Visibility study of Iranian digital libraries

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ABSTRACT

Considering the important position of digital libraries in the matter of information, the present article has been done with the aim of evaluating the visibility of Iranian digital library websites based on webometric criteria. Cases and Methods: The present study is a descriptive and applied survey. In this study, link analysis method (which is one of the methods of webometrics) and survey statistics of digital libraries in Iran in Google PageRank, yahoo Rank and Alexa have been used. The present study has shown that only 9 libraries have been identified by measuring the validity of the digital library website with the Yahoo PageRank factor, and finally, with the help of citations made through Alexa, Google and Yahoo sites, the visibility of Iranian digital library websites has been determined. Findings show that Tebyan Digital Library has obtained the first rank in the study of incoming links and Google ranking and the Digital Library of the Faculty of Entrepreneurship of the University of Tehran has gained the first rank in the review of sites in Iran and Alexa global rank among Iranian digital libraries. , Allameh Tabatabai University Digital Library is also ranked first in Yahoo Ranking. Overall, a high percentage of the websites of the digital libraries studied have a small influential factor, which indicates the weaknesses of these websites. According to the results of the present study, it is suggested that digital library administrators use appropriate advertising and information tools to inform users of the services provided by digital libraries and also use effective human factors in their digital libraries to be able to Increase the visibility of your digital library and provide better services to ther clients.

Keywords: Iran Digital Libraries, Webometrics, Visibility. Visibility of digital libraries.

Introduction

Webometrics show the nature, structure, and content features of websites, as well as the structure of links, in order to understand virtual highways and their internal connections. Today, the advent of the World Wide Web has confronted the world with a phenomenon called the Web. Websites are among the points of connection and users' connection with electronic information [1]. The Web is becoming a means of communication for disseminating results and disseminating scientific and research achievements in academic centers [2]. Today, the World Wide Web has met some of these needs with increasing speed in producing information and making it accessible. On the other hand, it is possible to create a website for anyone who has little knowledge of computers. Libraries have also been influenced by new information and communication technologies in the

transition from the physical to the virtual world, and by using these technologies in this field, they have taken the first steps towards accessibility and ease of use of their services. Digital Libraries website is a gateway to the environment It is virtual. These websites are used as a communication tool for multiple purposes. To this end, digital libraries work hard to organize and make available a wealth of information and to introduce their ability and capabilities. On the other hand, due to the importance and position of digital libraries in the field of information and communication with audiences, digital libraries use this platform to organize and make information available and introduce their ability and capabilities. Therefore, in order to achieve better quality and continuous improvement of these websites, it is necessary to evaluate them through webometric methods to identify their strengths and weaknesses in each of the benchmarks to eliminate existing weaknesses and reinforce the strengths and monitor their position in the country. And the world to take action to increase the ranking of the digital library website.

Studies conducted in the field of webometrics

Research on the website of university libraries began in the mid-1220s and after the emergence and development of such websites. The important point here is that the scope of such

research is extremely broad and dynamic at the same time; In a way that extensive changes and developments in them have also affected the research conducted [3]. In this section, the research background is briefly **mentioned:**

Nowruzi in a study examines the rate of links to the websites of Iranian universities and points out that this rate has been much lower and lower than the links to websites of universities in other countries [4]. In a study, Aminpour et al. Showed that the websites of Iranian universities of medical sciences have no effect on the web and are not internationally recognized, citing language barriers as well as technical problems in designing websites [5]. Mesgarpour et al. Showed that in order to improve the web ranking of Iranian universities and research centers, it is necessary for policy makers and managers of the country's education and research sector to develop and implecate appropriate strategies for continuous promotion and monitoring of websites of educational and research institutions (2009) [6]. Erfanimanesh and perspective in a study entitled "Appearance evaluation, impact factor and visit to the websites of Iranian universities of medical sciences" showed that the websites of medical universities in the north (Babol, Golestan, Gilan, and Mazandaran) compared to other medical universities The country is not in a favorable situation based on the studied indicators (2009) [7]. Sedghi et al. (2013) in a study examined the status of websites of medical universities in the country based on webometric indicators and showed that the status of websites of top universities in the country compared to the websites of type one and two universities is much better and their rank is based on webometric indicators [8]. It is much more desirable. They also pointed out that there is a positive and significant correlation (0.85) between the rank of the university website and their brigade, and the rank of the university website is considered as one of the factors affecting the brigade of the University of Medical Sciences.

in foriogn countries, in a study, Nova Agua and Agarin selected the pages of 50 Nigerian universities to study the pattern and frequency of external and internal links. In geroral, the websites surveyed had 67567 links, representing 45 links per page. The results of their study showed that these universities did not link to other Nigerian university websites, but rather to non-university websites [9]. In his study, Sugak (2011) examined the reasons for the low ranking of Russian university websites [10]. He concluded that the low ranking of Russian university websites is due to the lack of attention of university officials to the promotion of websites, and suggested that university officials should provide the necessary planning and policies to improve the content of websites. In another study, Osanadeh and Ugandle (2012) examined the Ibadan website ranking based on enriched files, size, Google Scholar, and visibility [11]. The results of this study showed that the website of this university is not suitable and strategies such as digitizing scientific articles, creating blogs for faculty members and placing university links on it should be used to improve the characteristics of this university. Considering the importance of digital libraries and the lack of webometric research on these websites, which have a high scientific and research value, in the present study, we intend to determine the ranking of Iranian digital library websites in the country and the world according to webometric indicators.

The results of this study can be useful for managers and decision makers of Iranian digital libraries and also determine the position of Iranian digital libraries. Therefore, by conducting this research, we seek to answer the following questions:

research questions

What is the visibility of digital libraries based on the review of received links to Iranian digital library websites?
How to measure the validity of a digital library website with a Google PageRank factor?
How to measure the validity of a digital library website with the Yahoo PageRank factor?
How is the global ranking of Iranian digital libraries on Alexa site?
What is the internal ranking of Iran's digital libraries?

Materials and Methods

The present study is a descriptive and applied survey. This study was conducted using the link analysis method, which is one of the webometric methods, and examined the site visit statistics. Finally, with the help of citations made in Google, Yahoo and Alexa, the visibility, ranking and position of Iranian digital library websites are determined. The key and key tool of webometric research is search engines. Statistics and data of three search engines have been collected in history and used in this research. The web-assessment method has examined the current situation of Iranian digital library websites. In this research, the research community (Iranian digital libraries) has been studied by three search engines. The items examined in Alexa were: a) Global ranking (shows the global ranking of a website among the world's websites); B) Most popular (name of the country that has visited the site the most); C) Rank within the country (here the rank of Iran is examined); D) Number of backlinks. The total number of sites that link to the site in question (in other words, when a website places a digital library link on its site, a backlink to the library site is considered. Backlinks can have a major impact on website in the result of scorch engines searching). Google PageRank, or PR for short, has also been evaluated. (PageRank is the result of analyzing inbound links to a site. PageRank is a ranking that Google assigns to a site between 0 and 10). If this number is close to 10, it indicates that this site has many inbound links and many sites have linked to this site. The page rank is transferred from the web pages to each other, and the higher the page score that links to the site under review, the more points the site pages will receive. The sites used to obtain the results of this research are https://checkpagerank.net/check-page-rank.php and https://calc.worldi.ir/alexa/ and the time to do and get information from the sites in question on the 15th It has been until 17 June 2020.

Statistical population of the research

The statistical population of the present study consisted of 50 digital libraries in Iran (this research population was taken from the research community. Due to the up-to-dateness and function of the statistical population and cases whose site has been removed or updated Several libraries have been removed and the list of standard libraries has reached 50. These libraries have been considered in terms of providing valuable and needed information elements to users and fast updating of information. Users have been considered and then selected in order to inform them about the services provided by websites and in terms of providing valuable information elements needed by users and rapid updating of information as effective factors in increasing the number of links.

Answers to research questions

1- What is the visibility of digital libraries based on the review of received links and websites of Iranian digital libraries?

To answer the first question, the visibility of Iran's digital libraries and the received links to the digital libraries website were first calculated and sorted. The term visibility is used as a descriptive term for counting links received by a website; Because the received links indicate that the pages found are indexed by search engines. The visibility of a website is one of the factors of its success and its goal is specifically to get the highest number of visitors and that potential users of the digital library can easily find it among the huge number of websites. The results show the received links of Iran's digital libraries through searching in Alexa site and then organizing the digital libraries, respectively, the highest to the lowest received links. The first five digital libraries that received the most links were Tebyan Digital Library, Entrepreneur Digital Library of the University of Tehran, Document Organization and National Library, Library of Iran Institute of Information Science and Technology and Digital Library of Science and Technology, respectively. (General table of links found in Appendix 1)

2- How to measure the credibility of a digital library website with a Google PageRank factor?

The results obtained from searching for the address of the individual library of digital libraries were in the measure of Google rank and then sorting the site of digital libraries based on the highest score received. Iran's digital libraries are ranked according to Google rank / 11 to / 16 that Tebyan Digital Library with the highest score, has the first rank of Google and the digital library of Isfahan Municipality has the lowest score. (Overview of Google PageRank in Appendix 2)

3- What is the global ranking of Iranian digital libraries on Alexa website?

Examining the global ranking of Iranian digital libraries on Alexa site and sorting them, the results show that the digital library of the Faculty of Entrepreneurship, University of Tehran, Tebyan Digital Library, Amirkabir Digital Library, Iran University of Medical Sciences Digital Library and Library, respectively. Digital University of Science and Technology has the highest ranking. (General Alexa ranking table in Appendix 3)

4- What is the ranking of Iranian digital libraries among Iranian domestic sites?

By examining the ranking of digital libraries in Iran among domestic sites in Iran and ranking them, the results have shown that five libraries with top rankings include: Digital Library of the Faculty of Entrepreneurship, University of Tehran, Tebyan Digital Library, University Library Amir Kabir, Digital Library of the Institute of Basic Sciences, are the digital library of Imam Sadegh (AS) University. (Alexa Ranking Schedule in Appendix 4)

Visibility table of digital libraries in Iran

	Table (1). Visibility rate of digital libraries in Iran					
1	Name of Iranian digital libraries	yahoo Rank	Google PageRank	Sites Linking In) Total)	Rank among Iranian sites	Global) (Rank
2	Amir Kabir University Library	1.94	5/1	2894	556	17.404
3	Astan Quds Razavi Digital Library	0	4/1	2.235	6967	241.703
4	The Holy Threshold Digital Library of Hazrat Masoumeh	0	2/1	170	8136	246.136
5	Ayatollah Boroujerdi Digital Library	0	2/1	137	28729	959.709
6	Digital Library of the Islamic Encyclopedia Foundation	0	2/1	345	14045	310.669
7	Digital Library of the Research Institute of Communication and Information Technology (Iran Telecommunication Research Center)	0	4/1	569	5309	181.822
8	Digital Library of the Institute of Basic Sciences	2.44%	4/1	2.894	556	17.404
9	Digital Library of Iran Institute of Information Science and Technology	1.57%	5/1	3.898	563	18.665
10	Niroo Research Institute Digital Library	0	2/1	370	8671	301.721

11	Tebyan Digital Library	0	6/1	37.626	241	5.741
12	Al-Mustafa Al-Alamiyah Digital Library	0	3/1	857	In Sudan 247	65.628
13	Al-Zahra School of Educational Sciences and Psychology Digital Library	0	3/1	1.535	1805	68.953
14	Digital Library of the Faculty of Entrepreneurship, University of Tehran	1.09%	5/1	8.578	164	4.652
15	Digital Library of the University of Religions and Beliefs	0	3/1	471	5520	154.281
16	Urmia University Digital Library	0	4/1	1.178	3832	138.434
17	Digital Library of Islamic Azad University, Najafabad Branch	0	4/1	755	1303	57.060
18	Digital Library of the University of Isfahan	0	4/10	170	8136	246.136
19	Imam Sadegh University Digital Library	2.44%	3/1	2.894	556	17404
20	Digital Library of Imam Khomeini International University	0	4/1	1.149	2512	88.958
21	Payame Noor University Digital Library	0	3/1	905	2576	96.434
22	Kharazmi University Digital Library	0	3/1	683	940	44.774
23	Digital Library of Sistan and Baluchestan University	0	4/1	1.202	3287	111.323
24	Shahed University Digital Library	0	3/1	1.062	2727	94.890
25	Shiraz University Digital Library	2.63%	4/1	2.502	1004	40.045
26	Isfahan University of Technology Digital Library	0.98%	5/1	2.245	1376	43.177
27	Dezful Jundishapur University of Technology Digital Library	0	2/1	220	10120	444.585
28	Digital Library of the University of Science and Technology	0	5/1	3.048	580	19.626
29	Digital Library of Isfahan University of Medical Sciences	1.1%	4/1	2.544	1250	40.618
30	Digital Library of Ahwaz University of Medical Sciences	0	4/1	868	7828	176,672
31	Digital Library of Iran University of Medical Sciences	0	4/1	1.914	953	22328
32	Guilan University of Medical Sciences Digital Library	0	4/1	1.088	2653	87,725
33	Digital Library of Mashhad University of Medical Sciences	0	5/1	2.684	1468	43.127
34	The National Library of the National Archives and Library	0	5/1	4.535	756	22.064
35	Digital Library of Islamic Documents Organization	0	2/1	109	95630	3,240,944
36	Digital Library of National Petrochemical Company	0	3/1	588	6200	243,.858
37	Isfahan Municipality Digital Library	0	1/1	0	0	6,716,486
38	Birjand Digital Library of Medical Sciences	0	3/1	1.028	2795	99,131
39	Digital Library of the Islamic Consultative Assembly	0	2/1	196	30011	1,132,888
40	Digital Library of Agricultural Information and Scientific Documentation Center	0	3/1	416	2.873	113210
41	Norlib Digital Library	0	3/1	760	3371	79.433
42	Institut Pasteur Digital Library	0	4/1	619	14326	312,596
43	Allameh Tabatabai University Digital Library	3.53%	4/1	2.255	893	34,953
44	Tabriz Digital Library of Medical Sciences	0	4/1	2.016	1723	57,780
45	Behbahan Digital Library of Medical Sciences	0	2/10	136	30574	7 K.08984,930
46	Digital Library of the Academy of Medical Sciences	0	4/1	765	50753	690845

47	Digital Library of Shahid Sadoughi University of Medical Sciences, Yazd	0	4/1	1.512	4322	131,000
48	Ilam Digital Library of Medical Sciences	0	3/1	838	13156	312,796
49	Digital Library of Imam Khomeini Publishing House	0	4/1	2.766	1672	66865
50	Ghaemieh Digital Library	0	4/1	1.082	3008	85735
51	National Digital Medical Library of Iran		2/1	94		4,850,081

Discussion

One of the goals of ranking is to motivate digital libraries to present and accurately reflect their activities on the web. If a digital library website performs lower than expected, its policies should be reviewed. It is also necessary to increase and improve the quantity and quality of electronic publications. Given the above, it is essential that digital libraries pay attention to course evaluation. In this regard, the present study has evaluated the websites of Iranian digital libraries. The results obtained from the three search engines are reviewed. Surveys on Google site have shown that Tebyan Digital Library with a score of 6.1 is ranked first and Amirkabir Digital Libraries, Iran Institute of Information Science and Technology, Faculty of Entrepreneurship, University of Tehran, Isfahan University of Technology, Isfahan University of Science and Technology, Mashhad University of Medical Sciences, Organization National Library documents ranked second in Google with a score of 1.5. The municipal digital library with a score of 1.1 has the lowest score of Google rank and is ranked sixth among digital libraries in Iran. The review of backlinks has shown that Tebyan Digital Library with 37626 backlinks is in the first rank, Tehran Entrepreneur Digital Library with 8578 backlinks is in the second rank, Documents and National Library with 4535 backlinks is in the third rank. The internal ranking of the sites showed that the digital library of the Faculty of Entrepreneurship of the University of Tehran with 164 points, obtained the first rank among the digital libraries under study, followed by Tebyan Digital Library with 241 points in the second and Amirkabir University Digital Library with 556 points Is ranked third. It should be noted that unlike Google search engine, Iranian digital libraries pay less attention to Yahoo search engine (if this search engine has a great impact on ranking) and planning for the results shows that in general a high percentage of digital library websites The study has a small influential factor, which indicates the great weakness of these websites. Website indexing by search engines and consequently, proper retrieval by them, linking by other websites and increasing the number of links are effective factors in visibility. According to the obtained results and the study of Tebyan Digital Library and the Digital Library of Karafarin University, University of Tehran, which have the most visibility among Iranian digital libraries, it can be concluded that the success of a digital library depends on factors such as: evaluation, thematic coverage, updating And accessibility depends, and one or two factors can not be considered the only reason for the success of a website. Existing results and studies conducted on digital libraries in Iran have shown that among the effective factors in the visibility of digital libraries are effective human factors. All individuals and groups that somehow play a role in the growth of digital libraries. These include users, librarians, analysts, webmasters, designers and developers of digital library sites, programmers, technical experts, publishers, suppliers of digital library equipment and systems, known as pioneers of digital library innovation and development. Such human factors are effective. The promotion mix, which is one of the four business models that includes: advertising, public relations and promotion, can affect the visibility of more digital libraries. Interaction as a factor that in addition to locating and accessing information, helps users in creating knowledge, improving and understanding and problem solving and recognizing the dimensions of resources in the collection also has a significant impact on the visibility of digital libraries. According to the results of the present study, it is suggested that digital library administrators use appropriate advertising and information tools to inform users of the services provided by digital libraries and also use effective human factors in their digital libraries to be able to Increase the visibility of your digital library and provide better services to your clients.

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