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Websites Of Central And Deemed Universities In Madhya Pradesh: A Webometric Study

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Abstract

Webometric is measuring the websites, webpages, parts of webpages, words in webpages, link structure, web search engine results. This study examines 02 Central Universities and 03 Deemed Universities of Madhya Pradesh . Investigate Domains distribution of websites, analyze number of webpages and link pages and calculate the self link web impact factor, External link web impact factor and Revised web impact factor for Central Universities and Deemed Universities in Madhya Pradesh and Rank the websites as per the web impact factor.

Key Words: Central University, Deemed University websites Madhya Pradesh, website Analysis, Link Analysis, Internal Link, External Link, In Link, Web Impact Factor.

1. Introduction

Digital revolution has laid a great impact on our education system. Smart phones, Tablets, Laptops, Computers are being used widely as a medium of generating and accessing information via Internet. Today Online access of information, High use of Social Media and Virtual Meetings, Webinars are the latest trends in information usage patterns. World Wide Web has become the main source of information in research and academic activities and excellent platform to test new method of evaluating webometric activities.

A website is a set of related pages covering content such as text, image, video, audio etc. accessible via network such as the internet through on internet address call Uniform Resource Locator (URL).

2. Webometric

The term webometrics is a coinage from to modern English words, "web" and "metric". Webometric is the study of the quantitative aspects of the construction and use of information resources, structures and technologies on www drawing on bibliometrics and infometrics approaches. In 1996, Larson explained link

structure analysis with the first pure infometrics analysis of the web.¹ In 1997 Almind and Ingwersen have named quantitative studies of the web as webometrics.²

3. Methods of webometrics

According to Bjerneborn (2004) Webometrics study³ covers the following main areas of construction side and usage side of the web :

- Web page content analysis ;
- Web link structure analysis (e.g.- Hyperlinks, Self-link, External link and In link) ;
- Web usage analysis (e.g.- exploiting log files for users searching and browsing behavior); and
- Web Technology analysis (including search engine performance)

4. Web impact factor (WIF)

A web impact factor is a relatively new measure of the extent to which a site is linked to by other sites, and is analogous to a citation count in the print environment. Broadly, it is a measure of the extent to which it is linked and recognized by other sites.

Mukharji Bhaskar (2009)⁵, Jeyshankar and ramesh babu (2009)⁶ and Ramesh Babu, Jeyshankar and Nageswara rao (2009)⁷ and Ramesh babu, Jeyshankar and Nageswara rao (2010)⁸ studied the WIF as the ratio of number of links to the total Number of web pages.

Ingwersen distinguished between:

- The external link WIF, the ratio of external links to the number of pages.
- The internal or self WIF, the ratio of internal links within the site to number of pages.
- the revised WIF, the ratio of in links to the target site, to the number of pages at the site.

5. Central And Deemed Universities in Madhya Pradesh

This study aims to examine websites of 02 Central Universities and 03 Deemed Univrsties in Madhya Pradesh on the basis of webomteric parameters.

Table-1 depicts the year of establishment of 2 Central Universities and 3 Deemed Universities in Madhya Pradesh, Dr. Hari Singh Gaur University, Sagar was the first university established in 1946 i.e Central University. Laxmibai national university of physical education, Gwalior(deemed university)came into existence in 1957.Maximum 2 deemed universities were established during 1996 to 2005 i.e. IIITM university, Gwalior in 1997 and Pt.Dwarka Prasad Mishra Indian Institute of IT,Design & Manufacturing , Jabalpur (deemed univ.) in 2005. Whereas The indira Gandhi Tribal University Amarkantak (central univ.)Came into existence in 2007

Table 1. Classification of Central universities and Deemed Universities Of Madhya Pradesh by year of their establishment

Year of establishment	No. of Central universities	No. of Deemed universities	Total	percentage
1946-1955	1(20%)	0(00%)	1	20
1956-1965	0(00%)	1(20%)	1	20
1966-1975	0(00%)	0(00%)	0	00
1976-1985	0(00%)	0(00%)	0	00
1986-1995	0(00%)	0(00%)	0	00
1996-2005	0(00%)	2(40%)	2	40
2006-2015	1(20%)	0(00%)	1	20
2016-2019	0(00%)	0(00%)	0	00
Total	2(40%)	3(60%)	5	100

Table 2. Tabular Representation of city wise Central universities and Deemed Universitie In Madhya Pradesh

City	No. of Central Universities	No. of Deemed Universities	Total	percentage
Amarkantak	1(20%)	0(00%)	1	20
Gwalior	0(00%)	2(40%)	2	40
Jabalpur	0(00%)	1(20%)	1	20
Sagar	1(20%)	0(00%)	1	20
Total	2(40%)	3(60%)	5	100

Table-2 reveals that Amarkantak and Sagar has 1 central university each (20%), Jabalpur has 1 Deemed University (20%) whereas Gwalior has 2 Deemed Universities (40%).

6. Review of related literature

Jeyshankar, Ramesh Babu and Gopalkrishnan explained basic framework and development of webometrics from librametrics, informetrics, bibliometrics, scientometrics and cybermetrics⁹

Thelwall et..al (2002) reports on the result of a survey of the size of 670 websites of higher education institutions in countries associated with European Union as estimated by Alta Vista. It has been found that there are still enormous National differences of up to three orders of magnitude.¹⁰

Samir Kumar Jalal, B.Sutradhar and Parthasarthi Mukhopadhyay study top 10 Indian and Asian universities for developing new ranking system for India using appropriate webometrics indicators. They reported that Indian Universities are having 2% backlinks and 25% webpages and wiser value with respect to top ten Asian Universities.¹¹

S.S. Shahrudin,RZW Chick and ISA Malik conducted a study on visibility in strategizing for web market in webometric university ranking in Malaysia (2019)¹² and found that The National Library China has the highest Domain &page authority of 67 and 73 respectively.

Jayshanker Ramalingam (2019)¹³ conducted webometric analysis of 125 Deemed university websites in India.It is found that the size of the websites ranges between 1 and 8529kb,the internal link ranges between 1 and 560 links and External link ranges between 1 and 252 links.web impact factor for deemed

universities websites ranges between 0.01 and 116.83. Relation between internal, External and back link has been calculated between 0.01 & 3.

Ashok Pal, Sanjoy kar & Sovan sardar conducted “A Webometric analysis of ICSSR sponsored research institution in India” (2020)¹⁴. This study reflects that institute of developments study Kolkata has the maximum no. of webpage’s (71400). Institute of economic growth has the maximum no. of total links (177) & internal links (167). Institute for studies in industrial development has maximum no. of external links (36).Gujarat institute of development research holds the numero uno status on the basis of SWIF(0.6736) & IWIF(0.65551) Whereas Institute for studies in industrial development holds the first rank in EWIF(0.0404).

7. OBJECTIVES

The objective of the study are:

- ✓ To identify and classify the domain of Central Universities And Deemed Universities Websites in Madhya Pradesh.
- ✓ To find out the number of web pages, number of link pages, number of self link pages, and external link pages of Central Universities And Deemed Universities websites in Madhya Pradesh.
- ✓ To measure the self link WIF, external Link WIF and revised link WIF of Central Universities And Deemed Universities websites in Madhya Pradesh.

8. Hypothesis

The following hypothesis are coined for this study:

- A majority of Central Universities and Deemed Universities in Madhya Pradesh have hosted websites on the internet.
- Higher the number of webpages, smaller the link pages and greater the WIF, smaller the number of webpages.

9. Scope and Limitations

This study makes a webometric analysis of Central Universities and Deemed Universities in Madhya Pradesh. There are 02 Central Universities and 03 Deemed Universities in Madhya Pradesh. The study covers the website of Central Universities and Deemed Universities in Madhya Pradesh listed under 12-B of UGC act 1956 Section 3 of UGC act and section 2(f) and 12(B) of UGC act upto December 2020 only.

10. Methodology

The present study has been carried out by using webometric methods. Data were collected from 02 Central Universities and 03 Deemed Universities websites. The search engine Bing index checker has been used to collect the number of web pages of each website. Web optimization Tools were used to collect number of self link , external link and in link.

11. Web Impact Factor

WIF has been calculated by following formula -

Self link WIF =

$$\frac{\text{Total no. of self link pages}}{\text{Total no. of web pages}}$$

External link WIF =

$$\frac{\text{Total no. of external link}}{\text{Total no. of WebPages}}$$

Revised WIF =

$$\frac{\text{Total no. of in links}}{\text{Total no. of WebPages}}$$

Table 3 reveals that 3 types of 'domain extensions' were observed in this study. '.ac.in' has been used in websites of both the Central Universities (40%) and one of the Deemed University (20%) followed by .edu.in and .org by one (20%) deemed universities respectively

Table 3. Classification of Central universities and Deemed Universities Websites Of Madhya Pradesh by the Domain Ext.

Domain	No. of central Universities	No. of deemed Universities	Total	percentage
.ac.in	2(40%)	1(20%)	3	60
.edu.in	0(00%)	1(20%)	1	20
.org	0(00%)	1(20%)	1	20
Total	2(40%)	3(60%)	5	100

Table 4 shows the distribution of self-link impact factor of Central universities and Deemed Universities in Madhya Pradesh. It is observed that Dr. Hari Singh Gaur central university, Sagar secures 1st rank with 0.3843% of self link WIF. IIITM University, Gwalior (deemed univ.) & the Indira Gandhi Tribal University Amarkantak (central univ.) obtained 2nd and 3rd rank with 0.0529% & 0.0218% self-link WIF respectively. Whereas Pt. Dwarka Prasad institute, Jabalpur and Laxmibai National Institute of Physical Education, Gwalior (deemed univ.) secured 4th and 5th rank with 0.0157% and 0.000 self link WIF respectively.

Table 5 reveals the distribution of external link web impact factor of Central universities and Deemed Universities of Madhya Pradesh. It is observed that IIITM university, Gwalior (deemed univ.) ranked 1st with 0.0051% EWIF, The Indira Gandhi Tribal University Amarkantak (central univ.) and Pt. Dwarka Prasad University, Jabalpur (deemed univ.) Secure 2nd and 3rd position respectively with 0.0040% and 0.0035% EWIF. Dr. Hari Singh Gaur University, Sagar (central univ.) ranks 4th with 0.0028% EWIF.

Whereas Laxmibai national institute of physical education, Gwalior obtained last 5th position with 0.0000% EWIF.

Table 4. Self-link web impact factor for Central universities and Deemed Universities of Madhya Pradesh

Name of Universities	No. of WebPages (A)	No. of self link Webpage (B)	Self-link web impact factor (B/A)	Ranked by SLWIF
Dr. Hari Singh Gaur University, Sagar	12300	4728	0.3843	1
IITM University, Gwalior	3100	164	0.0529	2
The Indira Gandhi Tribal University Amarkantak	7130	156	0.0218	3
Pt. Dwarka Prasad Mishra Indian Institute of IT, Design & Manufacturing, Jabalpur	8080	127	0.0157	4
Laxmibai national university of physical education, Gwalior	5240	00	0.000	5

Table 5. External link web impact factor for Central universities and Deemed Universities of Madhya pradesh

Name of Universities	No. of WebPages (A)	No. of External linkWebpage (C)	External link web impact factor (C/A)	Ranked by ELWIF
IITM University,Gwalior	3100	16	0.0051	1
The Indira Gandhi Tribal University Amarkantak	7130	29	0.0040	2
Pt. Dwarka Prasad Mishra Indian Institute of IT, Design & Man. , Jabalpur	8080	29	0.0035	3
Dr. Hari Singh Gaur University, Sagar	12300	35	0.0028	4
Laxmibai National Univ. of Phy. Education,Gwalior	5240	00	0.000	5

Table 6. Revised link web impact factor for Central universities and Deemed Universities of Madhya Pradesh

Name of Universities	No. of WebPages (A)	No. of Revised-link Webpage (D)	Revised-link web impact factor (D/A)	Ranked by RLWIF
Pt.Dwarka Prasad Mishra Indian Institute of IT, Design & Man., Jabalpur	8080	332557	41.15	1
IITM University, Gwalior	3100	34439	11.10	2
The Indira Gandhi Tribal University, Amarkantak	7130	36631	5.13	3
Dr. Hari Singh Gaur University, Sagar	12300	12039	0.97	4
Laxmibai National University Of Physical Education, Gwalior	5240	3496	0.66	5

Table 6 Shows the rank distribution of Central universities and Deemed Universities in Madhya Pradesh according to revised web impact factor (RWIF) Pt. Dwarka Prasad Institute, Jabalpur (deemed univ.) ranked 1st with 41.15% RWIF, IITM University, Gwalior (deemed univ.) and The Indira Gandhi Tribal University Amarkantak (central univ.) occupied 2nd and 3rd position with RWIF 11.10% and 5.13% respectively. Dr. Hari Singh Gaur University, Sagar (central univ.) obtained 4th rank with 0.97% RWIF. Whereas Laxmibai National University Of Physical Education, Gwalior (deemed univ.) secured 5th position with 0.66% RWIF.

12. Conclusion & Recommendations-

The universities websites can be used as a communicative bridge between institution's achievements and their services to their audiences by keeping them abreast with the latest news, announcements, changes in policy, starting of new courses and services. This study emphasizes on the Internal link, External link and In link Web Impact Factor for each website of Central universities and Deemed Universities in Madhya Pradesh, It is recommended that the websites of Central universities and Deemed Universities need to build good numbers of in links for having a higher In link WIF.

This study could be extended by comparing universities of state versus state and between the countries.

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