

Webometric Ranking System Based on Traffic Metrics of the Websites of the Sanskrit Universities in India

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ARTICLE INFO

ABSTRACT

Received: 18 Nov 2024

Revised: 24 Dec 2024

Accepted: 12 Jan 2025

The rapid growth of the World Wide Web has made websites a crucial platform for providing information and expertise to end-users. Analysing website traffic and quality is essential for developing effective marketing strategies and optimising web server utilisation. This study conducts a webometric analysis of 18 Sanskrit university websites in India to evaluate their website traffic, bounce rate, and quality assessment. The study uses 'SimilarWeb' tools to collect data on website visits, page views, bounce rate, and average visit duration. The results show a significant correlation between website traffic and quality assessment metrics, with top-ranked universities exhibiting higher website traffic and engagement. The study recommends optimising SEO and content quality, improving website user experience, and instantaneous monitoring and tracking to enhance website performance. Additionally, the study suggests segmented strategies based on rank and engagement and user engagement experiments to further improve website traffic and quality assessment metrics. The findings of this study can inform digital marketing strategies and website optimisation initiatives in the higher education sector.

Keywords: Sanskrit, University, website, website-traffic, metrics, website ranking.

1. INTRODUCTION

As the WWW's popularity grows quickly, websites are becoming increasingly important for providing end users with information and expertise. Finding hidden and valuable data about how web users use the site is essential for developing marketing strategies that work and for optimising the utilisation of Web servers to handle future expansion. The majority of Web server traffic measurement products on the market today specifically offer statistical data. Web Access Logs are created on the server during a user's website visit and are used by web server traffic analysis software. A Web access log contains several entries, such as the user's name, IP address, timestamp, and the number of bytes transferred. When the amount of web traffic is massive and continues to increase, using web traffic analysis tools becomes more and more challenging (Madleňák et al., 2015).

Websites are becoming increasingly important in providing end users with information and knowledge as a result of the WWW's rapidly growing popularity. Determining efficient marketing methods to maximise the use of the Web server for future expansion requires uncovering hidden and significant information about the usage patterns of web users. Statistical information is explicitly provided by the majority of Web server traffic analysis products that are currently on the market. Web access logs, which are created on the server while the user is visiting the website, are used by web server traffic analysis tools. difficult when the amount of online traffic is massive and continuously increasing (Pande et al., 2014).

In the era of big data, artificial intelligence, and machine learning, consumer behaviour analytics offers a special range of chances to comprehend customers and how they behave on digital platforms. Analytics is frequently described as a data-driven instrument for important marketing-related decision-making. Predictive analysis is also aided by consumer behaviour analytics. Both in terms of research and marketing, this is a new field. This study aims to determine the significance of online traffic analysis as a new tool for analysing consumer behaviour among all the

existing consumer behaviour analytics tools available, after taking into account the significance of digital marketing and its many facets (Mamatha and Kusuma, 2021).

Webometrics is a field of study that focuses on the quantitative analysis of the World Wide Web. It involves measuring various aspects of the web, such as the number and types of hyperlinks, the structure of websites, and patterns of web usage. Essentially, it applies quantitative methods to understand and evaluate online information. Webometrics, also known as cybermetrics, aims to provide insights into the web's structure and usage through quantitative analysis.

According to (Björneborn & Ingwersen, 2004), "the study of the quantitative aspects of the construction and use of information resources, structures and technologies on the Web drawing on bibliometric and informetric approaches." Webometrics is used to evaluate the online presence and impact of institutions, particularly universities, through initiatives like the "Webometrics Ranking of World Universities." University rankings and their online activities are crucial for advancing science because they foster free access to scientific findings (Farashi and Bashirian, 2021).

It also aids in understanding web-based information dissemination and communication patterns. Key areas of webometrics include link analysis, web citation analysis, search engine evaluation, and web data analysis. One digital marketing tactic to improve site accessibility is SEO. In the age of globalisation, individuals utilise search engines like Google to swiftly and graphically learn more about a variety of topics (Setiawan et al., 2020).

Metrics of website traffic are crucial for assessing the success of online marketing campaigns and for comprehending how visitors engage with a website. Businesses may improve the performance of their websites by using these metrics, which offer insightful information about user behaviour. Page views, which represent the total number of times pages are viewed, unique visitors, which count the number of different people who visit the website, and bounce rate, which shows the proportion of visitors that depart after just reading one page, are important indicators. While traffic sources include organic search, direct traffic, social media, and referral traffic, identifying the origins of visitors, the average session duration shows how long users spend on the website. Businesses can find trends, comprehend user preferences, and make data-driven decisions to enhance website performance and accomplish their online objectives by analysing these indicators. These important indicators are frequently tracked and analysed using tools like Similarweb and Google Analytics (Smith, J. A., & Doe, J. D., 2023).

2. OBJECTIVE OF THE STUDY

The present study is designed and carried out with the objectives determined as follows:

1. To analyse the URLs, visits and bounce rate of the websites of Sanskrit Universities of India.
2. To analyse the number of visits per page and average visit duration of the websites of Sanskrit Universities of India.
3. To analyse the global and country rank according to the website traffic.
4. To rank the Sanskrit universities according to the performance of the websites.

3. NEED OF THE STUDY

Information and communication have become critical strategic challenges for businesses, and computer networks are essential to overcome these hurdles (Alstyn et.al, 2016). University and college websites and libraries serve various purposes, including providing information about the college and its library, disseminating information about its actions, offering online information services, providing links to relevant websites, and making resources easily accessible (Alexander, 2006). A well-designed website promotes the library's services, resources, activities, programs, and functions, informing users about important announcements, policy changes, and new services (Dudley, 2013). Since the idea of website traffic metrics is fundamental to digital marketing, it is crucial to realise that there is a lot of information available about it. Digital analytics is based on the core tenet that website traffic data is essential for comprehending user behaviour and assessing the efficacy of marketing. The fact that tools like Google Analytics and SimilarWeb are available and frequently used to identify important metrics like Page Views, Unique Visitors, Bounce Rate, Average Session Duration, etc., supports this.

4. SCOPE AND LIMITATIONS OF THE STUDY

The present study focuses on webometric analysis and the performance of the websites of the Sanskrit University in India. This research of webometrics analysis has the scope of the existence and performance of websites under study that includes exploration, examination and structure of the links, content analysis, speed and ranking of the websites. The investigation is limited to:

- The Sanskrit Universities are geographically located in different parts of India.

S.N	Name of the University	Abbv.	Year of Est.	Place	Type of University	Link to website
1	Sampurnanand Sanskrit Vishwavidyalaya	SSV	1791	Uttar Pradesh	State University	https://www.ssvv.ac.in/
2	Deccan College, Post-Graduate and Research Institute, Pune	PSC	1821	Maharashtra	Deemed University	https://www.dcpune.ac.in/
3	The Sanskrit College and University	SCU	1824	West Bengal	State University	https://sanskritcollegeanduniversity.ac.in/
4	Kameshwar Singh Darbhanga Sanskrit University	KSDSU	1961	Bihar	State University	https://www.ksdsu.edu.in
5	National Sanskrit University, Tirupati	NSU	1962	Andhra Pradesh	Central University	https://nsktu.ac.in/
6	Shri Lal Bahadur Shastri National Sanskrit University	SLBSNSU	1962	Delhi	Central University	https://www.slbsrsv.ac.in/
7	Central Sanskrit University	CSU	1970	Delhi	Central University	https://sanskrit.nic.in/
8	Shri Jagannath Sanskrit University	SJSU	1981	Odisha	State University	https://www.sjsv.nic.in/
9	Sree Sankaracharya University of Sanskrit, Kalady	SSUS	1993	Kerala	State University	https://ssus.ac.in/
10	Kavikulaguru Kalidas Sanskrit University, Ramtek	KKSU	1997	Maharashtra	State University	https://kksu.org/
11	Jagadguru Ramanandacharya Rajasthan Sanskrit University	JRRSU	2001	Rajasthan	State University	http://www.jrrsanskrituniversity.ac.in/

12	Uttarakhand Sanskrit Vishwavidyalaya	USV	2005	Uttarakhand	State University	http://usvv.ac.in/
13	Shree Somnath Sanskrit University, Veraval	SSSU	2005	Gujarat	University	https://sssu.ac.in/
14	Sri Venkateswara Vedic University, Tirumala	SVVU	2006	Andhra Pradesh	State University	http://www.svvedicuniversity.ac.in/
15	Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya	MPSVV	2008	Madhya Pradesh	State University	https://www.mpsvv.ac.in/
16	Karnataka Samskrit University	KSU	2011	Karnataka	State University	https://ksu.ac.in/
17	Kumar Bhaskar Varma and Ancient Studies University	KBVSASU	2011	Assam	State University	https://kbvsasun.ac.in/
18	Maharishi Balmiki Sanskrit University	MBSU	2018	Haryana	State University	https://mvsu.ac.in/

5. METHODS

In this study, the researcher obtained first-hand data from the websites to formulate rational and sound conclusions and recommendations for the study. Descriptive research makes use of surveys and data mining methods. This study investigates the websites of 18 Sanskrit Universities in India using online SEO tools to find visibility and organic traffic. The study collects data on the number of websites, domain authority, self-links, external links, backlinks, visibility, size, rich files, and scholarly publications. To measure the traffic of websites (refer to Table 2 for a detailed description) and rank 18 websites of Sanskrit universities around India according to their Web-based and scientific activities. So far, several researchers have used the Webometrics criteria for comparing the scientific status of independent institutions. Despite the advantages of Webometrics ranking, it has several drawbacks (Kunosić et al., 2019)

The present study checked out the hypothesis that there was any correlation between Webometrics ranking and website traffic and quality assessment measures. Furthermore, it was investigated if such measures could be used for proposing a ranking system, as an independent ranking system or for anticipating future rankings.

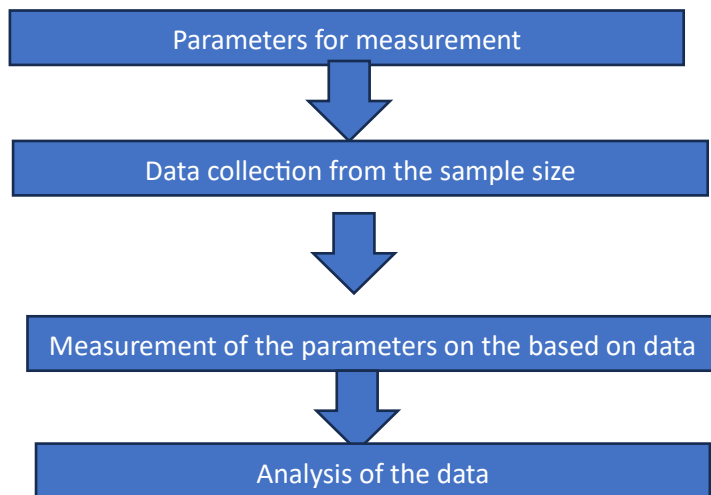
5.1. Materials and methods

5.1.1. Sample population

For choosing the sample population for this study, the website traffic size of Sanskrit universities in India was obtained from the “SimilarWeb” website. In this way, 18 universities were selected for the analysis. These 18 Sanskrit universities are from various parts of 15 states of India. The information concerned the total website total visits, average visit duration, average pages per visit, and bounce rate (the last three were considered for the quality assessment of the website design and content) was acquired from the “SimilarWeb” website (<https://www.similarweb.com>). The acquired information was presented in Table 2. The period of data collection is one month, i.e. the month of February 2025.

5.2. Methodology

The block diagram for the procedures performed in this study was depicted in Fig. 1.



5.2.1. Feature set for ranking

• Similarweb determines a website's global, national, and industry rank by combining monthly unique visitors and pageviews from desktop and mobile devices.

Here's a more thorough explanation:

• **Website Rank Algorithm:** Similarweb's rank algorithm takes into account the quantity and caliber of traffic while accounting for a website's unique visitors and pageviews.

Metrics for ranking:

• **Global Rank:** Evaluates a website about every other domain.

• **Country Rank:** Evaluates a website by comparing it to domains in the nation with the highest traffic.

A website's Industry Rank compares it to other domains in the same industry.

• **Data Sources:** uses more than 10 billion digital signals every day to generate its digital rank and traffic data.

• **Detailed Listings:** The table displays a comprehensive overview of the top websites, with features like Traffic Share, Change Column, Rank, Monthly Visits, Desktop vs. Mobile, Visit Duration, Pages/Visit, Bounce Rate, and Adsense.

• **Traffic Acquisition Leaders:** You can see which websites generate the most traffic for marketing channels in a given industry by going to Website Research --> Web Category Analysis.

• **Traffic Sources:** also examines email, social media, direct, search, referrals, and display advertisements as sources of traffic.

• **Rank Tracker:** the rank tracker keeps tabs on both rivals' and our own organic and universal positions inside the SERP.

6. RESULTS AND DISCUSSION

S.N	Universit y	Total Visit s (in K)	Bounc e Rate (%)	Page per visit	Average visit duratio n	Global Rank	Countr y Rank
1	SSV	14.9	51.47	2.36	00:01:35	1618223	117711
2	PSC	8.9	51.34	2.64	00:01:27	2135150	157815

3	SCU	0.63	40.82	2.05	00:01:02	NR	NR
4	KSDSU	1.49	30.56	5.13	00:02:48	5519052	354973
5	NSU	18.7	46.8	1.98	00:00:50	1337483	105289
6	SLBSNSU	13.92	50.03	2.38	00:01:14	1632106	118753
7	CSU	62.8	62.46	2.17	00:02:12	536741	43641
8	SJSU	0.9	38.77	2.43	00:02:46	NR	NR
9	SSUS	8	46.64	2.09	00:01:08	2517009	193964
10	KKSU	1.35	42.47	2.02	00:01:56	7753403	455555
11	JRRSU	16	53.76	2.14	00:01:06	1475141	106975
12	USV	7.17	56.12	2.55	00:01:16	2545076	185460
13	SSSU	2.84	38.37	2.05	00:01:23	5255199	342270
14	SVVU	1.13	66.93	1.68	00:00:34	8935424	501525
15	MPSVV	3.12	37.75	1.66	00:00:25	4980878	328715
16	KSU	7.27	50.01	3.34	00:03:15	2338287	170777
17	KBVSASU	1.16	36.62	2.06	00:01:28	8468514	481206
18	MBSU	2.15	62.74	1.5	00:00:27	6266184	388740

The outcomes of data processing for the four metrics that are determined by user visits, bounce rate, and devices used to view website pages are shown in this section.

6.1. Website traffic metrics

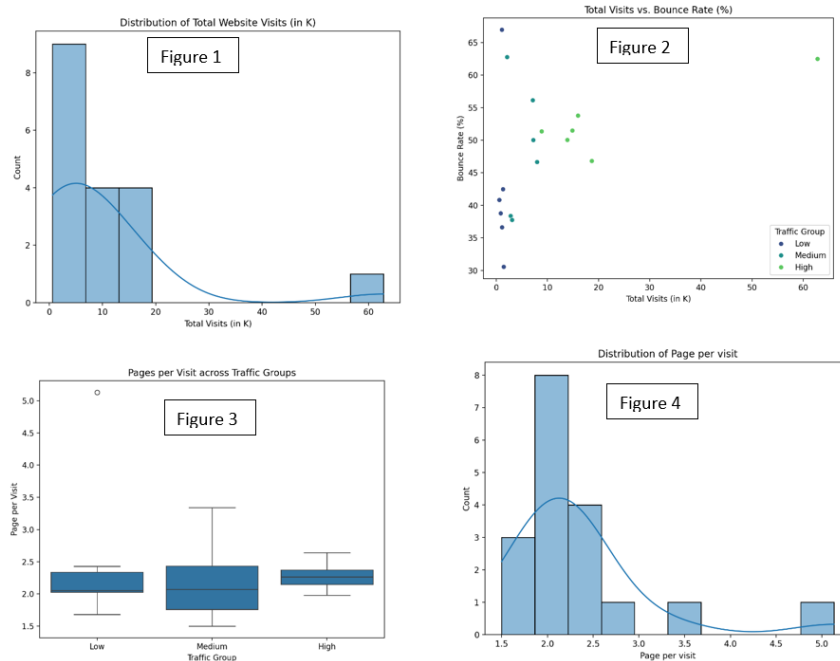
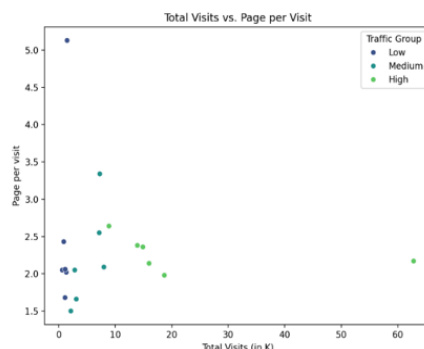


Figure 3 and the segmented data table show how each university is classified into "Low," "Medium," or "High" traffic groups based on total visits.



Industry: The type of industry affects the bounce rate of websites.

Website Type: The allowable bounce rate ranges for content websites, lead-generating websites, and landing pages can vary.

Content Quality: Higher bounce rates may result from subpar content, sluggish loading times, or an unclear user interface.

Traffic Source: The bounce rates of various traffic sources, such as social media, email, and search engines, can differ.

Generally, a website with a 40% or less is a reasonable bounce rate, whereas 40% to 55% is the acceptable bounce rate. A website with a high bounce Rate of 55% or more needs optimisation of websites, and extremely high bounce rates above 70% or even 90% may indicate significant problems with the content or website.

Here, only four websites have a bounce rate of less than 40 %. This indicates that most of the websites need optimisation.

6.4. Page per visit metrics

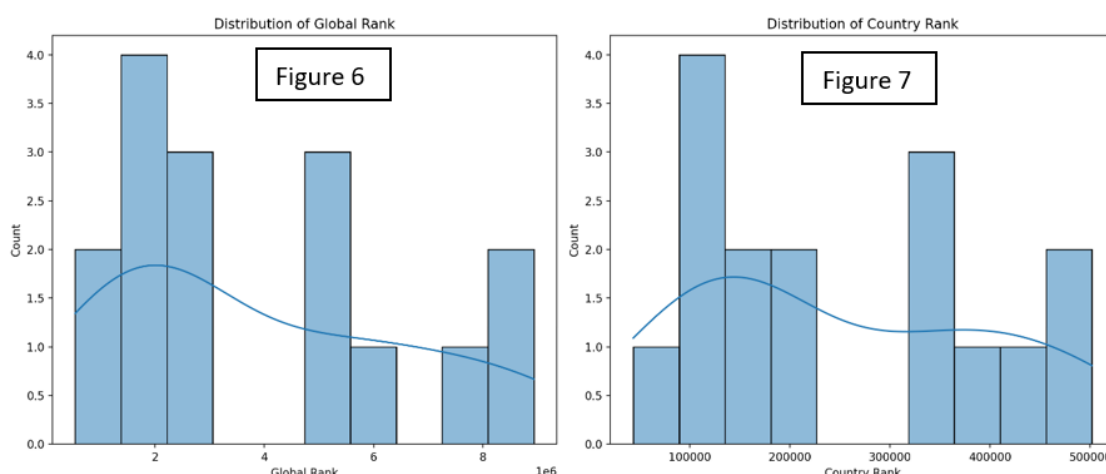
The average number of pages visitors view on a website in a single session is measured by the engagement metric pages per visit. It is computed by dividing the total number of pageviews over a given period by the total number of website visits during that same period, It determines the number of pages per visit.

The Metrics

Maintaining user engagement, fostering their interest, and motivating them to proceed are the objectives of the majority of websites. To learn more about your visitors' on-site activities and stickiness, as well as to assess the likelihood that users will accomplish the website's objective (page views, purchases, etc.), combine pages per visit with other engagement data.

- The average number of pages visited per session is about 2.352.35.
- The standard deviation is 0.810.81, indicating some variability among universities.
- An outlier exists with the maximum value of 5.135.13, suggesting that at least one institution encourages users to view many pages per visit.

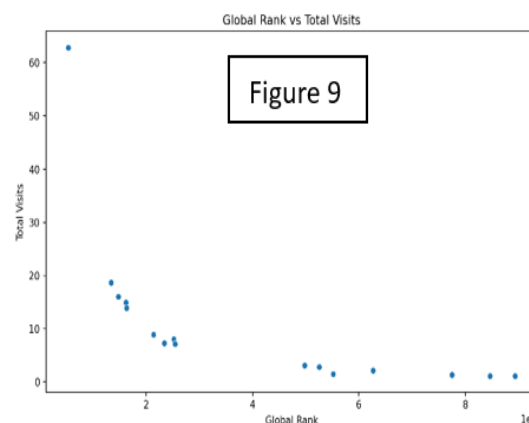
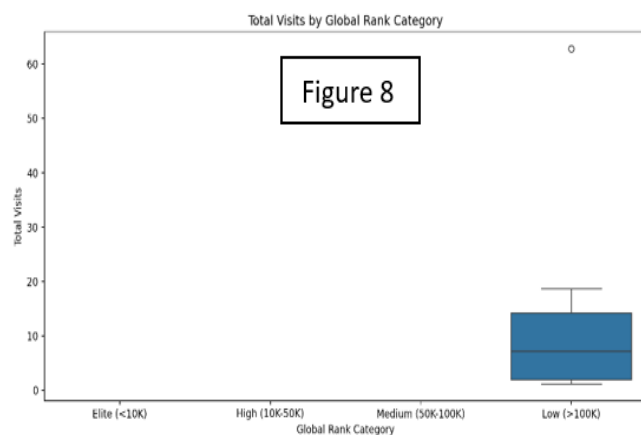
The boxplot (Figure 5) for Pages per Visit suggests that engagement in terms of page depth varies with traffic volume. Higher traffic groups may see either more exploratory behaviour (more pages per visit) or simpler designs that result in fewer pages, depending on the university's website structure.



6.5. Websites ranking

The statistics (figures 7 & 8) reveal a wide spread in global ranks, with the median around 2.5 million and the maximum close to 9 million. The top 5 universities (those with the lowest global rank numbers) have much lower values compared to the bottom 5, indicating a stark contrast in global standing. The categorisation figure 8) shows

that all universities fall in the “Low” category when using the defined bins, suggesting the current binning method might not separate the data effectively. The scatter plots (Figure 9) indicate a relationship between global rank and total visits; however, a log scale visualisation is more appropriate given the broad range of values. The boxplot further indicates that even within the single defined category, there’s variation in total visits.



7. CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Better-ranked websites constantly get more visitors, according to the data, which shows that overall traffic and website visits differ greatly throughout the schools. The data reveal that colleges with higher ranks (i.e., lower rank numbers) receive significantly more visits than those ranked lower in the rankings, both globally and nationally. The number of page views inside each website can provide more information about user involvement, even when overall website visits have a strong correlation with ranking. If available, higher page visits per session usually mean that users are interested in the material and want to learn more. More in-depth or captivating digital content is probably helping institutions with more visits and pages viewed.

Although not specifically mentioned in the earlier reports, bounce rates can offer an additional viewpoint to the traffic data. Lower bounce rates typically indicate that users are staying on a website longer and viewing more than one page, which is good for search ranking and reputation. On the other hand, large bounce rates can suggest that although the initial traffic is good, users are not being successfully engaged by the content or navigation. The analysis of both national and worldwide ranks demonstrates a definite negative relationship: traffic metrics (total visits and page visits) tend to improve as the rank does (i.e., lower numerical values). This suggests that a website's rating and its capacity to draw in and hold on to visitors are strongly correlated.

Better page interaction, reduced bounce rates, and more traffic all work together to indicate how good the website is overall. Top achievers, such as CSU, are notable for their effective visitor engagement as well as their ranking. This implies that improved performance overall is a result of combining effective SEO techniques, excellent content, and user-friendly design.

7.2. Recommendations

7.2.1. Optimise SEO & Content Quality:

Increase National and Global Visibility of websites: Universities should focus on search engine optimisation (SEO) strategies intended for audiences in both nations and globally. This may require regular updates, keyword enrichment, and content localisation to keep the website relevant.

Quality content engagement: Produce top-notch, fascinating content for a range of websites to encourage more in-depth investigation and multiple page views. Better web content will lead to a decrease in bounce rates and an increase in visitors' duration on the site.

7.2.2. Improve Website User Experience:

Optimise website navigation: A well-designed website with simple navigation is more likely to have many pages seen by visitors, which reduces bounce rates.

Mobile Optimisation & Speed: Be sure that the website is mobile-friendly and loads rapidly. Slow load times might result in higher bounce rates and lower engagement.

7.2.3. Instantaneous monitoring and tracking:

Performance monitoring of website: Use tools to monitor website traffic, bounce rate, page views, and ranking indicators in real-time.

Targeted remedies: Examine user behaviour on websites with lower engagement or higher bounce rates to identify particular issues (such as usability issues or content gaps) and develop targeted remedies.

7.2.4. Segmented Strategies Based on Rank & Engagement:

Top-Tier Strategy: For institutions already in the top quartile or with strong traffic and engagement, invest in advanced digital marketing campaigns to capture a larger share of organic search traffic and reinforce brand authority.

Mid-to-Lower Tier Focus: For universities in the lower half of the ranking spectrum, consider a comprehensive review of site content, UX, and technical SEO. Even small improvements can help elevate their site performance and conversion metrics over time.

7.2.5. User Engagement Experiments:

Use of split testing: Run experiments on page layouts, call-to-action buttons, and content formats to see which variations lead to lower bounce rates and higher page visits.

Personalisation: Consider personalised content recommendations and interactive features to engage visitors further and encourage longer sessions.

By focusing on these recommendations, institutions can enhance their digital presence, boost engagement, and improve both website traffic and key performance metrics such as bounce rate, page visits, and overall rankings.

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