

Evaluation and Assessment of E-Service Quality of University Libraries in Sri Lanka

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Abstract:

This paper aims to evaluate the quality of e-services provided via Sri Lankan University library websites to examine their current status and issues related to services. The study employed web-based survey method to evaluate the quality of e-services. Purposive sampling method was used to select 15 university libraries from the population. We adapted a 62 itemed checklist which was organized into 6 categories; core e-service, e-reference service, facilitating e-service, supportive e-service, currency, accuracy and speed quality, and website features examined by the survey. The study was limited to the 15 university library websites offering e-services in Sri Lanka by the expert judge approach which examined how well they performed during the study period. The data revealed that, although university libraries are offering more e-services via the websites, development of e-services is still in its infancy stage as compared to those of international experience. However, suggestions for future improvements are given. The results of this survey should assist in the evaluation of e-services and promote the services in an attractive way, enabling designers, and policy makers to improve upon future websites. In addition further studies are required to understand the

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user perception of the e-services to meet the specific needs of different types of users including the faculties and the students utilizing the university libraries.

Key words: E-service quality, Sri Lanka, E-reference service, University library, Web-based service

1. INTRODUCTION

Traditionally, the quality of service in the university libraries was evaluated by the size of the collection and the number of users. However, along with technological advancement, evaluation of the library services has impacted the measurement of these services. Today's university libraries provide access to digital and electronic collations and other services to complement the information search process. Therefore, assessment of how well a library succeeds depends on both the conventional and the e-services provided by the library. E-service can be defined as the role of service in cyberspace (Rust and Lemon 2001; Santos 2003) that has been developed to improve the library's professional image and social status (Miao and Basshman 2007). E-service quality has a significant influence on many important aspects of business and marketing fields such as banks (Agrawal, Thripathi and Seth 2014; Stamenkev and Dika 2014; Zavareh et al. 2012), e-business (Noorshella, Abdhullah and Nursalihan 2015; Air lines (Lee and Wu 2011), insurance (Janovs and Fomin 2011), hospitals (Rahmana, Mohomad and Rahman 2014) not only in the libraries. They can also become highly dependent on the conceptualization of service quality and electronic service quality as demoted by the increasing research contribution to the phenomenon of service quality.

University libraries have been comfortably serving their users by providing information resources and services in several methods. A library website reflects its virtual public

face, acting as a front door to the collections, services, and to an extent its staff. Many users visit a library's website more often than they visit its physical location (Connell 2008). New internet related library service covers on-site and off-site user services and those are accessible without any geographic and time limitations (24×7). The web allows library staff to extend their services post library hours. It improves library visibility within the library system, making users aware of what library offers. Most importantly, providing e-services promotes the image of the library as innovative, progressive and integral to the commitment to excellent in education and research (Halub 1999). Therefore, university libraries are now grappling with new techno savvy users' demands as mentioned above and finding ways to fulfill their information desires. Thus, it is important to understand and evaluate the quality of library services in the web-based service environment. In this paper we examine empirical research exploring some of the dimensions of e-service quality of the university libraries in Sri Lanka.

2. LITERATURE REVIEW

Since the focus was on the services provided by academic libraries via the library's website, "e-service" is the preferred terminology (Kaur and Singh 2012; Mashusudhan and Nagabhushannam 2012; Aharony 2012). Service quality is one of the key factors in determining the success or failure of e-services (Yang 2001). First formal definition of e-service quality (e-SQ) was provided by Zeithaml, Parasuraman and Malhotra in 2000. "The extent to which a website facilitates efficient and effective shopping, purchasing and delivery of products and services" (also in Parasuraman, Zeithaml and Malhorta 2005). This definition makes it clear that the concept of e-service quality extends from the pre-purchase (ease of use, product information, ordering information, and personal information protection) to post-purchase phase delivery, customer support,

fulfillment and return policy). Online environment differs from the traditional context in several ways. These can be summarized as follows (Ladhari 2010);

- **Convenience and efficiency:** consumers using the e-services have the convenience of saving time and effort in comparing the prices of products more efficiently (Santos 2003).
- **Safety and confidentiality:** Participation in the online services involves users in distinctive issues regarding privacy, safety and confidentiality.
- **Absence of face to face contact:** Customers in the e-services interact with a technical interface (Fassnacht and Koese 2006). Absence of person to person interaction means quality of website must be of good quality and attractive (Riel et al. 2001).
- **Co-production of service quality:** Customers in the online environment play a more prominent role in co-producing the delivered service than is the case in the traditional context (Fassnacht and Koese 2006).

Currently, evaluating the quality of the e-services has been approached from several angles in the service quality literature. Loiacono, Watson and Goodhue (2002) considered machine approach, expert judges and customer evaluation as the three main approaches of e-service quality evaluation. The machine approach uses software to record the key characteristics of websites automatically. The expert judge approach typically starts with the researchers, identifying a set of characteristics for classifying the sites. Usability studies to evaluate the customer perception related to websites. This study employed expert judges angles to evaluate the e-services. The development of library website-based services started in the 1990s. As soon as Mosaic, the world's first web browser was released in 1993, academic health science libraries began to develop websites (Brower 2004; Qutab and Mahmood 2009;

Mohammed, Garba and Umar 2014). Researchers developed checklists to evaluate the e-services including several main categories and sub-elements. Early literature considered general features and basic navigation features to evaluate the e-services (Raward 2001; Detlor and Lewis 2006; Gardner, Juricek and Xu 2008). They concluded there was urgent need to develop dynamic library websites and incorporate new theologies and ontologies to fulfill the fast growing users' desires. Gradually other important features such as accessibility, speed, currency, website aids and tools and value added services were examined by several studies (Qutab and Mohmood 2009; Konnar, Rajani and Madushudhan 2010; Aharony 2012; Vassistha 2013). These studies mainly focused on the innovative important features rather than traditional aspects. Specially, Qutab and Mohmood (2009) recommended that various Web 2.0 tools such as blogs, micro blogs, RSS, instant messaging, social networking sites and wikis were widely adopted by the websites and they were popular among the users. As a result of the studies, categories such as use of RSS and social networking was added to the e-service evaluation checklist (Mahmood and Richardson 2011; Madhusudhan 2012; Wilson 2015; Vassistha 2013) while qualitative and quantitative features such as usefulness, effectiveness, learnability and accessibility into content by Pants in 2015 (See Table I).

Although e-service is one of the vast discussed topics in the academic library literature, research on university library e-service is in its infancy stage in Sri Lanka (Wickramanayake 2012). Less attention has been given to the overall assessment of e-service quality. For example, the existing studies are limited to the evaluation of library automation process (Senevirathna and Amaraweera 2002; Ravikumara and Ramanan 2014), Online Public Access Catalogues (Wanigasooriya 2008; Li and Wanigasooriya 2016) and library automation software (Malkanathi and Hettiarachchi 2015). The

first study related to e-services was found in 2012 (Wickramanayake 2012). He examined the types of instruction applications and help tools which had been used in 14 academic library websites in Sri Lanka to assist the academic communities in respective universities. Secondly, Wijayaratne and Singh (2013), in their paper on “Review of web presence of university libraries of Sri Lanka”, analyzed both content and design aspects of 14 university library websites in Sri Lanka. In this study, the content analysis of websites has been done with the help of 17 itemed evaluation instruments. It consisted of 10 content elements and 7 design features were developed by the authors covering both quantitative and qualitative aspects of university library websites. The findings of this study revealed that the quantitative web presence of Sri Lankan university libraries were at quite a commendable level. Three parameters of the instrument such as qualitative web presence; availability of websites, size of sites, and location of the link to the library site in the parent institution’s website were found to be in on a high level. Furthermore, content richness and design accuracy which measured the qualitative web presence showed that the content richness level of websites was found to be at a creditable status. However, majority of websites reported low scores when measured in terms of design accuracy.

The recent study by Li and Ranaweera (2016) concluded content analysis survey on web-based library services of 14 university library websites in Sri Lanka based 55 items checklist. They concluded that libraries developed library websites as a routine organizational matter instead rather than for the promotion or for marketing the web-based library services. Literature reviewed above concluded inadequate researches and surveys on e-services created a gap between the conventional service and e-service literature.

This study aims to build a bridge on the research gap of this field by adopting the expert judge evaluation method. Table I conclude a chronological summary of the studies

discussed above on assumed criteria of e-service quality in library website in the literature.

Table I: Operationalization of key construction

Author/s and year	Field	Elements	Categories(elements)
Raward (2001)	Academic library websites	100	Finding the information (35), Understanding the information (25), Supporting user tasks (5), presenting the information (35)
Detlor and Lewis (2006)	Academic library websites	33	General features (18), Navigation features (15)
Gardner, Juricek and Xu (2008)	Academic library websites	29	About the library facilities (8) Current awareness/issues (7), Collection (9), Services (5)
Qutab and Mohmood (2009)	Academic, special, public and national library websites	77	Accessibility and speed (8), Navigation (5), Currency (2), Website aids and tools (5) Library general information (19), Library resources (6) , Library services/technical service (8) Electronic links (11), Language (2), Value added services (6)
Konnar, Rajani and Madushudhan(2010)	Academic library websites	21	Currency, accuracy and relevance (5), Organization and structure (3), Presentation (4), Maintenance (3), Features of library websites (6)
Mahmood and Richardson (2011)	Academic library websites	44	Use of RSS (6), Use of social networking site (7) Use of blogs (12), Use of mashups (10), Use vodcasts/video (3), Use of podcasts/audio (6)
Aharony(2012)	Academic library websites	42	Site description (2), Currency (2), Website aids and tools (5), Library general information (12), Library resources (6), Library services (2), Links to e-resources (5) ,Value added services (8)
Madhusudhan(2012)	Academic library websites	90	General features (15), Library services (15) Library resources (24), Web/library 2.0 features (11), Currency, accuracy and relevance (7), Organization and structure (7), Coverage and intended audience (6), Links and maintenance (5)
Vassistha(2013)	Academic library websites	36	General information (10), Information about the library collection (9), E-resources (2), Links and retrieval interface (7), Amenities related to electronic journals (8)
Wickramanayake (2012)	Academic library websites	14	Help and instructions message
Wilson(2013)	Academic library websites	45	Library services and resources (12), Design and accessibility(18), Website location for basic information (6), Location of catalogue access points (2), Guides and instructional tools (7)
Wijayaratne and Singh (2013)	Academic library websites	140	Web content (60), Web design features (80)
Pant(2015)	Academic library websites	38	Usefulness (14), Efficiency (5) ,Effectiveness (5) Learnability (6), Accessibility (8)
Li and Ranaweera (2016)	Academic library websites	55	Site description (4), Currency (2), website aids and tools(5), Library general information (18), library resources (2), Library services (9), links to e-resources (7), value added services (8)

Source: *Compiled by the authors (2016)*

3. RESEARCH PROBLEM AND SIGNIFICANCE OF THE STUDY

Although services provided by the library websites have played major role in teaching and research process of the university, there is no proper framework to evaluate the quality of the e-services provided in the university libraries in Sri Lanka. In contrast to general websites containing commercial or non-commercial information, university library websites should receive stricter and provide higher quality to ensure credibility of information and services. Few studies (Wijayarathne 2013; Wickramanayake 2012; Li and Ranaweera, 2016) have provided guidelines to rate the websites. Hence, none of the studies has/had mainly focused on provision of the quality of e-service in university library websites.

Therefore the current study develops and tests the evaluation instrument that library professionals can use to assess the quality of their websites and its services under six categories: core e-service quality, e-reference service quality, facilitating e-services, and supportive e-service quality, currency, accuracy and speed quality and website features. Specially, this study explores the present issues and quality gaps in the websites and then provides answers to following questions:

RQ1: What are the criteria according to expert judge for measuring the quality of e-services in the libraries?

RQ2: How does a website maintain the accessibility, currency, accuracy and speed quality?

RQ3: What are the service quality issues and gaps related to university library e-services?

RQ4: How are the identified issues overcome to develop high quality e-services to the university community?

4. OBJECTIVES

Study objectives were focused on:

- Identifying the key attributes of the current e-services offered by the Sri Lankan university library websites.
- Evaluating the dimensions of quality of e-service under six categories; core e-service quality, e-reference service quality, facilitating e-services in Sri Lanka.
- Making suggestions and recommendations to upgrade quality of the e-service provided by the university library websites.

5. METHODOLOGY

The web-based survey method used to evaluate the quality of e-services provided by the university library websites in Sri Lanka. The sample libraries of the present study were taken from the 2016 edition of University Grant Commission website (UGC 2016). The first university library in Sri Lanka was established in 1942 at the University College in Colombo. Since then, the number has expanded to 31 libraries attached to 15 national universities, seven postgraduate institutions and nine other higher education institutes (UGC 2016). Purposive sampling method was administrated to select 15 university main library websites among the population. The faculty, branch and departmental libraries were excluded from the list because they did not have functioning websites of their own. See Table II for the list of universities, their codes and the URL of the study sample.

Table II: List of surveyed university libraries

	University	Code	URL of the Library
01.	University of Colombo	CMB	http://www.lib.cmb.ac.lk/
02.	University of Peradeniya	PDN	http://www.lib.pdn.ac.lk/
03.	University of Sri Jayawardenepura	SJP	http://lib.sjp.ac.lk/
04.	University of Kelaniya	KLN	http://www.kln.ac.lk/units/library/

05.	University of Moratuwa	MRT	http://www.lib.mrt.ac.lk/
06.	University of Jaffna	JFN	http://www.lib.jfn.ac.lk/
07.	University of Ruhuna	RUH	http://www.lib.ruh.ac.lk/web1/
08.	The Open University of Sri Lanka	OU	http://lib.ou.ac.lk/
09.	Eastern University, Sri Lanka	ESN	http://www.esn.ac.lk/library_new/
10.	South Eastern University of Sri Lanka	SEU	http://www.seu.ac.lk/library/index.php
11.	Rajarata University of Sri Lanka	RJT	http://www.rit.ac.lk/library/
12.	Sabaragamuwa University of Sri Lanka	SAB	http://www.lib.sab.ac.lk/
13.	Wayamba University of Sri Lanka	WYB	http://www.wyb.ac.lk/academics/libraries
14.	UvaWellassa University	UWU	http://www.uwu.ac.lk/library/
15.	University of Visual and Performing Arts	VPA	www.vpa.ac.lk/

Source: *Compiled by the authors (2016)*

The content of the selected 15 university websites were scanned and analysis through the survey based on earlier studies conducted by the different authors from 2001 to date. After thoroughly analyzed the literature and previous studies and methodologies, we developed a checklist which contained 62 items organized into 6 categories *i.e.* e-services core e-service, e-reference service, facilitating e-service, supportive e-service, currency, accuracy and speed quality and website features (See Table III).

Although not exhaustive, the checklist was designed to capture most of the key content we found on many of the websites available in the different countries in the world. Basic library information appeared in the websites such as e-mail, fax, phone numbers and address was not noted. The e-services have been evaluated using 62 item checklist. 47 elements of the checklist were used to evaluate the accessibility, currency, accuracy and speed of websites while the website features were examined through other 15 elements.

Each website was independently reviewed by the researchers, who then resolved any differences in findings for each university website. While collecting data, every link on each website was explored, and the quantity of dead links was recorded. Then we marked the presence or absence of all the elements of the library websites based on items in the checklist. For the available items in the list has assigned value of “1” and to items which not found marked as “0”. Gathered data from the survey was analyzed by using a simple method of calculation and presented in the form of tables with frequencies and percentages.

Table III: Surveyed checklist

Category	No. of elements	Elements
Core e-service	7	<ol style="list-style-type: none"> 1. Online document delivery 2. Inter library loan(IIL) 3. Online help 4. Information skill tutorials 5. Web OPAC 6. Subject guide 7. Past exam paper delivering
E-reference service	10	<ol style="list-style-type: none"> 1. E-journals 2. E-books 3. E-reference materials 4. E-newspapers 5. Bibliographic databases 6. E-theses and dissertations 7. Open access resources 8. Institutional repository 9. Book reviews and other web resources 10. Research gate resources
Facilitating e-service	21	<ol style="list-style-type: none"> 1. Library introduction 2. Vision/mission statements/Objectives 3. Library collection 4. Introduction to library services 5. Introduction to library resources 6. New arrival list 7. Library rules and regulation/policy 8. Information about membership 9. Library department/section information

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		<ol style="list-style-type: none"> 10. Information about the branch libraries 11. Opening hours 12. Staff directory 13. Annual reports/ library statistics 14. Library newsletter 15. Web counter 16. Library committee 17. Floor plan 18. Ongoing projects 19. Photo gallery 20. Virtual tour 21. News and event
Supportive e-service	9	<ol style="list-style-type: none"> 1. Information for disabled users/Talking books 2. Citation style guide 3. Renewal 4. Fine calculation 5. RSS feeds 6. Blogs 7. Social media sites 8. Location information on Google map 9. Plagiarism detection tool service
Accessibility, currency, accuracy and speed	9	<ol style="list-style-type: none"> 1. Direct link on university website home page 2. Library can be found under link of Faculty/ resources 3. Accessibility via different web browsers 4. Updating date 5. Copyright information 6. Speed (access within 8-10 seconds) 7. Retrieval of information within 3 clicks 8. Dead links 9. Under-construction pages
Website features	6	<ol style="list-style-type: none"> 1. Home page is concise and clear 2. Well labeled and easy to understandable Icons 3. Visually attractive websites 4. Language options 5. Website index (A-Z index) 6. Site search facility
Total	62	

Source: *Compiled by the authors (2016)*

6. FINDINGS

6.1 E-Services

15 websites of university libraries were investigated under 62 elements. E-services provided via websites were categorized under six main criteria and it was depicted in Table III. The websites of all university libraries in the sample were functioning during the survey period. According to the findings of the present survey, none of the university library websites contained all 62 items we surveyed. Table IV illustrates the availability of items of the checklist in the each university library website.

Table IV: Availability of element in the surveyed libraries

University	Frequency	Percentage
University of Colombo	48	77.42%
University of Peradeniya	33	53.23%
University of Sri Jayewardenepura	32	51.61%
University of Kelaniya	39	62.90%
University of Moratuwa	40	64.52%
University of Jaffna	30	48.39%
University of Ruhuna	38	61.29%
The Open University of Sri Lanka	46	74.19%
Eastern University, Sri Lanka	27	43.55%
South Eastern University of Sri Lanka	39	62.90%
Rajarata University of Sri Lanka	32	51.61%
Sabaragamuwa University of Sri Lanka	27	43.55%
Wayamba University of Sri Lanka	32	51.61%
UvaWellassa University	19	30.65%
University of Visual and Performing Arts	33	53.23%

n=62

Study found that the library of University of Colombo has the highest number of items 49 (77.42%) in the checklist. Library of Open University of Sri Lanka indicated 46 items (74.19%) and library of University of Moratuwa was consisted 40 items (64.52%) out of the 62 items surveyed. Survey results showed that four library websites (JFA, ESN, SAB and UWU) were found to contain less than 50% of elements measured.

6.2 Core e-services

Requesting documents from the other libraries identified as inter library loan (ILL) and document delivery services. Coupled with this is an electronic article delivery service that provides the requested articles or books to the user either scanned or downloaded from the e-journal or by the book delivery service. It should be noted that for most of the surveyed libraries 80% have online document delivery service and the ILL service to the users. Except for four universities, other 73.33% provide the book search facility via Web OPAC. Inadequacy of information skill tutorials, online help, subject guides and past exam paper service were noted by the survey. Table V presents the findings regarding core e-services available in the university libraries.

Table V: Core e-services

Core e-services	Frequency	Percentage
Online document delivery	12	80.00%
Inter library loan(ILL)	12	80.00%
Online help	06	40.00%
Information skill tutorials	08	53.33%
Web OPAC	11	73.33%
Subject guide	06	40.00%
Past exam paper delivering	07	46.67%

n=15

6.3 E-reference services

E-reference service often defined as the direct personal assistance given to its users to find information. It has gained increasing popularity amongst users to extend the reference desk beyond the library's walls (Madhusudhan and Nagabhushanam 2001). The goal is to meet the demand for easy 24 hours access to e-reference sources from their computers. Ten types of items were surveyed under this category as shown in the Table VI.

Table VI: E-reference services

E-reference service	Frequency	Percentage
E-journals	15	100.00%
E-books	12	80.00%
E-reference materials	04	26.67%
E-newspapers	04	26.67%
Bibliographic databases	13	86.67%
E- theses and dissertations	06	40.00%
Open access resources	15	100.00%
Institutional repository	10	66.67%
Book reviews and other web resources	00	0.00
Research gate resources	01	6.67%

n=15

A 100% of the study libraries provide accessibility to e-journals and open access resources, 86.67% each have accessibility of bibliographic databases, 80% have e-books, 66.67% have institutional repository specially include university academics research articles. Only 26.67% of libraries have e-reference materials (CMB, SJP, RUH and The OUP) and the e-newspapers (CMB, RUH, OUP,VPA). Although only one website has research gate access from the library website and we have noticed each university home page has a research gate link.

Table VI: E-reference services

E-reference service	Frequency	Percentage
E-journals	15	100.00%
E-books	12	80.00%
E-reference materials	04	26.67%
E-newspapers	04	26.67%
Bibliographic databases	13	86.67%
E- theses and dissertations	06	40.00%
Open access resources	15	100.00%
Institutional repository	10	66.67%
Book reviews and other web resources	00	0.00
Research gate resources	01	6.67%

n=15

6.3 Facilitating e-services

As the website of a library is the gateway to access a library's collections, resources and services, it should be informative and descriptive. In the absence of functional websites with adequate information about the resources will remain under utilized as the users are deprived of the channel, which facilitates them to fully exploit these resources. Twenty one items were checked under this category. Table VII described the survey results for this section.

Table VII: Facilitating e-services

Facilitating e-services	Frequency	Percentage
Library introduction	15	100.00%
Vision/mission statements/Objectives	15	100.00%
Library collection	15	100.00%
Introduction to library services	14	93.33%
Introduction to library resources	14	93.33%
New arrival list	10	66.67%
Library rules and regulation/policy	14	93.33%
Information about membership	12	80.00%
Library department/section information	11	73.33%
Information about the branch libraries	12	80.00%
Opening hours	14	93.33%
Staff directory	15	100.00%
Annual reports/ library statistics	04	26.67%
Library newsletter	02	13.33%
Web counter	05	33.33%
Library committee	02	13.33%
Floor plan	08	53.33%
Ongoing projects	04	26.67%
Photo gallery	04	26.67%
Virtual tour	02	13.33%
News and event	15	100.00%

n=15

All the libraries (100%) have introduction, vision, mission statement, objectives, staff directory and the news and events, 93.33% of libraries have description of services and resources, library rules and regulations and opening hours. Of the studied libraries 80% are having membership information and branch library information; 73.33% have library department/section

information; 66.67% have new arrival lists; 53.33% have floor plan of the library; while all other features noted less than 30% of availability.

6.4 Supportive e-services

Nine items related to supportive e-services were addressed by the survey and they have shown in the Table VIII. Of the studied libraries 60% are having social media usage, location information on Google map and plagiarism detection tools; 53.33% have RSS feeds; two libraries (13.33%) have special services for disabled users and citation style guide service. The renewal, fine calculation and blogs were not reported more than 20% of the surveyed universities.

Table VIII: Supportive e-services

Supportive e-services	Frequency	Percentage
Information for disabled users/Talking books	2	13.33%
Citation style guide	2	13.33%
Renewal	1	6.67%
Fine calculation	3	20.00%
RSS feeds	8	53.33%
Blogs	1	6.67%
Social media sites	9	60.00%
Location information on Google map	9	60.00%
Plagiarism detection tool service	9	60.00%

n=15

6.5 Accessibility, currency, accuracy and speed

Accessibility refers to the easy access to library. 53.33% of the libraries can be accessed through the home page of the university while, 46.67% of libraries were found under the link of faculty or resources. 73.33% WebPages provide access via different web browsers. Copyright information (date and copyright owner) was provided by 93.33% of libraries. However, 46.67% of the library web pages showed the last updated date to be not less than six months before, as seen in the Table IX. Speed of the services has examined by the speed of navigation and number of clicks required from home page to access any

service provided by the websites. Majority of the libraries 93.33% retrieve information less than three clicks while 86.67% of libraries maintained information navigation speed within 8-10 seconds. Maintenance of the library website is evaluated by the two factors: dead links and under-construction pages. 46.67% of libraries reported under-construction pages; 73.33% of had dead links. Some universities reported more than 10 dead links in their websites (Ex:Eastern University Sri Lanka=10, South Eastern University of Sri Lanka=16).

Table IX: Accessibility, currency, accuracy and speed

Feature	Frequency	Percentage
Direct link on university website home page	8	53.33%
Library can be found under link of Faculty/ resources	7	46.67%
Accessibility via different web browsers	11	73.33%
Updating date	7	46.67%
Copyright information	14	93.33%
Speed (access within 8-10 seconds)	13	86.67%
Retrieval of information within 3 clicks	14	93.33%
Dead links	11	73.33%
Under-construction pages	7	46.67%

n=15

6.7 Website features

Features of the websites studied by the six elements as shown in Table X. Except one university all the other surveyed university websites (93.33%) maintain concise and clear web pages; 80% of university websites are well labeled and they have understandable icons. Only 13.33% of university webpages are visually attractive. Only one university (6.67%) provide language options while all other websites are in English only. 26.67% of universities had website index and 53.33% of websites have site search facility.

Table X: Website features

Feature	Frequency	Percentage
Home page is concise and clear	14	93.33%
Well labeled and easy to understandable Icons	12	80.00%
Visually attractive websites	2	13.33%
Language options	1	6.67%
Website index (A-Z index)	4	26.67%
Site search facility	8	53.33%

n=15

7. CONCLUSION AND RECOMMENDATIONS

The analysis based on the e-services available in the university library websites in Sri Lanka, confirmed that the development of e-services is still in its infancy which compared to those of international experience. Data revealed that libraries do not yet fully understand the importance of the web based services and catering fast growing remote and online library users. They do not fully realize e-services reduce the workload of the librarians. Some universities however have built up and maintained quality e-services for their users (University of Colombo and Open University of Sri Lanka) and their websites are attractive and easy to use even for beginners. The following suggestions directly address the requirements for future improvements of e-services provided via library websites in Sri Lanka.

The study found that none of the surveyed libraries adopted a strategic approach to marketing and promotion of e-services offered through the library website. It highly recommends the adopting marketing strategies to promote the present library services in an attractive way by using approaches such as social media, blogs, wikis etc.

It was observed that almost all the library websites were giving priority for general information about the library. To keep pace with the ever growing demands of the users and changing nature of the technology, librarians and website developers have drawn immediate attention on attracting the

techno savvy users by adding more valuable features to the library's website. As university libraries are always promoting the research culture among the scholarly community in the university, we suggest that library websites should include research promotion materials *i.e.* citation guides, reference materials, encyclopedias and dictionaries, plagiarism detection tools.

Our study found that attention on user education and information literacy programmes are lacking in the websites. Few libraries have mentioned user education as a service in their library website. However, there is no proper mechanism to focus on empowerment of users offering online user education, online information literacy programme or tutorials on information literacy. Therefore, present study strongly recommends that library administrators must pay immediate attention on self-empowerment of users by offering online user awareness programme, literacy programme and user education activities.

Web OPAC is another important feature to be considered, because OPAC is the gateway to the resources available in the library. According to the results, 73.33% of university libraries provide web OPAC search facility to their clientele. Therefore all university libraries must provide 24x7 rapid access availability of the web OPAC through their respective university library websites.

As we live in a fast and a constantly changing world, it is important to provide updated information to clients. As the obsolete nature of information, library professionals must always focus on providing the right information at the right time to the users. In this case only 46.67% of the surveyed libraries have updated the information in their respective websites not less than six months. We recommend that university libraries must update their websites on a more regular basis than the ad hoc way.

ILL and document delivery is another important service which needs to be functioning lively than providing only word format request forms. As such suggestions, ILL and document delivery service need to be re-designed and made to empower the e-services.

Study found that users have fewer chances to give their valuable feedbacks and suggestions about the library and its services. Though there are features such as 'chat with the librarian and contact us' there is no specific place to welcome user feedbacks and suggestions. Hence the present study suggests reserving a special place or an online suggestion box within the library website for users' feedbacks. This can be used as a communication platform between users and the library to enhance the e-service quality.

This study concludes that the link of the library website must give a due place within the respective universities and it is the duty of the library administrators and the website designers to work together to maintain a more informative and attractive library website to cater for the scholarly users in the university community in Sri Lanka. Finally, we strongly recommend that further usability studies are needed to explore user perception of the e-service quality of each university library website in few years based on same elements used here.

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