The Dynamic Academic Library: Demand Generation by End Users of Rajasthan

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Abstract

This study is basically survey-based and descriptive of different university websites. The study's focus is on conducting an investigative tool-based survey to locate and evaluate the contents of higher educational websites, especially university websites. Further, an attempt will be made to ascertain how the contents of the websites are compared with the standards of earlier works as well as the research-based Web Design and Usability guidelines laid down by Leavitt and Shneiderman (2006).

Keywords: descriptive, university websites, investigative tools, surveys, contents, research-based

Introduction

Higher education in Rajasthan's rural districts has a number of issues, including deteriorating research standards, disgruntled students, empty classrooms, and severe geographic, income, gender, and ethnic disparities. Apart from that, students are exploited by private colleges and universities, making it all the more important for government institutions to obtain higher education, and the university website for higher education plays a vital role in information and resource sharing to help them overcome all of these challenges. Despite having a sizable population, several regions of the state remain undeveloped and out of reach for prospective applicants. There is a need to modernise higher education so that ICT systems have more skilled faculty and support workers.

There are 210 government colleges, 1511 unaided private colleges, and 813 B.Ed. colleges, according to the Department of College Education, Government of Rajasthan Report (2016). Rajasthan has one central university, nine deemed universities, fifteen state universities, and 24 private universities for a total of 49 universities.

Rajasthan Population 2011

Rajasthan has a population of 6.86 crore, up from 5.65 crore in 2001, according to Census 2011 figures. Rajasthan constituted 5.66 percent of India's total population in 2011. When the socioeconomic state of Rajasthan was examined, it was discovered that 93.22 percent of residences are owned, while just 5.36 percent of the population lives in rented housing. A troubling finding was that only 1.80 percent of the population had access to the internet.

Rajasthan has a sex ratio of 928 females for every 1000 males. The population density per square km is 200. Literacy rates are 66.11 percent, with 79.19 percent of men and 52.12 percent of women reading. The total number of literates in Rajasthan was 38,275,282, with male literates being 23,688,412 and female literates totaling 14,586,870. Figure 3.1 shows the rural-urban ratio.

Scenario of Higher Education in Rajasthan

Rajasthan not being a preferred site for developing educational institutions in the years of pre- and early post-independence India may be due to its hot climate. Rajasthan had 13 institutions of education at the undergraduate and postgraduate level in 1947, of which 8 were boys' colleges in the government sector. The remaining institutions were run by religious or social organizations.

Figure 3.1: Rural Urban Divide of the Population of Rajasthan

There was one college each for engineering and medical education, three teacher training colleges, and one

research institute at Udaipur. Post-Independence Rajasthan got its first university, 'Rajputana University' at Jaipur, which was later to become the University of Rajasthan. By 1986–87, Rajasthan had six universities and three engineering colleges. The total number of colleges rose to 142.

Rajasthan has witnessed a sudden increase in the number of universities and colleges since 2001 and the passing of the bill for private universities in 2005. The bill promoted girls' education through financial concessions for women's colleges. This bill made provisions for reservations among SC's and ST's and imposed a restriction of 30 percent of staff being women. The growth of colleges and institutions of higher education was phenomenal. During the seven-year period starting in 2000, there were 59 colleges in 2000, 75 in 2001, 105 in 2002, 268 in 2003, 418 in 2004, 518 in 2005, 645 in 2006, and 890 in 2007. However, there are several religions that are imbalanced. Two districts, Alwar and Jaipur, have 30 percent of the colleges. Alwar district, which had only six private institutions up until 2002, had 68 in 2010 (Priyanka, 2015). Jaipur district did not have any private law colleges before 2001 but had 23 law colleges within five years. There were just 17-degree colleges before 2001, and these increased to 139 colleges in 2007.

However, several imbalances have steadily set up in the higher education scenario in Rajasthan. There was a fall in the ratio of Scheduled Caste and Scheduled Tribe enrollment because private institutions did not follow any aspect of the reservation policy. Another imbalance was the incremental teacher ratio. On the other hand, the quality of education was compromised due to this factor of the incremental student-teacher ratio, and the issue of equal opportunity was also in question. The researcher has used evaluative techniques to analyze the contents covered in the website and has also fixed the criteria for the evaluation of the shortlisted university websites for the identification of missing links. Hence, the research methodology consisted of the use of descriptive methods in which investigative and evaluative tools were used for the analysis of university web sites.

Secondary analysis was also carried out to support the concepts developed by other researchers while developing and analyzing university websites using different published literature. The research methodology included several stages that have been detailed in the following paragraphs.
Studies conducted on the websites of higher educational institutions were most helpful in arriving at the methodology and framing the research questions that led to the formulation of the objectives for the current research. It is noted that few studies have been carried out in this area, as minimal work has been undertaken in the field at the national and regional levels, though some work has been conducted at the international level in several contexts.

Rahman and Batcha (2018) proposed that the college library increase internet facilities and hold library orientation programmes at regular intervals to maximise the utilisation of library resources and services, particularly electronic resources. Shukla (2017) studied the content of the central university library website in north India using three key criteria: general information, library resources, and features of the library websites, and determined the top 5 institutions among those chosen for study.

Manjunatha (2016) examined the contents of eight Karnataka special library websites using criteria such as general information, library collection, library services, domain and display quality, and link, search, and retrieval interface. According to the survey, all libraries have provided information on their library collection, library services, and web OPAC. The majority of libraries have provided generic information to website users, while barely half of the libraries have updated their websites.

Jange (2014) assessed 16 university library websites in Karnataka based on criteria such as general information, collections, services, helpful connections, online OPAC, and web 2.0 services, and concluded that the library websites should be upgraded in terms of content and performance. Ramesh Babu et al. (2009) conducted a similar study in which they analysed the content of the 43 university library websites in Tamil Nadu, which included 17 affiliated and 21 private universities, as well as the design, languages, services, and navigation. They suggested constantly updating websites and structuring web objects and connections in a logical order to improve the website's design and structure.

Books are unique in their tale and fortune. Although familiarity with each edition can be gained through various sources, the BDO researchers' expertise about specific specimens is derived from their manipulation and direct interaction with these books. The material evidence of ancient books provides the researcher with critical information regarding the use and observation of books, including their contents and, in particular, their drawings (Dondi, 2015).

According to Asemi and Asemi (2018), the field of artificial intelligence is concerned with the study and development of computer systems or machines that exhibit some forms of human intelligence, such as learning new concepts and tasks, reasoning and drawing useful conclusions about a specific task, natural language processing, perception and comprehension of visual scenes, and so on. The intelligence of computers can be tested using the Turing test, which was developed by Alan Turing in the 1950s. Although there are disputes and objections to this strategy.

However, Irizarry-Nones, Palepu, and Wallace (2017) stated that computer or machine artificial intelligence could be powerful or weak. A computer with powerful artificial intelligence can reason and make judgements like humans; it can also learn from experience and reprogramme itself to improve on previous mistakes, as seen in movies. Weak artificial intelligence machines are incapable of thinking, learning, or reprogramming; instead, they are particularly built to respond to specified conditions.

Discussion of Research Findings

The researcher conducted a survey of the selected university websites after having selected the Appropriate University Websites of Rajasthan using classical empirical research tools to obtain both a qualitative and quantitative assessment of various attributes from the librarian's, IT professionals, and user's (faculty members, students, and research scholars)) perspectivesThey were asked to give their views on the university website, which they accessed on a regular basis. The survey findings showed the participants' library professionals and IT professionals giving their views on the seven university websites in Rajasthan State, especially when compared against the expectations of the users. Seven government universities in Rajasthan were taken up for the analysis and interpretation of the data.

Table 1: Categorization and Listing of Web Indicators

Sr. No.	Category of Web Indicators	Listing of Web Indicators
1	About University	(i) Floor plan (ii) Campus site map (iii) Short biographies of staff members (iv) Photographs of staff members (v) University opening hours (vi) University staff directory (vii) University holiday-calendar (viii) University news, special events, library bulletin and notices (ix) Institutions full name (x) University history (xi) Date of last website update is provided (xii) University's Pictures
2	Information	(i) One Feedbacks (ii) Newspaper Clippings (iii) Links to download necessary software tools

3	Academic	(i) Course materials
		(ii) Past years question papers and past assignments
		(iii) Links to the course and study program sites
		(iv) Online Courses Offered
		(v) Full time courses offered
		(vi) Part time courses offered
4	University Library Utilities	(i) E-Data bases like-books, e- journals
		(ii) Dictionaries and encyclopedias
		(iii) Referencing tools
		(iv) Library glossary
		(v) Library Podcast
		(vi) Online book reservation
		(vii) Links related to sites of local and international libraries
5	Communication	(i) Communication forums
		(ii) Links to popular Internet search engines and web directories
		(iii) Student Grievance Cell
		(iv) Linked with Facebook, twitter and Instagram
		(v) Mobile Phone Connectivity
6	Visitor Information	(i) Frequently used visitors' number
		(ii) Contact Information
7	Other Features	(i) Memorable URL
		(ii) Home page length is within one screen
		(iii) Avoid use of flash animation
		(iv) Accessible through Chrome, Firefox
		(v) Functional through the use of a keyboard
		(vi) Provide multilingual access options
		(vii) Domain age'
		(viii) Expiry
		(ix) Frequency of Search Engine
		(x) Speed
		(xi) Spelling Accuracy
		(xii) Level of Popularity/Usage
		(xiii) Printability
		(xiv) Ease of Reading of Pages
		(xv) Freshness of content
		(xvi) Headings
		(xvii) Incoming Links
		(xviii) Missing Files
		(xix) Broken links
		(xx) Error Pages
		(xxi) Alternative text
		(xxii) Amount of content
		(xxiii) When last updated
		(xxiv) Number of pages

1. About the University: This category gives details about the university itself. Its physical presence, like

the university name, its layout, etc., is detailed. There is also the availability of information on the staff, hours of opening, calendar of events, pictures, news, etc. There are 12 web indicators in this category.

2. Information: This category is essential for all users, as it provides online feedback and even gives links to download the necessary software tools. There are three commonly featured web indicators in this category.

3. Academic: The total information on the academic relevance of the university is placed in this part of the university website. There are indicators like courses, question papers from past years, and online courses that are specially structured for all kinds of users. There are six web indicators in this category.

4. University Library Utilities: This category comprises the indicators, which are additional facilitation points for the users who seek academic information. They are add-on resource provision points for all users, especially researchers. They provide major referencing tools besides e-books, dictionaries, and encyclopedias, as well as library-linked information that stretches to various national and international libraries. There are 7 web indicators in this category.

5. Communications: The entire information access of the user is focused on obtaining a vast variety of information on any university website. This category of web indicators on the website has been devoted to providing the facilitation of mobile phone connectivity, other communications forums, links with popular internet search engines, etc. There are 5 web indicators in this category.

6. Visitor Information: This category of web indicators was being accessed and studied by most users to ascertain the popularity and even usefulness of the university website. Indicators like the number of frequently used visitors' information, etc. belong to this category. There were only two web indicators found commonly in this category.

7. Other Features: There is a long list of technical features that can be considered essential for the ease of function, operation, and accessibility of the university website. These features were considered to be a common thread in the list of essential web indicators of the universities in Rajasthan being studied under the current research work. There were 24 web indicators that were commonly considered in this category.

About the University: Web-Indicator Category-I

Table 2 shows the availability of the various features pertaining to the 'About the University' category. The universities gave information about all their features, like the physical layout and their essential and allied features.

Table 2: Availability of Website Indicators on Selected Universities of Rajasthan

Sr. No	List of Web Indicators studied	Select Universities of Rajasthan						
		JNVU, Jodhpur	Maharishi Dayanand Saraswati university	Maharaja Surajmal Brij University	Mohan Lal Sukhadia University	Rajasthan Agriculture University	University of Rajasthan	Vardhman Mahaveer Open University
	About University							
1	Floor plan	No	No	No	No	No	Yes	No
2	Campus site map	No	Yes	Yes	Yes	Yes	Yes	No
3	Short biographies of staff members	No	No	No	Yes	No	Yes	Yes (Long)
4	Photographs of staff members	Not-all	No	No	Yes	No	Yes	Yes
5	University opening hours	No	No	No	No	No	No	No
6	University staff directory	Yes	Yes	NO	Yes	No	Yes	Yes
7	University holiday-calendar	No	Yes	Yes	No	No	Yes	No

8	University news, special events, library bulletin and notices	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Institutions full name	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	University history	Yes	Yes	Genesis& Evolution	No	Yes	Yes	No
11	Date of last website update is provided	No	Yes	No	Yes	Yes	No	No
12	University's Pictures	Yes	Yes	Yes	Yes	Yes	Yes	Yes

It is seen from the table that only one university website, the University of Rajasthan, has given details of the floor plan. The campus site map had been carried by all universities except two, namely, Jai Narayan Vyas University (JNVU), Jodhpur, and Vardhman Mahaveer Open University. The short biographies of staff members were given by the Mohan Lal Sukhadia University website and the University of Rajasthan. The Vardhman Mahaveer Open University also had this feature on their website, but it was by no means short! The photographs of staff members were available on three university websites, namely, Mohan Lal Sukhadia University, the University of Rajasthan, and Vardhman Mahaveer Open University. None of the university websites gave information on the 'University' opening hours'. There were only two universities that did not carry the university staff directory on their websites. These were the Maharishi Surajmal Brij University and the Rajasthan Agriculture University. Also, only three of the university websites had the university holiday calendar. These three were the Maharaja Dayanand Saraswati University, the Maharaja Surajmal Brij University, and the University of Rajasthan.

It was interesting to note that 100 percent of the universities had displayed university news, special events, library bulletins, and notices on their university websites, as well as their full names and university pictures. The university history was not available on the library websites of Mohan Lal Sukhadia University and Vardhman Mahaveer Open University. The date of the last website update is provided only by three university websites, namely Maharishi Dayanand Saraswati University, MohanLal Sukhadia University, and Rajasthan Agriculture University.

Further, all university websites showed adequate'spelling accuracy' but their level of popularity was 'not known'. When looking at the web indicator of 'Printability', it was seen that the three university websites of JNVU, Jodhpur, Maharaja Surajmal Brij University, and the University of Rajasthan had this feature, and the university websites of Mohan Lal Sukhadia University and Vardhman Mahaveer Open University did not have any significant features pertaining to this aspect. Regarding 'Ease of Reading of Pages' all the university websites had this feature except for Rajasthan Agriculture University, and there was no information on the university website of Vardhman Mahaveer Open University.

Summary and observation

It is noteworthy to mention that the presence of the above features would greatly enhance the user appeal of the website. The required information, like admissions, examination results, information about tenders, and conferences, was clearly depicted and found to be accessible with a single click. Notice Board and University events have been presented in such a way that it gives an up-market feel along with the latest news.

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