Analysing private universities websites in Egypt using search engine optimisation tools

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Abstract: Today, the interest in private universities in Egypt and the competition among them is increasing due to the ever-largest youth population that cannot be fulfilled by the Egyptian public universities. This led many students to enrol in private universities to pursue their university education. Retrieving information about universities, faculties, departments, admission requirements, and tuition fees is vital for both parents and students. One of the frequently used methods that enable websites to be reached faster is search engine optimisation (SEO). The objective of this research is to investigate the SEO level analysis of 19 private universities websites in Egypt using four SEO Automated tools. Then, average score of SEO tools is taken to give the final ranking to universities websites. The final rank was compared with global and Egyptian rank of websites using Alexa and SimilarWeb tools. The websites' traffic sources were examined.

Keywords: search engine optimisation; SEO; websites SEO tools; website source traffic; website evaluation; private universities; higher education; HE; Egypt.

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1   Introduction

Nowadays, the influence of the internet is growing rapidly. Websites and search engines are the most important source of information. Obtaining information about various universities in Egypt plays a crucial role for students' enrolment choice. Therefore, it is necessary for universities to recognise the level, nature, and volume of information needed by students such as information about different colleges, departments, tuition fees, admission requirements, etc. The website is the first place to be visited as it is the easiest way that shows the existence of a university. Additionally, a university website frequently is used as a communications channel for showing and exchanging information among all university stakeholders such as students, lectures, employees, employment agencies, etc. (Almahamid et al., 2016).

Over the past 15 years, the Egyptian government has identified HE as a priority (Barsoum, 2014). The higher education (HE) system in Egypt (public and private) is considered the largest and one of the oldest in the Arab region (Galal and Kanaan, 2010). Egypt has almost 20 public universities (with about two million students), and 23 private universities and academies (60,000 students) (Top Universities, 2019). According to Central Agency for Public Mobilization and Statistics (CAPMAS, 2019), private HE institutions offer education opportunities to about 23% of tertiary education in Egypt. With the projected population growth, the system is expected to enrol additional 1.1 million students in 2021 (OECD, 2010). Therefore, private HE in Egypt will expand in order to support public universities and institutions to deliver more learning opportunities to students and to overcome the overloaded lecture halls in public universities (Barsoum, 2014). Most private HE universities in Egypt are for-profit institutions. The competition among private universities in Egypt is growing. Therefore, Websites and search engine optimisation (SEO) play a vital role in promoting to any business.

SEO is the method of increasing the visibility of represents the set of methods aimed to increase the visibility of, and the number of visits to a web page which is reflected by its ranking on the search engine results pages (Rovira et al., 2019). Today, the search engine (Google) is considered the main source of information as it handles 5.5 billion user queries per day (Search Engine Land, 2019). The role of search engines is to index billions of web pages and display only the most relevant results for a given search query

(Barbar and Ismail, 2019) According to search engine journal, 93% of all traffic users to any website comes from a search engine. Therefore, it is the most significant tool to reach users on the websites, in terms of getting higher ranking. Consumer often interested in the top list of search results, therefore it is necessary that the webpage can be ranked at the top (Roslina and Nur Shahirah, 2019). Additionally, 75% of search engine users never look beyond the first page of returned results (imFORZA, 2019). Moreover, the high growth rate in website development correspondingly increased the competition. As a result, the competition among different websites for a high ranking in order to attract users to their site is extremely severe. Accessing information about institutions and universities is extremely important for students to select a particular university. Therefore, the more the university website appeared on top lists of search engines the more it can capture users' attention.

This paper comparatively assessed the SEO level of 19 websites of private universities in Egypt. The comparison and the evaluation were made using four automated tools (SEO-Tester-online-checker, SEO Checkup, Woorank, and Website Grader). Individual rank to websites is given, then, average score was calculated to obtain the final rank to each website. This final rank was compared to global and Egyptian rank of websites using Alexa and SimilarWeb tools including analysis of traffic source.

This paper is organised as follows. Section 2 presents a literature review. Section 3 details the research methodology and the tools used in this paper. Section 4 presents the results. Finally, Section 5 provides the conclusion and discussion of the results.

2 Literature review

2.1 Importance of SEO

Today, internet has become the most important communication tool and its impact is rapidly increasing. It affords more opportunities to the organisations to interact with the public in an effective way (Singla and Aggarwal, 2018). Nowadays, search engines are considered as the main source of acquiring information through websites. SEO is the process of trying to rank highly a given web page or domain for specific keywords (Yalçın and Köse, 2010). It is also a method to improve website visibility through unpaid search results (Smith, 2016). It is the method of increasing the visibility of website, web page, web profile on original (natural, organic or unpaid) search engine result pages (SERPs), by including search engine friendly components (Zhang and Cabage, 2016).

According to StatCounter Global (2019), Google is the leading search engine with 90.76%. Meanwhile, the research study stated that 93% of internet traffic is managed by search engines (99firms, 2019). Therefore, appearing on top lists of search engines is considered as one of the most effective marketing techniques. Companies should recognise the importance of web presence in search engines through SEO approaches to improve ROI compared to traditional marketing (Niranjika and Samarasighe, 2019). Therefore, businesses who aim to reach more people should appear on the first page of search engines and before other competitors.

2.2   HE system in Egypt

Currently, the Egyptian government has identified HE as a priority. The system graduates hundreds of thousands every year. The high demographic pressure of Egyptian youth population and the increasing demand for HE gives the chance for more private universities to be opened. Moreover, diversity of HE options is a global trend. As most of private HE universities in Egypt are for-profit institutions, the competition among them is growing.

2.3   Previous work

Many studies have been conducted to investigate the SEO performance of websites in different domains and highlighted its importance.

Zarish et al. (2019) used three automated tools Qualidator, Website Grader and Website Analyzer to assess accessibility, usability and SEO of ten public universities of KPK, Pakistan and grade the sites according to their scores. The results of Qualidator tool revealed that University of Peshawar website was at the top rank. While the Website Grader found that website of USTB is in the best. Finally, Website Analyzer showed that website of KUST, Kohat is better than other websites.

Suksida and Santiworarak (2018) evaluated website's content of top 10 and bottom 10 universities in Thailand ranked in Webometrics to help website's administrator manage their content in order to improve their Webometrics Ranking of World Universities. The authors used SimilarWeb tool to get the traffic analytics of university's website include total visits pages, average visit duration time and percentage of bounce rate on website. The study found that university website has many interesting content the more average visit duration time, and the less percentage of bounce rate.

Iddris (2018) tested the role of SEO in internationalisation of HE, and understood the use of SEO as a digital marketing strategy. Online tools such as 'searchmetrics', 'Google trend', 'mozbar' and 'yakarferci' were used for analysis of Halmstad University to explore the website Google ranking, number of visitors and the SEO performance. The analysis discovered that Halmstad University appeared in the 170th position of Google ranking, high percentage of visitors are from Asian countries. The SEO level analysis results showed that there is a need to implement appropriate SEO for as part of the university's digital marketing strategy to get higher rank in Google.

Shahzad et al. (2018) compared five important universities websites in Malaysia using Semrush, Link-Assistant SEO, Webrank, PowerSuite, and WooRank. Albhaishi et al. (2014) evaluated web ranking metrics for Saudi Universities using WooRank's analytics tool and highlighted the importance of these web ranking metrics to improve the ranking scores for the universities Websites.

Kaur et al. (2016) evaluated websites of Punjab universities using two automated tools, Site Analyzer that assessed the content, design, performance, accessibility, SEO and page analysis. The second tool is Qualidator that were used to examine usability, accessibility, SEO and overall. Al-Ananbeh et al. (2012) evaluated 80 universities websites in the Arabic region. Three tools (HTML ToolBox, PageRank Checker, and SEO PageRank) were used to conduct this evaluation. The main purpose of this study is to find whether there is a relationship between usability and SEO. The results showed that although usability is very important to websites, it does not necessary improve SEO.

Additionally, Vyas (2019) applied SEO tools such as TrafficEstimate and Twitter Search, Google Trends, Alexa, SimilarWeb, SEMRUSH, SEO Analyzer, and Moz-Open Site Explorer to comparatively evaluate tourism websites of the government of India and of five Indian states. Individual rank was given first and then the mode of ranks is taken to give the final ranking to six tourism websites. Shahzad et al. (2017) highlighted the importance of SEO by analysing the impact of SEO techniques to improve the visibility of a research paper. The study found that the visibility of any ordinary article can be improved and get more citations by applying some simple SEO techniques. While Rovira et al. (2018) use reverse engineering technique to study off-page SEO features of Google Scholar. The authors found that good quality articles will be widely read and cited. While more citations lead to better rankings, and greater visibility.

Although, there is a wide literature available for assessing universities websites, this evaluation was not occurred yet in Egypt. Moreover, this paper compared and ranked 19 private universities websites using six SEO tools. Some of these tools have not been used before in any research.

3   Research methodology

The main purpose of this study is to rank the universities websites according to SEO level analysis and to find whether SEO performance of university website affects the global and Egyptian rank of these websites. Moreover, the traffic source of websites was investigating to identify he main source traffic for each website and its relation to SEO rank and Egyptian rank.

Nineteen websites of private universities in Egypt were subjected to a comparative analysis as shown in Table 1. The following six SEO tools were selected to analyse these universities websites: Alexa and SimilarWeb were used to find the global and Egyptian ranks of selected websites. SEO-Tester-online-checker, SEO Checkup, Woorank, and Website grader was applied to examine the SEO level performance of universities websites.

Then, the score given by these tools ranged from 0 to 100. Individual ranks were given based on four SEO tools individually then average score of the four tools was calculated and final rank was given to each website.

- Alexa tool was used to inspect the global and Egyptian rank of all websites in addition to the visitors' percentage (Alexa, 2019).

- SimilarWeb was applied to review universities website ranking in Egypt, and worldwide. Additionally, SimilarWeb was utilised to compare and analyse the traffic source and their percentage (SimilarWeb, 2019).

- SEO Tester Online is a tool used to compare websites regarding the following metrics: web pages on-site, off-site social media ranking, meta tags, keywords, site speed, and Web and mobile performance (SEO Tester Online, 2019).

- Website Grader is an online tool for grading the websites in terms of website performance, mobile readiness, SEO, and security and social media (Website Grader, 2019).

- WooRank used to ranked websites according to SEO factors such as keyword density, appropriate keyword usage, meta title, meta tags, ALT tags and header tags, XML sitemap and robots.txt files. (WooRank, 2019).

- SEO Site Checkup sorted websites using other criteria such as site usability, organic search traffic, paid search traffic, keywords, traffic cost, backlinks, branded traffic, non-branded traffic, etc. (SEO Site Checkup, 2019).

Table 1   URL of the 19 Egyptian private universities in Egypt

Code	University name	Website URL
U1	6th October	http://www.o6u.edu.eg/default.aspx?id=70
U2	Al-Ahram Canadian University	http://www.acu.edu.eg/en
U3	Badr University in Cairo	https://www.buc.edu.eg/en/
U4	Delta University for Science & Technology	https://www.deltauniv.edu.eg/new/
U5	Egyptian e-Learning University	http://www.eelu.edu.eg/
U6	Future University in Egypt	https://www.fue.edu.eg/
U7	Heliopolis University	http://www.hu.edu.eg/
U8	Misr International University (MIU)	http://www.miuegypt.edu.eg/
U9	Misr University for Science & Technology (MUST)	https://www.must.edu.eg
U10	Modern University for Technology & Information (MTI)	http://www.mti.edu.eg/
U11	Nahda University	http://www.nub.edu.eg/
U12	Nile University	http://nu.edu.eg/
U13	October for Modern Sciences and Arts (MSA)	http://msa.edu.eg/msauniversity/
U14	Pharos University In Alexandria (PUA)	http://www.pua.edu.eg/
U15	Sinai University	http://sinaiuniversity.net/
U16	The Arab Open University (AOU)	http://www.aou.edu.eg/
U17	The British University In Egypt (BUE)	https://www.bue.edu.eg/
U18	The French University of Egypt	http://www.ufe.edu.eg/
U19	The German University in Cairo (GUC)	http://www.guc.edu.eg/

4   Results

4.1   Global and Egyptian rank of selected websites

Firstly, Alexa and SimilarWeb tools were used to find the global rank, and rank in Egypt for selected private universities as illustrated in Table 2. SimilarWeb showed consistency in rank between global rank, and Egyptian rank for all websites. However, Alexa did not confirm the same consistency in ranks globally and locally. As shown by Alexa (Figure 1), universities websites were ranked according to their rank in Egypt, as Egyptian visitors constitute the major source of traffic for all universities.

Figure 1 Percentage of Egyptian visitors for private universities website from Alexa (see online version for colours)
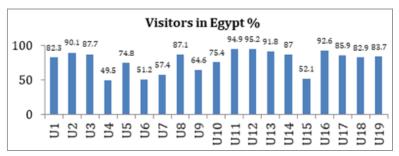

Table 2 Private universities websites global and Egyptian rank using SimilarWeb and Alexa

SimilarWeb				*Alexa*			
Rank	*Code*	*Global rank*	*Rank in Egypt*	*Rank*	*Code*	*Global rank*	*Rank in Egypt*
1	U9	68,279	470	1	U19	46,054	496
2	U19	75,847	484	2	U17	76,810	1,002
3	U14	124,337	816	3	U14	118,601	1,048
4	U13	155,496	1,098	4	U13	84,225	1,124
5	U17	163,728	1,185	5	U11	124.7270	1,483
6	U11	238,811	1,583	6	U9	101,013	1,539
7	U6	207,396	1,612	7	U6	119,484	1,804
8	U5	389,494	2,844	8	U5	176,015	2,489
9	U1	415,067	2,898	9	U8	182,350	2,493
10	U12	481,809	3,094	10	U12	263,624	3,071
11	U8	496,763	3,442	11	U1	272,856	4,638
12	U10	619,427	4,386	12	U4	283,043	5,304
13	U4	625,092	6,846	13	U3	506,925	8,550
14	U3	1,083,528	7,746	14	U2	689,838	10,173
15	U2	1,135,050	8,043	15	U10	776.859	13,412
16	U15	1,407,007	12,179	16	U7	1,336,929	17,495
17	U7	2,317,470	21,346	17	U15	1,037,396	19,779
18	U16	4,103,802	32,336	18	U16	1,441,654	27,083
19	U18	8,350,040	62,925	19	U18	2,443,470	40,333

By comparing the results for both tools, university rank was very near to each other and small differences were noticed. Misr University for Science & Technology (MUST) (U9) scored the highest in SimialrWeb, followed by The German University in Cairo (GUC) (U19). While, October for Modern Sciences and Arts (U13) came in the 3rd place. But in Alex, German University in Cairo (GUC) (U19) was scored as top Egyptian rank followed by The British University in Egypt (BUE) (U17), October for Modern Sciences and Arts (U13) came also in the 3rd place as in SimilarWeb. While, Misr University for Science & Technology (MUST) (U9) came into the 4th place, in the bottom rank came

The Arab Open University (AOU) (U16) (18th) and The French University of Egypt (U18) (19th) in both SimilarWeb and Alex as shown in Table 2.

4.2   SEO performance of selected websites

Four automated tools, SEO-Tester-online-checker, SEO Checkup, Woorank, and Website grader were used to assess the page SEO level analysis for all websites. Individual ranks for each tool were given to the websites, average score was conducted to obtain the final rank as illustrated in Table 3. Future University in Egypt (U6) scored the top score followed by Misr University for Science & Technology (MUST) (U9), then Nile University (U12) scored the 3rd one. While, the lowest ranked websites were Delta University for Science and Technology (U4) and Egyptian e-Learning University (U5) respectively.

Table 3   SEO performance of selected websites using four automated tools

Rank	Code	SEO Tester Online	SEO Checkup	WooRank	Website Grader	Avg. score
1	U6	86.4	81	81	87	83.8
2	U9	68.3	73	75	84	75.1
3	U12	65.7	76	79	74	73.7
4	U3	66.3	72	69	77	71.1
5	U15	60.5	61	71	89	70.4
6	U13	42.0	69	73	72	64.0
7	U1	50.3	61	65	79	63.8
8	U14	53.2	64	74	59	62.6
9	U16	43.8	62	59	70	58.7
10	U7	45.6	65	65	59	58.6
11	U17	36.8	60	70	67	58.4
12	U10	44.3	56	55	77	58.1
13	U8	41.1	51	67	67	56.5
14	U19	32.4	62	61	67	55.6
15	U11	42.8	50	62	62	54.2
16	U2	31.3	5	67	57	51.6
17	U18	39.1	43	69	50.3	50.4
18	U4	15.9	51	47	78	48.0
19	U5	36.0	41	54	22	38.3

4.3   Traffic sources of the selected websites

The two sources of traffic for any website are paid visitors and organic visitors. The organic visitors are categorised into five groups as follows:

- search visitor who discovered the website through a search engine
- social media visitor who clicked on a link in social media

- e-mail visitor who clicked on a link in a newsletter or from e-mail

- referral visitor who came from other websites

- direct visitor who typed the web address directly into the browser.

The variety in traffic sources is very important, as marketing risks will be issued when most of website traffic comes from one source (Bruce et al., 2011).

SimilarWeb tool was used to explore the traffic source for nominated websites. The results showed that all 19 websites had 0% paid search traffic. The results revealed that the majority of visitors went directly to the site by typing Website address into the browser's address. While, Search engine traffic was indicated as the second one in importance in most websites, followed by social media visitors, and few visitors came form referrals and e-mails (Table 4).

By analysing the traffic source of the top scored universities using SimilarWeb tool, the main traffic source for Future University in Egypt (U6) came from search traffic (48.04%) and direct traffic (46.54%). While for Misr University for Science & Technology (MUST) (U9) the direct traffic (64.17%) is considered as a main traffic source followed by search traffic (27.45%). Also, Nile University (U12) obtains its source from direct visitors (70.38%) and search traffic visitors (10.52%). Moreover, the German University (U19) scored a huge direct traffic with 79.7% and low search traffic with 12.93%.

Table 4 Source of traffic of private universities in percent based on SimilarWeb

Code	Direct visitors	Referrals	Search visitors	Social traffic	E-mail	Ads
U6	*46.54*	0.55	*48.04*	4.18	0.57	0.11
U9	*64.17*	0.53	*27.45*	7.09	0.77	0
U12	*70.38*	0.7	*10.52*	13.99	4.36	0.05
U3	25.52	17.44	44.74	9.11	3.18	0
U15	43.19	0	45.21	11.6	0	0
U13	66.45	0.35	22.93	8.01	2.23	0.02
U1	53.8	0.94	39.3	5.84	0.28	0.16
U14	58.77	0.22	25.53	12.78	3.1	0.3
U16	37.46	3.34	57.11	2.09	0	0
U7	34.96	6.93	56.72	1.39	0	0
U17	72.51	2.75	17.93	6.28	0.46	0.08
U10	63.38	1.14	22.13	13.34	0	0
U8	52.61	1.09	37.36	5.74	3.19	0
U19	79.7	0.1	12.93	5.34	1.59	0
U11	74.17	1.8	16.14	7.77	0.07	0.05
U2	53.78	4.31	18.33	18.41	6.17	0
U18	*9.46*	*13.59*	*68.79*	8.17	0	0
U4	*33.17*	*0.6*	*63.26*	2.97	0	0
U5	*80.88*	*0.62*	*10.42*	6.27	1.81	0

For bottom scored universities, the percentage of search visitors and direct visitors for French University (U18) is 68.79% and 9.46% respectively. While, the percentage of search visitors for Delta University (U4) is 63.26% and the percentage of search visitors is 33.17%. Finally, the percentage of direct of Egyptian E-learning University (U5) is 80.88% and the percentage of search visitors is 10.42%.

Although, the direct traffic is considered as a strong indicator of offline marketing and word of mouth, there is a big risk to count of direct traffic only. As the internet is considered as one of the main sources of marketing, the SEO of universities website should be improved as it is the process of improving a website's visibility in a search engine's search results. The higher the rankings a website is shown on a search engine, the more traffic it will receive.

5   Conclusions

This study investigated the SEO performance of 19 private universities websites in Egypt using six SEO Automated tools. Alexa and SimilarWeb were used to find the global and Egyptian rank, while; SEO Tester Online, WooRank, SeoCheck up, and Website Grader were applied to test SEO level analysis of the websites.

The SEO performance indicated that Future University (U6) got the highest score followed by Misr University for Science and Technology (MUST) (U9) and Nile University (U12) came in the 3rd place. By comparing these results with global and Egyptian rank, Future University (U6) came the 7th in rank at Alexa and SimilarWeb tools, Misr University for Science and Technology (MUST) (U9) got top rank at SimilarWeb and 6th place at Alexa. Finally, the Nile University (U12) came the 10th in rank at Alexa and SimilarWeb tools. By examining the main source traffic of Future University (U6), the results indicated that the percentage of source traffic is almost divided between search visitors and direct visitors. While, the percentages of search visitors of Misr University for Science and Technology (MUST) (U9) and Nile University (U12) are considered low (27.45% and 10.52% respectively). Although, both universities need to increase website visibility in order better to reach more search traffic, as there is a high risk to rely on direct traffic only.

On the other hand, the SEO performance indicated that French University (U18), Delta University (U4), Egyptian E-learning University (U5) got the lowest ranks (17th, 18th and 19th). Alexa and SimilarWeb tools showed that the global and Egyptian rank of French University (U18) got 19th place. While Delta University (U4) got 12th and 13th in rank at Alexa and SimilarWeb respectively. Moreover, Egyptian E-learning University (U5) got 8th in both Alexa and SimilarWeb. The percentages of search visitors for French University (U18) and Delta University (U4) are acceptable (68.79% and 63.26% respectively). Therefore, the SEO performance for both universities needs to be improved to acquire better rank globally and locally. Finally, Egyptian E-learning University (U5) relied only on direct marketing as the SEO performance of the website and the percentage of search traffic are very low. So the website SEO level needs to be enhanced, and the website visibility needs to be improved in order better to reach more search traffic.

Despite the limitations, this study explored the SEO performance of 19 private universities websites in Egypt. Thus, it will help to consider also the public universities and compare them with private universities as they are also direct competitors to private universities in the Egyptian market. Other than this, the study should analyse the usability

level of universities websites in addition to SEO level to better assist top management and provide appropriate strategies to improve website ranks locally and globally.

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