

Research Paper

Studying "Bounce Rate" and "Average Visit Duration" on the Iranian University Library Websites: Correlation Analysis

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Abstract

Purpose: Nowadays, average visit duration through the university library websites and bounce rate of the web users, are two important factors from the standpoint of Google Search Engine Optimization (SEO). The main objective of this study is studying the two mentioned factors in Iranian university library websites and interactive relationship analysis between them. Method: This study opted for the webometrics approach. The research community was 42 library websites of Iranian governmental universities affiliated with the ministry of science, except Payam-Noor and Farhangian. These mentioned websites were analyzed by the descriptive and analytical survey methods. The data had been extracted by the "Similarweb" analytical tool (3 months: January to March 2020). Three software, "SPSS22", "Excel" and "LibreOfficeCalc", were used for data analysis. Findings: The lowest (best) bounce rates from the library website were observed in the websites of the Central Library of Allameh Tabatabai University and the Digital Library of the University of Guilan, respectively. The highest (best) "average visit duration", was observed in the digital library websites of Isfahan university of technology and university of Tehran, respectively. Conclusion: The "bounce rate" of members of the research community has been observed between 13% and 100%. Also, "average visit duration" has been seen from 0 to 300 seconds. Iranian university library websites from the standpoint, two factors that impacted Google SEO, have been

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seen in the weak level. A significant inversely correlation was obtained between "Bounce Rate" and "Average Visit Duration" in 42 Iranian governmental university library websites with an amount of 0.6.

Keywords: Web Visibility, User Engagement, University Library, Search Engine Optimization (SEO).



Introduction

In the age of global interconnectivity, search engines, help us to find data on the web rapidly (Manek et al, 2017). Also, at this present time, physical access to university libraries has waned. Most users visit the central or the digital library of their university through the library websites. Search Engine Optimization (SEO), is one of the digital marketing techniques that helps to increase accessibility in the web environment (Setiawan et al, 2020). According to two studies from Saxida & Santiworak (2017) and Narwal & Chauhan (2018), the factors of "Bounce rate" and "Average Visit Duration" are two factors impacting on Google SEO. The "Average visit duration" is a component that measures the average length of time users visit a website. The component of "Bounce Rate" is defined in the following sentences.

"Bounce Rate", which is a "one-page session from the website" (Google Guide). In other words, when a user enters a website and sees one of the website pages and leaves the entire website and is not redirected to other pages of this mentioned website. For example, if the bounce rate of Allameh Tabatabai University's digital library website is 10%, it means that, on the average, ten percent of all users who visit the website visit only one of its retrieved pages, without being redirected to another page of this website.

Average Visit Duration shows you the average amount of time visitors spend on a website within a session (Similarweb Guide).

Ale Ebrahim (2016) and Lotfipanah & Azadeh (2017), have stated that academic SEO is very important to receive high visibility and more citation.

According to a survey study from OCLC, 84 percent of information searches begin with a search engine (Rosa et al, 2005). Google is one of the best search engines (Rapid API Staff, 2020). 75% of users will never scroll past the first page on a Google search (Patel, 2020). Therefore, using SEO techniques is very useful for promoting academic libraries and sharing knowledge.

Literature Review

Dawson & Hamilton (2006) have stated that Glasgow digital library (gdl.cdli.strath.ac.uk) kept appearing near the top of Google search results shortly after publication, just by using high-quality metadata. Cahill and Chalut (2009), have said that learning search engine

optimization techniques for librarians is useful. Publication from Onaifo and Rasmussen (2013), has expressed that, SEO is a mechanism for improving libraries' digital content findability on the web.

According to a research paper from Fox (2014), academic libraries can greatly benefit from exploring the potential benefits of using SEO. Askey and Artlisch (2014), announced that libraries must have to use Google SEO techniques like HTTPS protocol or SSL certificate for their websites to improve their visibility on Google search engine. O'Brien et al (2014), implemented a lot of techniques of Google SEO in the library of Montana university. Search engines such as Google can help university library websites to increase the visibility of their information resources (Coates, 2014). Gasparotto (2014), has stated that it can be to achieve significantly higher search engine rankings for high quality, keyword-rich content with helping research librarians.

According to publications from Dickinson & Smit (2015; 2016), two Canadian public libraries have poor visibility in Google. The number of methods for increasing visibility of library websites on Google search engine is recommended by Arlitsch (2017). Also, Vázquez & Ventura (2020), have expressed that the visibility of the 10 largest Spanish universities in Google, is generally low. Taheri et al (2020), have said that scientific content and SEO standards of the Iranian university websites need serious improvement. In one published paper the main reason has been stated that is why Google is decreasing the visibility of health and medical information websites, is that they do not meet high ranking criteria (Strzelecki, 2020).

The previous articles have not taken an evaluation approach in Iranian university library websites from the standpoint, two factors impacting Google SEO (bounce rate & average visit duration). In other words, there are many research articles or reports that have been addressed the importance of Google search engine optimization for libraries or academic libraries. But, measuring accurately the two factors impact on Google SEO, is the innovation of this study.

Methodology

This present study opted for the webometrics approach. The research community was 42 library websites of Iranian governmental universities affiliated with the ministry of science, except for Payam-

Noor and Farhangian (To integrate community members). Forty-two Iranian university library websites were analyzed with the descriptive and analytical survey method by using an analytical database "Similarweb" (3 months: January to March 2020) , two effective factors on Google SEO ("Bounce Rate" and "Average Visit Duration"). "Libreofficecalc" and "Excel" were used for drawing diagrams. These two mentioned softwares were selected because they represented the data related to the purpose of this study better. Correlation relationship analysis between these two mentioned factors have been measured by "SPSS22" software, which is famous and authoritative for statistical correlation analysis

"Bounce Rate" and "Average Visit Duration" can be measured with the help of various tools. Similarweb online analytics site is one of the mentioned tools. In the mentioned database, there is no need for the person to be the administrator of a website to be able to extract the data or information. Also, the Similarweb tool has been used in some international valid studies such as publications from Suksida and Santiworarak (2017) and Zheutlin et al (2021).

In April 2020, the data of three months, i.e, January to March 2020, was extracted by the Similarweb tool. Then, noteworthy figures and tables were obtained. Because at the time of this present study, ie April 2020, in some universities such as Tarbiat Modares University, Sistan and Baluchestan University, Hormozgan University, Arak University of Technology and Urmia University of Technology, the website address of the university library, were not independent of the address (URL) of the university or vice-chancellor, so they were excluded from the research community.

Findings

The lowest (best) bounce rates from the library website were observed in the websites of the Central Library of Allameh Tabatabai University and the Digital Library of the University of Guilan, respectively. The highest (best) "average visit duration" was observed in the digital library websites of Isfahan University of Technology and University of Tehran, respectively.

The "bounce rate" of members of the research community has been observed between 13% and 100%. Also, "average visit duration" has seen from 0 to 300 seconds. Iranian university library websites from the standpoint, two factors that impacted on Google SEO, have been

seen in the weak level. A significant inversely correlation was obtained between "Bounce Rate" and "Average Visit Duration" in 42 Iranian university library websites (Research Community) with an amount of 0.6.

In April 2020, figure1, 2, 3, 4, and table 1, 2 were obtained.

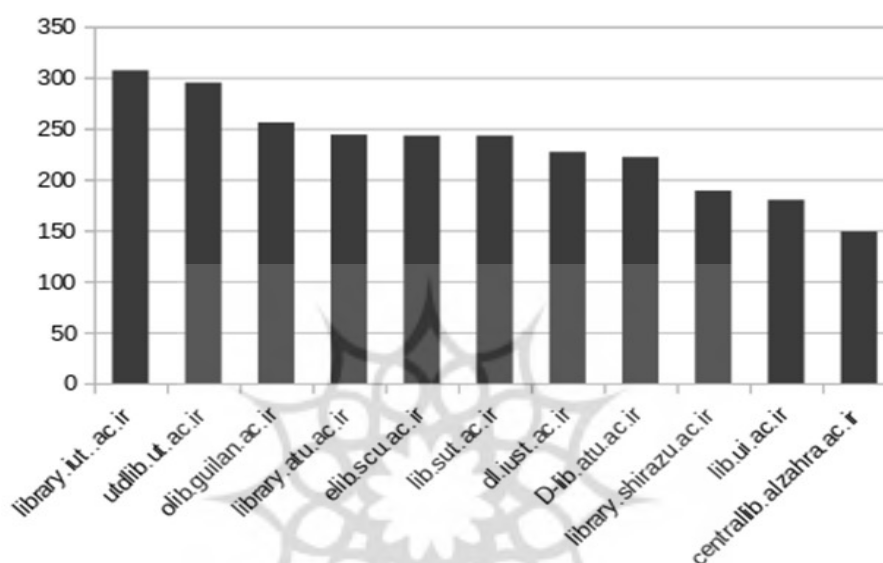


Figure1: Identifying 11 best Iranian university library websites (Among 42) from the standpoint, highest "average visit duration" in 3 months (January to March 2020)

According to Figure 1, the highest average duration of users, which is one of the factors impacting Google SEO, was observed in the digital library of Isfahan University of Technology (Library.iut.ac.ir) and the digital library of the University of Tehran (Utdlib.ut.ac.ir), respectively.

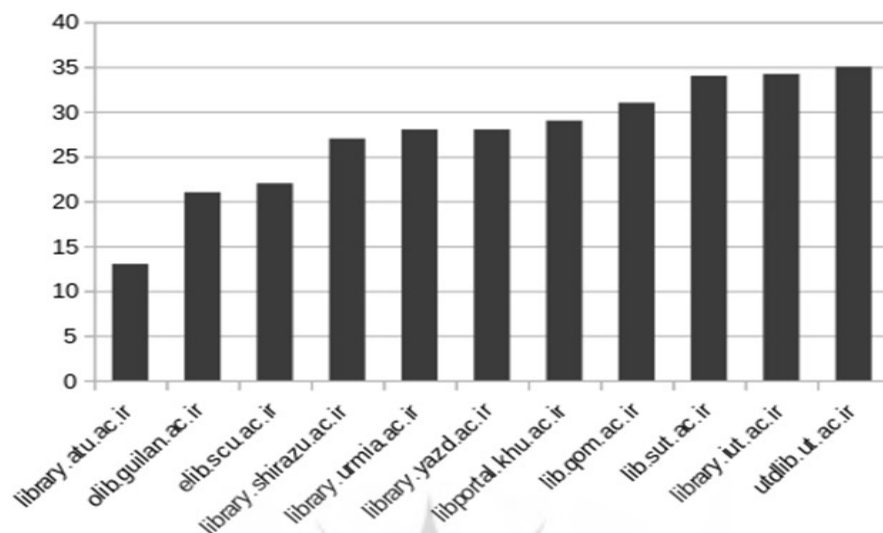


Figure 2: Identifying 11 best Iranian university library websites (Among 42) from the standpoint, lowest (best) "bounce rate" in 3 months (January to March 2020)

According to figure 2, the lowest bounce rate, which is one of the components affecting Google SEO, was observed in the websites of the central library of Allameh Tabatabaei university (Library.atu.ac.ir), digital library of Guilan University (Olib.guilan.ac.ir), electronic library of Shahid Chamran University (Elib.scu.ac.ir), respectively (Among 42 URLs) at date January to March 2020.

Figure 1 and figure 2, are drawn by "LibreOfficeCalc" software.

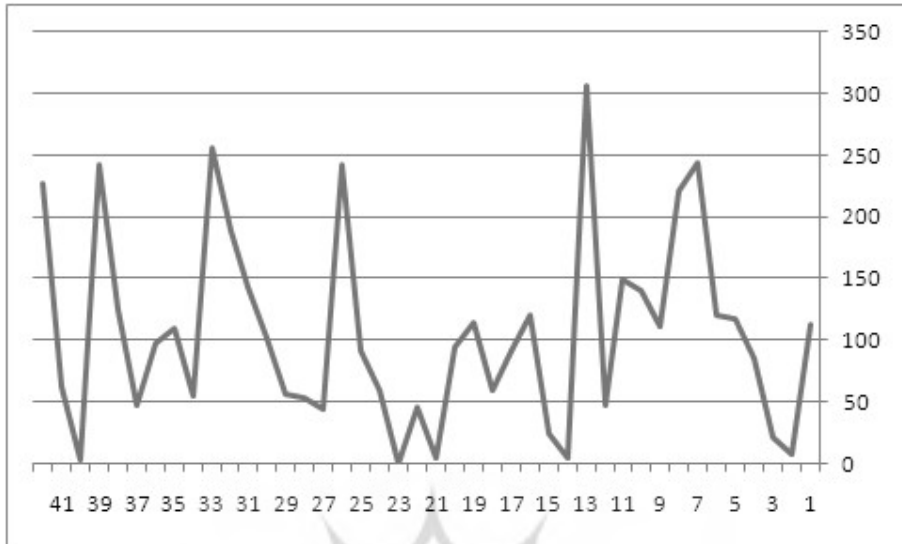


Figure 3. "Average visit duration" in 42 Iranian university library websites

According to figure 3, the average visit duration, varied from 0 to 300 seconds in the research community.

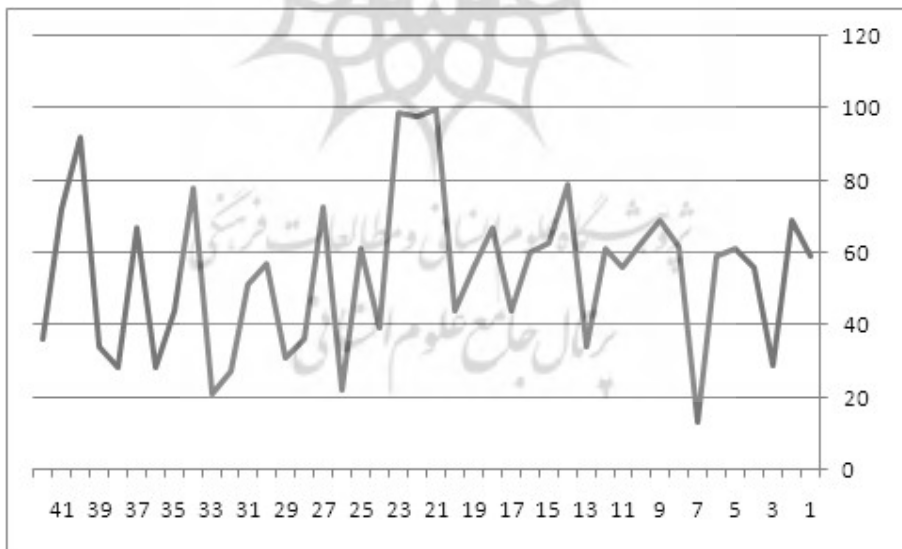


Figure 4. "bounce rate" in 42 Iranian university library websites

According to figure 4, the bounce rate, varied from 13% to 100% in the research community.

Figure 3 and figure 4, are drawn by "Excel" software.

Table 1. Investigation of normal distribution in two factors, Bounce Rate and Average Visit Duration in 42 Iranian university library websites (Research Community)

Factor	Mean	Skewness	Kurtosis	Sig	Kolmogorov test
"Bounce Rate"	54%	+31	-36	68	Normal distribution
"Average Visit Duration"	113s	+72	-32	28	Normal distribution

According to table 1, the variables of "Bounce Rate" and "Average Visit Duration" followed the normal distribution, in the websites of the research community.

Table 2. Correlation Relationship Analysis between "Bounce Rate" and "Average Visit Duration" in 42 Iranian university library websites (Research Community)

Sig Value in Correlation test (Pearson)	Significant test result	Amount of Pearson test	Result of Correlation relationship
0.00	Strong inverse	-0.64	Positive

According to table 2, a significant inversely correlation was obtained between these two factors with an amount of 0.6.

Tables 1 and 2 were obtained with the help of SPSS22 software.

Conclusion

Askey and Artlich (2014), announced that libraries ought to use Google SEO techniques, but they should pay no attention to notifications of Google. So, the present research is in the same direction as this mentioned study.

Also, Taheri et al (2020), have said that the SEO standards of the Iranian university websites need serious improvement. Iranian university library websites have been seen at a weak level from the standpoint of two factors that impact Google SEO, in this present study.

Dickinson & Smit (2015; 2016) have said that two Canadian public libraries have weak visibility in Google. Also, Váñez & Ventura

(2020), have expressed that the visibility of the 10 largest Spanish universities in Google is generally low. In this research, Iranian university library websites have been seen in a weak level from the standpoint of Google SEO, too.

The "bounce rate" of members of the research community has been observed between 13% and 100%. Also, "average visit duration" has been seen from 0 to 300 seconds (3 months: January to March 2020).

A significant inversely correlation was obtained between "Bounce Rate" and "Average Visit Duration" in 42 Iranian university library websites (Research Community) with an amount of 0.6.

The findings of present study were in the same direction as publications from Askey & Artlich (2014), Taheri et al (2015), Dickinson & Smith (2015; 2016), and Vázquez & Ventura (2020). In the mentioned studies, like present research, some libraries of their research community, in terms of Google SEO or factors that affecting on this, have evaluated on a weak level. Therefore the administrators of Iranian university library websites have paid attention to these two factors.

It's a good idea for the university library managers in Iran to pay close attention to Google SEO and factors that impact this, such as using an SSL certificate for their websites. Employment of expert human resources to reach this aim can be useful.

The present study has been emphasizing the use of Google SEO techniques to promote academic library websites (Sharing open knowledge).

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