A WEBOMETRICS STUDY OF AGRICULTURE UNIVERSITY WEBSITES OF MADHYA PRADESH

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Abstract

This paper intends to conduct a webometric analysis of the websites of the Agricultural University of Madhya Pradesh which are managed by the Indian Council of Agricultural Research (ICAR). The analysis of web link structures is the only area covered. It analyses three categories of web impact factors: simple, internal, and external, as well as the domain and page authority. A well-known search engine such as Google has been used for this study's analysis and measurement of those agricultural repositories' online presence. In this study, we get that Jawaharlal Nehru Krishi Vishwa Vidyalaya has a well-maintained website structure such as domain authority, page authority, and several web pages. Nanaji Deshmukh Veterinary Science University has a well-maintained link structure such as Self-link, Inlink, and a total number of links.

Keywords: Webometrics analysis, Web Impact Factor, Domain Authority, Page Authority.

1. Introduction

Almind and P. Ingwersen first used the word "webometrics" in 1997. The term "webometric" harmonizes the words "web" and "metric."To determine whether classical bibliometric methods applied to the Web are a viable and dependable way to compare and analyze websites, webometric techniques are still in the experimental stage of development. A web page is a collection of text documents or web pages that include images, videos, audio files, and other content that are connected by hyperlinks. Metrics means measurement, so webometrics is the measurement of the web, its application, and its structure. According to Bjornborn and Ingwersen, "Webometrics is "the study of the quantitative aspects of the constructions and use of information resources, structures, and technologies on web drawing on bibliometric and informatic approaches,". According to Thelwell "The study of web-based content with mostly quantitative approaches for social science research purposes utilizing procedures that are not exclusive to one field of study is another definition of webometrics,". These all of definitions introduce Webometrics as the measurement of Webpages of any website as quantitative aspects of uses of Websites and constructions of websites. In any Webometrics study encompassing the four primary domains of current webometric research:

1. Web page content analysis.
2. Web links structure analysis.
3. The web uses analysis.
4. Web technology analysis.

2. Web impact factor

It is a measurement of a site's influence on the entire Web based on the quantity of links from other sites, much like the impact factor determined in bibliometrics. In comparing any

website WIF is the most important feature for evaluating the page of a website. Websites, top-level domains, and sub-domains can be ranked, assessed, categorized, and compared using the quantitative tools offered by WIF. There are three different kinds of links exist. This category includes links that go out from web pages, links that enter a site from other sites (backlinks), and links that go within a site (from one page to another)—all of which are referred to as self-links. Additionally, there are three different kinds of WIF: self-link WIF, in-link (revised) WIF, and overall WIF.

i) The simple or overall web impact factors (SWIF) = A/D

ii) The external web impact factors (EWIF) = B/D

iii) The internal web impact factor (IWIF) = C/D

In this formula where:

A: Total number of links

B: Total number of external links

C: Total number of internal links

D: Total number of web pages published on the website.

3. Review of Related Literature

Verma & Brahma (2017) A Webometric analysis of National Libraries websites of South Asia. In this study, the author analyzed and focused on several web pages, link pages available on the website, and the Web Impact Factor. The result was National Library of India has high domain and page authority, the highest external equity passing links and total equity passing links all NLIs also have the highest Web Impact Factor, National Library of Sri Lanka got the highest internal passing Links.

Muruganandham (2019) Webometrics research methods adopted in library and information science: An Overview, Webometrics has been identified as one of the largest information science fields by bibliometric studies conducted years ago. In general, academics must recognize popular research areas and steer clear of methods required to aid in this identification process because some are unpromising. Additionally,

there is heavily cited in webometrics research by fields other than information science. However, it appears that Given that the current webometric techniques have an even larger potential user base, there is a need for raising consciousness.

Ghosh & Kumar (2021) Webometric Analysis of Open Access Digital Repositories of Agricultural Sciences in Continents of Oceania.DAFWA Research Library has several Self-links and Webpages and ePrints Archive. CQ University also has lots of web pages and in-link pages.

Yadav (2023) Webometrics Study of Website of National Law Universities in India.**:** The websites of National Law Universities are indexed by Google's search engine and appear in search results. This university website does not support the use of Yahoo, Hotbot, or any other platform. The 23 1national Law Universities under consideration were ranked in order of merit. In evaluating a page, google PageRank, Alexa Traffic Rank, and rich files are considered.

5. Objectives

- To figure out the websites under investigation's domain and page authority.
- To figure out the total number of web pages the website has.
- To find out the website's total link pages, link pages, and self-link pages.
- To determine the Web Impact Factor for External Links, Web Impact Factor for Self Links, and Simple Web Impact Factor.

6. Methodology

The list of Agriculture Universities in Madhya Pradesh used in the study is obtained from the Indian Council of Agricultural Research. There are 3 Agricultural University Websites available in Madhya Pradesh. The entire study is observation-based, and we will concentrate on the website of the Agriculture University of India, specifically its structure,

7. Data Analysis

List of the Agricultural University of Madhya Pradesh's year of establishment, location, and website

Table 1 presents the list of Agricultural University Websites in Madhya Pradesh, there is a total of three Agricultural Universities situated in Madhya Pradesh. This table shows us the Year of establishment, location, and the present website's URL.

From the collective information, we get that the oldest AgricultureUniversity of Madhya Pradesh was Jawaharlal Nehru Krishi Vishwa Vidyalaya, established in 1964 at Jabalpur, and by analysis of website structure, org. is its domain. The next one is Rajmata Vijayaraje Schindhiya Krishi Vishwa Vidyalaya was the second Agricultural University Established in Madhya Pradesh in the Year 2008, and on another hand, Nanaji Deshmukh Veterinary Science University was established in the year of 2009.

Table 1: List of the Agricultural University of Madhya Pradesh's year of establishment, location, and website.

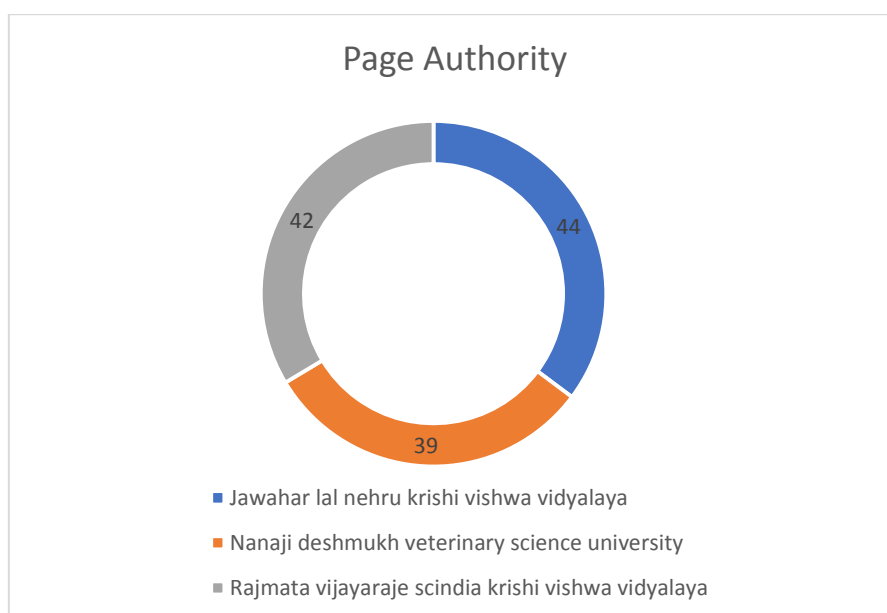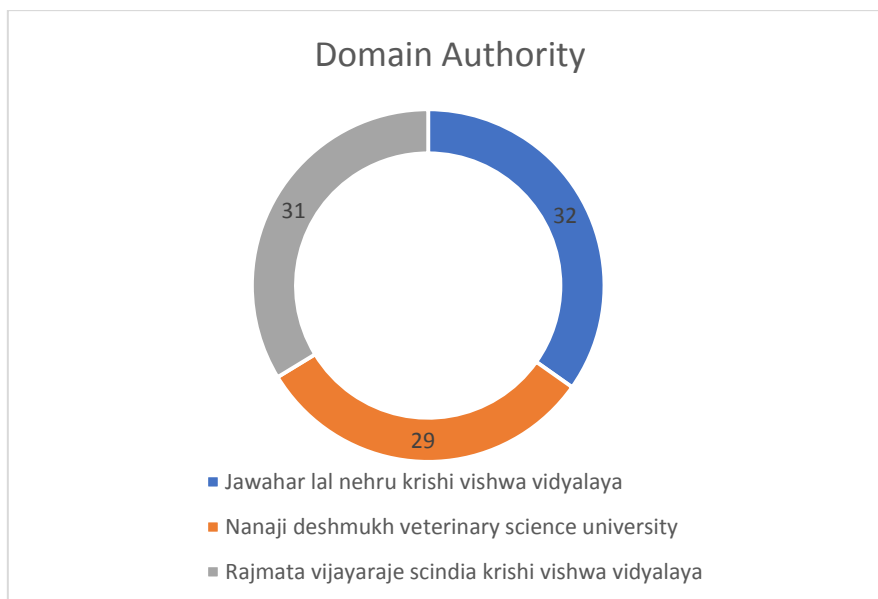| S. No.	Name of Library	Year of establishment	Location	Websites
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	1964	Jabalpur	www.jnkvv.org
2.	Nanaji Deshmukh Veterinary Science University	2009	Jabalpur	Ndvsu.org
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	2008	Gwalior	www.rvskvv.net

Domain and Page Authority

List of domain and page authority of the Agricultural University websites. Domain authority is a ranking system that indicates a website's potential position on search engine result pages (SERPs) based on a score of 100. Likewise, page authority is a metric that indicates how well On search engine result pages, a particular page will appear (SERP). To check the Domain and Page Authority of the Agricultural University Websites of Madhya Pradesh we used the MOZ tool. This tool is online available Moz is an American software as a service (SaaS) provider.

With the collection of data, we get that Jawaharlal Nehru Krishi Vishwa Vidyalaya has a domain authority of 32 ranks highest, and Nanaji Deshmukh Veterinary Science University gets 29 ranks lowest obtained by 100. In the case of Page Authority Jawaharlal Nehru Krishi Vishwa Vidyalaya has a PageAuthority of 44 out of 100 ranks highest, and Nanaji Deshmukh Veterinary Science University gets 39 out of 100 ranks lowest.

Table 2: Domain and Page Authority

S. No.	Name of Library	Domain Authority	Page Authority
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	32	44
2.	Nanaji Deshmukh Veterinary Science University	29	39
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	31	42

Domain Authority

- Jawahar lal nehru krishi vishwa vidyalaya: 32
- Nanaji deshmukh veterinary science university: 29
- Rajmata vijayaraje scindia krishi vishwa vidyalaya: 31

Page Authority

- Jawahar lal nehru krishi vishwa vidyalaya: 44
- Nanaji deshmukh veterinary science university: 39
- Rajmata vijayaraje scindia krishi vishwa vidyalaya: 42
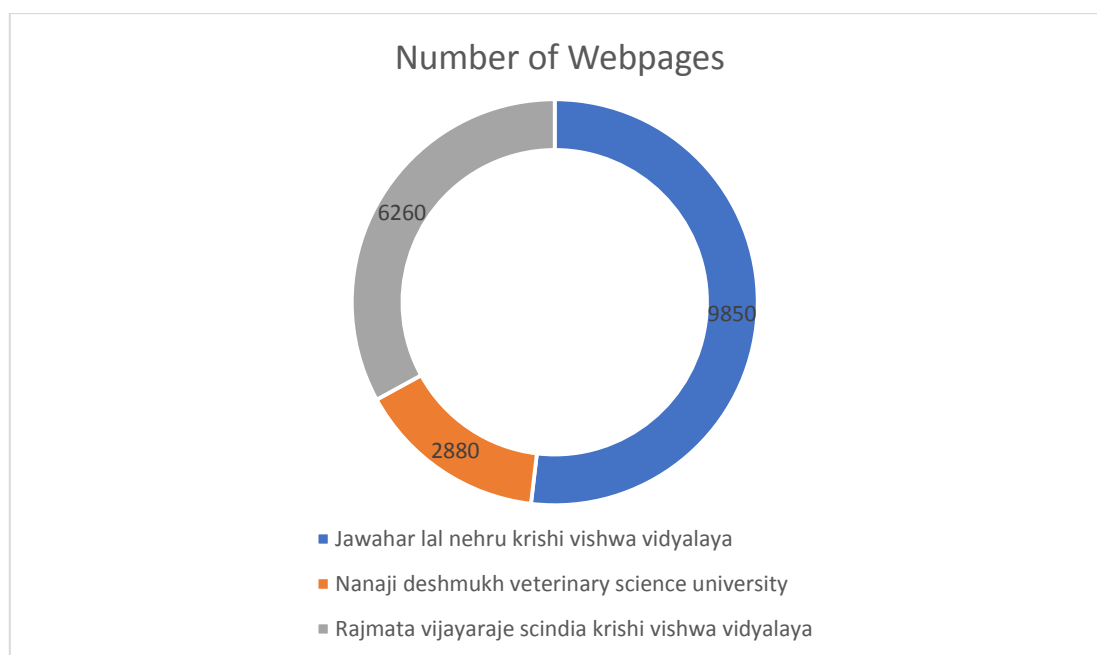
Number of Webpages of websites

Table 3 shows and tells the total number of web pages available on the Agricultural University Website of Madhya Pradesh. A website, such as our Computer Hope website, consists of several web pages. For counting of number of webpages, we used the online site.XML tool for counting webpages present in a website.

It is seen from the table that the Jawaharlal Nehru Krishi Vishwa Vidyalaya has 9,850 web pages on its Website and Nanaji Deshmukh Veterinary Science University has 2,880 web pages on its website.

Table 3: Number of Webpages of websites

S. No.	Name of Library	Number of Webpages
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	**9,850**
2.	Nanaji Deshmukh Veterinary Science University	**2,880**
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	**6,260**

Number of Webpages

- ■ Jawahar lal nehru krishi vishwa vidyalaya
- ■ Nanaji deshmukh veterinary science university
- ■ Rajmata vijayaraje scindia krishi vishwa vidyalaya

Number of self-link, Inlink, and Total links of websites

Table 4 manifests the distribution of Self-link Pages, Inlink Pages, and total Link Pages of the Agricultural University Websites Of Madhya Pradesh To evaluate self-link pages, Inlink pages, and total link pages of our sample Agricultural website of Madhya Pradesh we used the online tool SEOMATOR (seomator.com), it is a free online page link Chaker tool for evaluate webpages and its links.

In the case of collected data and tabulated it provides information that Nanaji Deshmukh Veterinary Science University has 318 numbers Self-link and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya has 141 number of Self-link which is low from others. In the case of Inlink Nanaji Deshmukh Veterinary Science University has 57 numbers of Inlink and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya has 41 only number of Inlink. If we get focus on the total number of links then we get that Nanaji Deshmukh Veterinary Science University has 375 total numbers of links and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya has 182 total number links.

Table 4: Number of self-link, Inlink, and Total links of websites

S. No.	Name of Library	Self-link (Internal)	Inlink (External)	Total Link
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	287	50	337
2.	Nanaji Deshmukh Veterinary Science University	318	57	375
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	141	41	182

Distribution of Self-Link PagesWeb Impact Factor (WIF) of Websites of Agricultural University of Madhya Pradesh

Table 5 provides Details about the Web Impact Factor (WIF) of Self-link pages available on the Website of the Agricultural University of Madhya Pradesh. WIF is found by the formula of Internal Link Web Impact Factor (IWIF). That is done by the total number of Self-link divided by the total number of Web Pages available on the sample website. This table also gives us rank according to the basis of IWIF.
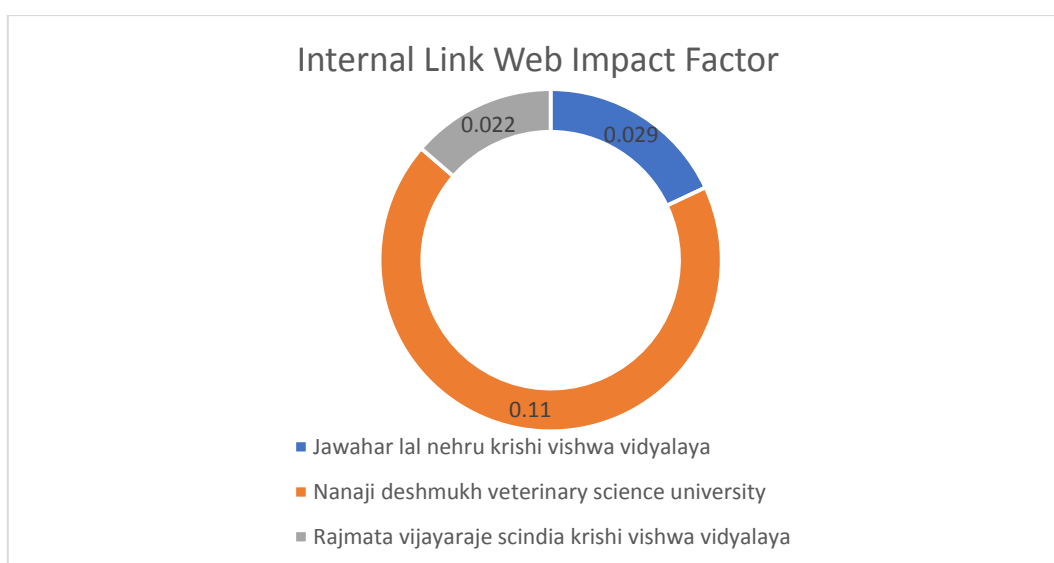
This table tells us that Nanaji Deshmukh Veterinary Science University

gained first rank with 0.029 of IWIF. And Rajmata Vijayaraje Scindia Krishi Vishwa

Vidyalaya gained third rank with 0.022 of IWIF.

Table 5: Distribution of Self-Link PagesWeb Impact Factor (WIF) of Websites of Agricultural University of Madhya Pradesh

S. No.	Name of Library	Self-link Pages (Internal)	Number of web pages	WIF	Rank
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	287	9,850	0.029	2
2.	Nanaji Deshmukh Veterinary Science University	318	2,880	0.110	1
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	141	6,260	0.022	3

Internal Link Web Impact Factor

- Jawahar lal nehru krishi vishwa vidyalaya
- Nanaji deshmukh veterinary science university
- Rajmata vijayaraje scindia krishi vishwa vidyalaya

Distribution of Inlink Pages of Websites of Agricultural University of Madhya Pradesh
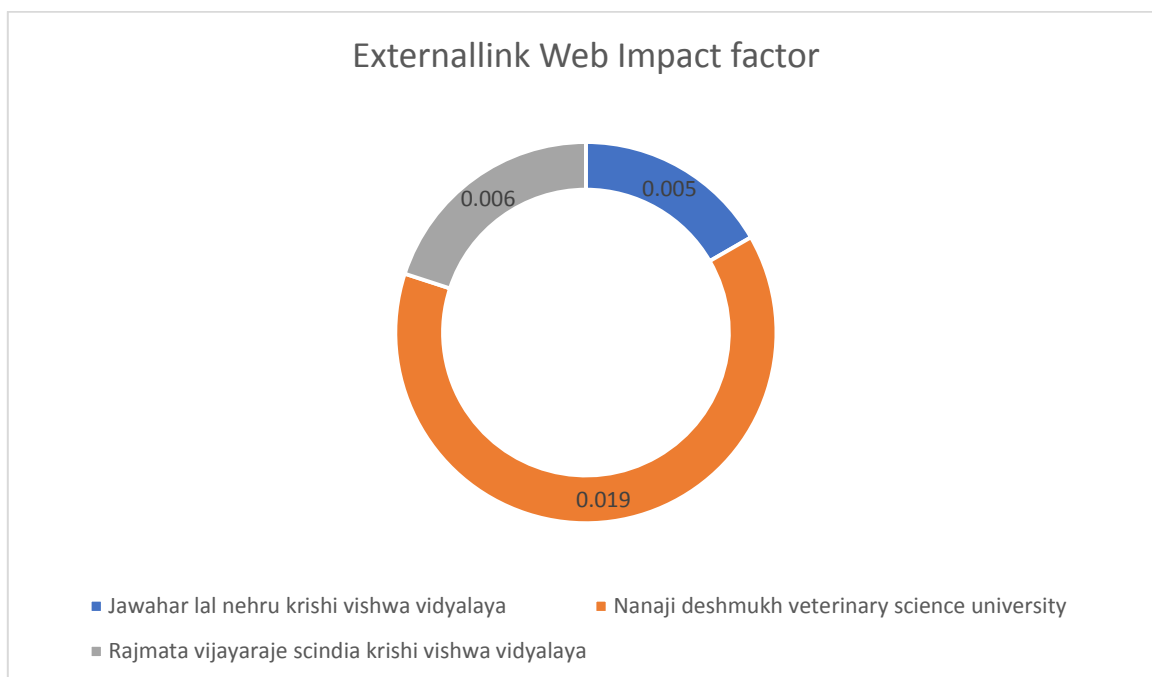
Table 6 provides Details about the Web Impact Factor (WIF) of Inlink pages available on the Website of the Agricultural University of Madhya Pradesh. WIF is found by the formula of External Link Web Impact Factor (EWIF). That is done by the total number of Inlinks divided by the total number of Web Pages available on the sample website.

This table also gives us rank according to the basis of EWIF.

With the collected data in Table 6, we see that Nanaji Deshmukh Veterinary Science University gained first rank with 0.019 of EWIF. And Jawaharlal Nehru Krishi Vishwa Vidyalaya gained third rank with 0.005 of EWIF.

Table 6: Distribution of Inlink Pages of Websites of Agricultural University of Madhya Pradesh

S. No.	Name of Library	Inlink Pages (External)	Number of web pages	WIF	Rank
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	50	9,850	0.005	3
2.	Nanaji Deshmukh Veterinary Science University	57	2,880	0.019	1
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	41	6,260	0.006	2

Externallink Web Impact factor

- ■ Jawahar lal nehru krishi vishwa vidyalaya
- ■ Nanaji deshmukh veterinary science university
- ■ Rajmata vijayaraje scindia krishi vishwa vidyalaya

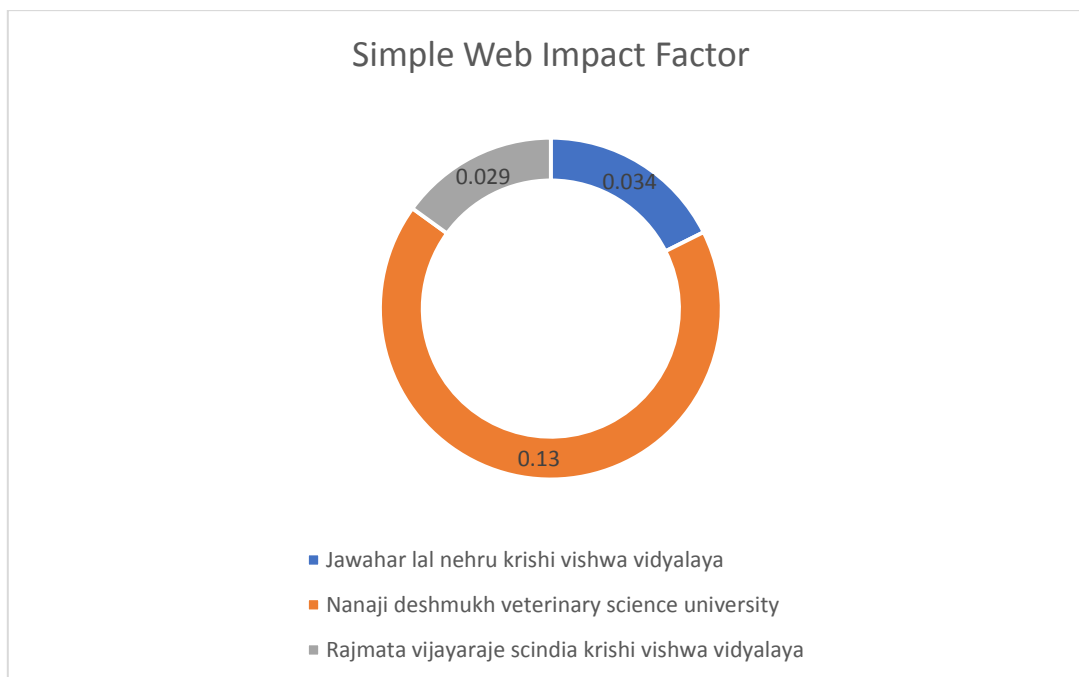***Distribution of Total link Pages of Websites of Agricultural University of Madhya Pradesh***

Table 7 illustrates the Simple Web Impact Factor (SWIF) of the Total Link pages available on the Website of the Agricultural University of Madhya Pradesh. SWIF is found by the formula of Simple Link Web Impact Factor (SWIF). That is done by the total number of links divided by the total number of Web Pages available on the sample website.

This table also gives us rank according to the basis of SWIF.

Table 7 provides information about the SWIF of the Agricultural University of Madhya Pradesh and shows us that Nanaji Deshmukh Veterinary Science University is the first University those have 0.130 SWIF with the first rank. And Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has 0.029 SWIF with the third rank.

Table 7: Distribution of Total link Pages of Websites of Agricultural University of Madhya Pradesh

S. No.	Name of Library	Total Number of links	Number of web pages	SWIFT	Rank
1.	Jawaharlal Nehru Krishi Vishwa Vidyalaya,	337	9,850	0.034	2
2.	Nanaji Deshmukh Veterinary Science University	375	2,880	0.130	1
3.	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	182	6,260	0.029	3

Simple Web Impact Factor

- ■ Jawahar lal nehru krishi vishwa vidyalaya
- ■ Nanaji deshmukh veterinary science university
- ■ Rajmata vijayaraje scindia krishi vishwa vidyalaya

8. Findings

- The majority of Agricultural University of Madhya Pradesh have a .org domain name for their websites. .org is specially used for organizational purposes.
- The website of Jawaharlal Nehru Krishi Vishwa Vidyalaya was established in 1964 at Jabalpur, and Nanaji Deshmukh Veterinary Science University was established in the year of 2009.
- Jawaharlal Nehru Krishi Vishwa Vidyalaya has a domain authority of 32 ranks highest, and Nanaji Deshmukh Veterinary Science University gets 29 ranks lowest obtained 100.
- Jawaharlal Nehru Krishi Vishwa Vidyalaya has a Page Authority of 44 out of 100 ranking highest, and Nanaji Deshmukh Veterinary Science University gets 39 out of 100 ranks lowest.
- Jawaharlal Nehru Krishi Vishwa Vidyalaya has 9,850 web pagesonits Website and Nanaji Deshmukh Veterinary Science University has 2,880 web pagesonits website.
- Nanaji Deshmukh Veterinary Science University has 318 numbers Self-link and Rajmata Vijayaraje Schindiya Krishi

Vishwa Vidyalaya has 141 number of Self-link.

- Nanaji Deshmukh Veterinary Science University has 57 numbers of Inlink and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya has 41 only number of Inlink.
- Nanaji Deshmukh Veterinary Science University has 375 total numbers of links and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya has 182 total number links.
- Nanaji Deshmukh Veterinary Science University gained first rank with 0.029 of IWIF. And Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya gained third rank with 0.022 of IWIF.
- Nanaji Deshmukh Veterinary Science University gained first rank with 0.019 of EWIF. And Jawaharlal Nehru Krishi Vishwa Vidyalaya gained third rank with 0.005 of EWIF.
- Nanaji Deshmukh Veterinary Science University is the first University those have 0.130 SWIF with the first rank. And Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has 0.029 SWIF with the third rank.

9. Suggestion:

- Nanaji Deshmukh Veterinary Science University needs to improve its page of authority.
- Nanaji Deshmukh Veterinary Science University should also increase the number of its web pages so that better service can be provided.
- Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya needs to work on its self-links, Inlink, and the total number of links.
- Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya should improve its IWIF.
- Jawaharlal Nehru Krishi Vishwa Vidyalaya should improve their EWIF.
- Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has to also work on their SWIF.

10. Conclusion

According to the study, a website presence is now much more crucial to its ability to be accessed by patrons both physically and virtually. Every user who is a member of Agricultural University or not has to visit the website first before going there. The findings of this study have contributed to the conclusion that it offers a framework for ranking Agricultural University websites of Madhya Pradesh according to various webometric indicators. We have concluded that Jawaharlal Nehru Krishi Vishwa Vidyalaya has great domain authority, page authority, and several pages. On the other hand, Nanaji Deshmukh Veterinary Science University has a great number of Self-link, Inlink, and Total numbers of links, which make it easy to move users from one page to another page. To appear on the first page of search engine results, Nanaji Deshmukh

Veterinary Science University and Rajmata Vijayaraje Schindiya Krishi Vishwa Vidyalaya should focus on improving their link structure analysis. This will increase their online presence and help them achieve their goals.

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