2019

Global Visibility and Web Impact of Leading Universities of SAARC Nations

Arshia Ayoub
arshiaayoub786@gmail.com

Raashida Amin
University of Kashmir, India, safarashida@gmail.com

Sumeera Amin
University of Kashmir, India, sumairadar7@gmail.com

Zahid Ashraf Wani
University of Kashmir, India, zahidrais@gmail.com

Raashida Amin
Research Scholar,
DLIS, ***University of Kashmir***
Hazratbal, Srinagar, 190006. Jammu and Kashmir. India
safarashida@gmail.com

Sumeera Amin
Research Scholar,
DLIS, ***University of Kashmir***
Hazratbal, Srinagar, 190006. Jammu and Kashmir. India
Sumairadar7@gmail.com

Arshia Ayoub
Research Scholar,
DLIS, ***University of Kashmir***
Hazratbal, Srinagar, 190006. Jammu and Kashmir. India
arshiaayoub786@gmail.com

Dr. Zahid Ashraf Wani
Sr. Asst. Professor
DLIS, ***University of Kashmir***
Hazratbal, Srinagar, 190006. Jammu and Kashmir. India
zahidrais@gmail.com

Global Visibility and Web Impact of Leading Universities of SAARC Nations

Abstract

In the present time, the World Wide Web (WWW) is one of the main platforms for every forum who wants to be recognized on in the 'factual world'. At the academic level, universities have to play significant part for communicating scientific and cultural achievements. Publication by scholars of the institutions on the internet I snot only a tool for scholarly communication but it is also a way to reach larger audiences and thus represents the performance of the institutions globally. Thus, there have been numerous endeavours to develop the web indicators that can eventually lead to build a university's rankings **(Aguillo, Ortega & Fernandez, 2008)**. In this milieu, the Web Ranking of Universities originally aims at promoting Web publications. The Webometrics ranking is not only centralized towards scholarly output but also in other indicators which may reflect better global quality of scholars and presence of research institutions worldwide. The present study made an attempt to explore the top universities of SAARC nations in order to find out their performance, web-presence and impact. It has been observed from the study that Indian universities are

performing better than other SAARC nation universities in terms of average world rank, continental rank, impact rank and openness rank while as Pakistan outpace in terms of average presence rank. This indicates that Indian universities have better scholarly output though Pakistan universities are more visible on the WWW.

Keywords: Web-Ranking, SAARC nations, Web impact, Openness rank.

Introduction

Internet, indubitably, has revolutionized the process of communication. It has become an important tool for every institution to communicate and showcase their existence. Similarly, educational institutes, by the help of their web presence in the form of academic websites create awareness of their presence, globally. Besides, these websites trap their multi-dimensional activities and these activities are subjected to various measurements to gauge the impact and hence the position, prestige and credibility of these institutions. Further, scholar's web publication aids them to reach the larger audience and provides an indicator of an institutional performance **(Aguillo, Ortega & Fernandez, 2008**). For this impact assessment of websites, a technique called Webometrics or cybermetrics, a quantitative analysis which as per **Thelwall (2004)** draws its basis and similarity from the bibliometric/scientometric methods, is currently in vogue. Webometrics, term coined by Almind and Ingwersen in 1997, deals with the measurement of various aspects of web that include websites, web-pages, web-page parts and words, hyperlinks, etc and is based on the concept of web-impact assessment which evaluates the impact of ideas or documents by counting the number of their online mentions **(Thelwall, 2009)**. **Bjorneborn and Ingerwersen (2004)** defined Webometrics as "the study of web-based phenomena using quantitative techniques and drawing upon informetric methods" where informetrics, broadly, is a quantitative measurement of information. The purpose of this web-impact factor is to rank, categorize, compare and evaluate websites by applying some quantitative tools and indicators **(Islam, 2011)**.

One important step put forward for the measurement of web impact is the Webometrics ranking of world universities published by a research group - Cybermetrics Lab, that is owned by the Spain's gaint public research body viz, Consejo Superior de Investigaciones Científicas (CSIC). It assess the web performance of the world universities with an independent web domain. This ranking

is provided on the basis of web presence and is calculated based on indicators of – *impact* i.e. external in-link counts or number of links to the university website (weight 50%); *presence* i.e. content volume or number of web pages published by the university (weight 20%); *openness* i.e. quantity of rich files which include - .pdf, .ppt, .doc, .docx (weight 15%) and *excellence* i.e. top 10% most cited papers by discipline (weight 15%) **(Webometrics, 2018)**. This ranking is released twice a year and covers a greater number of universities than any other ranking initiative **(Webometrics Ranking Digs Deepest, 2018)**. The rankings are illustrative of the prominence and reputation of universities and provides alternative measures of overall stature and strength of universities **(Webometrics Web Rankings, 2018)**. The central motive of the Ranking is to enhance web presence of academic institutions, promoting the Open Access movements for amplifying the dissemination of knowledge, pertaining to science and culture, generated by the universities, globally **(Ranking web of universities, 2018)**. Thus, beneficial information, related to the conduct of universities from around the world through their web presence and web impact, is being utilized for better policing and research purposes.

Literature Review

Web-sites are easy means of communicating the presence and developments. These enhance the visibility and create a position for an institution. **Aguillo, Granadino, Ortega and Prieto, (2005) (as cited in Sultana, 2014)** note that academic websites aid in promotion and communication of scientific and cultural achievements and boost teaching, research and transfer. Thus, this web visibility of a university provides an indication of its success and therefore is used as an indicator for evaluation of universities and other educational institutions for the purpose of their ranking **(Sultana, 2014).** Thus, various studies pertaining to the website analysis and assessment by the application of Webometrics method have been conducted.

Vaughan and Wu (2004) analyzed China's top 100 information technology company's websites and traced that profit, revenues, research and development expenses of a company are directly proportional to link count thus suggesting that web hyperlinks as being the indicator of performance. **Barjak, Li and Thelwall (2006)** collected data from six European countries pertaining to 456 scientists concerned with five subject fields and revealed that a notable relationship of inlink

counts exist with the content of web-pages and characteristics of their owners. Besides, they found remarkable differences in inlink counts for countries and the scientific disciplines. **Noruzi (2006)** studied web impact factor and web-presence of Middle-Eastern countries and their educational and academic institutions. They concluded that excluding Turkey, Israel and Iran, these countries show low web presence and in addition also show low in-link web impact factor. A study conducted by **Shukla and Poluru (2012)** gauged and analyzed the 173 Indian university websites for which the data was collected using Google Scholar and Yahoo site explorer. They concluded that some universities are more visible and prestigious than others. They further stressed upon universities for enhanced scholarly and scientific communications through blogs and social networking sites to make an efficient and effective use of their websites. **Jeyshankar, Sujitha and Valarmathi (2012)** conducted a webometric analysis of websites of 22 Indian Council of Medical Research institutes by measuring web-pages and its link-pages in order to rank the websites of these institutes. Universities with a greater number of web-pages and web-links were ranked at the top followed by the ones with lesser number. **Li et al. (2003)**, using AltaVista and a specialized crawler of the university of Wolver Hampton, collected link data for calculation of various web impact factors. From the study they found that a significant correlation exists between metrics from web-links and research evaluation through traditional means in universities. **Islam and Alam (2011)** used webometric indicator to explore and analyze the websites of 44 private universities in Bangladesh on the basis of link-pages and web-pages to gauge their web impact factor. They found some universities having greater web-page counts but small number of link-pages, thus, scoring least self-links, external links and overall web impact factor. They concluded that because this least web impact factor they were having no international visibility. **Baka and Nur Leyni (2015)** studied the websites of top thirty and bottom thirty world class universities to find the difference in their visibility and accessibility. For the determination of visibility, the study used the software Alexa and for accessibility test, software Eval Access was used for website evaluation. The comparative analysis of the two groups of universities revealed more visibility and accessibility for the top universities than others. **Jalal, Biswas and Mukhopadhyay (2009)** attempted to rank Indian central universities

based on relevant webometric indicators like web impact factor, web presence. The results of the study revealed an overall good web presence of Indian universities with University of Delhi occupying the top rank while Sikkim University occupying the last.

A study conducted by **Vijayakumar, Kannappanavar and Kumar (2012)** to identify web presence and web links for SAARC countries collected data using AltaVista. The study found that India possesses maximum web-page (14,10,00,000), external link (58,20,000), internal link (1,18,00,000) and over all link count (9,83,00,000). Sri Lanka possesses highest count for web impact factor of external and internal links. India, as compared to other SAARC countries, also claimed top position for Wiser ranking.

Thus, studies suggest the web appearance of universities can be used to gauge the position and performance and provides a firm assertion that Webometrics furnishes data pertaining to the activity and the position of institutions and can be effectively utilized for their comparative analysis and ranking purposes.

Problem

The study made an endeavor to determine the global visibility, scholarly output and web ranking of leading universities of SAARC nations on the basis of their performance on WWW.

Scope

This study has been limited to the top five universities of SAARC nations as per the Ranking Web of Universities. Only those institutions were included that include the word university in their names.

Objectives

1. To identify the top 5 universities of the SAARC nations as per the Ranking Web of Universities (webometrics.info/en)
2. To compare the leading universities of SAARC nations on the basis of performance and visibility of universities (viz; world rank, presence rank, openness rank, impact rank and excellence rank).

Methodology

The study explored the ranking web of universities through webometrics.info/en to achieve the aforesaid objectives. The two phases of study are as follows:

Phase I

The study explored the Ranking Web of Universities to identify the leading universities of SAARC nations based on their web based feature (like presence and impact). Only those universities were studied that included the word university in their name.

Phase II

Further the identified Universities were compared on the basis of their web characteristics. The data was analyzed on the basis of average world rank, continental rank, presence rank, impact rank, openness rank and excellence rank of universities on the WWW. The data collected was examined and interpreted in the form of tables.

Data Analysis and Interpretation

1. **Top 5 universities of SAARC nations:** The data collected depicts that the University of Delhi is the top most university of India and National University of Sciences and Technology is the top most university of Pakistan as per ranking web of universities. Royal University of Bhutan, Kathmandu University, Bangladesh University of Engineering and Technology, University of Peradeniya, American university of Afghanistan are the top universities of Bhutan, Nepal, Bangladesh, Sri Lanka and Afghanistan respectively. Only four universities from Maldives are able to secure their place in ranking web of universities with Maldives National University ranking as top as depicted from the table 1.

Table 1. Top universities of SAARC nations as per Webometrics

Countries	**S.No.**	**Top universities**
India	1	University of Delhi
	2	Anna University
	3	Banaras Hindu University

	4	Jawaharlal Nehru University
	5	Aligarh Muslim University
Pakistan	1	National University of Sciences and Technology
	2	Quaid-i-Azam University
	3	Aga Khan University
	4	University of Punjab
	5	University of Agriculture Faislabad
Bhutan	1	Royal University of Bhutan
	2	Royal University of Bhutan College of Science and Technology
	3	Royal University of Bhutan College of Natural Resources
	4	Royal University of Bhutan Sherubtse College
	5	Royal University of Bhutan Paro College of Education
Nepal	1	Kathmandu University
	2	Tribhuvan University
	3	Tribhuvan University of Engineering
	4	Pokhara University
	5	Purbanchal University
Bangladesh	1	Bangladesh University of Engineering and Technology
	2	University of Chittagong
	3	Rajshahi University

	4	Brac University
	5	Jahangirnagar University
Sri Lanka	1	University of Peradeniya
	2	University of Colombo
	3	University of Ruhuna
	4	University of Moratuwa
	5	University of Kelaniya
Afghanistan	1	American university of Afghanistan
	2	Kabul university
	3	Kardan University
	4	Herat University
	5	Kabul Medical university
Maldives	1	Maldives National University
	2	Villa College
	3	Mandhu College
	4	Cyryx College

2. **World Rank (Average):** As per the Webometrics world rank, Indian Universities occupied the top position among SAARC nations followed by Pakistan, Sri Lanka and Bangladesh. The fifth position is occupied by Nepal followed by Bhutan, Afghanistan and Maldives as evident from table 2.

Table 2. World Rank (Average)

Countries	World Rank (Average)
India	1090
Pakistan	1628
Bhutan	13810
Nepal	7117
Bangladesh	2693
Sri Lanka	2465
Afghanistan	14399
Maldives	18906

3. **Continental ranking (Average):** Indian Universities is again ranking top in continental ranking of Webometrics followed by Pakistan, and Bangladesh. Sri Lanka is ranking as fourth followed by Nepal, Afghanistan and Bhutan. Maldives has the lowest ranking among SAARC nations (table 3).

Table 3: Continental Ranking (Average)

Countries	Continental Ranking (Average)
India	240
Pakistan	434
Bhutan	6069
Nepal	2501
Bangladesh	748
Sri Lanka	817
Afghanistan	5553
Maldives	7499

4. **Presence rank (Average):** The presence rank is measured as the total number of web pages available on internet. This is indicative of size of website and helps universities to be more visible over the WWW. Pakistan Universities has emerged as top ranking in this domain followed by Sri Lanka and India. The fourth rank is occupied by Bangladesh followed by Bhutan, Maldives and Nepal. Afghanistan is bearing the last rank among SAARC nations.

Table 4. Presence rank (Average)

Countries	Presence Rank (Average)
India	3567
Pakistan	434
Bhutan	7341
Nepal	13732
Bangladesh	7063
Sri Lanka	649
Afghanistan	16722
Maldives	13519

5. **Impact rank (Average):** Impact rank is calculated as external in-link counts or number of links to the university website. The external links are a great metric for determining the popularity and trustworthiness of website. Indian Universities are ranking top in Impact ranking of Webometrics followed by Pakistan, and Sri Lanka. Bangladeshis ranking as fourth followed by Nepal, Afghanistan and Bhutan. Maldives has the lowest ranking among SAARC nations.

Table 5. Impact rank (Average)

Countries	Impact Rank (Average)
India	2561
Pakistan	5196
Bhutan	15132
Nepal	10729
Bangladesh	5500
Sri Lanka	5490
Afghanistan	13837
Maldives	18459

6. **Openness rank (Average):** The Openness rank is calculated as the number of files available on the Google scholar that helps to make their content more visible to the scholarly world. Indian Universities is ranking top in Openness ranking of Webometrics followed by Pakistan and Sri Lanka. Bangladesh is ranking as fourth followed by Nepal, Bhutan and Afghanistan. Maldives has the lowest ranking among SAARC nations.

Table 6. Openness Rank (Average)

Countries	Openness Rank (Average)
India	935
Pakistan	1417
Bhutan	9427
Nepal	7380
Bangladesh	2174
Sri Lanka	1833
Afghanistan	10274
Maldives	10778

7. **Excellence rank (Average):** It is calculated by the number of papers of university that is included in top 10% most cited papers by discipline. This indicates high quality output of the institutions. Indian Universities is ranking top in excellence ranking of Webometrics followed by Pakistan and Sri Lanka. Bangladesh is ranking as fourth followed by Nepal, Afghanistan and Bhutan. Maldives has the lowest ranking among SAARC nations.

Table 7. Excellence Rank (Average)

Countries	Excellence Rank (Average)
India	857
Pakistan	1070
Bhutan	5919
Nepal	4495
Bangladesh	2675
Sri Lanka	2475
Afghanistan	5830
Maldives	6008

Conclusion

It has been concluded from the study that among SAARC nations, Indian Universities are performing well in producing quality output and their popularity on the WWW. It has been observed that University of Delhi, National University of Sciences and Technology of Pakistan, Royal University of Bhutan, Kathmandu University of Nepal, Bangladesh University of Engineering and Technology, University of

Peradeniya of Sri Lanka, American university of Afghanistan and Maldives National University are top universities of respective countries of SAARC nations. It has been also found that in terms of average world rank, continental rank, impact rank and openness rank Indian universities are on top position while as on the basis of average presence rank Pakistan universities performs well than other SAARC nations. This indicates that Indian universities have better scholarly output though Pakistan universities are more visible on the WWW. Thus, Ranking Web of Universities provides the global performance and visibility of universities on the basis of web presence and visibility indicators which are very useful indicators for ranking of universities.

References

Aguillo, I. F., Ortega, J. L. & Fernández, M. (2008). Webometric Ranking of World Universities: Introduction, Methodology, and Future Developments. *Higher Education in Europe*, 33(2-3), 233-244. Doi: 10.1080/03797720802254031

Baka, A. B. A & Nur Leyni, N. P. J. (2015). Webometric Study of World Class Universities Websites. *Qualitative and Quantitative Methods in Libraries (QQML) Special Issue Bibliometrics and Scientometrics*, 105-115. Retrieved from: http://www.qqml.net/papers/Special_Issue_January_2015_Bibliometrics/4S11QQML_Journal_2015_SpecialIssueBibliometrics_AbuBakarBakeri_105-115.pdf

Barjak, F., Li, X. &Thelwall, M. (2006). Which factors explain the web impact of scientists' personal homepages? *Journal of the American Society for Information Science and Technology*, 58(2), 200-211. Doi: 10.1002/asi.20476

Bjorneborn, L., & Ingwersen, P. (2004). Toward a basic framework for webometrics. *Journal of the American Society for Information Science and Technology*, 55(14), pp. 1216–1227. Doi: 10.1002/asi.20077

Islam, M. A. & Alam, M. S. (2011). Webometric study of private universities in Bangladesh. *Malaysian Journal of Library & Information Science, 16*(2), 115-126. Retrieved from:

https://www.researchgate.net/publication/286881725_Webometric_study_of_private_universities_in_Bangladesh

Islam. M. A. (2011). Webometrics study of Universities in Bangladesh. *Annals of Library and Information Studies, 58,* 307-318. Retrieved from: http://nopr.niscair.res.in/bitstream/123456789/13480/4/ALIS%2058%284%29%20307-318.pdf

Jalal, S. K., Biswas, S. C. & Mukhopadhyay, P. (2009). Webometric Analysis of Central Universities in India: A Study. Retrieved from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.625.702&rep=rep1&type=pdf

Jeyshankar, R. I., Sujitha, M. and Valarmathi, A. (2012). Web Pages of ICMR Institutes Websites: A Webometric Analysis. *Global Advanced Research Journal of Library, Information and Archival Studies, 1*(1), 6-18.

Li, X., Thelwall, M., Musgrove, P. B. &Welkinson, D. (2003). The relationship between the WIFs or inlinks of Computer Science Departments in UK and their RAE ratings or research productivities in 2001. *Scientometrics*, 57(2), 239-255. Doi: 10.1023/A:1024189702463

Noruzi, A. (2006). Web presence and impact factors for Middle-Eastern countries. *Online Magazine*, 30(2), 22-28. Retrieved from: https://www.researchgate.net/publication/28804411_Web_Presence_and_Impact_Factors_for_Middle-Eastern_Countries

Ranking web of universities. (2018). Retrieved from: http://www.webometrics.info/en/Methodology

Sagenmüller, I. (2017). Rankings: The best universities of the world in web presence. Retrieved from: https://www.u-planner.com/blog/rankings-the-best-universities-of-the-world-in-web-presence

Shukla S. H. and Poluru, L. (2012). Webometric analysis and indicators of selectedIndian state universities. *Information Studies, 18*(2), 79-104. Retrieved from:

https://www.researchgate.net/profile/Svetal_Shukla/publication/228092283_Webometri_Analysis_and_Indicators_of_Selected_Indian_State_Universities/links/54ffd3600cf2672e2248c233/Webometric-Analysis-and-Indicators-of-Selected-Indian-State-Universities.pdf

Sultana, S. (2014). A Webometric Analysis of Private University Websites in Bangladesh (M.Phil. thesis, University of Dhaka, Bangladesh). Retrieved from: http://repository.library.du.ac.bd/xmlui/bitstream/handle/123456789/728/Sajia%20Sultana.pdf?sequence=1

Thelwall, M. (2004). *Link Analysis: An Information Science Approach.* Amsterdam and Boston: Elsevier Academic, 2004.

Thelwall, M. (2009). *Introduction to Webometrics: Quantitative Web Research for the Social Sciences.* Gary Marchionini (ed.). Morgan & Claypool publishers. Doi: 10.2200/S00176ED1V01Y200903ICR004

Ubaka,A. U., Baharudin K. & Sentosa, I. (2018). Webometrics ranking: a less commercialised (and more objective) measure of ranking for institutions of higher learning. *International Journal of Continuing Engineering Education and Life-Long Learning (IJCEELL),* 28(2). Doi: 10.1504/IJCEELL.2018.096019

Vaughan, L. & Wu G. (2004). Links to commercial websites as a source of business information. *Scientometrics, 60*(3), 487-496. Retrieved from: https://link.springer.com/article/10.1023/B:SCIE.0000034389.14825.bc

Webometrics Ranking Digs Deepest. (2018). IREG Observatory on Academic Ranking and Excellence. Retrieved from: http://www.ireg-observatory.org/en/874-webometrics-ranking-digs-deepest

Webometrics Web Rankings. (2018). Australian Universities. Retrieved from: https://australianuniversities.click/rankings/webometrics/

Webometrics. (2018). Aalborg University. Retrieved from: https://www.en.aau.dk/research/ranking/lists/webometrics/