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PRIVATE UNIVERSITY LIBRARY WEBSITES IN DHAKA, BANGLADESH: AN ANALYSIS OF CONTENTS AND FEATURES

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Abstract

The purpose of the study is to explore the present status, contents, and features that are used for user communication of private university library websites (PULW) in Dhaka city, Bangladesh. To ensure representativeness, purposively select twenty-two (22) private university libraries that have dedicated websites. A checklist contained sixty one (61) items divided into ten (10) categories, and interview methods were followed for authenticity and reliability of data. The result of this study has been presented in tabular and figurative forms. The study found that the trend of websites began a few years ago, will become a driving force for library services, though it has plenty of room for improvement, such as liquid layout, mobile-friendliness, Web-OPAC, online tutorials, etc., and shows some issues for library website maintenance. This study is valuable for information scientists and academic librarians who are connected with library website development and maintenance, especially in developing countries like Bangladesh, whose resources are limited and studies are also scarce.

Keywords: *Website, Library Website, Website Content, Academic Library Website, Dhaka City, Private University, Communication, User Communication.*

1. Introduction

Academics, researchers, students, and others use University Library Websites (ULW) as information hubs. It has become an important component of higher education and serves as a link between patrons and the library. Users will always have difficulty finding and retrieving material if the website is not well designed. The phrase "library website" refers to a website that is owned, administered, and used by or for the library in order to inform users and the general public about the library and its various content offerings, policies, goals, initiatives, and processes. Bangladesh (People's Republic of Bangladesh) gained independence from Pakistan in 1971 after a fight for independence. At that time, Bangladesh had only six public universities (06). However, throughout the last three decades, the number of universities has expanded dramatically, and now it is 159 (UGC, 2021). Libraries have changed their services to meet the information and research demands of today's digital age, when researchers rely extensively on e-books, digital resources, databases, OPACs, e-newsletters, electronic theses and dissertations, and institutional repositories to meet their research needs. To achieve their goals and aims, libraries rely on web-based services (Mandrekar, 2021). Library websites for academic purposes serve as portals for university students and professors. Library websites for academic purposes serve as portals for university students and professors. This site provides access to electronic databases, digital collections, online catalogs, library tutorials, and library information (Condic, 2021). This study looks at the current status and content of private university library websites (PULW) in Dhaka City, as well as how the websites help library users communicate. The variables that go into creating a library website in Bangladesh can be applied to other developing countries as well. The study will be particularly useful for library professionals who wish to create a new site or enhance an existing one, as well as researchers who want to pursue further research in a connected sector.

2. Literature Review

As technology improves, users will be able to better leverage the capabilities of a variety of learning and communication tools. Even in recent years, the internet has accelerated the evolution of library services (Maheswari, 2021) and computers have created a host of new possibilities. Several studies have been conducted on various areas of academic library websites, such as electronic services (Mirghafoori, 2020; & Latifian, 2021), best practices

(Feras Al-Hawari, 2021), and user satisfaction (Karani, 2021), which are found in the scientific literature. Many studies have been conducted in North America, Europe, the Middle East, the Indian Subcontinent, and among other places. Williamson, et.al., (2021) conducted a study at the University of Idaho, Moscow on It developed and managed a library website with non-technical employees, using static web technologies and a GIT-based workflow. This study presents the methodological case for using Jekyll instead of a content management system (CMS) as well as the practical methods used to build a long-term and agile development strategy. It gave a high-level overview of how to create a library website and OPAC.

Desmarais, B. & Louderback, P. (2020) The Northeastern State University Library Website was researched to see how users felt about it and what they wanted. Oklahoma, USA The study investigated how to improve the current website's navigational features and content to provide a better user experience in the future, as well as how to use the website's resources and services. Shevchenko, L. (2020) studies user behavior on library websites to improve virtual information and library services in Novosibirsk, Russia. Its intent was to analyze library website users' behavior by recording their activities, determining popular content, recognizing browsing trends, and improving access to popular content as a result. The development of solutions to improve the usability and functioning of the State Public Scientific-Technological Library's website has been aided by the study of behavior models and the use of web analytics. Mierzecka, A and Suminas, A (2016) Conduct research into the functions of an academic library website in the context of people seeking information. With a total of 680 students, this study was done at the Universities of Warsaw and Vilnius in Poland. The purpose of the study was to determine which components of the academic library website are most valuable to students. From the standpoint of a user-centric approach, the study identified five roles of the Academic Library Website: (1) promoting library usage (both online and traditional); (2) promoting culture; (3) providing a portal for finding information on the Internet; (4) education; and (5) establishing the library's online image. Devi, K.K., and Verma, M.K. (2018). Examine and assess the content and design trends of the library websites of nineteen Indian Institutes of Technology (IITs). According to the researchers, only four IITs have a library homepage, with one having a dedicated library page.

Only a few IIT Library websites/webpages have included information about collections services, value-added services, and links to Web 2.0 technologies. Another study was conducted by Verma, 2020, on eighteen (18) state private universities' libraries websites in North East India. The study's objectives were to learn fundamental information about the library, such as its collections, facilities, online library services, and links to e-resources, as well as provide some crucial recommendations. A study on the user-centered design of a modern university library website was conducted by Liao, K, and Feng, L (2019). The study examined the user's requirements in three areas: fundamental functions, safety and security, and a humanistic element. M.A. Ganaee and M. Rafiq (2016) researched the features, contents, and upkeep of Pakistani university library websites. The websites and web pages of university libraries were investigated in this study. 38. The goal of this research was to assess the current state and characteristics of Pakistani university library websites, as well as to look into the issues that come with creating and managing library websites. The data shows that Pakistani university libraries are of high quality. Contrasting color palettes, easily legible writing, little horizontal scrolling, and English content are all included on websites. The websites also have staff information, OPACs, and navigation tools. Web 2.0 technologies, Website support tools, information on library buildings, and general library information are among the less commonly encountered elements.

In Bangladesh, there are only a few research projects linked to university library websites. Islam, M. A. (2011). A study was undertaken in Bangladesh to assess the utilization of university websites. This investigation involved a total of 200 students from 20 different universities. The HTML toolkit and the webpage analyzer were used to evaluate the usability of the website. The goal of this study was to look into the usability of several university websites in Bangladesh, identify any flaws, and then make recommendations for how to improve the usability. The study found that the university websites' usability elements are lacking, failing to satisfy user requests and expectations. The internal quality of these websites was also determined to be lacking in the study. Rekha, R, and Kumar, R conducted another study (2019). The study focuses on a webometric analysis of SAARC countries' national library websites. The purpose of this study was to look into such websites' web presence and visibility, as well as their ranking utilizing webometric metrics. The results of the study were utilized to rank the websites using the WISER ranking method. The National Library of India has a significant online presence, according to the findings. In a webometric ranking, the National Library of Bangladesh

outperformed all other libraries, achieving first place. To boost their Web visibility and exposure, webmasters should upload more data in the form of rich files and make more scholarly content available, according to the study. In the context of Bangladesh, Rashida, M., and et al. (2021) conducted a study on the design of a framework for assessing university website quality evaluation. The goal of this study was to compile a list of university websites that were ranked according to their quality. This research looked at the content, loading time, and overall performance of university websites. As a result, determining the strengths and weaknesses of university websites was critical.

However, no study based on existing literature has been identified to investigate the current state, features, and upkeep difficulties of university library websites in Bangladesh. Users can learn about the library's materials and services, as well as how to contact the right employees for assistance, by visiting the academic library's website. Many electronic services are also offered for both local and distant users through library websites. As a result, it is planned to assess best practices for constructing and managing library websites to assist people who are interested in and maybe new to, developing library websites.

3. Objectives

The following are the study's objectives:

- 1] To analyze the present status and features of PULW in Dhaka city of Bangladesh.
- 2] To explore the contents of PULW used for user communication.
- 3] To identify the PULW maintenance issues.

4. Research Question

Based on the research gaps, here are two questions raised:

- Q1: What are the features of private university library websites in Dhaka city?
Q2: Which contents are used on university library websites for user communication?
Q3: What are the issues to consider in managing a university library website?

5. Research Methodology

5.1 Research Area: Private universities are approved by the University Grants Commission of Bangladesh and financed by non-governmental organizations, whereas public universities are autonomous and financed by the state of Bangladesh. Bangladesh has a total of 159 universities (49 public, 107 private, and 3 international) (UGC, 2021).

For this study, 22 private university libraries were chosen from Dhaka, Bangladesh, which has a dedicated website with information on library services, online catalogs, library tutorials, and diverse content offers.

5.2 Population, Sample, and Data collection

The research was carried out in stages. First, a web-based survey was carried out to compile a list of university websites in Bangladesh. During this procedure, 22 private university library websites appeared.

Phase two involved reviewing related material in order to create a checklist. There were sixty-one (61) items on the checklist, divided into ten (10) categories. Finally, I did a quick interview to get more information about library website management and future plans for improvement.

5.3 Data Assessment Methods

The demographic data was measured using the SPSS 22 program. The aspects of each website were examined using a checklist. Mobile-Friendly Test –Google Search Console, a free online tool provided by Google to verify the mobile-friendliness of a webpage (<https://search.google.com/test/mobile-friendly>), was used to determine the mobile-friendliness of websites. The methodology used for content analysis is based on content analysis of websites by Qutab and Mahmood (2009) and Ganaee and Rafiq (2016).

6. Analysis

6.1 Bangladesh's PULW Status

The total number of websites at the university libraries in Bangladesh is 43 (public, 12; and private, 31) out of 159. This means only 27.004% of university libraries have their own website. On the other hand, 46 (public, 19 & private 27) out of 159 university libraries have a webpage, which is 28.93%, and lastly, 70 (public, 18 & private 52) out of 159 university libraries have no website or webpage for the library, which is (44.025%).

Table – 1: Division-wise PLUW in Bangladesh.

Sl. No.	Division	PULW
1	Dhaka	22
2	Chittagong	7
3	Sylhet	1
4	Rajshahi	0
5	Khulna	0
6	Barisal	0
7	Rangpur	0
8	Mymensingh	0
Total=		30

In Bangladesh, the highest numbers of private university library websites are situated in Dhaka Division, 22 out of 30; Chittagong Division, 07; Sylhet Division, 01; Barishal Division, Rajshahi, Mymensingh, Khulna, and Rangpur division have no private university library websites.

6.2 Access Library Website from Organizational Home Page

Over 72.72 percent (16 out of 22) of the university library websites could be accessed directly from the homepages of the university websites (Table-2). On the other hand, 27.27 percent of library websites (06 out of 22) were not found via a direct link on the parent institution's homepage. Links to the library website were located under the second- or third-level navigation of the navigation bar, under Academic, Campus, Resources, or other sites, in these circumstances. The majority of the time, library sites were located within three clicks of the institutional homepage. For customers with sluggish Internet connections, many websites used to include a link to a text-only version. This feature was not found on any of the study's websites. Homepages of library websites were checked for mobile-friendliness using the Mobile-Friendly Test-Google Search Console Checker. A total of 22 library websites were tasted. The result shows that 14 library websites (63.63%) are mobile-friendly and 6 library websites (36.36%) are not mobile-friendly.

Table-2: Access Library Website from Organizational Home Page

Sl. No	Reason	Frequency	Percent
1	Direct Access from the organizational home page	16	72.72 %
2	Mobile-friendly	14	63.63%
3	A link to the Library Website can be found in Academic, Campus, Resources, or Other Pages.	06	27.27%
4	Text-only version	0	0%

6.3 Value added services

Value-added services are those that aren't included in the core library services but provide value to a website. For example, a "Search" feature gives the user the option to search for specific words. The study shows that the "Image Gallery" page was the most frequently encountered feature (22 websites, 100%). On the other hand, Projects and Consultancy, Vendors Link, Advertising, Newsletters, and Jobs are not found on any website. Figure-1 provides details about the prevalence of desired value-added services.

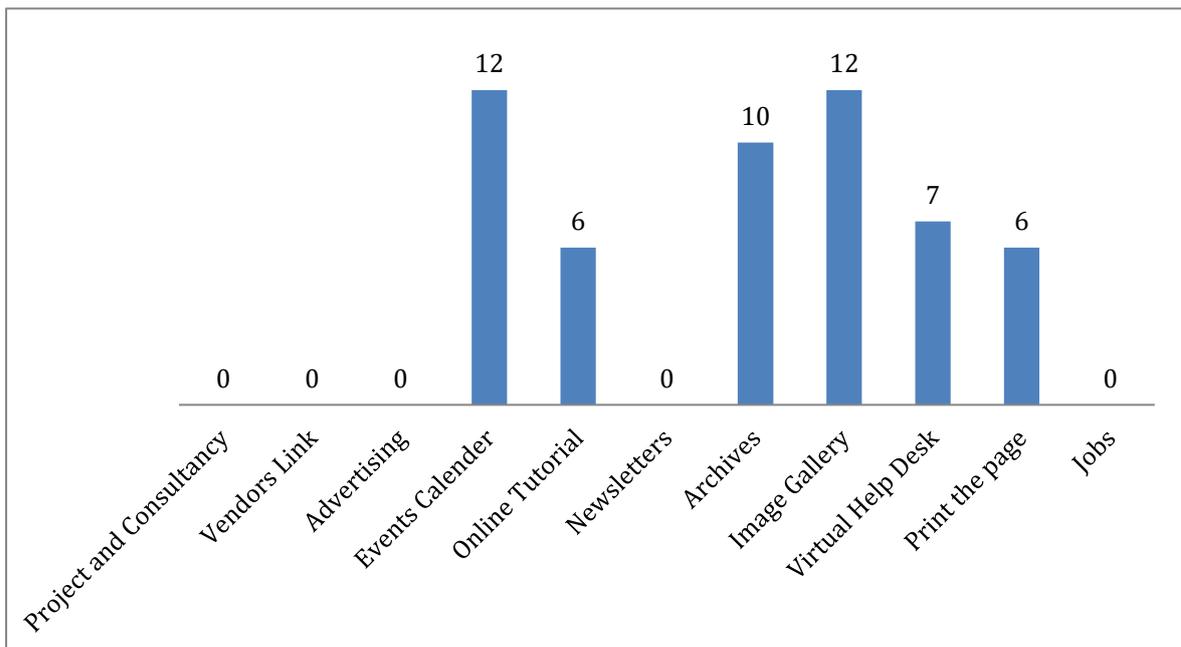


Figure-1: value-added services.

6.4 Appearance

In this section of the study, the overall look of the web pages, including the color scheme used, text visibility, left-to-right scrolling of the web page to view its content, library and university logos, and the application of liquid layout are assessed (see Table-3). Scrolling left and right to view the full contents of a Web page is undesirable because it requires extra interaction from the user. There was no website found by scrolling left to right. Liquid layout (also called responsive design) allows the contents of the Web page to adjust to fit multiple screen widths, at different zoom levels. It is found on 18 (81.81%) websites. Most of the websites (95.45%) used visible and well-contrasted color schemes on their pages. There were university logos on 18 (81.81%) of the library websites, but no libraries had library logos on their web pages. On the other hand, the appropriate domain name was 15 (68.18%) universities, and the last update showed only 3 (13.63%) universities (see Table-4).

Table - 3: Appearance

Sl. No	Description	Frequency	Percentage
1	Text Easily readable	22	100
2	Visible, Contrasting color Scheme	21	95.45
3	Liquid Layout	18	81.81
4	University Logo	18	81.81
5	Use Graphics, pictures or Charts	17	77.27
6	Left-right Scrolling	0	0
7	Library Logo	0	0

6.5 Authority and Currency

A proper domain name and URL can be used in signatures, letterheads, and elsewhere to market the library website. University URLs such as *www.universityname.edu.bd/library* or *library.universityname.edu.bd* are more usable and easier for users to remember than more complex URLs such as *www.universityname.edu.bd/administration/library.php* or *www.university.org.bd/index.php/professional-dept/library*. There were 15 library websites (68.18 percent) with proper domain names found in the study (Table-4). Tiwari (2011) defined copyright as "the exclusive legal rights granted by a government to an

author, editor, compiler, composer, playwright, publisher, or distributor to publish, produce, sell, or distribute copies of a literary, musical, & dramatic work."

Table -4: Authority and Currency

Sl. No	Description	Frequency	Percentage
1	Website Copyright information	19	86.36 %
2	Proper Domain name for the library	15	68.18%
3	Site maintenance is outsourced	15	68.18%
4	The last update date mentioned	3	13.63%

6.6 Languages

In Bangladesh, most universities use English as their medium of instruction. In the age of globalization, university libraries are making their websites in English. Though the official language of Bangladesh is Bengali, all the websites are made using the English language. The study shows that 100% of university library websites are used in the English language.

6.7 Navigation Features

Easy navigation helps the user reach the required information in less time. Many navigational tools were used to facilitate users' needs. A link to the homepage of the parent organization helps users jump to the institution's main website. This study found that 19 out of 22 (86.36%) library websites had a link to the institution's main website (see Figure-2). The Page Title of the Website appears in the Title bar of the browser if properly defined in the HTML code. This feature helps users jump to the desired browser window, by clicking the tab when more than one website is open in the browser. The study found that the page title in the top bar appeared in 17 PULW (77.27%). Navigational Bar 16 PULW (72.72%), Breadcrumb Trail 15 (68.18%), and Quick Link Box or Dropdown 15 (68.18%) figure-2.

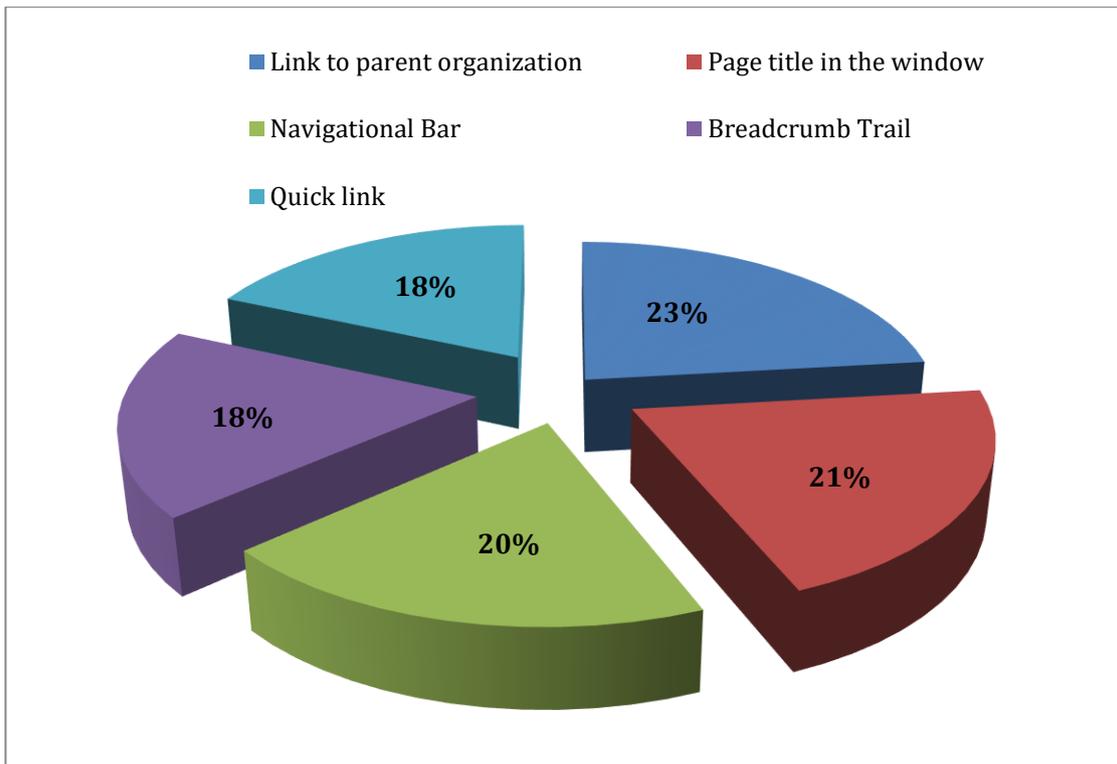


Figure – 2: Navigation Features

6.8 Website Aid and Tools

Website aids and tools include the features that help a user to easily navigate the website and facilitate enhanced use of the website. Features included in the study were website search, site maps, user feedback, and user guidelines for using the website. Figure-3 displays details of such features found on the library websites. A Website search option was found on 10 (45.45%), whereas a site map listing the links to important Web pages of the Website was found on only 4 PULW (18.18%), a site feedback form, or E-mail link 17 PULW (77.27%), and user guidelines 10 PULW (45.45%).

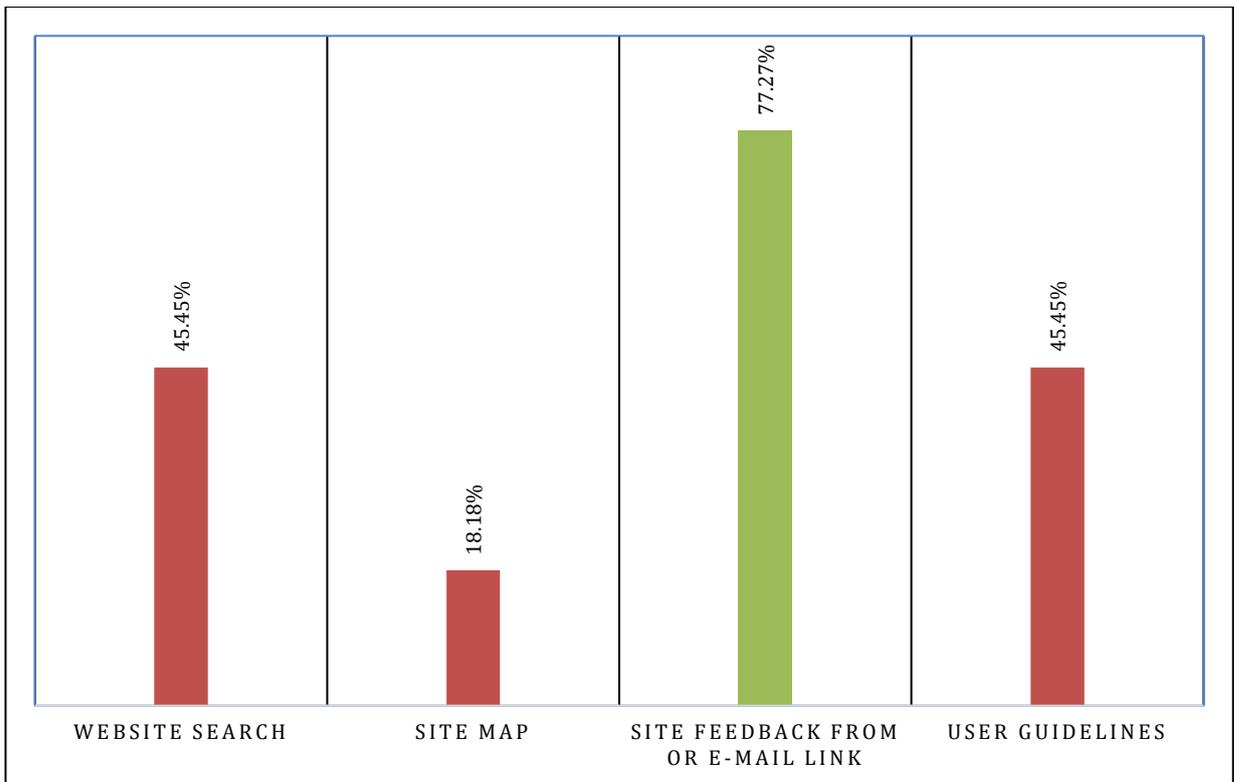


Figure – 3: Website Aid and Tools

6.9 Library Staff

Only ten (10) libraries, about 45.45%, provided a library staff directory on their websites (see Table-5). Professional staff only (10 websites, 45.45%) was the most frequently provided information, followed by staff contact number (10 websites, 45.45%). In addition, the qualifications of the staff were 9 websites (40.90%), while photographs of the staff were 8 websites (36.36%).

6.10 Library General Information

The general information about the library on the checklist included a library introduction; the library’s history; a mission statement; the aims and objectives of the library; working hours of the library; instructions about the library use; news and events; information about classification and cataloging; library policies; procedures and rules; fines accrued rules; loan periods; material reservation; FAQs about the library; ongoing projects in the library; information about library committees; information about other/departmental libraries; and information about membership, including total members, membership categories, and how to get a membership to the library.

Table-5: Library General Information

Sl. No	Reason	Frequency	Percentages
1	Language	22	100
2	Instructions about Library use	18	81.81
3	Photographs of the Building	18	81.81
4	Working Hours	18	81.81
5	Mission & Visio	16	72.72
6	Library Committees	11	50
7	News and Events	10	45.45
8	Library Staff Directory	10	45.45
9	Staff E-Mail and Phone Number	10	45.45
10	Qualifications of the Staff	9	40.90
11	Library History	9	40.91
12	Photographs of the Staff	8	36.36
13	Library FAQs	7	31.81
14	Information about the Building	7	31.81
15	Map/Floor Plan of the Library	5	22.72
16	Video/Virtual tour of Library	4	18.18
17	Ongoing Projects in the Library	0	0

7. Website maintenance issues

a) Internet Use on Mobile Devices: In recent years, internet usage on mobile devices has increased, and Bangladeshi library users frequently access websites on their smartphones. The results obtained using the Mobile-Friendly Test - Google Search Console Checker in this study were very low. The result shows that of the 22 private university library websites, 14 (63.63%) are mobile-friendly. So it is needed to make library websites mobile-friendly.

b) Professional gap between library staff and IT staff: The lack of coordination between library staff and IT staff is another major problem. IT staff are sometimes unable to understand the urgency and importance of specific requirements on library websites because they have some psychological differences. The IT staff do not have professional knowledge on Library Management in the same way, the library personnel does not have sufficient knowledge and practices on Information Technology usage in the library also. Due to this, a big gap in professional knowledge is visible in the context of websites maintenance. So, it is a very common but significant problem.

c) Uninterrupted power supply: Bangladesh is facing a shortage of electricity, and there is a huge difference between the demand and supply of electricity. The gap is reducing day by day. "Chronic electricity shortages, up to 18 hours per day, have crippled industry and stoked public anger" (Walsh 2013). Two professionals mentioned the load-shedding of electricity as a hurdle they face in regard to website maintenance. At present, the electricity production and demand rates in Bangladesh are respectably 25235 MW and 13992 MW (bpdb, 2021). From this observation, it is clear that an uninterrupted power supply is a big issue for website maintenance.

d) Internet Bandwidth: In Bangladesh, internet bandwidth is overall good. (Habiba, 2019) shows in her study that internet connectivity at 31 % of universities was rated excellent, 19% adequate, and 4% reported poor internet connectivity. But in the case of slow connections, slow Web servers, and unavailability of the websites 24/7, these were technical issues faced by the staff in maintaining and updating the websites. At the moment, 4G internet is available throughout Bangladesh. It's a good sign that the library is using 4G internet. If we can maintain the use of good internet bandwidth, website maintenance will be very easy.

e) Lack of Technical and Skilled Library Staff: Most often, library professionals join their work after completing academic careers without getting an advanced level of ICT skills or training. So it is a big challenge to make the library staff technically sound. This scenario can be changed by organizing in-house computer and ICT-based training for the professionals. For proper maintenance of the library website, technical and skilled library staff are required.

f) Lack of training for Web development: There are insufficient opportunities and resources to organize a web development training program for library personnel in Bangladesh. Bhatti (2012) identified inadequate in-service training for library staff and suggested a national committee consisting of stakeholders for the improvement of the situation. Without a sound knowledge of website development and maintenance, it is impossible to manage the site. Most of the interviews opined that the library staff who get training on web development by their arrangement get the most training.

g) Non-availability of 24/7 yet: Possible users can hit the website at any time from anywhere, so the website should be available 24/7. The study observes that most of the PULW are not available 24/7 because of the policy of the organization and a lack of technical support. They always maintain a certain period for opening and closing the website every day.

h) Slow Web Servers: In the age of information technology, people expect to be able to access websites quickly. A page loading time of 6-10 seconds is often required. Slow web server skill time and users' bad experiences From Bangladesh's perspective, most library websites are setup on normal desktops and used as servers. That's why when multiple users access the site it becomes slow. On the other hand, web upload of long data files makes the server slow. Like that, various issues can make a web server slow. It can be reduced only to proper and expert management of the library website.

8. Findings

According to the research, no library website had all of the things on the checklist. A few websites, such as the North South University Central Library, EWU Library, ULAB Library, and The Ayesha Abed Library, BRAC University, did, however, contain a significant number of items on the checklist. The checklist had eight items that could not be found on any library website.

9. Discussion

Overall, the study's evaluation of private university library Web sites in Dhaka, Bangladesh, suggests that substantial room for improvement exists. Many private university websites are still under construction. In this study, 22 private university library

websites in Dhaka were examined. Based on the scope of library services to be provided, the authors believe that an adequate representation of an academic library on the Web requires three or more pages, and that just 22 websites meet that requirement. Mobile internet usage has risen in recent years, and Bangladeshi library patrons frequently use their smartphones to access websites.

The status of mobile-friendly websites is 14 out of 22 (63.63%). Features, content, and services were checked on the 22 private university library websites in the study against the prepared checklist. Most items in the category of value-added services, such as the library logo, library newsletters, online tutorials, event calendars, and so on, did not receive an adequate score for including value-added services. These services add to the value of the websites and make it easier for users to access library content remotely over the Internet. Most websites examined in the study were adequate in terms of appearance, with easily readable text, well-contrasted color schemes, no horizontal scrolling, and appropriate use of graphics. Proper domains for library websites were found for only 15 sites (68.18%), showing a relatively low level of prioritization by university management for a unique library web presence. It is critical to create and maintain a well-designed library website for advertising and providing library services. The authors recommend checking for broken links and scripts on a regular basis.

The lack of cooperation between the library and the IT or Web employees, where website maintenance was done by IT workers, was a key issue with updating and maintaining library Web sites. Having teams to update Web content and holding regular meetings to promote collaboration could help improve the problem. Another issue was that the librarians in charge of website upkeep lacked the essential abilities. Professional library training, such as learning HTML to create and update webpages, could be arranged. Electricity load-shedding was noted as a technical concern during the study, causing issues with giving 24/7 access to the websites. Websites should provide a comprehensive view of library resources and services because they are the first point of access for distance users to the library. They also provide on-site users with vital information. Current and potential library users will find information regarding working hours, public holidays, obtaining a membership, library rules and policies, different library sections, and facilities available useful. Library experts should form a content management team and assign library pages to each member, with each person accountable for supplying information and ensuring

correctness. Web 2.0 apps (e.g., Facebook, Twitter, and instant messaging) could be used to promote and advertise the library, its resources, and services to a larger audience.

10. Conclusion

Despite the fact that Bangladesh is a developing country, technology is present at every level of life. Certain websites serve as remote access points for information and services provided by certain libraries. Bangladesh's university libraries are using the website to improve service quality and provide effective information services. At present, there are 33 private universities in Dhaka city, but only 22 university libraries have their own websites, which is the main theme of this study. There are a number of hurdles in creating, managing, and managing websites, but librarians have embraced these challenges. Most of the 61 checklists were observed on different websites but 8 points were not observed on any website. As a result, further research on website deployment, standards, and management is required.

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