
Content Analysis of State University Library Websites in Karnataka: A Study

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Abstract

The purpose of the study is to examine and evaluate the content and functionality of university library websites at universities in Karnataka. For this purpose, a structured checklist was created with 90 checkpoints to assess the content of a library website, including credibility, elements, features, web-based resources, management, research support services, and links to open-access resources/courses. The findings of the study indicate that university libraries have a strong foundation, with a primary focus on credibility, core library resources, and services. The study found that university libraries scored 84% in terms of meeting the checklist criteria which were based on a checklist designed to evaluate the content of the websites. The study recommends that state university libraries should improve and upgrade their website features to increase the use of web-based resources and services.

Keywords

Content Analysis, Library Websites, University Libraries, Karnataka, Web OPAC, Web-based Resources and Services

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1. Introduction

In today's digital age, libraries have undergone a significant transformation, extending their presence beyond the physical spaces into the digital landscape. The library website plays an important role in this transformation, serving as a digital treasure of knowledge and resources. The library websites serve as a virtual gateway to a wide range of materials, services, and information including books, journals, databases, and other web resources. The library website acts as a dynamic platform, it provides users with convenient access to a vast collection of materials, services, and information from the comfort of their homes or anywhere or anytime with an internet connection. This platform connects libraries with their patrons and supports research, learning, and more. According to Aharony (2012) "Academic library websites provide information about libraries and library services as well as access to online catalogues, electronic databases, digital collections, and different library tutorials; open access resources, hence the academic library websites are the gateways to access information by the users namely the faculty and students".

In the contemporary digital landscape, students can ask reference queries, explore extensive databases, initiate inter-library loan requests, and access academic research publications electronically (Aharony, 2012). In response to this evolving paradigm, libraries must design their library websites, ensuring seamless access to library services and resources to fulfil their user requirements. This transformation aims to not only meet the changing information needs of the users but also to improve the utilization of library services. According to Madhusudhan, "Web-based library services refer to the provision of library services utilizing the internet as the primary medium, facilitated through a library website serving as the gateway, all orchestrated by an integrated library management system."

Content analysis of library websites is important to evaluate the effectiveness of the website, understand the priorities of the library, and identify the latest trends in meeting the needs of its users. "Content analysis has been a systematic, replicable technique for compressing many words of text into fewer content categories based on an explicit rule of coding to analyse the content of any website, we need a method of content analysis" (Singh and Gautam, 2016; Chikkamanju, 2015). The present study has tried to analyze the web-based contents of the state

university libraries and to ascertain how effectively the university library websites provide access to various web-based library and information resources and services to their patrons.

2. Objectives of the Study

The following objectives are formulated to examine the content and credibility features of library websites at state universities in Karnataka.

1. To analyze the structure of university library websites and assess the information provided on these sites.
2. To identify the type of content and features offered on university library websites
3. To identify the availability of library resources, collections, and website management.
4. To examine the web-based services offered by these libraries and evaluate the research support services and links to open-access resources/courses.
5. to propose suggestions for improving university library websites.

3. Scope and Methodology of the Study

The study concentrated on analysing the content of state university library websites in Karnataka. A total of 24 state university library websites were selected for this study based on the presence of web-based resources and services. A well-structured checklist was designed to evaluate the content of library websites based on the objectives of this study and insights from previous research by various authors (Alam, Pervez, and Haridasan Sudharma, 2022; Yunnam, Gyanajeet, and Singh, Ibohal, 2021; Rahman, Azizur, and Batchain, Sadik, 2020; Bharati, Santosh Kumar, and Margam, Madhusudhan, 2019; Kuri, Ramesh, and Maranna, 2018; Sampath Kumar et al., 2015). These prior studies provided valuable guidance in designing a comprehensive 90-point checklist for the evaluation of library websites' content. The checklist consists of checkpoints (questions) with Yes/No options and it assesses each feature incorporated in the library websites under investigation.

4. Data Analysis and Interpretation of the Study

There are 33 state Universities in Karnataka (as of UGC, 2022) out of these 24 universities are taken for the present study. The list of the universities,

including their respective URLs and years of establishment, is provided in Appendix A.

The data collected using the checklist was analyzed and interpreted, and then organized, tabulated, and analyzed. In today's context, library websites have become important in promoting and delivering library resources and services to users, as well as providing a platform for accessing library and information resources and services.

Table 1: Types of Library Websites

Sl. No.	Type of Website	No. of Universities	Percentage
1	Part of University	18	75%
2	Separate Website	06	25%
Total		24	100%

The majority of the university library websites included in this study, accounting for 75%, are integrated as a part of the respective universities. A significant minority, constituting 25% of the university library websites, maintains a distinct and separate web presence. The data reveals that the majority of universities prefer to integrate their library websites within their main university websites, while a notable minority opts for standalone library websites. This distinction highlights the diverse approaches incorporated by these universities to provide access to their library-related information.

4.1 Web Credibility

The study evaluates web credibility factors among university library websites. All 24 universities have addressed authority, accuracy, ease of use, reliability, and readability. Authority is the most important factor, with 100% of the websites presenting themselves as trustworthy and knowledgeable. Most websites prioritize ease of use, with 83.33% focusing on user experience. Navigation is less prevalent, with 75% addressing it. Reliability is well-covered, with 79.16% scoring well.

Table 2: Web Credibility of University Library Websites

Sl. No.	Web Credibility	No. of Universities	Percentage
1	Authority	24	100%
2	Accuracy	23	95.83%
3	Ease of Use	20	83.33%

4	Navigation	18	75%
5	Reliability	19	79.16%
6	Currency (Last update date)	4	16.66%
7	Readability	24	100%
8	Copyright Statement	19	79.16%

However, there is scope for improvement in currency, readability, and copyright statements. The majority of university library websites demonstrate commendable efforts in maintaining credibility, but there are areas for improvement, particularly in navigation and information currency.

4.2 Features of the Library Website

Table 3 shows the usability and functionality of university library websites. All universities provide a library link on their homepage, with 70% being designed for user-friendliness. All websites load quickly, with no multilingual content. Clear headings are common, with 87.5% of websites having clear headings. A logical structure is present in 45.83% of websites, while 70.83% have navigation tools. All websites have appropriate font sizes and colour schemes, and 54.16% incorporate multimedia elements. However, none of the library websites use graphics or symbols.

Table 3: Features of University Library Website

Sl. No.	Elements of the Library Website	No. of Universities	Percentage
1	Library link on the University's Homepage	24	100%
2	Intuitive website	17	70.83%
3	Website loads faster	24	100%
4	Multilingual website	0	0%
5	Clear Headings	21	87.5%
6	Website has a logical structure	11	45.83%
7	Navigation tools	17	70.83%
8	Font size/ colours are suitable	24	100%
9	Use of multimedia	13	54.16%
10	Use of Graphics – Symbols or signs	0	0%

The data suggests that while these websites have strengths, there are areas for improvement, such as website structure, navigation tools, multilingual

support, and the incorporation of multimedia and visual elements.

4.3 Library General Information

Table 5 shows that 95.85% of university library websites have an "About Library" section, promoting transparency and sharing library history. Almost 80% present mission statements, with 83.33% offering details about collections and services. Library hours and contact details are prominent, with 79.16% covering rules and 62.5% covering regulations. However, membership details and library committees are often absent.

Table 4: Library General Information

Sl. No.	Features of the library website	No. of Universities	Percentage
1	About Library	23	95.85%
2	Mission/Statement/ Objective/ Aims	19	79.16%
3	Library Collection	20	83.33%
4	Library Services	19	79.16%
5	Library Hours	19	79.16%
6	Rules & Regulations	15	62.5%
7	Library Membership Details	0	0%
8	E-resources guidance/policies	12	50%
9	Library Staff Directory	12	50%
10	Library Committee	3	12.5%
11	Floor Plan/ Location Guide	2	8.33%
12	Library News and Events	6	25%
13	Photo Gallery	9	37.5%
14	Contact Details	19	79.16%
15	Visitor/Hit Count	5	20.83%

This data reflects a generally positive effort among universities to provide essential general information on their library websites, fostering transparency, accessibility, and user understanding. There are areas where universities could improve by providing more comprehensive information, especially related to membership details and library committees.

4.4 Web-enabled Library Resources, Collection and Management

The study reveals that universities are embracing web-enabled library resources, including e-journals, e-books, and online e-databases, with a high adoption rate of 95.85%. Electronic Theses & Dissertations (ETDs) are available in 79.16% of universities, while online bibliographic databases are present in 66.66%.

Most universities have an Online Public Access Catalogue (87.5%), but digital libraries are only available in 8.33%. Institutional Repositories are maintained by 37.5% and 70.83% use integrated library management software. Web Scale Discovery Services are used only by 16.66%.

Table 5: Web-enabled Library Resources, Collections, and Management

Sl. No.	Web-enabled Library Resources, Collection, and Management	No. of Universities	Percentage
1	E-Journals	23	95.85%
2	E-Books	23	95.85%
3	Online e-databases	23	95.85%
4	Electronic Theses & Dissertations	19	79.16%
5	Online bibliographic database	16	66.66%
6	OPAC	21	87.5%
7	Digital Library (DL)	2	8.33%
8	Institutional Repository (IR)	9	37.5%
9	Integrated Library Management Software	17	70.83%
	• Libsys	0	0%
	• Koha	14	58.33%
	• NewGenLib	1	4.16%
	• e-Lib	2	8.33%
	• Easylib	0	0%
10	Web-scale Discovery Services	4	16.66%
11	Content Management System (CMS)	0	0%

The data suggests a strong commitment to providing digital resources and management systems, including E-Journals, E-Books, and Online e-databases. However, there is a need for further development of digital libraries, institutional repositories, and content management systems to enhance the digital resources and services offered by these university libraries.

4.5 Web-enabled Library and Information Services

Table 6 presents a comprehensive overview of web-enabled library and information services in universities. Reference services are an essential component of library support. E-mail/SMS-based services are offered by 25% of universities, showing a moderate presence, while the Virtual Reference Desk/Ask-a-Librarian and Online Current Awareness Services are less common (4.16%). Universities

could consider expanding reference services to improve user support. Acquisition services exhibit reasonably good coverage, including online bibliographic databases (66.66%) and online lists of new arrivals (45.83%). However, the absence of services like Alert Services for New Editions and Online Acquisition Policies presents opportunities for enhancing collection development, management, and user experience. Circulation services have yet to see significant implementation, with a lack of alert services, online reservation of documents, and online renewal of loan documents. Providing these services could enhance user convenience and engagement. Catalogue and periodical services show a relatively strong presence, with 58.33% of universities offering OPAC services. However, services like searching multiple library catalogues and article alert services are less common (20.83%). Enhancing these

Table 6: Web-enabled Library and Information Services

Sl. No.	Web-enabled Library and Information Services	No of Universities	Percentage
Reference service:			
1	E-mail/SMS-based Services	6	25%
2	Virtual Reference Desk/Ask-a-Librarian	1	4.16%
3	Online Current Awareness Services (CAS)	4	16.66%
4	Online Selective Dissemination of Information (SDI)	1	4.16%
Acquisition Service:			
5	Online bibliographic database	16	66.66%
6	Online Index	1	4.16%
7	Alert services for new editions	0	0%
8	Online purchase requests	2	8.33%
9	Online list of new arrivals	11	45.83%
10	Online acquisition policies	0	0%
Circulation Service:			
11	Alert service (Issue/Return/Reminder)	0	0%
12	Online reservation of documents	0	0%
13	Online renewal of loan document	0	0%
14	Patron account status online	14	58.33%
15	Circulations policies online	1	4.16%
Catalogue / Periodical / Journals Service:			
16	OPAC, Web OPAC/Mobile-OPAC	14	58.33%
17	Search multiple library catalogues Union Catalogue)	5	20.83%
18	Article alert services	0	0%
19	Pro-active web-based table of content (TOC)	0	0%
Other Resource / Services:			
20	Remote Access Services	12	50%
21	Subject Gateways	0	0%
22	Web-enabled Inter library loan (ILL)	0	0%
23	Newspaper clippings online	2	8.33%
24	Library policies online	1	4.16%
25	Library news online	6	25%
26	Virtual library tours	0	0%
27	Web-based user education	1	4.16%
28	Web-based FAQs	2	8.33%
29	Online feedback form	3	12.5%
30	Chat with library/ Real-time service	1	4.16%
31	Social media applications	2	8.33%
32	Library Blog	1	4.16%
33	Mobile library apps	3	12.5%
34	QR Code service	0	0%

It is found that other web-based resources and services encompass a wide range of offerings, with Remote Access Services (50%) and Library News Online (25%) showing notable presence. However, services like Subject Gateways, Web-enabled Inter library Loan (ILL), and Virtual Library Tours have not been introduced.. It indicates that while some universities have made steps towards providing web-

enabled library and information services, there is scope for improvement, particularly in reference services, acquisition policies, circulation services, advanced catalogue features, subject gateways, virtual library tours, mobile library apps, and QR code services. The study revealed that university libraries covered only 23 out of 34 features. This indicates that there is a need for improvement and the addition of more features on library websites to

optimize the utilization of library resources and services.

Table 7: Research Support Services

Sl. No.	Research Support Services	No. of Universities	Percentage
1	Web-based journal finder for literature search	1	4.16%
2	Plagiarism checking	8	33.33%
3	Reference management System	1	4.16%
4	Shodhgangotri / ShodhGanga	11	45.83%
5	IRINS (Research Information Management)	6	25%

The table shows the availability of research support services in university libraries. A relatively low percentage of universities (4.16%) offer web-based journal finders for literature searches, while 33.33% offer plagiarism-checking services. However, reference management systems are rare, with only 4.16% offering them. Shodhgangotri and Shodhganga services are available in 45.83% of universities, providing platforms for accessing Indian theses and dissertations. 25% of universities have adopted IRINS for research information management, helping track scholarly contributions. These services are important for maintaining academic integrity and preventing plagiarism. These services can significantly contribute to the research capabilities of the university community, but there may be scope for expansion in certain areas.

Table 8: Links to Open Access web resources/courses

Sl. No.	Links to Open Access Web Resources/Courses	No. of Universities	Percentage
1	Open access e-Journals	13	54.16%
2	Open Access e-Books	13	54.16%
3	Open access e-Resources database	10	41.66%
4	Open e-Theses and Dissertations	10	41.66%
5	Digital Library (National & International)	11	45.83%
6	National Digital Library of India (NDLI)	8	33.33%
7	NPTEL (National Programme on Technology Enhanced Learning)	5	20.83%
8	e-PGPathasala	4	16.66%
9	MOOCs:Swayam/Swayamprabha etc	6	25%
10	Grammar tools (e.g., Grammarly)	2	8.33%

Table 8 shows that over half of the study universities offer access to open-access web resources and courses, including e-journals, e-books, e-resources databases, and theses/dissertations. Digital libraries, including the National Digital Library of India (NDLI), are also present in 45.83% of universities. NPTEL, a technology-enhanced learning program, is available in 20.83% of universities. e-PGPathasala, a postgraduate e-learning platform, is available in 16.66% of universities. MOOCs, such as Swayam/Swayamprabha, are available in 25% of universities. Grammar tools like Grammarly are available in 8.33% of universities. Overall, a significant portion of universities have integrated open-access web resources and courses into their library services, enhancing the learning and research experience.

5. Suggestions to Strengthen the Library Websites

Based on the interpretations and findings from the study of university libraries in Karnataka, several suggestions can be made to further enhance the quality of services and resources provided by these libraries:

1. Libraries should improve their website design and user interface to enhance the overall user experience. This includes ensuring clear and logical navigation and making the websites more intuitive.
2. Libraries should focus on maintaining up-to-date content by providing the last update date on their websites. This enhances the credibility and reliability of the information.
3. Libraries should work on developing a logical website structure to make it easier for users to find information. Consider adding multimedia

elements to engage users and enhance the learning experience.

4. Universities should strive to provide comprehensive library information, including details about library membership, committees, and floor plans. This helps users understand and utilize library services more effectively.
5. Libraries should enhance web-enabled services, especially in reference, acquisition, and other support services. Consider adding services like virtual reference desks, alert services, and online reservation systems to improve user support.
6. It is suggested to increase the availability of web-based research support services to support scholarly activities and research. Expand access to open-access resources and e-learning platforms to provide additional learning opportunities.
7. It is also suggested to conduct training and professional development for library staff to keep them updated on the latest library technology and service trends and promote library services and resources to the university community, ensuring that all students and faculty are aware of the available facilities and tools and conduct regular assessments and seek feedback from library users to identify their needs and preferences. This information can guide future improvements and resource allocation.
8. Libraries should collaborate with other academic institutions and libraries to share resources and services and follow best practices in library website development to ensure the adoption of state-of-the-art technologies and methodologies.

By implementing these suggestions, university libraries in Karnataka can create a more robust and user-centric environment that supports the academic and research needs of their community.

6. Conclusion

The study attempted to analyse the content of the state university library websites in Karnataka. Library websites play an important role in disseminating information about the library's mission, collection, and services. The study of state university library websites in Karnataka has provided valuable insights into the current state of online library resources and services. The findings reveal a commendable commitment to digital resources and services, yet there are areas with scope for improvement. The major findings indicate that university libraries have

established a strong foundation, with a predominant focus on credibility, core library resources, and services. The study highlights the importance of expanding web-enabled services, particularly in the areas of reference, acquisition, and research support. Libraries can improve the user experience by offering services like virtual reference desks, alert services, and reference management systems. The study found that there are still opportunities for growth and enhancement, particularly in terms of mobile services and the expansion of web-enabled services. This study serves as a valuable resource for the university libraries in Karnataka. It not only recognizes the progress made but also points the way forward to ensure that these libraries continue to provide cutting-edge library services, thereby contributing to the enhancement of education and research.

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Appendix-A: List of studied State University Libraries in Karnataka

1	Karnataka State Women's University, Vijayapura	2003	http://ka.kswu.ac.in/aboutlibrary
2	Bangalore University, Bengaluru	1966	library-bangaloreuniversity.in
3	Bengaluru City University, Bengaluru	2017	https://www.bcu.ac.in/library/
4	Dr. B.R. Ambedkar School of Economics University, Bengaluru	2017	https://base.ac.in/learning-resource-centre/
5	Bengaluru North University, Kolar	2017	https://eng.bnu.ac.in/library/
6	Davanagere University, Davanagere	2010	http://davangereuniversity.ac.in/library-2/
7	Gulbarga University, Gulbarga	1980	http://guglibrary.net/
8	Karnataka State Law University, Hubballi	2009	https://kslu.karnataka.gov.in/library/public/english
9	Karnataka State Open University, Mysore	1996	https://ksoumysuru.ac.in/library.php
10	Karnataka University, Dharwad	1950	https://www.kudlibrary.ac.in/
11	Karnataka Veterinary Animal and Fisheries Sciences University, Bidar	2004	http://www.kvafsuibrary.in/
12	Kuvempu University, Shivamogga	1987	http://www.kuvempu.ac.in/eng/aboutlibrary.php
13	Mangalore University, Mangalore	1980	https://mangaloreuniversity.ac.in/university-library
14	National Law School of India University, Bengaluru	1986	https://library.nls.ac.in/
15	Rajiv Gandhi University of Health Sciences, Bengaluru	1996	http://www.rguhs.ac.in/digitallibrary/RGUHS%20Digital%20Library.htm
16	Rani Channamma University, Belagavi	2010	https://rcub.ac.in/English%20website/lib/library/unilibrary.html
17	Tumkur University, Tumkur	2004	http://tumkuruniversity.ac.in/index.php?/library/library_aboutus
18	University of Agricultural Sciences, Bengaluru	1964	https://uasbangalore.edu.in/index.php/library-en
19	University of Agricultural Sciences, Dharwad	1986	http://www.uasd.edu/index.php/library/
20	University of Agricultural Sciences, Raichur	2010	https://uasrlibrary.in/
21	University of Horticultural Sciences, Bagalkot	2008	https://uhsbagalkot.karnataka.gov.in/new-page/Library/en
22	University of Mysore, Mysore	1918	http://uni-mysore.ac.in/english-version/library/index.html
23	Vijayanagara Sri Krishnadevaraya University, Bellary	2010	https://vskub.ac.in/library-2/
24	Visvesvaraya Technological University, Belagavi	1998	http://library.vtu.ac.in/