Evaluation of University Library Websites of Sri Lanka

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ABSTRACT

The study created a framework consisted of 67 items to evaluate content and design features of university library websites of Sri Lanka by review of literature and expert evaluation. Besides, the paper evaluated the library websites of Sri Lanka based on the created framework and highlighted the points needed to be addressed in order to enhance the quality. Content richness of Sri Lankan library websites showed low levels of compliance (64.97%) to the framework than design features (82.57%). Among the Sri Lankan university library websites 21.43% have provided "Ask a librarian Service" and online help facility. None of the libraries have provided a glossary for library terminology and text alternatives (< alt> tags) for non-textual elements making websites inaccessible for differently able users. Present study highly recommended to redevelop the content of library websites of Sri Lanka by including all features described in the framework to provide better service to user community.

Keywords: Library website evaluation, Content of library websites, Design of library websites

1. Introduction

Website of the library is its virtual public face which extends services to patrons without any barriers of time and place. At present, a library website has to compete with hosts of other Internet services and organizations for clientele. In essence, the library website must capture, motivate and encourage repeat visitation by providing useful, innovative, and interactive services by simplifying user tasks (McGillis & Toms, 2001).

Sri Lankan university system has developed over the years and at present comprises of 15 government universities operate under the umbrella of University Grants Commission of Sri Lanka and 14 universities have created library websites. Library web portals have become the gateway for most of the vital resources and services including Online Public Access Catalogue (OPAC), subscribed e-journals and databases, subject gateways and Inter Library Loan (ILL) services. Periodic evaluation of library websites are essential to provide efficient and effective services to patrons to acquire information and services with satisfaction. Although evaluation of web portals are essential only the study conducted by Wijayaratne (2013) analysed university library websites of Sri Lanka based on 17-itemed evaluative instrument. Hence, the present study aims at carrying out an in-depth analysis of university library websites of Sri Lanka by creating a framework based on content and design features.

1.1 Review of literature

Content richness and design accuracy of library websites are equally important to create user centred websites.

Stover (1997) developed an instrument to evaluate academic library websites based on mission of the academy, role of libraries, hypermedia theory and principles of webpage design. The instrument consisted of 16 items and was developed in the form of a checklist to evaluate the content and design of academic library websites.

Clausen (1999) created an instrument with 40 criteria on design and structure, quality of information, links and navigation, aesthetic impression, miscellaneous and general assessment. In the same year, Cohen and Still (1999) developed a tool to compare the content of library websites in the United States of America based on 16 elements which consisted of contact e-mail links, date of update, staff directory, description of services, links to search engines, links to own OPAC, links to other OPACs, links to Internet subject resources and links to subscription databases/journal service.

Osorio (2001) developed a tool consisted of 18 elements related to design and 48 content elements categorized according to the hyperlinks; general hyperlinks, specialized hyperlinks, and hyperlinks to other sites. Based on Osorio's model, Adams and Cassner (2002) developed a 43 element list comprising of design and content elements. Design elements consisted of text only option, institutional and library logos, graphics, colors, fonts, navigation, screen lengths and link headings.

Detlor and Lewis (2006) defined a 33 item codebook to assess and measure library website content and design in a quantitative manner. The codebook covers issues as catalogue, electronic resources, site map, search box on homepage, alternate text, Ask a Librarian, contact information and library general information including mission/goals and history. Mawe (2007) developed a tool to evaluate the content and design features of public library local studies websites in the United Kingdom. Design features were evaluated by location, aesthetics, layout, readability, accessibility, navigation, consistency, currency and maintenance.

Gardner, Juricek and Xu (2008) developed a tool which consisted of 48 items based on the study of Deltor and Lewis (2006). The content items in the tool were organized into five main categories; information about the library, current awareness, collection, services and contact information. Sawetrattanasatian (2008) developed a tool that consisted of 75 content and design criteria to evaluate the website of Central Library of the University of Chulalongkorn, Thailand. Quatab and Mahmood (2009) evaluated content and design of the library websites in Pakistan. The authors had divided the criteria as navigation, currency, website aids and tools, general information, electronic resources, library services/ technical service, language, value added services.

Noa (2012) developed 42 item checklist to analyze American academic library websites and divided into eight categories: site description, currency, website aids and tools, library general information, library resources, services, links to e-resources and value added services.

Numerous studies conducted throughout the world indicates that library professionals are enthusiastic over evaluation of their websites. However, Asian countries are far behind their Western counterparts on this aspect and within Sri Lanka only the study conducted by Wijayaratne (2013) analyzed university library websites based on 17-itemed evaluative instrument.

1.2 Objectives of the study

1 To develop a framework to evaluate content and design features of university library websites

2. To evaluate university library websites of Sri Lanka.

2. Methodology

Expert evaluation and observation methods were incorporated for the study. In essence, this technique has been incorporated by numerous predecessors to evaluate library websites (Adams & Cassner, 2002; Wijayaratne, 2013).

2.1 Instrument development

Present study identified 95 criteria (44 content and 51 design) from previous library website studies and presented in the form of a questionnaire to obtain the opinion from panel of experts on applicability of criteria to the study context.

2.2 Expert evaluation

Ten experts, including five specialists from the field of Library and Information Sciences and five with expertise in Library web designing, were selected by purposive sampling method. The experts were requested to select the criteria and to comment/suggest new criteria which can be useful to evaluate the Sri Lankan university library websites. Data obtained were descriptively analysed. To facilitate data analysis, values given in the Likert scale for the applicability of each criterion were recorded into tri codes (not applicable, moderately applicable and highly applicable). Criteria selected by experts as highly applicable (3.34-5.00) and new recommended criteria were included for the framework.

2.3 Research sample

The researcher proceeded a systematic structured observation of the library websites of 14 universities during second week of March, 2018 based on the developed framework. Table 1 depicts the research sample.

Table 1: Research sample

University	
University of Colombo	Eastern University of Sri Lanka
University of Peradeniya	South Eastern University of Sri Lanka
University of Sri Jayewardenepura	Rajarata University of Sri Lanka
University of Kelaniya	Sabaragamuwa University of Sri Lanka
University of Moratuwa	Uva Wellassa University
University of Jaffna	University of Visual and Performing Arts
University of Ruhuna	Open University of Sri Lanka

The collected data from structured observations were coded and entered on worksheets of Microsoft Excel. The overall weighting of each criterion was obtained to evaluate library websites.

3. Results and Findings

Among the criteria identified through review of literature experts selected 65 criteria as highly applicable to evaluate library websites of Sri Lanka and recommended two new criteria (providing access to past exam papers and inclusion of a glossary). Finally 67 criteria were used for the framework. Figure 1 depicts the created framework based on expert evaluation and Appendix 1 elaborates criteria included to each sub-category. The framework consisted of 32 criteria related to content and 35 on design of the website.
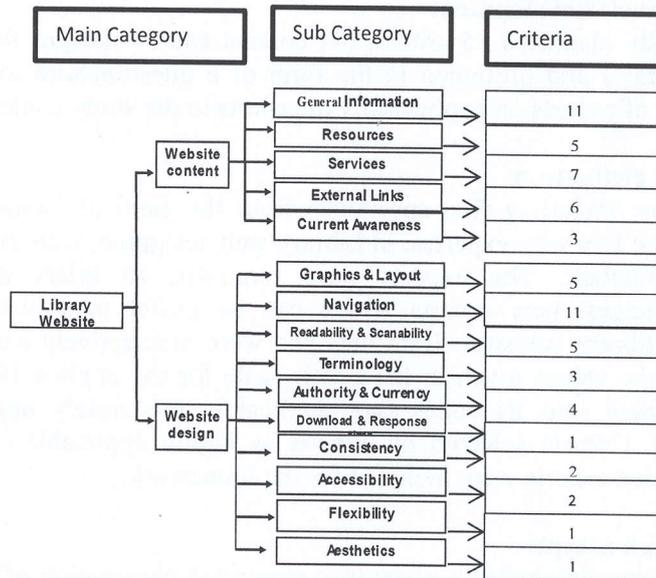

Figure1: Framework to evaluate university library websites

3.1 Evaluation of university library websites of Sri Lanka

Table 2 indicates the percentage of content and design features available in the studied sample based on the developed framework. Library website of University of Peradeniya exhibited highest compliance (98.18%) to the content features and library website of University of Kelaniya consisted of 89.85% design features. Content and design features of Sri Lankan university library websites showed 64.97% and 82.57% mean compliance respectively to the developed framework.

Table 2: Percentage of content and design features in library websites

University	% Content features	% Design features	University	% Content features	% Design features
University of Colombo	72.38	79.62	Eastern University of Sri Lanka	37.22	79.71
University of Peradeniya	98.18	81.35	South Eastern University of Sri Lanka	53.23	82.03
University of Sri Jayewardenepura	65.90	81.03	Rajarata University of Sri Lanka	58.85	84.03
University of Kelaniya	65.41	89.85	Sabaragamuwa University of Sri Lanka	68.85	81.89
University of Moratuwa	71.24	87.12	Uva Wellassa University	34.73	79.89
University of Jaffna	57.41	79.71	University of Visual and Performing Arts	65.05	84.03
University of Ruhuna	67.30	85.12	Open University of Sri Lanka	93.81	80.62

3.2 Website Content

Content richness of library websites were evaluated by five main categories: General information, resources, services, external links and current awareness.

General information
The category consisted of criteria as library collection, operation hours, servicers etc. Figure 2 reveals that all the Sri Lankan university libraries have provided contact information, opening hours, library membership, vision and mission in the websites. However, only 64.28% of Sri Lankan university library websites have provided floor plan and 71.43% have stated about history and library policies.

Library resources
This section explored access to library resources as catalogue, e-resources, institutional repository and past exam papers through the website. All the Sri Lankan university library websites have provided access to library catalogue and e- resources through the website, whereas only 50% have provided access to past exam papers (Figure 3).
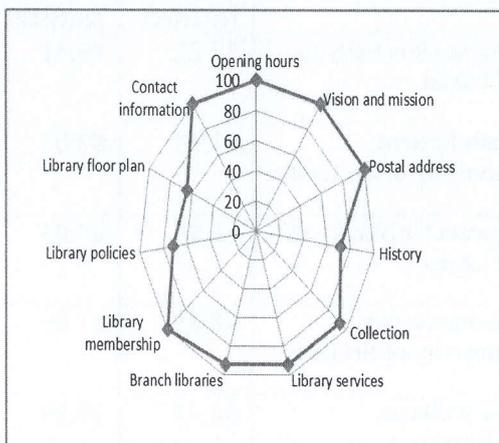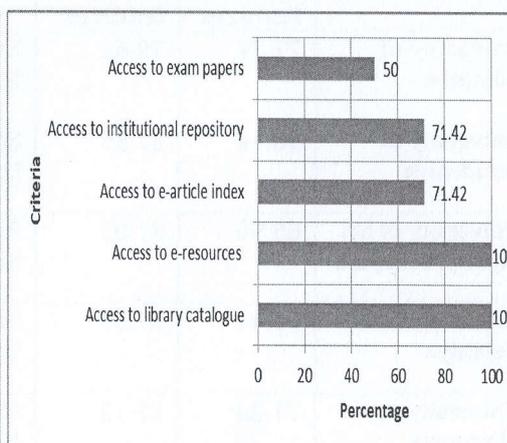
Figure 2: General information

Figure 3: Resources

Library services

This section highlighted services offered by library websites. Amongst Sri Lankan university library websites 71.42% have provided ILL service whereas 21.43% have provided "Ask a librarian Service" and online help facility. Furthermore, amid all the Sri Lankan university libraries only 3 have (14.29%) provided services for users with special needs (Figure 4).
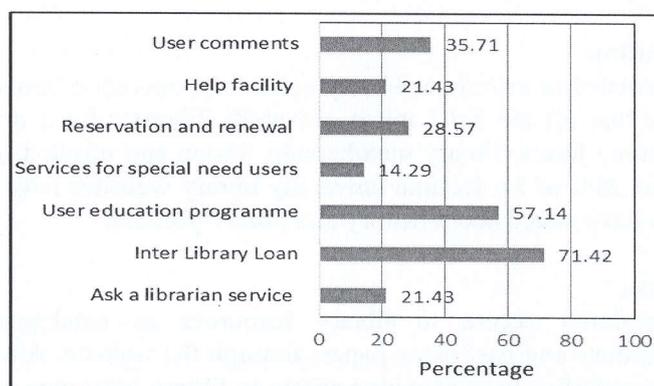

Figure 4: Services

External links and current awareness

An academic website should include links to reliable external sites to provide easy access to scholarly information. However, 50% of the Sri Lankan university library websites have provided access to subject gateways and 28.57% provided access to search engines (Table 3). 85.72% have provided upcoming events of the library through the websites. However, only 14.29% have inclusions of Frequently Asked Questions (FAQ) in the library websites (Table 3).

Table 3: External links and current awareness

Category	Criteria	Frequency	Percentage %
External Links	Link to parental institutional homepage	12	85.72
	Links to branch libraries OPACs	11	78.57
	Links to other university libraries	8	57.14
	Links to national/international records	10	71.42
	Links to subject gateways	7	50
	Links to search engines	4	28.57
Current Awareness	Library news	12	85.72
	New books and journals arrived	9	64.29
	FAQ	2	14.29

3.3 Website Design

As depicted in Figure 1, design of the library websites were evaluated by ten categories.

Graphics and layout

The content of web pages should be logically organized by placing important information at top few lines in order to facilitate users to quickly find information. Logical organization of information and use of relevant graphics were observed in all studied websites. Although webpages should be designed to omit excess scrolling, 42.86% of university library websites of Sri Lanka were more than two full screen lengths (Figure 5).

Navigation

Navigation offers easy access to breadth and depth of website's content by orienting users within the site and by allowing them to know where else they can go and have already visited. Only 7.14% of library websites have provided up and down navigation tools in webpages while 21.43% provided clickable list of contents in long webpages. Besides, 28.57% of websites have provided breadcrumb navigation. Conversely, all university library websites of Sri Lanka have provided meaningful labels for links and 93.33% were designed to avoid horizontal scrolling (Figure 6).
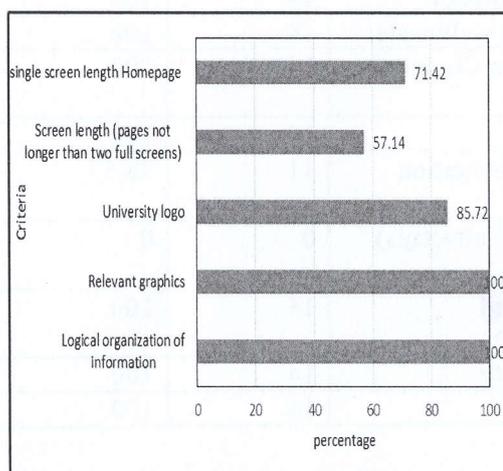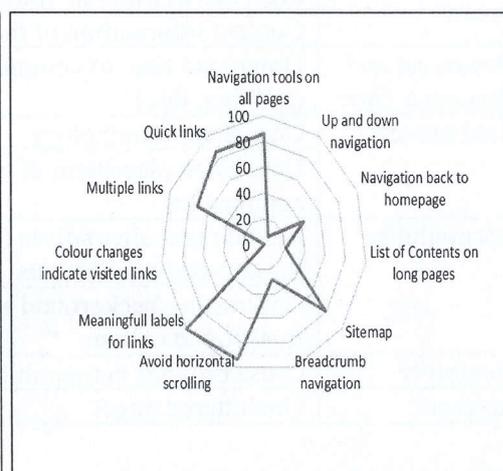

Figure 5: Graphics and Layout

Figure 6: Navigation

Table 4 reveals that all the Sri Lankan university libraries make content accessible to users by providing websites with readable fonts and informative headings. However, none of the libraries have provided a glossary for library terminology. The currency which can be assessed based on date stamp on each webpage is important for the decision process of using information/services in a website. Only 50% of the Sri Lankan university libraries have provided date of update in the websites which affect the trustworthiness. Accessibility of a library website is important to provide services for differently able users. Hence, all the auditory and visual content should be accompanied by meaningful alternative text (<alt>tags) which can be read through assistive technologies (Detlor & Lewis, 2006; Sawetrattanasatian, 2008). Unfortunately none of the Sri Lankan university library websites have provided text alternatives (<alt>tags) for non-textual elements making websites inaccessible for differently able users. All the Sri Lankan university library websites have cross browser compatibility and were aesthetically pleasing.

Table 4: Design features of library websites

Category	Criteria	Frequency	Percentage %
Readability and Scanability	Readable font type	14	100
	Informative headings	14	100
	Important information at top of the page	14	100
	Simple concise writing with chunks	14	100
	Text free from spellings and grammatical errors	14	100
Terminology	Terms familiar to users	14	100
	Avoid use of jargons	14	100
	Glossary for library terminology	0	0
Authority and Currency	Last update of the website	7	50
	Presence of current information	14	100
	Presence of accurate information	14	100
	Contact information of the webmaster	14	100
Download and Response time	Download time of common file formats (pdf, jpg, doc)	14	100
Consistency	Consistent terminology	14	100
	Consistent placement of navigation components	11	78.57
Accessibility	Provide text alternatives (< alt> tags) for non-textual elements	0	0
	Contrasting background and foreground colours	14	100
Flexibility	Cross browser compatibility	14	100
Aesthetic	Uncluttered pages	14	100

4. Discussion

The framework which recommended by experts were derived in accordance with criteria and guidelines used by previous studies. Design accuracy of the Sri Lankan university library websites exhibited high compliance (82.57%) to the developed framework than website content (64.97%). Quality and usefulness of the content determine whether users are attracted or driven away from the websites. As such Librarians should improve the content of websites to attract the user community. Library websites should provide basic information for users, such as addresses, contact information, opening hours, introduction to general collection, services and information on membership (Detlor & Lewis, 2006; Mawe, 2007; Sawetrattanasatian, 2008). By congruent with these studies all Sri Lankan university library websites have provided all the basic information for users via the website. Furthermore, Gardner *et al* (2008) and Quatab and Mahmood (2009) stated that any other information likely to be required by new users as library policies, procedures, charges, library guide, floor plan, and information on branch libraries should also have to be provided.

Details of available resources are key to the success of the website. Hence, many researchers have pointed out the importance of providing access to library catalogue, databases, CD–Rom collection and electronic article index which provide scholarly information for users (Cohen & Still, 1999; Osorio, 2001; Qutab & Mahmood 2009). By congruent with the previous studies all the Sri Lankan university library websites have provided access to library catalogue and e-resources through the website. However, only 50% have provided access to past exams papers via the website. This may be due to individual university policies. Usability study conducted by Silva (2013) revealed that providing access to past exam papers via website was suggested by users as the most important feature in a library website.

A challenging task for libraries all over the world is to fulfil user requirements due to influx of information receive on daily basis. To overcome this obstacle it is vital to have inter library cooperation to share resources. Despite the importance of ILL services only 71.42% of Sri Lankan university libraries have provided service via the websites. Library websites should provide "Ask a Librarian" service in which use of online enquiry submission forms help users to structure their questions (Detlor & Lewis, 2006; Qutab & Mahmood, 2009). Only 21.43% of the Sri Lankan University library websites have provide "Ask a Librarian" service and online help. The study conducted by Silva (2013) discovered that online reservation and renewal of library material and online help facility were suggested by users as the second highest important features in the library websites. Despite this findings 28.57% of Sri Lankan university library websites have provided online reservation and renewal of library material which negates to provide time and place independent services to users.

It is revealed from the present study that 42.86% of Sri Lankan university library websites are more than two full screen lengths. Research conducted by Sawetrattanasatian (2008) evident that users are reluctant to scroll through very long web pages and have a risk of overlook the content. To overcome the problem providing clickable list of contents on long web pages help users to easily navigate directly to the content they require rather than scrolling long web pages. Furthermore,

breadcrumb navigation which shows users the path they have taken from homepage to the current location help them to navigate the website easily.

Many studies have revealed that terminology used in library websites were not user friendly and consisted of library jargon (Adams & Cassner, 2002; Gardner *et al*, 2008). Furthermore, Jacek (2007) emphasized that "many library users do not understand simple library terms like catalogue, resources, online databases, citation, reserves, reference or special collection"(p.4). The study conducted by Silva (2013) revealed inclusion of a glossary for unfamiliar terms as an important feature which has to be introduced to the library website.

Wijayaratne and Singh (2010) reported the absence of <alt> tags as a predominant accessibility error on library websites. Present study also revealed that none of the Sri Lankan university library websites have provided text alternatives (< alt> tags) for non-textual elements making websites inaccessible for differently able users.

5. Recommendations

Website design of the Sri Lankan university libraries exhibited high compliance (82.57%) to the developed framework than the website content (64.97%). It is highly recommended to re-develop the content of library websites of Sri Lanka by including all the features described in the framework to provide better service to user community.

Usefulness is one of the important factor which motivates the use of a university library website. Thus, library professionals should urgently take necessary action to provide access to past exams papers, online reservation and renewals of library material via the library portal which interns increase the usage of the library website and can provide better service to users without the barriers of time and location by a mere click of the mouse.

It is suggested to provide online help information specifically on use of services and resources. Help information has to be provided in a way that, it should be easy to search, focus on the user's task, list steps to be performed, and not to be too large (Nielsen, 1995). Moreover, it is recommended to provide a list of questions and answers (FAQ), which is commonly asked by users in the study context to help themselves.

Website should re-design to provide "breadcrumbs" which is a line of hyperlinks located at the top of the screen to facilitate users to show the path they have taken from homepage to reach current location and to overcome the navigational problems, clickable list of contents which link to the respective information should be included on long web pages. To overcome the accessibility barriers all the Sri Lankan library websites should follow Web Content Accessibility Guidelines (WCAG) to make the content accessible to differently able users.

6. Conclusions

The study created a framework consisted of 67 items to evaluate content richness and design accuracy of library websites. Based on the develop framework content richness of the library websites of Sri Lanka are comparatively lower than design accuracy. Library professionals in the universities of Sri Lanka should re-develop the content of

websites by including all the features described in the framework to provide better service to user community.

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