Improvisation of Web Contents in Indian *Agricultural* University Library' Websites: Analysis and Suggestion

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ABSTRACT: *Library websites are essential for marketing library services and providing access to electronic resources. It helps to connect its user 24*7 and give complete information service through a single gateway. A library, can design a library website with multiple features to serve its purpose better. In this study, researchers reviewed existing literature and suggested some services or plug-ins incorporated into library websites to function efficiently.*

1. Introduction

The outbreak of the COVID-19 pandemic has necessitated sudden and radical changes in the delivery of library services, as strict social distancing and lockdown measures were imposed in the early phases of the pandemic. The Internet and web technologies have created a new and unparallel environment and enable the libraries to enhance and strengthen research, teaching, and learning even in this challenging and uncertain time. The concept and practice of providing remote access to e-resources by libraries are not new. Still, the user-friendly way adopted by many libraries and the number of resources made available by them during the pandemic is exemplary. Considerable planning by the library professionals will be required even after opening educational campuses. It will be imperative to re-assess every existing service and re-design it because of the government protocols to deal with the situation. (Dadhe & Dubey (2020)

In this digital age, agricultural information has become one of the most significant roles in developing research and extension and library activities. Librarians act as a mediator role to disseminate valuable information to voracious readers. The agriculture libraries have dedicatedly served the nation since the initiation of agriculture universities and institutes. At present, there are 63 State Agriculture Universities (SAUs), 03 Central Universities, 04 Deemed Universities, 64 ICAR Central Research Institutes, 06 National Bureaux, 13 Directorates/Project Directorates, and 15 National Research Centres in India offering education and research facilities for the development of agriculture in India. (Source: https://icar.org.in/content/state-agricultural-universities-0) accessed on 19/08/2021. Library websites are essential for marketing library services and providing access to electronic resources. It helps to connect its user 24*7 and give complete information service through a single gateway. A library can design a website with multiple features to better serve its purpose. In this study, researchers reviewed existing literature and suggested some services or plug-ins incorporated into library websites to function efficiently.

2. Contents in Agricultural University Library Websites

To know the present status of the content of agricultural university library websites, the researcher referred to the following studies, which are based on content analysis of library websites of various state, central, and deemed universities related to agriculture:

Barman (2021) evaluated the web contents of existing library websites status of Agricultural Universities in India and

determined the rank of the agriculture library websites. The analysis of findings results revealed that the library websites of the Agricultural Universities of India make available most of the library information on their websites. Web 2.0 services are widespread in library websites for user-friendly services; the integration of Web 2.0 services in the surveyed library websites are vital. Nonetheless, any surveyed websites are not using Web 2.0 services in their library websites. 50% of the agricultural library websites offer 'remote access services to the user. Still, the up-gradation of library websites is significant for all the institutions. Chikkamanju (2017) conducted a study to evaluate the contents of library websites of agriculture universities in Karnataka. Contents found in all the four studied libraries are basic information about the University (100.00%), News and events (75.00%), Library Organizations Sections (100.00), Library Collections (near 75%), Journals, Databases, and E-resources (near 75%), Services and Facilities have been (greater than 75%) and Social Networking Sites. Emmett & Lesley (2007) studied two mechanisms recognized as indispensable to effective academic library Websites– the satisfaction of user desires and faithfulness to university Website guidelines–and how they sometimes deny one another. The author observed that some libraries might lack the confidence to take complete control over their Web pages because they feel they do not have adequate technical skills. Many do not separate hardware maintenance from Web design in the administration equation. I & Raval (2019) make known that 100% of agricultural university library websites provided information about institutions, library timing, contact, copyright, visitors, books, e-resources, e-library, and about 80% of agricultural universi-ties provided information about Location, about the library, news and events, media gallery, publication, site search journal, dissertation, back volume, new arrival, and the Internet. It is found from the study that one average of agricultural university libraries subscribing to e-journals, e-books, and e-databases, X2 Value (15.42797, P=0.973555), and 60% of agricultural universities provided Facebook and YouTube facilities. **Kumar (2018)** studies and explores the ninety-two ICAR corporate websites in India and identifies several web pages, calculate the Overall Web Impact Factor (WIF), link pages, and Absolute Web Impact Factor (WIF). The findings revealed that all websites were evaluated and data extracted using the Google search engine. It recommends that Web Impact Factors can be calculated to compare the attractiveness of websites or domains on the Web. ICAR-Institutions hold the first position concerning 68 pages in-link, 45 directory in-links, and 33 domain in-links. National Research Centres are graded second relating to 67-page in-links, 11 Domain in-links, 23 Directory in-link, ten site in-links, and 27 pages out links. They secure first place related to 22 directories out links, 15 domains out the link, and 15 out links. National Bureaux holds third position with about 15 Directory in-links, 8 Directory out links, three domains out links, and three sites out links; they are placed fourth concerning 38-page in-links, 5 Domain in-links, four site in-links, and they secure the first position with 33 pages out links among ICAR-Organizations. Mnzava & Katabalwa (2021) evaluated the web content data from academic and research library websites in Tanzania. The findings revealed that twelve of the twenty-four library websites had the opening and closing hours, two university library websites had information related to the outbreak of the COVID-19, and twelve had no information related to the outbreak of the COVID-19. The use of library websites to update and connect users with essential information cannot be overstated because websites consist of one of the most convenient ways of sharing and communicating information resources and services. Besides, library users gradually live in the online environment and thus, need continuous updates to support their information requirements. More significantly, library websites represent their institutions locally and internationally. Shevchenko (2019) conducts usability tests to examine websites' effectiveness and ease of use. Such a user-oriented study collective with the results will provide website developers with the foundation for making interactive and user-friendly websites that facilitate effective information retrieval. Since it is significant to offer equal access to all users in the community, this work must be extended to examine how academic library websites can meet the needs of users with disabilities. Singha & Verma (2021) undertook a study on content analysis of eight Veterinary University Library Websites in India. Sixty-five parameters of a checklist method are set and used for data collec-tion for analyzing the library website and webpage content. The finding results showed that Rajasthan University of Veterinary & Animal Sciences, Bikaner was holding on the top with 3,39,564 Alexa Traffic Global Rank and the first position with 42,798 Alexa Indian Rank. The majority, 6 (75%) of Veterinary University Library Websites/Webpages are user-friendly visit the site. Further, it was indicated that Sri Venkateswara Veterinary University, Tirupati, 45 (69.23%), scores the highest number, followed by Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar, 37 (56.92%) among the Veterinary Univer-sity Websites/Webpages. Sri PV Narsimha Rao Telangana Veterinary University, Hyderabad, ranked third with 24 (36.92%) scores. Swapna & Francis (2014) analyze the content of six premier Agricultural Universities in South India. The majority (83.33%) of the Agricultural websites mentioned information such as the Photocopying service, only 92 (16.67%) libraries gave information, namely webmaster link, purchase suggestions, and asking a librarian. The author suggested that many libraries professionals lack knowledge of web management; such segments may be included in the course curriculum of library and information science schools, emphasizing up-to-date content management techniques. Continuing education programs for working professionals must be organized programs from time to time. Tiwari and Pandit (2014) did a study that aimed at finding the content on the library websites of the agricultural universities of the Maharashtra state. They also included their scope of study like basic information, library collection, library services, and additionally, they include non-book material, link, search, and retrieval interface (download, suggestion/feedback, contacts, and links to external sources). **Verma and Singha (2021)** studied the content of four Agriculture Universities Library Websites in Rajasthan. Sixty-five criteria of a checklist method are prepared for data collection to analyze the library website/web page's features. The findings disclosed that the Swami Keshwan and Rajasthan Agricultural University, Bikaner Library Websites/Webpage scored 35 (53.84%) out of 65, ranking first and falling under the good grade point. In contrast, Rajasthan University of Veterinary &

Animal Sciences, Bikaner Library Website ranked in 5th position by scoring 10 (15.38%) out of 65 features and thus needs improvement to provide the basic library services as per user demand.

3. Library Services

Website, its role has increased as a single contact point of the library for the users. The website is also an important medium to stay connected and provide better library content service. Considering the contents in the agricultural university libraries' website observed from previously mentioned studies, the agricultural library may incorporate the following features in their website to improve their services through the library website.

3.1 Web Push Notification

Web push messages imply alert-type messages sent by the website to its user through the web browser. The agricultural university libraries can use web push notifications to notify about new content and important updates about their library. Web push notification is easy to use and subscribe to. This can help agricultural university library users to stay updated about library activities automatically. It must help enhance the value of the library websites and increase the subscription rate. Users can find instant notifications, and if they are offline, they can also get the notification as and when they come online. The agricultural library can send various personalized, relevant messages to its users. Web push messages can be enabled on desktop and mobile web browsers. There are many options available to be used by the library for web push notifications. Some of them are like: Webpush, Onesignal, Aimtell, izootoo, VWO, Pushnani etc.

3.2 Alexa

Alexa is a free service by amazon. It helps to have website analysis in terms of the strength and weaknesses of the library websites. Alexa helps to monitor the site's statistics like engagement metrics, Alexa ranking, etc. It also helps to understand the top keywords that drive traffic to their library website. So agricultural library websites can have this add-on in their website to help find out the topics of their website, which website users care about, and which keyword they search for.

3.3 Website Speed Testing Tools

To all website visitors, it is always encouraged if the webpage loading time is very minimal. So agricultural libraries should give attention to this feature of their library website. For this, they can use website speed testing tools to know the performance of their library website and how efficiently they can deliver the entire content of their website to its audience. By using WST tools, the agricultural libraries can monitor the loading time of their library website; if it is slow, they can know the reason. Sometimes website loading gets slow due to the use of different types of fonts, images, plug-ins, and types of code in CSS or javascript, etc. WST helps to monitor HTTP requests library website getting also. If there are more HTTP requests at a time, it may get slow. So, using WST must help improve the performance of the agricultural university library website. Some popular platforms available for WST are: Google Chrome Dev Tools, Sematext, Pingolom, Speedtext, Google pages speed insights, Site 24*7, GT matrix, etc.

3.4 Mobile-Friendly Test

A mobile-friendly test helps to evaluate how better the library content synchronizes to the mobile devices. It also gives a score to the library page. As most library users like to access the internet through their mobile, it is the responsibility of agricultural libraries must know if there's an error in displaying their website content on mobile. Google mobile-friendly test is giving such facility.

3.5 Open Educational Resource

Open Educational Resources (OER) are teaching, learning, and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions (—as defined in UNESCO website). So apart from subscribed resources list, the agricultural libraries can give links to various Open educational resources in the agricultural field on their website.

Following are some useful OER sites related to the agriculture subject:

General subject: (i) National Digital Library of India (NDLI) (https://ndl.iitkgp.ac.in/), (ii) SWAYAM (https://swayam.gov.in/) (iii) e-PGPathshala (https://epgp.inflibnet.ac.in/)

Agricultural subject: (i) OER Africa, an OER courseware on agriculture, foundation skills, health teaching education, etc. (ii) MDPI Agronomy (ISSN 2073-4395), an international and cross-disciplinary scholarly journal on agronomy and agroecology, (iii) Plant Anatomy and Physiology, an agricultural OER by Charles Darwin University (iv) Plant and soil science elib (PASSeL), an OER by university of Nebraska- Lincoln.

3.6 QR Code Facility
A QR code or Quick Response Code is a barcode that can be scanned by a digital device and stores information as a series of pixels in a square-shaped grid. QR code is a trendy and commonly used technology nowadays. The Agricultural university libraries can use this technology to disseminate information and promote their service and resources quickly. They create and publish QR codes of their resources such as SMS alerts, events, URLs, Library OPAC, ETD repository, Library blog, etc.

3.7 Social Media
Social media denotes the websites and applications that enable users to create and share content or participate in social networking. In this digital era, modern libraries use social media to share knowledge, information dissemination, and communication. Agricultural University can create their social media channels and give links to those sources on their library websites. Some popular social media platforms used by libraries are Facebook, Twitter, Flicker, Blog, YouTube, SlideShare, etc.

3.8 Virtual Reference Service
Virtual reference is a service by which a library reference service is conducted online, and the reference transaction is a computer-mediated communication. This is an essential service for all library users in this pandemic situation. Agricultural library websites can contain links to various virtual reference services like real-time virtual reference services, chat, videoconferencing, voice over IP, co-browsing, e-mail, instant messaging, FAQ, and Bulletin Board System (BBS), integrated different resources in subject areas of agriculture, etc.

3.9 Resource Discovery Service
Giving access to all subscribed resources, library content, institutional repository, open access content, etc., in a single platform is an essential requirement due to this pandemic. Agriculture and library websites can give the link to resource discovery services. Some available options for discovery services are VuFind, EBSCO discovery service, Exlibris, Summons, etc.

3.10 Reference Management
1. A reference manager is a software package that allows scientific authors to collect, organize, and use bibliographic references or citations. The terms citation manager or bibliographic management software are used interchangeably, namely EndNote, Mendeley, Zotero, RefWorks, etc.

3.11 Research Support Service
The website must provide documents link for effective use of Grammarly. The librarian guides them to use several reference management software to manage documents and a list of references for their work. It also makes it easy to import their citation in different citation styles.

3.12 Plagiarism
In library science, professionals play a significant role in modeling and encouraging academic integrity values for the researcher. One way of ensuring that students and researchers understand the expectations at the Agricultural University Library website is to embed plagiarism & citation tutorials and software. It will support academic integrity by providing teaching and learning resources that introduce orientation programs and workshops for students and researchers in the beginning to the concept of plagiarism and resources that support citing. The easiest way to prevent plagiarism and engage in a scholarly conversation is to include citations for referenced materials. The website *must also incorporate the antiplagiarism software commercial software, namely Urkund, iThenticate,* Turnitin, and other free *antiplagiarism software. It will make it easy to do research and higher study.*

3.13 Online Citation Management Tools
Citation management tools are programs that collect records, store, annotate, organize, or citations from research data-bases (indexes, catalogs, etc.) that researchers can then organize for research projects. It is sometimes known as citation managers, reference managers, or reference management tools. The researcher can also be used online or manually with an MS Word to automatically insert in-text citations and format bibliographies according to the chosen style, such as APA, Chicago, MLA, Harvard, and many more.

3.14 Virtual Activities (Workshops/Webinar/FDP etc.)
As a library science, professionals used to share asynchronous and synchronous Workshops/Meetings/Conference/Webinar/ FDP, etc. These comprise face-to-face interactions through Skype, Google Meet, Zoom, GoToMeeting, and Google Hangouts and pre-recorded content for platforms like YouTube, FB Live, and Vimeo. Like online exhibits, face-to-face interaction, displays, workshops, and tutorials allow the opportunity to connect readers with associated and additional resources.

3.15 Online E-Learning Site

There are several ways for online learning websites that offer free and paid online mode courses to support learners in strengthening key concepts and developing skills. Besides being readily accessible, these websites allow employees to have a more convenient learning experience. The website developers must provide an embedded link to IIT Bombay Spoken Tutorial (https://spoken-tutorial.org/), SWAYAM (https://swayam.gov.in/), NPTEL (https://nptel.ac.in/), WIPO eLearning Center (https://welc.wipo.int/) so that readers can self-learn and update their knowledge in the particular field. It will make it easy for learners to learn anytime, anywhere, without restrictions.

4. Conclusion

With the prevalence and persistence of emerging technologies, the world will also continue to be affected by library services. It gives an opportunity and platform for library science professionals. They will be challenged in the ways that web-savvy users support teaching, learning, research, and services to fulfill their demands from the library. The Librarians, Curators, Archivists, Information Scientists, and staff at Agriculture University Libraries have made known that, with imagination and creativity, and by leveraging skills and expertise in digital initiatives to support students and researchers, this adaptation can be successful with the ambitions of a most dynamic, attractive and user-friendly website. Agriculture University Libraries in India can continue to play a crucial role in academics by using creative, emerging, and innovative technology in academic library services to support students, faculty, and researchers in accomplishing their goals. The initiatives discussed in the services above comprise QR Code Facility, Virtual Reference Service, Open Access Resources, Virtual 360-Degree Tours, etc.

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