, user participation, personalization, and Web 2.0 technologies applied in OPACs. The authors gave a detailed description of the research results supplemented by tables and snapshots of the catalogs in comparison. The findings indicated that “the progress of library catalogues has really been substantial in the last few years.” Specifically, the library catalogues have made “the best progress on the content field and the least in user participation and personalization.” When compared to services offered by Amazon, the authors concluded that “none of the six chosen catalogues offers the complete package of examined options that Amazon does (Mercun & Žumer, 2008).” The other comparative study was conducted by Riewe (2008). The research described in her thesis is a questionnaire survey targeted at 361 libraries that compares open-source (specifically, Koha & Evergreen) and propriety ILSs in North America. More than twenty proprietary systems were covered, including Horizon, Voyager, Millennium, Polaris, Innopac, and Unicorn. Only a small part of her study was related to OPACs. It involved three questions about OPACs and asked librarians to evaluate the ease of use of their ILS OPAC’s search engines, their OPAC search engine’s completeness of features, and their perception of how easy it is for patrons to make self-service requests online for renewals and holds. A scale of 1 to 5 was used regarding the three aspects of OPACs. The mean and medium satisfaction ratings for open-source OPACs were higher than those of proprietary ones. Koha’s OPAC was ranked 4.3, 3.9, and 3.9, respectively in mean, the highest on the scale in all three categories, while the proprietary OPACs were ranked 3.9, 3.6, and 3.6.10 Evergreen fell in the middle, still ahead of proprietary OPACs. The findings reinforced the perception that open- source catalogs, especially Koha, offer more advanced features than proprietary ones. As Riewe’s study focused more on the cost and user satisfaction with ILSs, it yielded limited information about the connected OPACs (Riewe, 2008).

Dulaei & Farhadpour (2009) in a study aimed at evaluating some of the features of OPAC's, browse the OPAC of 20 UK academic OPACs and 14 Iranian OPACs that were selected by simple random sampling. They had found by a checklist that UK OPACs were better than the Iranian OPACs in quantitative and qualitative design and in including

necessary possibilities. Thus, Iranian OPACs earned 59.5% and UK OPACs earned 73.46% of the proposed standards were adhered in the checklist (Dulaei & Farhadpour, 2009). Yang and Hofmann (2010) had Comparative Study of the OPACs of Koha, Evergreen, and Voyager to determine which OPAC of these three ILSs offers more in terms of services and is more comparable to the next-generation library catalog. They applied ten visions to the OPACs of Koha, Evergreen, and Web Voyager to determine if they are present or absent. These comparisons showed that the Koha OPAC has six out of the ten compared features for the next-generation catalog, plus two halves. Evergreen falls into second place and Web Voyage, the Voyager OPAC from Ex Libris, comes in third, providing only three out of the ten features for the next-generation catalog. Based on the evidence, Koha's OPAC is more advanced and innovative than Evergreen's or Voyager's. Among the three catalogs, the open-source OPACs compare more favorably to the ideal next-generation catalog than the proprietary OPAC. However, none of them is capable of federated searching. Only Koha offers faceted navigation. Web Voyage does not even provide a spell checker. The ILS OPAC still has a long way to go toward the next generation catalog (Yang and Hofmann, 2010). Nowruzy & Nemati (2010) in an article titled «evaluation of Parsazarakhsh, Nosa and Namaye online library software in information retrieval», had surveyed these library softwares by a checklist and interviewed by software designers. The results of this research show that Nosa with 93.34% is in the first grade, Parsazarakhsh with 82.55% is in the second grade and Namaye with 51.35% is in the third grade (Nowruzi & Nemati, 2010). Asemi, Hoseini & Asemi (2010) investigated the Library Open Source Software at the University of Isfahan based on the viewpoint of Librarians. They studied target features, facilities, and open source software applications in libraries. The results are stated in two sections included some comments of the experts about the technical aspects such as safety, extensibility, reliability, and flexibility. Second section included view-points of expert librarians about the capabilities, features, and deficiencies of the software. It is concluded that the library software has good level of reliability and flexibility, but its safety and extensibility isn't good. Akbari & Asemi (2011) studied software's ability in the academic central libraries of Tehran to provide the information needed by managers. The research method was descriptive-survey. A researcher-made questionnaire was used to gathering data. Data analysis was performed at two levels of descriptive and inferential statistics using Minitab software. It was concluded that, based on the information needs of managers in the administration of academic libraries, it would be better to use their particular management information system. Mojiri et al (2013) compared librarian's satisfaction rate from library software interface in Isfahan libraries. This study was performed on Isfahan's librarians. Five library software were compared together including: Pars-Azarakhsh, Payam, Nosa, Kavosh, and Namayeh. Their point was in general features 4 (out of 5), information displays 3.79, terminology and system feedback 3.07, help 3.64 and system capabilities and properties 3.76. Nosa software was the first ranking software and Pars-Azarakhsh and Kavosh were the second and third, respectively. Shahbazi, Norouzi & Alipour-Hafezi (2015) assessed expert system features in library software in information retrieval. A checklist made based on the 66 criteria included information retrieval tool, Interface, Information database, and the strategies used

to help. Five digital Library software's selected: Pars Azarakhsh, Simorgh, Papyrus, Payam and Parvan. The results showed these softwares are lower than normal in matter of information retrieval and information database, but in the interface feature were higher than normal range.

No comparative research has measured the information retrieval in Iranian Library Software versus the international prosperous Software. Therefore, the comparison described in this paper is the first of its kind. As only Payam, Aleph, and Voyager's OPACs are examined in this paper, the results cannot be extrapolated. Studies on a larger scale are needed to shed light on the all aspects of information retrieval.

### Research method

This study is applied. Research method is descriptive and the type of research is case study (three software). In this study checklist was used to collect the data. To prepare data collection tool, first the extensive resources and literatures in this field was studied. This checklist has 73 criteria in six main fields containing search in variety of fields, search formula, other search limitations, displaying search results, help capabilities and OPAC 2.0 Usages. After the initial checklist was designed and reviewed, it was sent to 10 LIS professionals who have expertise in the subject area of library software and proposed changes were implemented. To determine ratio and importance degree related the criteria, it was used the literatures in this field specially Nowruzi and Nemati (2010) and the opinions of 6 system administrators in central library of Isfahan university and central library of Isfahan Art university in several stages.

Selection of library software in this study was performed in two stages. First, selection of Iranian library software. In this stage, it was studied the extensive researches in the area of library software. It was defined that though the Payam is used in many library and information centers, less researches has been addressed it. Another reason to select it, is that this software is currently used by Isfahan university libraries and this university is planning to evaluate the system. According to these, Payam (Payam version) was selected as the Iranian software. In the second stage, due to the large number of software products in abroad, to select a foreign library software, it was saw coincidentally the OPAC of some creditable universities around the world. Thus, Aleph (version 20) and Voyager (version 8) were selected as the foreign library software of this research. In evaluating the software with due the fields importance and scales in information retrieval ratio of 1 to 4 is considered. Also for software with full capability 3 points, for software with defective capability 2 points, and for the lack capability 0 (zero) point is considered. To complete the checklist while observing and search in OPACs, the help of each software was studied. Also to more confirm, for Payam the questions were asked from the Iranian librarians and for the Aleph the questions were asked from the Bodleian oxford librarians via email, and for the Voyager the questions were asked from the Columbia librarians via email. Finally, the checklist was filled. To reach the sum of scales, points of importance degree earned by each software multiplied by the ratio of scales. In this study data was analyzed by Excel software in descriptive statistics level, using percentage and average.

### Findings

Findings of this research is to answer one basic question and six sub questions. First, we answer the sub questions to reach the answer of basic question.

#### 1. How is the search in variety of fields in information retrieval by Payam in compare of Aleph and Voyager?

Table 1 illustrates the points for search in variety of fields in research library software.

**Table 1. Payam, Aleph and Voyager points related to search in variety of fields**

Option	Scale 1. Search in variety of fields	Software			Importance degree
		Voyager	Aleph	Payam	
Title	Search by Title	12	12	8	4
	Search Keyword in Title	12	12	12	4
	Search Phrase in Title	12	12	8	4
Author	Search by Author	9	9	9	3
	Search Keyword in Author	12	12	12	4
	Search by Institutional Author	6	6	6	2
Publication	Search by Publisher	9	9	9	3
	Search by Place of Publication	6	6	6	2
	Search publication Date	3	3	3	1
Subject	Search Subject	12	12	12	4
	Search keyword in Subject	12	12	12	4
Series	Search by Series	6	4	6	2
Number	Search by Record Number	0	6	6	2
	Search by Call Number	6	6	6	2
Notation	Search by Notation	0	0	0	1
Language	Search by Resource Language	6	6	6	2
Resource Type	Search by Resource Type	9	9	9	3
	Simultaneously Search of a variety of Information Resources	12	12	12	4
Location	Search by Location or Maintenance of Resources	3	3	3	1
All Fields	Search by Public Search (All Fields)	12	12	12	4
Aggregated Scores		159	163	157	---
Percentage Scores		94.64%	97%	93.45%	---

According to table 1, 20 scales were studied to survey the earned points by research software. About the scales of search in variety of fields in information retrieval, Aleph has covered the most scales and Payam has covered the less scales.

## 2. How is the search formula in information retrieval by Payam in compare of Aleph and Voyager?

Table 2 shows the points for search formula.

**Table 2. Payam, Aleph and Voyager points in Search formula**

Option	Scale 2. Search Formula	Software			Importance degree
		Voyager	Aleph	Payam	
Boolean	Use of Searchable Fields Operator in the AND	12	12	8	4
	Use of Searchable Fields between the AND Fields	12	12	8	4
	Use of Searchable Fields Operator in the OR	12	12	8	4
	Use of Searchable Fields between the OR Fields	12	12	8	4
	Use of Searchable Fields Operator in the NOT	12	12	8	4
	Use of Searchable Fields between the NOT Fields	12	12	8	4
	Use of Mathematical Operators (+,-, Bigger, Smaller, etc)	12	12	8	4
Mathematics	Search by Wildcard	6	6	0	2
Wildcard	Search by Proximity	6	6	0	2
Aggregated Scores		96	96	56	---
Percentage Scores		100%	100%	58.33%	---

According table 2 the earned points by research software were studied for 9 scales. Thus, about the scales of search formula in information retrieval, there is no difference between Aleph and Voyager and has covered the scales more than Payam.

## 3. How are the other search limitations in information retrieval in Payam in compare of Aleph and Voyager?

Table 3 is showing the points for the other search limitations.



**Table 3. Payam, Aleph and Voyager points in other search limitations**

Option	Scale 3. Other Search Limitations	Software			Importance degree
		Voyager	Aleph	Payam	
Browse	Browse in Title File	9	9	9	3
	Browse in Author File	9	9	9	3
	Browse in Subject File	9	9	9	3
	Browse in Subject Authority File	9	0	9	3
	Browse in Publisher File	6	·	·	2
Search Results	Possibility of Re- search at each stage of search	12	12	12	4
	Possibility of Combining the results of previous searches	6	0	6	3
	Possibility of Store the previous search formula	0	0	0	3
	Possibility of Retrieve related information to retrieved record	9	9	9	3
Related Works	Display information about other related works	12	12	12	4
	Possibility of offer to purchase by users	12	12	12	4
Language	Possibility of design search page template with the country's main language and English page	12	12	8	4
Terminology	Terminological search	12	12	12	4
Writing	Provide the solution to retrieve words that have different writings (e.g. color and color)	0	8	0	4
Search Limitation	Possibility of Simple or advanced search	12	12	12	4
	Possibility to limit the search with phrases like 'include the words', 'start with' and etc.	8	12	12	4
Format Search	Possibility of search various digital formats like PDF, JPG, Word and etc	9	9	9	3
<b>Aggregated Scores</b>		<b>146</b>	<b>137</b>	<b>140</b>	---
<b>Percentage Scores</b>		<b>83.90%</b>	<b>78.73%</b>	<b>80.45%</b>	---

17 Scales were studied for the earned points by research software. Thus, about the scales of other limitations, Voyager has covered the most scales and Payam is the second grade.

#### 4. How displaying search is results in information retrieval by Payam in compare of Aleph and Voyager?

Table 4 demonstrates the points of the capability of displaying search results.

**Table 4. Payam, Aleph and Voyager points in displaying search results**

Option	Scale 4. Displaying Search Results	Software			Importance degree
		Voyager	Aleph	Payam	
Record	Ability to display retrieved records in full bibliographic record form	12	12	12	4
	Ability to display retrieved records in abbreviated form (Title- Author- Date)	12	12	12	4
	Determine the number of records display per page	12	12	12	4
Output	Ability to print the results of the search, worksheets etc on the printer	6	6	6	2
	Ability to take output in different formats (e.g. Word, Excel, HTML, etc)	6	6	6	2
	Ability to take output by citation management software (e.g. Endnote, etc)	9	9	0	3
	Ability to display records in different citation styles (e.g. APA, Vancouver, etc)	0	6	0	3
Columns	Insert the top of each column data elements (e.g. Author, Title, Publisher, etc)	9	9	9	3
	Be sufficient the number of displayed columns to identify the resources	6	6	6	2
	Ability to change the arrangement of columns at pleasure of user	3	0	3	1
	Ability to display other elements (e.g. Coauthor, Translator, Publisher, Subject etc) without major elements (e.g. Author, Title, Date of Publication) to identify the work more completely	6	6	6	2
	Ability to Sort search results based on each column (information elements) e.g. based on author or title by user	9	9	9	3
Search History	Section to illustrate the approach used by user to search	9	9	9	3
Search Phrase	Ability to show the words or phrases in different color or font in the text	0	6	6	2
Accessibility	Section to show the data like being a reference work or no, date of borrowing and take back, or be in the order etc. separated from other information	12	12	12	4
Resolution	Ability to display the Call Number to recognize easily	9	9	9	3
	Ability to display the records (bibliographic information) to be legible (suitable size and font)	12	12	12	4
Back	Ability to back from one page to the previous page	9	9	0	3
	Ability to back from one page to the search page	9	9	0	3
<b>Aggregated Scores</b>		<b>150</b>	<b>159</b>	<b>129</b>	<b>---</b>
<b>Percentage Scores</b>		<b>90.90%</b>	<b>96.36%</b>	<b>78.18%</b>	<b>---</b>

According to table 4, 19 scales were studied to survey the earned points by research software. Thus, about the scales of displaying search results in information retrieval, Aleph has covered the most scales. Payam has covered the less scales.

### 5. How are the help capabilities in information retrieval by Payam in compare of Aleph and Voyager?

Table 5 is about the points earned by the research software in the help capabilities.

**Table 5. Payam, Aleph and Voyager points in the help capabilities**

Option	Scale 5. Help Capabilities	Software			Importance degree
		Voyager	Aleph	Payam	
Help	Section to display help capabilities to help the user on the screen	12	12	12	4
	Suitable help as an immediate guide for search strategy	6	6	6	3
	Appropriate position for the help option on the main page	9	9	9	3
	Ability to access to frequently asked questions (FAQ)	12	12	12	4
<b>Aggregated Scores</b>		39	39	39	---
<b>Percentage Scores</b>		92.85%	92.85%	92.85%	---

4 scales to survey the points of research software were studied in table 5. Thus, about the scales of help capabilities in information retrieval, 3 of them cover the scales equally.

### 6. How is the OPAC 2.0 Usages in information retrieval by Payam in compare of Aleph and Voyager?

Table 6 shows the points for OPAC 2.0 Usages in research library software.

**Table 6. Payam, Aleph and Voyager points in OPAC 2.0 Usages**

Option	Scale 6. OPAC 2.0 Usages	Software			Importance degree
		Voyager	Aleph	Payam	
Interaction	Ability to scoring and ranking the documents	0	0	0	3
	Ability to label the document	0	12	0	4
	Ability to propose about the document	0	12	0	4
	Ability to provide selective dissemination information (SDI)	12	12	0	4
<b>Aggregated Scores</b>		12	36	0	---
<b>Percentage Scores</b>		26.66%	80%	0	---

Table 6 shows earned points by research software that were studied for 4 scales. Thus, about the OPAC 2.0 Usages in information retrieval, Aleph has covered the scales.

### Conclusion

According to table 7, the total points earned by research software were studied. Thus, Aleph has covered the most scales and Payam has covered the less scales.

Finally, in the first question (search in variety of fields), second question (search formula), fourth question (display search results) and sixth question (OPAC 2.0 Usages), Payam is in the third grade in compare of Aleph and Voyager. And in the fifth question (help capabilities) Payam, Aleph and Voyager are on the same level.

**Table 7. Payam, Aleph and Voyager total points**

Option		Software		
		Voyager	Aleph	Payam
1	Search in variety of fields	159	163	157
2	Search Formula	96	96	56
3	Other Search Limitations	146	137	140
4	Displaying Search Results	150	159	129
5	Help Capabilities	39	39	39
6	OPAC 2.0 Usages	12	36	0
<b>Aggregated Scores</b>		602	630	521
<b>Percentage Scores</b>		87.24%	91.30%	75.50%

In general, the results of this study shows that Aleph has 627 points, Voyager has 599 points and Payam has 518 points. Therefore, Payam has covered the less scores. According to this research results all of these software had earned more than 75% of scores. Dulaei & Farhadpour (2009) had studied some of the features of 20 UK academic OPACs and 14 Iranian academic OPACs. They had found that UK OPACs in quantitative and qualitative design and including necessary possibilities are better than Iranian OPACs. The present research results also show that foreign software are better than Iranian software. The results of Yang & Hoffman (2010) also show that their research software could not earn acceptable points. But in this research all of the software had earned more than 75% of points. In general, the results of this study show that Payam has deficiency in all checked features than the Aleph and Voyager. So, it is suggested that the results of this research be used in these cases:

- Payam managers and designers, improve the search formula;
- Payam managers and designers, improve the displaying search results;
- Payam managers and designers, use OPAC 2.0 Usages in the next version of this software;

- Iranian library software managers and designers use this study's proposed criteria to improve their software.

As well as previously mentioned, one of the most important topics in libraries and information centers is search and information retrieval. Research in this field can improve the library software performance. The following suggestions are offered to future researchers:

- Research to study Payam search capabilities from the perspective of end user;
- Research new version of Payam search capabilities and compare it's results to this study results;
- Research new version of research software and compare with results of this study.

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