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A STEP-BY-STEP GUIDELINES HOW TO CONDUCT A WEBOMETRIC ANALYSIS: MAPPING ANALYSIS THE DIGITAL WEBSITE

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Abstract:

This study aims to provide a step-by-step guideline on how to conduct a webometric analysis. The Malaysian Ministry of Higher Education's website has been analyzed using SEO tools provided by SimilarWeb from October to December 2023. An analysis will be conducted based on indicators such as website traffic, engagement overview, visits over time, geography analysis, social traffic, age and gender distribution. According to the study, 1.580 million visitors visited the website https://www.mohe.gov.my (Malaysia). A strong global rank of #124,482 has been achieved and an impressive country ranking of #1,437 has been achieved. In terms of traffic share, the Malaysian Ministry of Higher Education's website (mohe.gov.my) maintains a dominating position at 78.88%. Social traffic analysis revealed that YouTube accounted for 35.22% of all traffic. There is a slightly higher proportion of females than males, with 63.72% compared with 36.28%. The age distribution shows that the largest percentage is found in the 25-34 age group, accounting for 24.70% of the total. The findings will provide and contribute insights into the digital presence and impact of the Malaysian Ministry of Higher Education's website, offering opportunities for improvement and development.

Keywords:

Guidelines, MOHE, SEO Analysis, SimilarWeb, Webometric

Introduction

In recent years, webometric analysis has gained significant attention in the field of information science as it is a methodological approach to examining the World Wide Web (WWW) and its

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use of information and quantitative measures. There is an application of information metric methods to web-based phenomena, as well as rankings, categorizations, comparisons, and evaluations of the websites as a result of this analysis (Almind & Ingwersen, 1997; Amin et al., 2021). A new field of study known as webometrics has developed from the traditional fields of bibliometrics and informetrics, with its scope expanding to include the analysis of links and content on the web, as well as the use of web-based communication platforms (Thelwall, 2008; Björneborn & Ingwersen, 2004).

Webometric analysis is significant because it has the potential to provide valuable insights into web-based activities, scientific collaboration, and the visibility of academic and non-academic websites as well (Ordura-Malea, 2021; Ghosh & Kumar, 2022). It provides a comprehensive understanding of how web technologies impact various domains, as well as how they interact with web linkages, web presence, and the impact web technology has on various areas like education, research, and business (Govender & Nel, 2021; Yekini et al., 2022). Moreover, webometric analysis is an important tool for assessing effectiveness of web-based techniques for education, ranking universities, and investigating the representation of higher education institutions on the web (Kvitka et al., 2019; Kvitka et al., 2021).

However, webometric analysis still has gaps that require further research. Further research is needed to better understand the motivations behind university web presence, the strategies they use to reach a wider audience, and the impact of webometric analysis on university rankings. Additionally, more research is needed to determine the most effective ways to apply webometric analysis to higher education. Furthermore, more research is needed to analyze the long-term effects of webometric analysis in higher education. Finally, more research is needed to explore the potential for webometric analysis to be used as a tool to measure the impact of universities on society (Koulas et al., 2021; Kunosić et al., 2019; Lang et al., 2013). This would help universities to improve their performance and gain recognition for their contributions. Furthermore, it would offer a more comprehensive understanding of the importance of higher education in society (Hou & Yang, 2018; Vaughan et al., 2012).

The purpose of conducting webometric analysis on specific websites, such as the Malaysian Ministry of Higher Education (https://www.mohe.gov.my), is to gain insights into the web presence, visibility, and impact of the institution. Webometric analysis can also help to identify potential areas of improvement, such as the need for better content, improved user interface, or increased social media presence. Additionally, webometric analysis can be used to measure the success of marketing campaigns or to measure the impact of institutional initiatives. By analyzing web metrics, such as unique visitors, pageviews, and backlinks, this study can provide insight into how effectively the ministry is using its digital presence. This can help to identify areas where the ministry can improve its digital presence, such as by providing more user-friendly content, increasing its social media presence, or increasing its marketing efforts. Additionally, webometric analysis can provide an indication of the effectiveness of the ministry's institutional initiatives, such as its digital campaigns or digital projects.

The research objective is to show how to conduct webometric analysis by utilizing SimilarWeb with the example of the website https://www.mohe.gov.my. SimilarWeb is a website that tracks website performance based on factors such as traffic, engagement, and conversions. It can be used to measure the overall performance of a website, as well as compare the performance of different websites and ministries. Webometric analysis provides insight into the effectiveness

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of the ministry's institutional initiatives by investigating how well those initiatives are being implemented by analyzing a website's performance. The analysis aims to assess the website's traffic, sources of traffic, user engagement, geography distribution of visitors, website ranking, and backlink profile. Based on the findings from this analysis, we will be able to understand the website's online presence and impact within its industry. In conclusion, webometric analysis plays a crucial role in understanding web-based communication dynamics and its implications for various domains. The study of webometrics on the Ministry of Higher Education Malaysia website holds significant potential for providing insights into its digital presence and impact. This will contribute to the advancement of digital strategies in the higher education sector.

Literature Review

In this part, researcher will briefly discuss the evolution of webometrics, significance of webometrics, and benefits of using similarweb for webometric analysis.

Evolution of Webometrics

The field of webometrics has grown and developed significantly over the years. Webometrics analysis originated in the late 1990s with the emergence of search engines and the growth of the World Wide Web. Initially focused on measuring the size and connectivity of websites, it has evolved to encompass various indicators such as web impact factor, social media presence, and online visibility. Today, webometrics plays a crucial role in understanding the impact and influence of websites and online platforms. Webometrics is an important tool for measuring the impact of websites, as well as the reach and influence of online platforms. It is also used to evaluate the effectiveness of web content, as well as to measure the success of marketing campaigns (Thelwall, 2008; Björneborn & Ingwersen, 2004). Over time, webometrics analysis has expanded beyond just measuring size and connectivity of websites. It now incorporates a wide range of indicators, such as web impact factor, social media presence, and online visibility, to understand the impact and influence of websites and online platforms. This evolution has made webometrics an essential tool for evaluating web content effectiveness and measuring the success of marketing campaigns in the digital landscape (Björneborn & Ingwersen, 2004).

World Wide Web development and web-based communication have had a direct impact on the evolution of webometrics. The study by Han (2020), demonstrates that web-based communication and development have had a direct impact on the growth of webometrics. As research topics and conversations in library and information science (LIS) have shifted to web-based research, it has become increasingly important for LIS professionals to understand webometrics in order to stay current with the latest research trends (Han, 2020). The evolution of webometrics has also been influenced by advancements in technology and the changing landscape of web-based information (Vallez et al., 2022). As technology advances, so does the amount of information available on the web. This has made it easier to measure different elements, such as the number of pages, backlinks, and visits, which can then be used to gauge the strength and impact of a website. Additionally, the availability of more sophisticated data tools has enabled researchers to gain a better understanding of webometrics and how it can be used to measure the success of a website (Héroux-Vaillancourt et al., 2020; Cronin, 2003).

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Webometrics has been used to analyze a wide range of research topics, from the impact of the digital divide on media to the geographical development of social movements (Silfianti et al., 2019; Hendrikx et al., 2016; Aguillo et al., 2008). It has also been used to rank world universities, providing a comprehensive overview of the academic landscape. The evolution of webometrics is a reflection of the increasing scope and impact of webometrics on the understanding of web-based structures, the dissemination of information, and global rankings. In conclusion, the evolution of webometrics has been characterized by its integration of quantitative techniques, its growing relevance in diverse research areas, and its expanding applications in assessing web presence and global initiatives. In conclusion, webometrics has become an important tool for researchers, policy makers, and practitioners.

Significance of Webometrics

Webometrics contributes in a variety of ways to academia, research, business, and information science. In terms of methodological approaches, webometrics provides valuable insight into web-based phenomena, web presence, and the impact of web technologies. Webometric analysis allows researchers to track and measure the visibility, reach, and impact of websites and online content. This data can be used to evaluate the effectiveness of online marketing strategies, assess the influence of academic publications, and understand the digital landscape in various fields of study (Kousha & Thelwall, 2009). Webometric analysis is a powerful tool to gain insights into the digital world, enabling researchers to gain a better understanding of the effectiveness of online marketing strategies, the influence of academic publications, and the digital landscape in various fields of study.

To gain an understanding of the present and future directions in electronic design automation, Curiac & Doboli (2022) argue that it is necessary to combine traditional scientometric metrics with webometric metrics. The results of this study demonstrate the importance of webometrics in providing insights into the evolution of research trends and technological developments. Webometric techniques provide a comprehensive overview of the research landscape, from the number of publications and citations, to the online presence of researchers and their collaborations with other institutions (Gooding, 2016). Furthermore, webometric techniques can be used to identify research gaps and potential collaboration opportunities. This highlights the significance of webometrics in studying user engagement and information behavior on the web (Aguillo, 2017). Webometrics provides a practical guide for understanding the web presence and impact of research.

Benefits of using SimilarWeb for Webometric Analysis

Using SimilarWeb for webometric analysis has many advantages that help researchers better understand web-based phenomena. According to a study by Jansen et al., (2022), SimilarWeb offers useful information on web traffic, user interactions, and website performance. SimilarWeb provides researchers with conservative analytics and comparative data, allowing to gain an in-depth understanding of web traffic and user engagement. SimilarWeb is a reliable source of data, as they provide detailed and reliable statistics on website performance, web traffic, and user interactions. Additionally, the data is updated in real-time, providing researchers with up-to-date insights into web traffic and user engagement.

Furthermore, SimilarWeb in webometric analysis facilitates competitive intelligence, benchmarking, and research evaluation, as demonstrated by the study conducted by (Kvitka et la., 2021). By providing a detailed analysis of website performance, SimilarWeb can help

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researchers gain insight into the strategies used by their competitors, allowing them to develop better strategies for their own websites. Additionally, it can help researchers evaluate the effectiveness of their research by measuring its visibility and other indicators. Additionally, SimilarWeb's features provide a detailed analysis of how users interact with websites, which can help them understand why certain strategies may be more effective than others. Furthermore, similarWeb's analytics can help researchers identify potential targets for their research, so they can focus their efforts on the most important areas. It can also help them track the performance of their website over time, so they can measure the success of their strategies.

Methods

The methodology section of webometric analysis is an important part that explains the step-by-step process and tools used to assess the online presence and influence of websites. Webometrics is a field that uses techniques like bibliometrics and informetrics to analyze the website. It has become important in different research areas, such as ranking universities, evaluating scientific output, and studying specific research fields (Koulas et al., 2021). This section aims to provide clear and straightforward guidelines on how to conduct webometric analysis.

Choose Websites To Conducting Webometric Analysis

To start a webometric analysis, you need to select the websites you want to analyse. For this example, we'll take a look at the website https://www.mohe.gov.my. The website contents are written in Malay language, also known as "Bahasa Melayu" (Ab Rashid, 2023). Choosing the right websites for webometric analysis is an essential phase as it forms the foundation for the entire study. It is important to select websites that are related to the research goals and accurately represent the entities or institutions being studied. The selection process should take into consideration the importance and influence of the websites in their respective fields. In addition, it is important for the websites to have a strong online presence and visibility so that the analysis can provide meaningful results.

A systematic approach is used to select websites for the purpose of webometric analysis, and this approach is based on the reputation and authority of the websites within their respective fields as well as their level of traffic. Furthermore, the selection process may include the utilization of webometric ranking indicators in order to assess the online representation of the selected websites as part of the selection process. It is very important that the chosen websites be representative of the entities that are being studied as well as providing a comprehensive overview of the online presence and impact of these entities on the web. To ensure the validity of the webometric analysis, it is also essential to consider the credibility and reliability of the websites that will be analyzed. In conclusion, when choosing websites for webometric analyses, for example, https://www.mohe.gov.my, a methodical approach should be taken in order to consider the relevance, significance, and visibility of the websites within their respective domains when selecting the sites for analysis.

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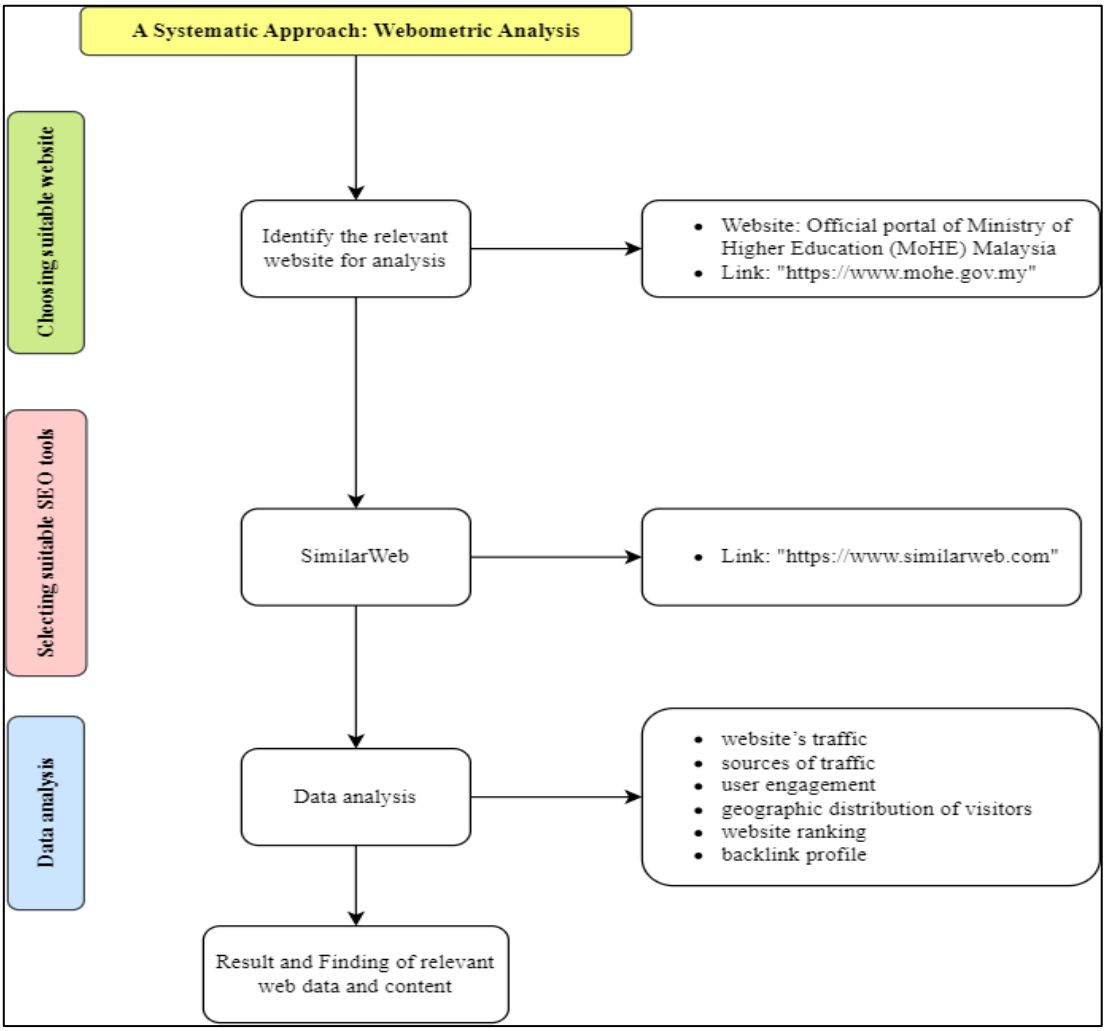

Figure 1. Flowchart Of Webometric Analysis

Source: Authors, 2024

Selecting Suitable SEO Tools For Conducting Websites Analysis

Selecting the right tools for analysing websites is an important part of the webometric methodology. For the analysis, SimilarWeb is selected as the Search Engine Optimization (SEO) tool. SimilarWeb offers a wealth of information on website traffic, user engagement, and other important metrics, making it a valuable tool for analysing websites. SimilarWeb was chosen because it provides detailed information on website performance, traffic sources, and audience demographics. This information is essential for understanding the online presence and impact of the analyzed websites.

The process of selecting SimilarWeb as the SEO tool involves carefully assessing its features and capabilities in a methodical manner. It's important to evaluate its accuracy and reliability in providing data for webometric analysis, like traffic sources, referral sites, and user behaviour metrics. In addition, the selection process takes into account the reputation and credibility of SimilarWeb as a top SEO tool in the industry. This helps ensure that the analysis is valid and reliable. In addition, choosing SimilarWeb is in line with the requirement for reliable sources in webometric analysis. SimilarWeb is well-known for offering high-quality data that can be used to evaluate the online visibility and impact of websites.

International Journal of Innovation and Industrial Revolution
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When selecting SEO tools for webometric analysis, it's important to consider their ability to give accurate and useful data for evaluating the online presence and impact of websites. These tools should provide a clear understanding of website traffic, backlink profiles, keyword rankings, and other important metrics that are necessary for analysing websites. With the help of these SEO tools, you can conduct a comprehensive evaluation of your website's performance. Aside from SimilarWeb, there are numerous other SEO tools available for webometric analysis. Ahrefs is a tool that also can analyze data on website traffic, backlink profiles, and keyword rankings. This information can be really useful for assessing websites (Taram & Doulani, 2015). SEMrush is another popular SEO tool that provides valuable information about website traffic, keyword rankings, and competitive analysis. It can be used to conduct a comprehensive evaluation of websites and their performance (Yi & Jin, 2008). In addition, Moz's Link Explorer is a useful SEO tool for analyzing website backlink profiles, domain authority, and page authority. These metrics are important for evaluating websites (Ghosh & Kumar, 2022).

In conclusion, SimilarWeb was selected as the SEO tool for website analysis in webometric methodology due to its powerful features, reliability, and ability to offer valuable insights into website performance and user engagement metrics. SimilarWeb is a great tool to use for webometric analysis because it provides credible sources and helps make the research findings more reliable. Table 1 below show a list of website SEO tools that can be used for conducting a webometric analysis.

Table 1. List Of Website SEO Tools

List of Website SEO tools	Websites Link	Founded	Pricing Subcription Plans (per/Month)
SimilarWeb	https://www.similarweb.com	2007	$199.00 - $799.00
Semrush	http://www.semrush.com	2008	$129.95 - $499.95
Ahrefs	https://ahrefs.com	2010	$99 - $999
SpyFu	https://www.spyfu.com	2005	$39 - $299
Keyword Revealer	https://www.keywordrevealer.com	2013	$9.97 - $27.97
Keyword Hero	https://keyword-hero.com	2016	$9 - $49
Google Analytics	https://analytics.google.com	2005	Free
Salespanel	https://salespanel.io	2018	$99
Adobe Analytics	https://business.adobe.com	1982	$2,000 - $2,500
Mixpanel	https://mixpanel.com	2009	$20 - $833
Hotjar	https://www.hotjar.com	2014	$39 - $599
Crazyegg	https://www.crazyegg.com	2006	$49 - $249
AWStats	https://awstats.sourceforge.io	2000	Free
Screaming Frog	http://screamingfrog.co.uk	2010	$21.58 - $259
Kissmetrics	https://www.kissmetrics.io	2008	$299 - $499
VWO	https://vwo.com	2005	$198 - $1107
Alexa Internet	http://www.alexa.com	1996	Free
Moz Keyword Explorer	https://moz.com/explorer	2004	$99 - $599
Hubspot	https://www.hubspot.com	2006	$20 - $3600
SE Ranking	http://seranking.com	2013	$44 - $191.20
Serpstat	https://serpstat.com	2014	$59 - $479

Source: Authors, 2024

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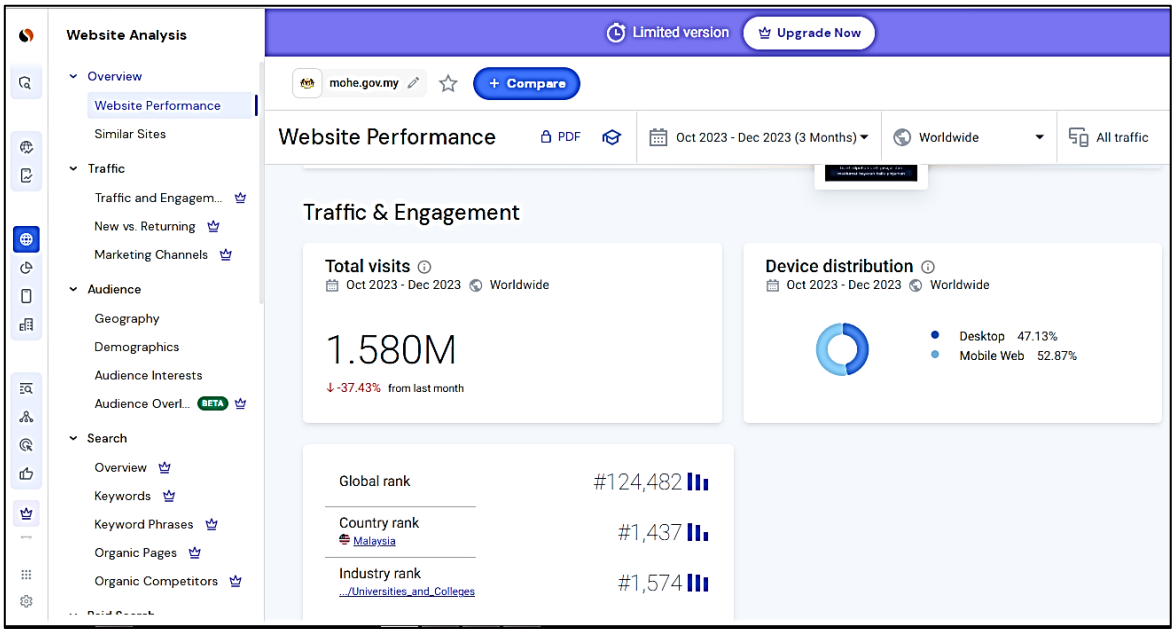

Figure 2. Illustration Web Interface of SimilarWeb

Source: Authors, 2024

Data Analysis Using SimilarWeb SEO Tools

The following steps can be followed in order to conduct a webometric analysis of the website https://www.mohe.gov.my from October to December 2023 by using the similarWeb service. The first thing that must be noted is that webometrics is a quantitative approach to the web, which can be enhanced by qualitative methods (Malinský & Jelínek, 2010). The first step is to identify the target websites. It does not matter whether it is an academic institution, a business, or any other type of entity that has an online presence. As soon as the target websites have been identified, the next step is to gather data from these websites. According to Yang and Qin (2008), SimilarWeb is capable of collecting information such as website traffic information, sources of traffic, as well as user engagement metrics (Yang & Qin, 2008). This data collection system is crucial for link analysis in webometrics.

The next step that follows the gathering of the necessary data is the analysis of the content on the web. There is information available in SimilarWeb that can provide information related to the geographical location of website visitors, the devices they use, and the sources of traffic, which can be helpful in understanding the reach and impact of the sites that are analyzed (Jepsen et al., 2004; Song, 2015). Based on the collected data, webometric ranking indicators can be used to assess the online representation of the target entities (Kvitka et al., 2019). In addition, it is important to make sure that webometric analyses are based on credible sources. In order for webometric analysis to remain accurate and reliable, each category must be analyzed using credible sources (Koulas et al., 2021; Kvitka et al., 2021). In conclusion, when conducting a webometric analysis using SimilarWeb, it is important to identify the websites you want to analyse, collect the necessary data, analyse the web content, and make sure the sources are reliable. SimilarWeb offers valuable insights and data that are essential to conducting a comprehensive webometric analysis. The analysis is conducted to evaluate various aspects of the website, including its traffic, sources of traffic, user engagement, geographic distribution of visitors, website ranking, and backlink profile. This analysis will help for better understand how the website is performing online and its impact within its specific domain.

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Figure 3. Features of SimilarWeb Tools For Webometric Analysis

Source: Authors, 2024

Result and Discussion

The purpose of this section is to present the results of our webometric analysis, which utilizes SimilarWeb to examine the digital footprint of the Malaysian Ministry of Higher Education's official website. The period under consideration extends from October 2023 to December 2023. Using web analytics, we aim to gain insights into the website's performance, user engagement, and online visibility during this period. This data provides a comprehensive view of the Ministry's digital presence, enabling a deeper understanding of the Ministry's reach, popularity, and potential impact online.

Traffic and Overview Engagement Analysis

According to table 2 and figure 4, webometric analysis traffic and overview engagement for the Malaysian Ministry of Higher Education's website (https://www.mohe.gov.my) between October and December 2023 indicates a total of 1.580 million worldwide visits between October and December 2023, which represents a significant decrease of 37.43% over the previous month. A slight increase in mobile usage (52.87%) demonstrates the importance of

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optimizing for mobile devices. Currently ranked #124,482 globally and #1,437 in the country. There are 526,985 monthly visitors to the site, with an average visit duration of 4 minutes and 27 seconds. However, the bounce rate stands at 59.76%, suggesting an opportunity to enhance user retention. The recommendations include mobile optimization, addressing the decline in traffic, improving bounce rates, and continuous SEO efforts to maintain or improve search engine rankings over time.

Table 2. Traffic And Overview Engagement Analysis

Traffic Analysis	
Total visits	1.580 Million
Device distribution	Desktop (47.13%) Mobile Web (52.87%)
Global rank	#124,482
Country rank	#1,437
Industry rank	#1,574
Overview Engagement Analysis	
Monthly visits	526,985
Monthly unique visitors	Not Available
Deduplicated audience	Not Available
Visit duration	00:04:27
Pages / Visit	4.26
Bounce rate	59.76%

Source: Authors, 2024

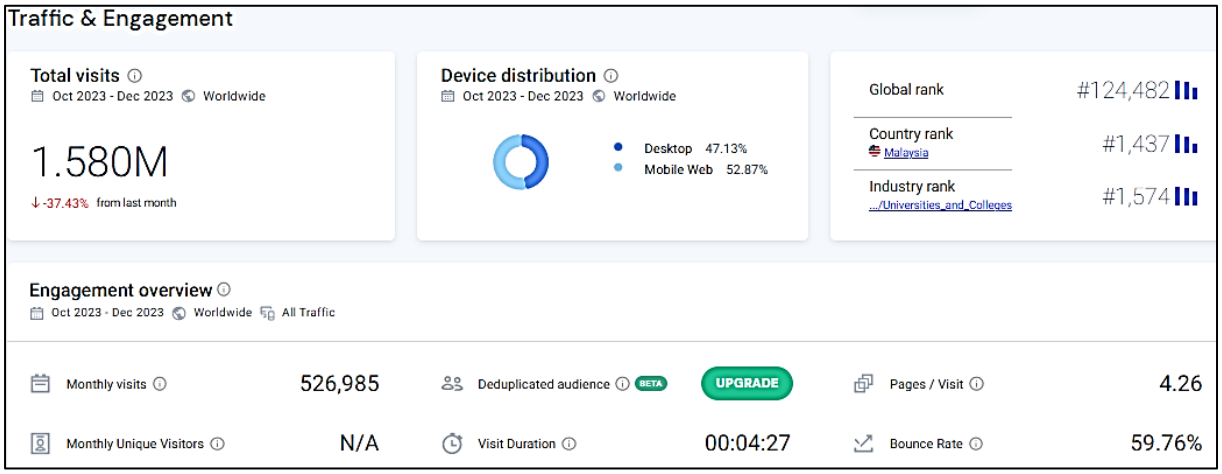

Figure 4. Traffic And Overview Engagement Analysis

Visit over Time Analysis

In Table 3 and Figure 5, the website of Malaysian Ministry of Higher Education is compared with other relevant websites in terms of visits over time. The analysis of website visits from October to December 2023 reveals varying trends among different educational websites. There was a noticeable decline in visits to the Malaysian Ministry of Higher Education's website (mohe.gov.my), starting at 633,512 visits in October and dropping to 364,657 visits in December. A similar trend was observed at upuonline.com, with visits decreasing from 46,667 in October to 16,886 in December. On the other hand, ukm.my displayed relatively stable traffic, maintaining around 1.5 million visits each month, while iium.edu.my maintained a

International Journal of Innovation and Industrial Revolution
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IJIREV
Volume 7 Issue 20 (March 2025) PP. 62-80
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constant level of visits, with only a slight decline. From November to December, visits to the University of Malaya's website (um.edu.my) increased slightly. The trends noted above indicate the importance of considering contextual factors and implementing strategic measures in order to understand and address fluctuations in website traffic.

Table 3. Visit Over Time Analysis

Visit over time analysis (October – December 2023)			
Website	**October**	**November**	**December**
mohe.gov.my	633,512	582,785	364,657
upuonline.com	46,667	27,220	16,886
ukm.my	1.539 Million	1.279 Million	1.252 Million
iium.edu.my	2.365 Million	2.118 Million	2.111 Million
um.edu.my	1.811 Million	1.663 Million	1.732 Million

Source: Authors, 2024

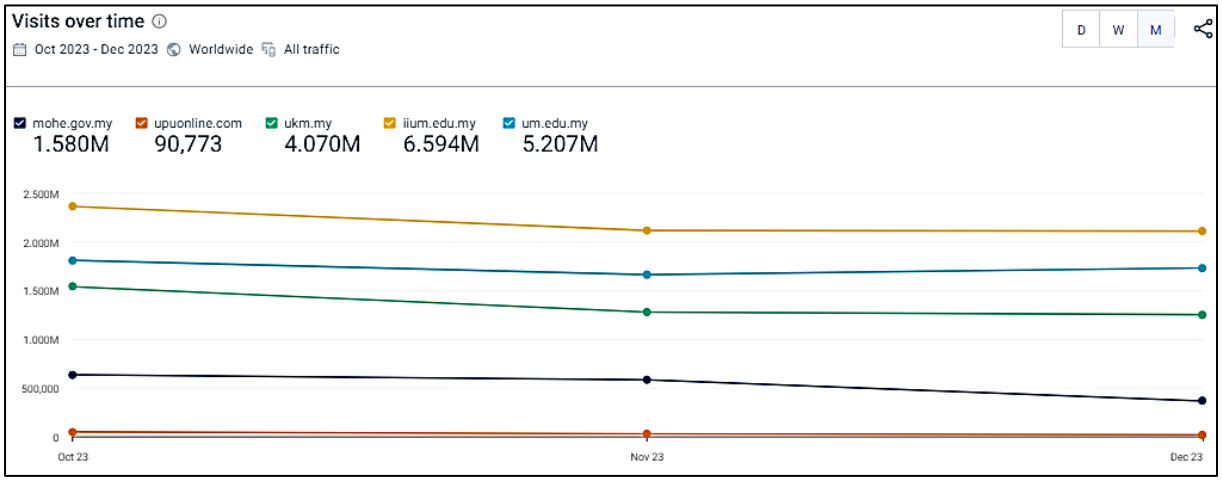

Figure 5. Visualization Of Visit Over Time Analysis

Source: Authors, 2024

Geography Analysis

As shown in table 4 and figure 6, geography analysis for the specified period shows significant shifts in the traffic share for the Malaysian Ministry of Higher Education's website. Malaysia maintains the majority of traffic share at 78.88%, but it has experienced a significant decrease of 34.33% in traffic share. The traffic share of Turkey, Myanmar, and Singapore also declined by 57.55%, 39.61%, and 93.22%, respectively. In contrast, U.S. traffic share increased by 43.05%. It is possible that these changes reflect fluctuations in user interest or targeted marketing efforts. There was a sharp decline in Singapore's traffic share, indicating a shift in the audience or a change in user behavior, while the increase in the United States represents a positive trend. It would be helpful to further investigate the specific reasons behind these geographic changes in order to inform strategic decisions regarding the enhancement or regaining of traffic in the key regions in the future.

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Table 4. Geography Analysis

Geography analysis		
Country	**Traffic Share**	**Change**
Malaysia	78.88%	↓ 34.33%
Turkey	4.02%	↓ 57.55%
Myanmar	3.49%	↓ 39.61%
Singapore	3.10%	↓ 93.22%
United States	1.76%	↑ 43.05%

Source: Authors, 2024

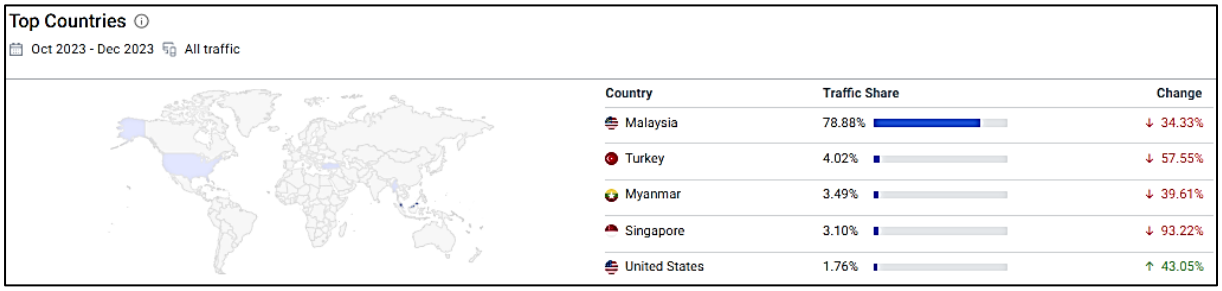

Figure 6. Illustration Of Geography Analysis

Source: Authors, 2024

Social Traffic Analytics

The table 5 and figure 7 illustrate the distribution of user engagement from various platforms on the website of the Malaysian Ministry of Higher Education. In terms of social traffic, Youtube contributes 35.22% of the traffic, demonstrating the importance of multimedia content in engaging users. The WhatsApp web application follows closely at 27.15%, indicating the platform's popularity as a means of disseminating information and facilitating communication. Facebook contributes 21.75%, emphasizing the importance of Facebook as a social media channel for dissemination of educational materials. ResearchGate and Telegram Webapp contribute 7.64% and 6.82%, respectively, showcasing the importance of academic and messaging platforms. The percentage of social traffic that comes to a website makes up 1.88% of the total traffic. Based on the data, social media is being used in a diverse manner, leveraging platforms with different strengths in order to reach a wide audience. By understanding the varying contributions of each platform, one can optimize and create content that is tailored to the preferences of the audience.

Table 5. Social Traffic Analytics

Social traffic analytics	
Youtube	35.22%
WhatsApp Webapp	27.15%
Facebook	21.75%
ResearchGate	7.64%
Telegram Webapp	6.82%
Other	1.43%

Source: Authors, 2024

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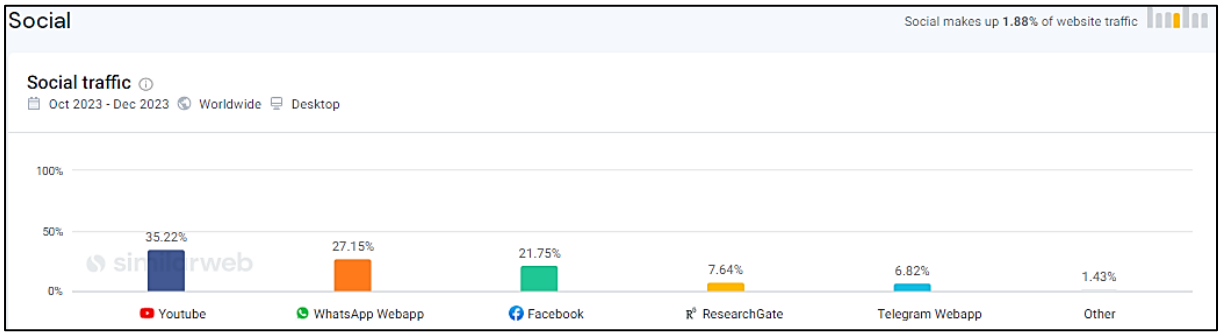

Figure 7. Illustration Of Social Traffic Analytics

Source: Authors, 2024

Gender and Age Distribution Analysis

The table 6 and figure 8 below provide information regarding the demographic composition of users engaging with the website of the Malaysian Ministry of Higher Education. There is a slightly higher representation of females at 63.72% than males at 36.28% based on the data. According to the age distribution, the highest proportion falls within the 25-34 age group at 24.70%, closely followed by the 18-24 age group at 24.06%. A significant proportion of users in the 35-44 age group account for 20.12%, while the proportions decrease as users reach their older ages, with 15.35% in the 45-54 age group, 8.99% in the 55-64 age group, and 6.80% for those whose age is over 65. According to these findings, a significant portion of the website's users are younger, with a diverse demographic engaging with the website. By tailoring content and user experiences to meet the needs and preferences of this demographic mix, a website can ensure it serves its audience effectively regardless of their age or gender.

Table 6. Gender And Age Distribution Analysis

Gender distribution	
Male	36.28%
Female	63.72%
Age distribution	
18 – 24	24.06%
25 – 34	24.70%
35 – 44	20.12%
45 – 54	15.35%
55 – 64	8.99%
65+	6.80%

Source: Authors, 2024

International Journal of Innovation and Industrial Revolution
EISSN: 2637-0972
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Volume 7 Issue 20 (March 2025) PP. 62-80
DOI 10.35631/IJIREV.720004

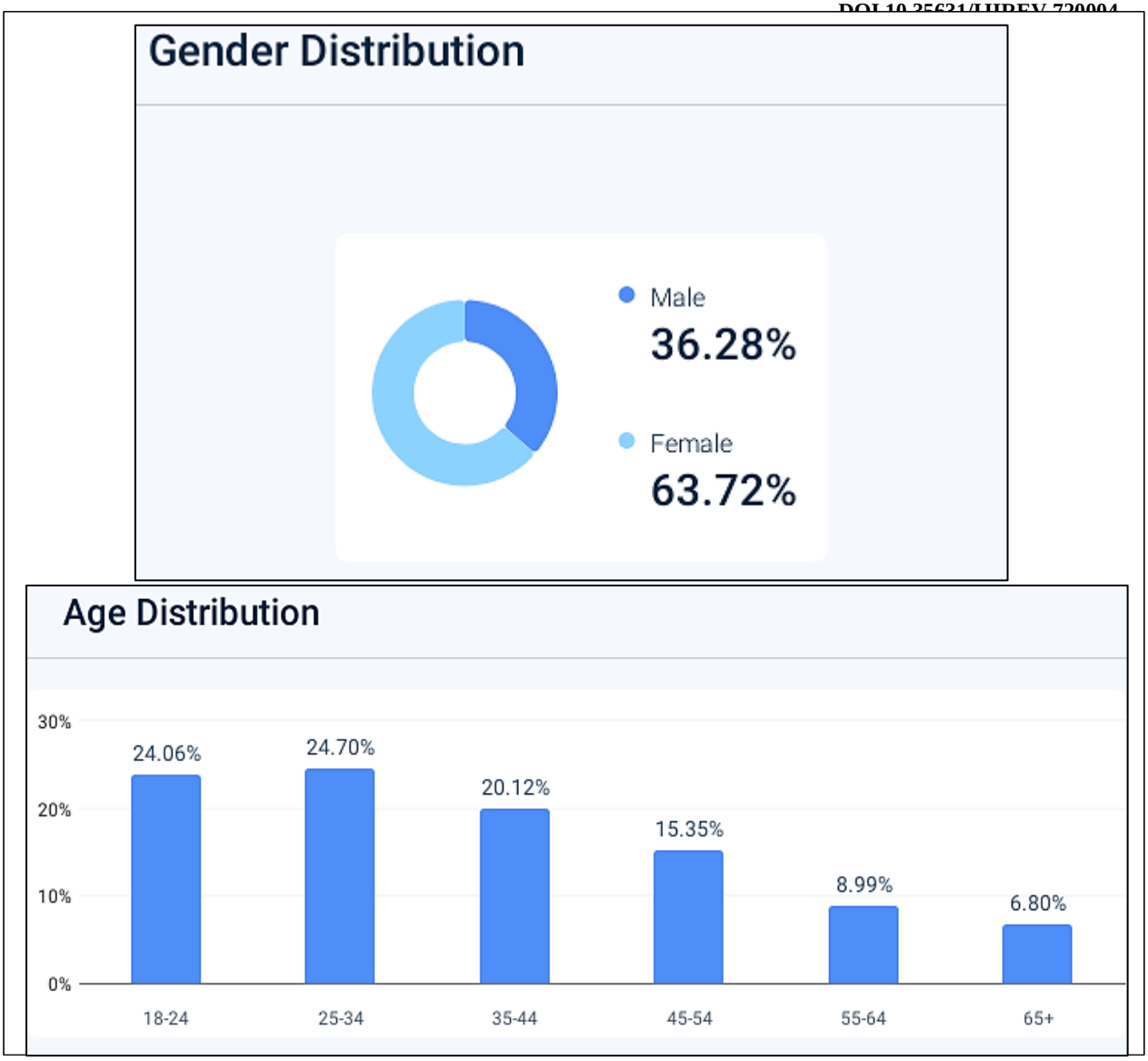

Figure 8. Gender And Age Distribution Analysis

Source: Authors, 2024

Discussion

After conducting a comprehensive analysis of the Malaysian Ministry of Higher Education's website, we have identified several important factors. The Malaysian Ministry of Higher Education has been working hard to improve the quality and visibility of higher education institutions. The Ministry's initiatives are in line with the Malaysian Education Blueprint, which focuses on nurturing well-rounded, innovative, and well-balanced graduates (Din et al., 2020). In order to promote a more prosperous society, the Ministry has introduced Entrepreneurship Education (EE) (Gunaseelan et al., 2022). The Ministry's initiatives align with their focus on equipping graduates with important soft skills. In fact, they have identified seven key soft skills that will be incorporated into the design of public university curricula (Zainal & Yong, 2020). In order to assess Malaysian Ministry of Higher Education's website impact and visibility, webometric analysis is essential. This study examines and analysed the website to gain insight of the website's visibility, performance, and popularity were analysed through webometric indicators. The results were then used to evaluate the website's overall impact and visibility.

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In the findings, a comprehensive webometric analysis of the Malaysian Ministry of Higher Education's website from October to December 2023 reveals several key insights. Globally, the number of visits declined by 37.43%, with mobile web usage slightly surpassing desktop usage. It is ranked #1,574 in the "Universities and Colleges" industry. Over half a million visits are made to the site each month, with an average duration of 4 minutes and 27 seconds per visit, as well as a bounce rate of 59.76%. The recommendations include optimizing for mobile devices, addressing the decline in traffic, improving bounce rates, and maintaining SEO efforts. In terms of visit trends over time, there is fluctuation between educational websites. Some experience consistent levels of visitors while others, such as mohe.gov.my and upuonline.com, are experiencing declines. The geography analysis indicates a shift in traffic shares, notably a decrease in Malaysia's share and an increase in the United States' share. The social traffic analytics reveal diverse engagement, with YouTube dominating at 35.22%, and a greater proportion of females and a concentration of younger users, particularly those between the ages of 18 and 34. This information provides the basis for strategic decision-making, content optimization, and targeted outreach in order to enhance the overall performance and user experience of the website.

The Malaysian Ministry of Higher Education's website serves as a platform for knowledge transfer. Critical factors for knowledge transfer via government education websites have been identified (Azizan et al., 2016). As a result, the website plays an important role in disseminating information and knowledge. Based on the webometric analysis of the Malaysian Ministry of Higher Education's website, it can be concluded that the Ministry is committed to improving the quality of higher education, to fostering entrepreneurship education, and to supporting the well-being of international students. This analysis provides valuable insight into the performance and visibility of higher education institutions, highlighting areas for improvement.

Conclusion

In conclusion, the webometric analysis of the Malaysian Ministry of Higher Education's website provides valuable insights into the status and visibility of higher educational institutions. By utilizing webometric indicators, educational institutions can be quantitatively and qualitatively analyzed, market trends in educational services can be forecasted, and marketing research can be conducted in the education sector. There are, however, challenges such as inadequate ICT infrastructure, outdated website content, and limited web usage that can have an impact on webometric rankings. An analysis of the webometrics of the Malaysian Ministry of Higher Education's website from October to December 2023 provides valuable insights into its performance, engagement dynamics, and user demographics. Observed declines in total visits, particularly on mobile devices, indicate the importance of optimizing the site for different platforms. Even though educational websites continue to maintain a strong global and industry position, fluctuating trends in the number of visitors suggest that a more comprehensive approach to digital strategies is needed. Social media analytics and geographic shifts in traffic share emphasize the dynamic nature of audience engagement, which requires continuous adaptation to meet the preferences of users. According to the gender and age distribution analysis, the audience is primarily female, with a concentration in the 18-34 age group, which guides the development of content that is tailored to meet the needs of the audience. A webometric analysis does not only provide insight into the performance of higher education institutions but also serves as a tool for knowledge transfer and dissemination. This analysis highlights the importance of webometric indicators in assessing higher education

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institutions' digital presence and impact, offering opportunities for improvement and development.

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