Contents and Interactivity of National Library Websites

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ABSTRACT

The contents and interactivity of national library websites around the world is analysed. The study was confined to ninety nine selected national library websites. A checklist along with a data sheet was used as the tool for data collection and Microsoft Excel was used as the tool for data analysis. The analysis revealed that the websites have almost identical pattern of contents and interactivity. Majority of the websites used interactive applications. Facebook is the most preferred application followed by Twitter, RSS and blogs. The websites preferred extreme top right corner and extreme bottom right corner of their homepages to provide links to the applications and web objects. This study is useful for developing design standards for library websites and portals.

Keywords: World wide web; Website; Portal; National library; Library portal; Electronic publishing.

1. INTRODUCTION

With the explosive growth of the Internet and widespread use of e-resources, libraries have started to provide a virtual entrance to their resources and services. Library website or portal provides an online interface for library users to access e-resources and acts as an important promotional tool for library services, its mission and activities. All over the world modern libraries use their websites with links and web objects to provide access to digital libraries, institutional repositories, library consortia, webopac, etc. Web 2.0 technologies enrich communication by enabling user generated contents, collaboration and interactivity in an unprecedented scale[1]. The use of web 2.0 tools like social networking sites, wikis, blogs, microblogs, RSS feeds, etc. makes library websites much more interactive and provides high quality online services to the users.

National libraries are the knowledge repositories of nations. They collect, preserve and communicate the cultural heritage of nations. They have a unique role to play in meeting the information needs of all citizens of the nations. National libraries use information and communication technology for their operations and services. They need attractive, informative and easy to use dynamic websites that can provide a collaborative and interactive interface for extending their visibility. National libraries around the world maintain their websites as an interface to their resources and services, and it differs from country to country depending on the economic, social, cultural and political status of the country. There are

thousands of library websites on the Internet but a few of them are effective for the end users. Analysing the contents, coverage and interactivity are essential to evaluate the library websites. There are different methods to measure the quality and usability of websites. This study use content analysis to measure the contents and interactivity of the national library websites around the world. The results will be useful for evaluating the national library websites and to develop design standards for library websites and portals.

2. LITERATURE REVIEW

There are many studies assessing the contents of library websites. Haneefa and Anjana[2] found that the websites of national libraries of Asian countries have an identical of pattern of contents and coverage. In another study, Walia and Gupta[3] found that the Japan National Library is at rank number one among 23 national libraries of Asia and Maldives national library at the bottom rank. Verma and Brahma[4] found that the web impact factor of national library of India is the highest followed by National Library of Sri Lanka and national library of Bhutan among the other national libraries websites in South Asia. Pisanski and Zumer[5] revealed that European National Library websites have an identical core of contents and design. Nowkarizi, Fanudi and Nowrouzi[6] observed that the websites of national libraries in Asian countries had relative superiority.

Kumar[7], *et al.* found that all the Indian Institute of Management library websites have information about books, journals, reference sources, back volumes of journals and information on library services. In another study, Vijayakumar, Kannappanavar and Mestri[8] showed that the contents of the library websites of Indian Institutes of Technology are different

from one another in many respects. Pathak[9], *et al.* also revealed that no symmetry was found in the contents provided by the IIT's library websites. Kaushik[10] found that majority of the National Institute of Technology library websites have their name, logo, services, etc. but the websites lack currency, reliability, and web 2.0 tools. Kannappanavar[11], *et al.* found that engineering college library websites of Tumkur District in Karnataka State in India are not maintaining separate library websites and limited information is provided through their institution websites. Kumar and Verma[12] found that the NAAC accredited 'A' grade universities in central zone of India have general information, e-resources and services in their library websites.

Still[13] revealed that all the university library websites in English speaking countries have identical visual display of information. Clausen[14] found that the websites of the Danish academic libraries are above average compared with websites in general. Qutab and Mahmood[15] showed that Pakistani library websites have no standards for content selection so they lack uniformity and often miss important features. Utulu and Bolarinwa[16] indicated that Nigerian universities websites may not be able to meet their users' information needs due to the short fall in their contents. Mohammed, Garba and Umar[17] found that the general information about the university library websites in Nigeria is all inadequate. Aharony[18] revealed that the American academic libraries' websites increasing use of e-journals and web 2.0 tools. Zarei and Abazari[19] reported that the national library of Singapore provides more than half of its services via the library website.

Websites use interactive applications to engage users. In a study, Harinarayana and Raju[20] found that the library websites of top world universities use their top left and top right corners to deploy the web objects 'search box' and 'link back to home' as same in the case of e-commerce websites. Walia and Gupta[21] revealed that social networking sites, microblogs and RSS are the popular web 2.0 tools used by national libraries. Linh[22] revealed that majority of the Australasian university libraries used one or more web 2.0 tools in their websites. Harinarayana and Raju[23] conducted a study to assess the application of web 2.0 tools in university libraries around the world. They found that 37 libraries use RSS feeds and 15 libraries use links to blog space. Mahmood and Richardson Jr[24] showed that all the US academic libraries use one or more web 2.0 tools in their websites. Social networking sites, Blogs, microblogs, RSS, instant messaging, mashups, podcasts, and vodcasts were widely used. Si, Shi and Chen[25] showed that majority of the Chinese university libraries used one or more web 2.0 tools in their websites. Boateng and Liu[26] revealed that all the 100 top US academic libraries had links to Facebook and Twitter in their websites. Yoon and Schultz[27] suggested that the websites of US academic libraries need to engage more actively to provide services, information online, and develop educational services.

The perspective of the study can be understood from the related literature reviewed. Each one of the study was discussing the contents, interactivity and the location of web 2.0 objects in the websites. Findings of the literature show that there are many research issues still remain open in this field.

3. RESEARCH DESIGN

An attempt has been made to analyse the contents and interactivity of the national library websites around the world. The list of national libraries was used to identify the URL of currently existing national libraries[28]. According to the list there are 163 national libraries exist. Out of these, only 106 countries have national library websites. Due to the language barrier and lack of translation service provided in the websites, seven websites have been omitted from the study. So the study was confined to 99 national library websites. A check list along with a data sheet was used as the tool for data collection and Microsoft Excel was used as the tool for data analysis. The check list was used for the content analysis of the websites.

The grid method used by Shaikh and Lenz[29], Haneefa and Jasna[30] and Harinarayana and Raju[20] in their studies was employed to identify the location of web 2.0 objects in the websites. The method use a data sheet depicted 5*5 horizontal and vertical grids (Appendix 1) to represent the web applications in the websites. Most commonly seen 5 interactive applications were identified for the grid analysis. The locations of the particular web applications can be marked in the appropriate grids in the data sheet. The darker the shade of the blue, greater the number of times the particular application was found in the location. Based on the location of the web applications, frequencies were counted for each application in the grid table (Fig. 1).
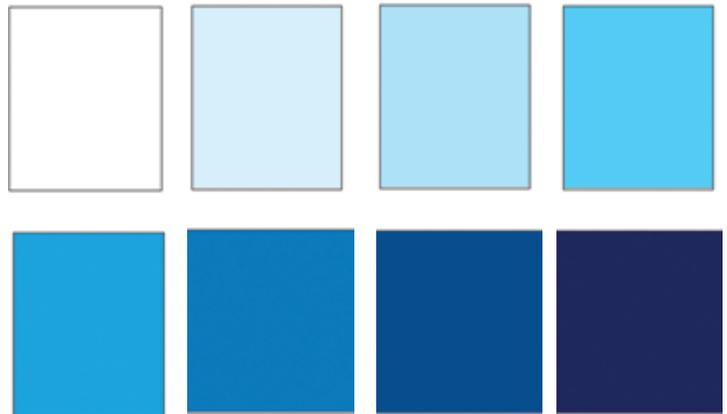

Figure 1. Coloured grid represents the frequency of web applications in the websites.

4. RESULTS AND DISCUSSIONS

As part of the data collection, each website selected for the study was carefully evaluated based on the check list and data sheet.

4.1 General Information

There is a collection of links in the homepages of the library websites to provide the general information related to national libraries. Table 1 depicts the frequency of links to general information in the national library websites.

It is revealed that all the national library websites provided general information. Majority (79.80 %) of the libraries provided their contact details, location (77.78 %), library hours (70.7 %), picture of libraries (65.66 %) and history (61.62 %) in their websites. About half of the libraries provided information

Table 1. General Information in national library websites

General Information	Number of websites (N=99) (Per cent)
History	61 (61.62)
About the library	50 (50.51)
Mission statement	40 (40.40)
Location/Address	77 (77.78)
Location map	36 (36.36)
Sitemap	33 (33.33)
Library hours/opening time	70 (70.71)
Library rules/guidelines	29 (29.29)
Library functions/ activities	14 (14.14)
Administrative activities/administration	11(11.11)
News and events	74 (74.75)
Membership/registration	42 (42.42)
Library tour	21 (21.21)
Website in other languages	53 (53.54)
FAQ	29 (29.29)
Date of updating	16 (16.16)
Contact	79 (79.80)
Feedback /comments	23 (23.23)
Copyright	72 (72.73)
Library sections/ departments	16 (16.16)
Suggestion box	3 (3.03)
Information about library building	25(25.25)
Information about library staff /directors	41(41.41)
Picture of national library	65(65.66)
Jobs at library	18 (18.18)
Organisational structure /chart	31 (31.31)
Ask a librarian	29 (29.29)
Virtual tour to the library	8 (8.08)
Annual report	12 (12.12)
Calendar	9 (9.09)

Table 2. Information about library collections

Information on library collections	Number of websites (N=99) (Per cent)
Books	90 (90.91)
Regional books	47(47.47)
Foreign books	37 (37.37)
Rare/old books	39 (39.39)
Special collections	16 (16.16)
Children's literature	16 (16.16)
Science and technology	19 (19.19)
Arts and culture	18 (19.19)
Literature	25 (25.25)
Language	18 (18.18)
History	22 (22.22)
Reference collection	15 (15.15)
Periodicals/serials	44 (44.44)
Newspapers	43 (43.43)
Journals	24 (24.24)
Magazines	29 (29.29)
Audio collection	30 (30.30)
Video collection	29 (29.29)
Films, short films	12 (12.12)
CD/DVDs	19 (19.09)
Microforms	7 (7.07)
Microfilm	16 (16.16)
Microfiche	10 (10.10)
Printed music / sheet music	18 (18.18)
Maps/atlases	52 (52.53)
Manuscripts	49 (49.49)
Pictures/paintings/drawings	26 (26.26)
Photographs	35 (35.35)
Legal deposit, official/ govt documents	25 (25.25)
Theses	21 (21.21)
Dissertations	10 (10.10)
Graphic works/materials	10 (10.10)
Posters, brochures and flyers	18 (18.18)

about the library (50.51 %), membership/registration (42.42 %), information about library staff/directors (41.41 %) and mission statement (40.40 %). It is found that Croatia national library website provided more number of general information (22) and it is followed by Australia (19), Malaysia (18), Vietnam (18), Singapore (18) and Slovenia (18) library websites.

4.2 Library Collections

It is the responsibility of the national libraries to collect all types of documents including conventional printed publications, manuscripts, audio visual materials and e-resources to maintain the cultural heritage of their countries. Table 2 shows the information about library collections on the websites.

It is found that a large majority of the websites provided information about their books (90.91 %). It includes regional (47.47 %), foreign (37.37 %), rare/old books (39.39 %), etc. About half of the websites provided information about maps/atlases (52.53 %). A good number of the websites provides information about periodicals/serials (44.44 %), which includes newspapers (43.43 %), journals (24.24 %) and magazines (29.29 %). It is found that national library website of Hungary (29) provides more information about library collection. It is followed by China (26), Iran (22) and Denmark (22) national library websites.

Table 3. E–resources in the national library websites

E-Resources	Number of National Library Websites (N=99) (Per cent)
E-Books	24 (24.24)
E-journals	27 (27.27)
E-Theses	8 (8.08)
E-Newspapers	13 (13.13)
E-zines	14 (14.14)
Databases	32 (32.32)
Institutional repository	1 (1.01)
Digital Library	36 (36.36)

4.3 E-resources

E-resources became an important component of the collections of all types of libraries. To be effective the library websites must provide information and links to e-resources including e-journals, databases, e-books, etc. Table 3 shows the presence of e-resources in the national library websites.

It is revealed that majority of the websites provided links to e-resources (63. 63 %). A good number (36.36 %) of the websites provided information about digital library, databases (32.32 %) and e-journals (27.27 %). It is revealed that China (10) national library website provided more number of e-resources. It is followed by Iran (7) and Scotland (7) national library websites.

4.4 Library Services

National libraries provide a variety of services according to the objectives and policies of the libraries. The websites of the libraries provide links to different services like Web OPAC, document delivery service, referral service, bibliographic service, translation service, etc. Table 4 depicts the information and links to library services in the websites.

It is found that majority of the websites (78.79 %) provided WebOPAC/Online Catalogue. A good number of the websites provided information about reprography/photocopy/document copying services (36.36 %), bibliographic service (27.27 %) and ISBN (25.25 %). It is found that national library website of Belarus (27) provided more number of services on its website. It is followed by Latvia (12) and Moldova (12) library websites.

Table 4. Library services in national library websites

Library services	No. of national library websites (N=99) (Per cent)
WebOPAC/online catalogue	78 (78.79)
Loan (circulation)/lending	17 (17.17)
Inter library loan	23 (23.23)
Document delivery service	4 (4.04)
Reference service	24 (24.24)
Virtual reference service	2 (2.02)
Referral service	2 (2.02)
Technical service	2 (2.02)
Translation service	1 (1.01)
Bibliographic service	27 (27.27)
Reprography/Photocopy/Document copying	36 (36.36)
Indexing	5 (5.05)
Digitization	18 (18.18)
Database access	1 (1.01)
Service for researchers	12 (12.12)
Service for students	2 (2.02)
Service for children	10 (10)
Reading room	24 (24.24)
Exhibitions	18 (18.18)
Mobile library	1 (1.01)
Training and guidance for readers	14 (14.14)
Training for librarians	5 (5.05)
Membership information	10 (10.10)
Union catalogue	5 (5.05)
Digital classroom	1 (1.01)
Digital/Virtual reading room	2 (2.02)
Guided tours/Excursion	9 (9.09)
ISBN	25 (25.25)
ISSN	17 (17.17)
Free Internet Searching and E-mail Browsing Service	10 (10.10)
Services for users with disabilities	8 (8.08)
Document binding	4 (4.04)
Individual workbenches	1 (1.01)
RFID self circulation system	1 (1.01)
Touch-screen for Electronic Newspapers	1 (1.01)

Table 5. Interactivity applications in national library websites

Interactivity Applications	Number of national library websites (N=99) (Per cent)
Blog	21 (21.21)
RSS	35 (35.35)
Twitter	43 (43.43)
Facebook	52 (52.53)
Google plus	14 (14.14)
LinkedIn	15 (15.15)
Reddit	3 (3.03)
Digg	4 (4.04)
Instagram	14 (14.14)
Tumblr	5 (5.05)
Flicker	10 (10.10)
Pinterest	12 (12.12)
Del.icio.us	5 (5.05)
iTunes	3 (3.03)
YouTube	30 (30.30)
E-poll	3 (3.03)
Google Bookmarks	3 (3.03)
TripAdvisor	4 (4.04)
StumbleUpon	3(3.03)

4.5 Interactive Applications

Websites contain dynamic and easy to use web objects and applications to enhance the quality of websites. Web 2.0 applications and objects are interactive, context rich and easy to use[31]. Table 5 shows 19 interactive tools provided by the national library websites.

The table shows that majority of the websites used interactive applications (77.77 %). Facebook (52.53 %) is the most preferred application in the websites. About half of the websites used Facebook followed by Twitter (43.4 percent 3), RSS (35.35 %) and Blog (21.21 %). It is revealed that the national library website of Canada provided more interactive applications (19) in the websites. The national library websites of Thailand (11), Quarter (11), Catalonia (9), Portugal (8) and France (8) have more applications followed by Canada national library website.

4.6 Location of Interactive Applications

Here an attempt has been made to find and compare the location of web objects and applications in the national library websites.

4.6.1 Blog

It was found that 21 (21.21 %) library websites have link to blogs in their homepages. Fig. 2 shows that the position of blog is varied in different websites. It is revealed that six websites have placed it at the top right corner of their homepages.

4.6.2 RSS

It is revealed that the RSS is randomly distributed in the
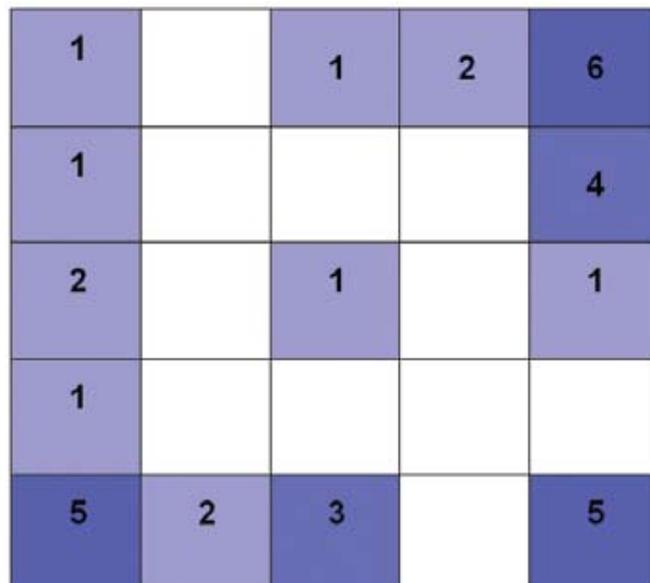
Figure 2. Location of blog in national library websites (n = 21).
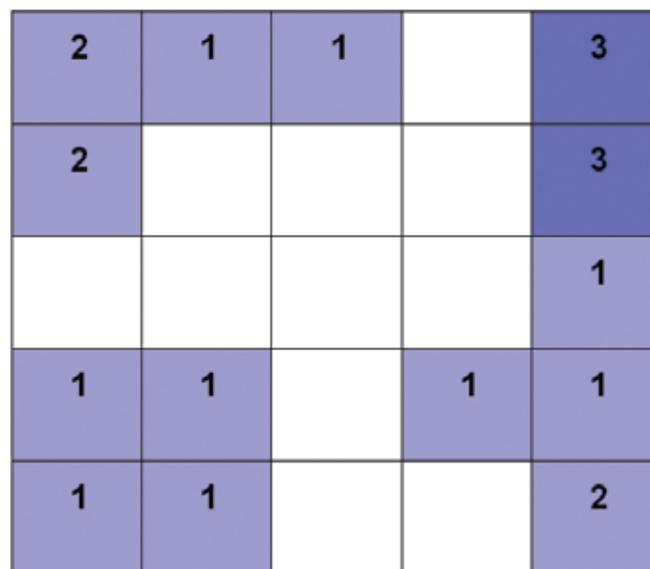
Figure 3. Location of RSS in national library websites (n = 35).

websites but it can be observed that 6 websites out of 35 (35.35 %) websites which use RSS is mainly located at extreme top right corner of the sites. (Fig. 3)

4.6.3 Twitter

The analysis shows that 43 (43.43 %) website used Twitter and out of these 12 website have the link at the extreme top right corners of their homepages. (Fig. 4)

4.6.4 Facebook

It is found that 52 (52.53 %) websites use Facebook. Fig. 5 depicts that 16 website preferred extreme bottom right corner for placing Facebook. A few websites placed it at extreme top right corner.
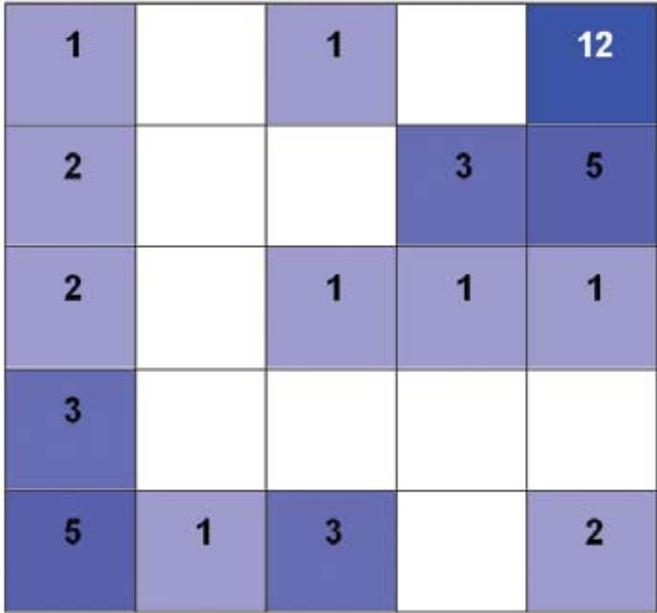
Figure 4. Location of Twitter in national library websites (n = 43).

4.6.5 YouTube

The analysis shows that 30 (30.30 per cent) library websites have a link to YouTube. Fig. 6 depicts that 9 website provided the link to YouTube at the extreme bottom right corner of their homepages and 6 websites have provided the link at the extreme top right corner of their homepages.
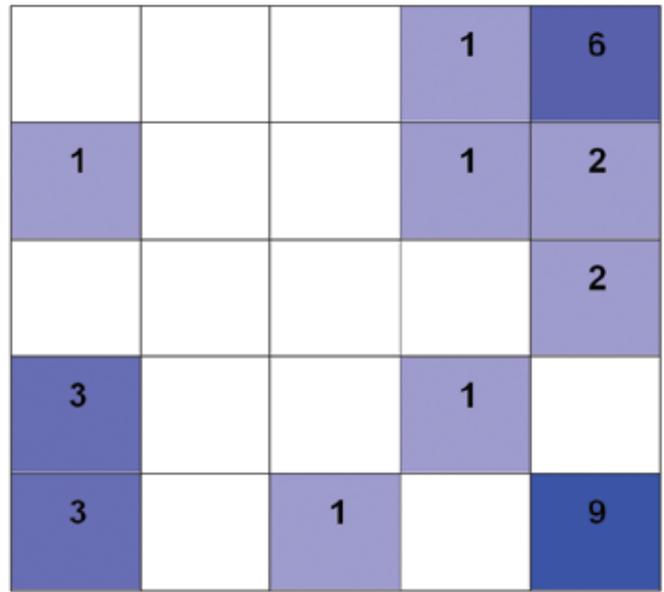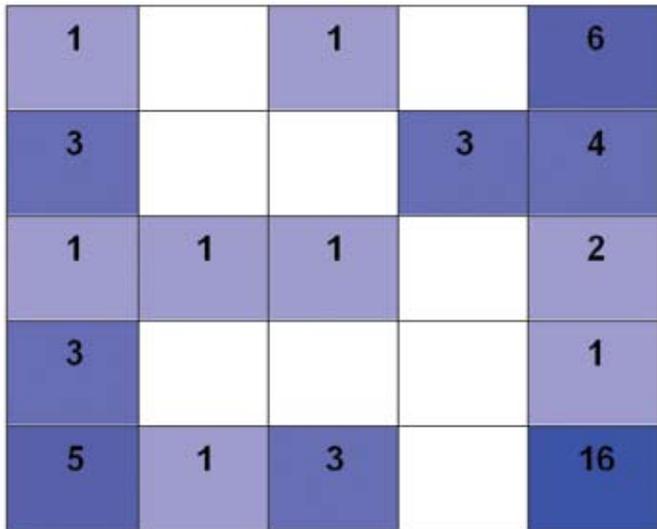

Figure 5. Location of Facebook in national library websites (n = 52).

5. CONCLUSIONS

The study analysed the contents and interactivity of national library websites around the world. It is revealed that most of the national library websites provided general information. Croatia national library website provided more number of general information followed by Australia, Malaysia, Vietnam, Singapore, and Slovenia library websites. Large majority of the websites provided information about library collection. National library website of Hungary provides more

Figure 6. Location of YouTube in national library websites (n = 30).

details about library collection. It is followed by China, Iran and Denmark national library websites. Large majority of the websites provided information about library services. National library website of Belarus provided more services on their website. It is followed by Latvia and Moldova national library websites. Majority of the websites provided information about e–resources. China national library website provided more number of e-resources. It is followed by Iran and Scotland national library websites.

It is revealed that the national library websites have almost identical pattern of contents and interactivity. Majority of the websites used interactive applications. Mainly 19 interactive application are used by the websites. Facebook is the most preferred interactive application followed by Twitter, RSS and blogs. The position of the applications is varied in different websites. But the websites preferred extreme top right corner and extreme bottom right corner of their homepages to place applications and web objects.

National libraries are responsible to collect, manage and preserve various kinds of resources and provide worldwide access to these resources for education and research[19]. Websites and portals are useful for marketing the resources and services of national libraries to a wider audience. The libraries need to design and develop full-fledged, interactive and easy to use websites that can be displayed across a variety of devices and different platforms. Usability tests may be conducted for testing navigation, web accessibility and content readability of the library websites.

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Contribution in the current study, he selected the research problem, designed the research methodology, and analysed the data of this study.

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Contribution in the current study, she collected data for content analysis. Interpreted the data and discussed the findings.

Appendix 1

5 x 5 Grid Data Coding Sheet

Name of the national library website: _____

URL: _____

Country: _____

Date of data collection: _____

Time: _____

Web objects:

1. Blog
2. RSS
3. Twitter
4. Facebook
5. Google plus
6. LinkedIn
7. Instagram
8. YouTube

Notes: