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Usability Evaluation of University Library Websites in South-South Nigeria

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Abstract

Evaluation of website usability is very essential to ensure good use and access to the content of the website. The study assessed the usability of library websites in Universities in South-South Nigeria. Eleven University library websites were identified and examined for the study. The study used an analytical survey method to collect data. A usability checklist was adopted for the study. The checklist has five usability attributes *usefulness, Efficiency, Effectiveness, Learnability, and Accessibility.* Result shows that six of the eleven University Library websites examined have a total usability score of 50% and above. One library website obtained the highest usability score at 89.5% and the lowest score was 26.3%. Summary of usability attributes of the University Library Websites shows that only five of the eleven websites scored above 50% in terms of site usefulness. For website efficiency, six out of the eleven websites scored 50% and above. For effectiveness only one library website scored 100%; others scored below 50%**.** All the library websites scored above 50% for learnability except one which scored 33.3%. All library websites scored 50% and above for accessibility. The study concludes that regular evaluation of a library website is core to maintaining the library's ability to fulfill support users in the pursuit of their academic and professional goals and also to compete successfully with other standard academic websites.

KEYWORD: Website Evaluation, University Library and Electronic Resources

ARTICLE TEST: Calibri, 11pt

INTRODUCTION

Library websites are essential tools that are used to store, process and disseminate information about a library. The main purpose is to create remote access to the libraries collections and services as well as interact with users in the virtual space. Nasajpour, Ashrafi-rizi, Soleymani, Shahrzadi, and Hassanzadeh (2014) confirmed that they are often the first and only place users go for information and the only way library services are used by virtual patrons who never physically visit the library.

In the traditionally library systems, face-to-face interactions between library users facilitate an understanding of the information needs of individual users. In today's virtual world of high permeation of the Internet in day-to-day activities, many libraries have hosted their websites to have virtual interactions with their users. To this end, library challenge is to provide access to quality content in electronic form, promoting better visibility for their print resources, as well as offering various value-added electronic services.

Academic libraries websites should be designed to meet user expectations which will also save the time of the user. The overall information architecture of academic library website should facilitate easy access to its information resources by the users in other to give the user adequate satisfaction. Usability of website focuses on how well users can learn and use a site to achieve their goals and objects. It also refers to how satisfied users are with that website. According to Jisc programme (2011), usability is about ease of use: a highly usable website enables the user to achieve their goals quickly, with minimum fuss or frustration and without error, and that user experience encompasses a more emotional dimension like the desire, joy, meaning, reflection, and value or frustration user experience in retrieving required information from the website. Information retrieval menus typically represent the key topics or categories of information

The term usability is a quality attribute of a system which assesses the user interface of the system for its ease of use by the users. ISO standard 9,241-11 Guidance on Usability (1998) defines usability as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. Website usability can be considered as the ability of Web applications to support users' tasks with effectiveness, efficiency and satisfaction (Toleva–Stoimenova & Christozov, 2013). According to Rubin and Chisnell (2008), a system is usable when the user can do their intended task without any frustration. Furthermore, to be usable, a product or service should be useful, efficient, effective, satisfying, learnable, and accessible. Library websites are said to be usable if their content and services meet users' expectations; users can complete the task quickly with a minimum errors and users feel satisfied after using the website; the process to accomplish a task is easy to learn; and the website is accessible to users with disabilities or under different technical conditions.

The onus lie on academic libraries in South-South Nigeria to structured their websites to conform to the concept of usability. Hence, this evaluation of university library websites usability in South-South, Nigeria

STATEMENT OF THE PROBLEM

University library is the hub of any institution of higher learning which offers quality content and services to clientele. In this vein, academic library website should provide a user-centered interface since website usability is a key aspect of the user-centered of information dissemination. The rationale behind the present research work is to assess how the websites under study have structured their sites to effectively serving the purpose which is supposed to serve, through remote access to its collections. Therefore, the study evaluates academic library websites in south-south, Nigeria.

OBJECTIVES OF THE STUDY

Generally, the objective of the study is to examine the usability of University Library Websites in South-South Nigeria, specifically, the study assessed:

1. The *usefulness* attributes of the University library websites in South-South Nigeria
2. The extent of *Efficiency* of the University library websites
3. The extent of *Effectiveness* of the University library websites
4. The extent of *Learnability* of the University library websites
5. The extent of *Accessibility* of the University library websites

RESEARCH QUESTIONS

This study aimed to find answer to the following research questions:

1. What is the extent of *usefulness* of the library websites?
2. What is the extent of *Efficiency* of the library websites?
3. What is the extent of *Effectiveness* of the library websites?
4. What is the extent of *Learnability* of the library websites?
5. What is the extent of *Accessibility* of the library websites?

LITERATURE REVIEW

User experiences in retrieving required information from the website

User experiences usability of website focuses on how well users can learn and use a site to achieve their goals and objects. It also refers to how satisfied users are with that website. According to Jisc programme (2011) on usability of user interfaces of library resources and research tools, usability is

about ease of use: a highly usable website enables the user to achieve their goals quickly, with minimum fuss or frustration and without error, and that user experience encompasses a more emotional dimension like the desire, joy, meaning, reflection, value or frustration user experience in retrieving required information from the website. Information retrieval menus typically represent the key topics or categories of information. Information may be organized in different ways; mirror an organization's formal structure, reflect the functional use of the site, provide path-ways by user need and interest, reflect a chronological sequence, reveal the frequency of use, or show a geographical orientation (Gullikson, Blades, Bragdon, McKibbon, Sparling & Toms, 1999).

Spool (1998) in a user study of nine e-commerce sites found that, although graphics may have an important marketing effect and visual impact on the user, graphic design elements had no correlation (positive or negative) with a user's success in finding information in the website. They further added that how effectively the user navigated the site was more significant based on personal experience from constant utilization of website. Scully (2002) opined that the websites structure should be dynamic, supported by interactive features that will enable users to retrieve information from library database easily. The library websites should provide several means for navigating toward the same server or for retrieving information by user (Mathew, 2009). Planning the design by sketching out a diagram of the site in order to know what pages are linked and how (Jorgensen, 2001). It is worth to note that the websites should be composed of series of web pages linked together in a coherent manner for effective usage (Fourie, 1999).

Forrester Research concluded that poorly designed websites can lose 50 per cent of potential user and that when people cannot find what they are looking for, 40 per cent of users do not return to that site since the first experience is negative (Harley, McCarthy & Souza, 1998). An institution that provides engaging and useful online experiences may be at a significant advantage in attracting the best and brightest students and staff (https://www.jisc.ac.uk/guides/usability-and-user-experience)

Various authors have commented on usability criteria for evaluating library websites. Equally there are studies on usability evaluation of library and other websites. Forlmar and Bosch (2004) opined that usability is the key aspect of websites because it depends heavily on the perceptions of the individual user about the system under usage. The information architecture website systematically provide the needed information that are supposed to be found in an academic library website in other to serve the reason why the website is provided since usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified content of use (Munster, 2007). It can also be defined as a quality attribute in relating to how easy something is to be used. Most specifically, it refers to how quickly people can learn to use something, how efficient they are when using, how memorable it is, how error-prone it is and how much user like using it. If people or user can't or won't use a feature, it might as well not exist (Lazar, 2006). According to Hughes, Hassel and Miller (2003) evaluating a particular websites quality involves determining how well the websites meets the individual library customers' needs.

Academic libraries website usability measurement or criteria

Website is usable when a person can figure out what to do in the site and when the person can tell what is going on (Norman, 1999). Stover and Zink (1996) used ten criteria to evaluate forty randomly selected university and college library web sites in Canada and the Unites States including the number of links on a home page, the number of typographical errors present on a page and the purpose of the site on the assumption that librarians would provide exemplary models of well organized websites. Notably, none of the criteria specifically addressed information architecture. Usability consists of multiple constructs from various perspectives, that is why researchers' from various disciplines identified different attributes of usability measures. Booth (1989) suggested four aspects of usability, namely, usefulness, effectiveness, learnability, and attitude. Shakel (1990; 1991) identified four usability evaluation criteria

focusing on how users accomplish their tasks in using a system, learnability, flexibility, effectiveness, and user attitude. Nielsen's model (1993), which is one of the most cited in the usability engineering area, posits five attributes: learnability; efficiency; memorability; low error rate (easy error recovery); and subjective satisfaction. Brinck, Gergle and Wood (2002) usability construct includes functionally correct, efficient to use, easy to learn and remember, error tolerant, and subjectively pleasing. Oulanov and Pajarillo (2002) postulated efficiency, helpfulness, and adaptability as usability attributes or criteria. Lee (2004) adopted multiple usability criteria like usefulness, effectiveness, satisfaction, supportiveness, and intuitiveness.

International Organization for Standardization (ISO) accounts for usability based on three main constructs, such as effectiveness, efficiency, and satisfaction. ISO has established these three constructs as an international standard and named ISO9241-11. Jeng (2006) usability model which is one of widely mentioned in library website usability evaluation incorporates four usability constructs - ease of use, satisfaction, efficiency, and effectiveness. DeLone and McLean (1992) comprehensive framework considers six constructs, which provides a generic research infrastructure for corporate information systems assessment. This framework or model has been discussed, revised and extended in literature pertaining to website usability criteria over the years. Sabherwal, Jeyaraj and Chowa (2006) provided an information systems theoretical model based on three constructs, namely: context-related, user-related and information systems' success related measures. Alexander and Tate (1999) concluded that there are five main criteria evaluating the usability of websites which include: accuracy, authority, objectivity, currency and coverage of websites. Pant (2015) adopted five usability construct in evaluating academic libraries website usability which are usefulness, efficiency, effectiveness, learn-ability and accessibility. Joo, Lin and Lu (2011) usability evaluation model measurement instrument covers three usability constructs which are effectiveness, efficiency and learnability.

McMullen (2001) study on usability testing in a library website redesign project revealed that users are overwhelmed and confused with initial interface, and that there are too many resource choices offered from the first screen with no explanation about their use. Moreso, the terminology used is not clearly understood. For example, users do not perceive the link, online databases and indexes, as the resource choice to make when they are seeking periodical articles. He concluded that help is not provided in a useful manner, alongside no provisions made for experienced versus non-experienced users. Persson, Langh and Nilsson (2010) case study on usability testing and redesign of library web pages at Lund University, revealed that some of the problems with the websites were easy to correct, for example the back button on library architecture and design's website and the links to Lund university publications repository. But some of the problems with navigating the websites are due to the fact that all the libraries have to deal with the overall style sheets of the university's website, with predetermined sizes and colours of fonts, bars and frames including search this site box makes it virtually impossible for the libraries to have a search box aimed at the library services, which is unfortunate since this is a request repeatedly heard from the students.

METHODOLOGY

This study used an analytical survey method to collect data. The data gathering tool is the usability checklist provided by Pant (2015), the statistical population is academic library websites of universities in South-south Nigeria, The data gathering method was a direct access to each website and filling of the checklist was based on the researchers' observations. Simple percentage was used to evaluate the usability of the various websites with the application of five usability attributes; usefulness, efficiency, effectiveness, learn-ability, accessibility. Each statements of the checklist were checked to identify whether it is true or false for the websites under study. From the fourteen government university libraries in South South, Nigeria, eleven library websites were identified and examined for the study. Websites for three universities could not be located and accessed during the study.. They are Akwa

Ibom State University Uyo, Cross River State University of Science and Technology, Calabar. Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt rivers state. Table 1 presents names of federal and state university library websites in South-South Nigeria examined in the study, indicating their abbreviation, state, ownership and specific website evaluated.

Table 1: Academic Library Websites in South-South, Nigerian Evaluated Indicating Ownership and State

S/N	Name of Institution	Abbreviation	State	Ownership	Website
1.	Federal University of Petroleum Resources, Effurun	FUPRE	Delta	Federal	https://www.fupre.edu.ng/s/?fupre=dept&name=library
2.	Federal University Otuoke	FUO	Bayelsa	Federal	https://www.fuotuoke.edu.ng/library
3.	National Open University, Lagos	NOUN	Lagos	Federal	http://nouedu.net/directorates/learning-resources-library
4.	University of Benin	UNIBEN	Edo	Federal	http://library.uniben.edu/
5.	University of Calabar	UNICAL	Cross Rivers	Federal	http://library.unical.edu.ng/
6.	University of Port-Harcourt	UNIPORT	Rivers	Federal	http://library.uniport.edu.ng/
7.	University of Uyo	UniUyo		Federal	*https://uniuyo.edu.ng/index.php*
8.	Delta State University, Abraka	DELSU	Delta	State	http://www.delsu.edu.ng/library_home.aspx
9.	Niger Delta University, Yenagoa	NDU	Bayelsa	State	https://www.ndu.edu.ng/adminunits/library.html
10.	Rivers State University of Science and Technology	RSUT	Rivers	State	http://library.ust.edu.ng/
11.	Ambrose Ali University, Ekpoma	AAU	Edo	State	*https://www.aauekpoma.edu.ng*

USABILITY STUDY

Result of the usability study of academic library websites in South-South, Nigeria is presented in Tables 2 and 3.

Table 2: Usefulness and Efficiency Evaluation of University Library Websites.

	Usability attributes	***FUPRE***	***FUO***	***NOUN***	***DELSU***	***UNICAL***	***UNIPORT***	***UniUyo***	***UNIBEN***	***NDU***	***AAU***	***RSUT***	***Y=%***
	Usefulness												
1.	Are resources provided through website based on users' information needs?	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	8 (72.7%)
2.	Is the purpose of website clearly mentioned?	N	N	Y	N	N	N	N	N	N	N	N	1(9.1%)
3.	Is the information about the library given?	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	9 (81.8%)
4.	Is the date of last update of content indicated?	N	N	N	N	Y	N	N	Y	N	N	Y	3(27.3%)
5.	Is there a "What's New" Page or Notice Board?	N	N	N	N	Y	N	N	N	N	N	N	1(9.1%)
6.	Are links to outside resources reliable?	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	7(63.3%)
7.	Are links to outside resources appropriate?	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	7(63.3%)
8.	Are available resources current?	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	7(63.3%)
9.	Are full contact details, such as phone, fax, e-mail and postal address, given on the site?	Y	N	N	N	N	Y	N	Y	Y	N	Y	5(45.5%)
10	Are Frequently Asked Questions (FAQs) included?	N	N	N	N	N	N	N	N	N	N	N	0
11	Are services clearly stated?	Y	N	Y	N	N	Y	N	Y	Y	Y	N	6(54.5%)
12	Is it possible to send feedback online using the website interface?	N	N	N	N	Y	Y	N	N	N	Y	Y	4(36.4%)
13	Is it possible to ask questions online using the website interface?	N	N	N	N	Y	Y	N	N	N	Y	Y	4(36.4%)
14	Is it possible to get help online using the website interface?	N	N	N	N	Y	Y	N	N	N	Y	Y	4(36.4%)
	Efficiency												
1.	Is the website easy to use for a	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	9 (81.8%)

	normal user?												
2.	Is a site map included?	N	N	N	N	N	Y	N	N	N	N	N	1(9.1%)
3.	Is a search tool for the site included?	N	Y	N	Y	Y	Y	N	Y	N	N	Y	6 (54.5%)
4.	Choose a topic which users generally ask. Was this topic easy to find/search in the website? (You may repeat this with a few more topics for better understanding)	N	N	N	N	N	Y	N	N	N	N	N	1(9.1%)
5.	Is the overall information architecture of site developed to perform a task with minimum	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)

Table 2 shows the usefulness and efficiency attributes of the thirteen websites in South South Nigeria. For usefulness attribute 8 (72.7%) of the libraries provided resources through their website. 9 (81.8%) gave information about their websites. Only 1(9.1%) (NOUN) provided information about their websites. Links to outside resources are considered reliable, appropriate and resources are current (Items 6-8) for 7(63.3%) of the websites

For efficiency the library websites of 9(81.8%) of the institutions are considered easy to use . information architecture of site are developed to perform a task with minimum for all the websites, only one library website (UNIPORT) has a functional search tool that retrieved relevant result to a query search.

Table 3: Effectiveness, Learnability and Accessibility Evaluation of University Library Websites

	Usability attributes	***FUPRE***	***FUO***	***NOUN***	***DELSU***	***UNICAL***	***UNIPORT***	***UniUyo***	***UNIBEN***	***NDU***	***AAU***	***RSUT***	***Y=%***
	Effectiveness												
1.	Choose a topic which users generally ask. Was this topic found/ searched in the website with minimum errors? (You may repeat this with few more topics for better	N	N	N	N	N	Y	N	N	N	N	N	1(9.1%)

	understanding.)												
2.	Is the search tool for the site effective to retrieve relevant results?	N	N	N	N	N	Y	N	N	N	N	N	1(9.1%)
3.	Are links provided in site map appropriate?	N	N	N	N	N	N	N	N	N	N	N	0
4.	Are navigation labels appropriate for the intended purpose	Y	N	N	N	Y	Y	N	Y	Y	N	Y	6 (54.5%)
5.	Is the overall information architecture of site developed to accomplish a task with minimum error?	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	10 (90.9%)
	Learnability												
1.	Are headings user-friendly and descriptive?	Y	Y	N	N	Y	Y	N	Y	Y	N	Y	7(63.3%)
2.	Is terminology jargon free (clarity of wordings)?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
3.	Are spelling, grammar and punctuation correct?	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	10 (90.9%)
4.	Is data grouping (Information Architecture) logical to learn?	Y	N	Y	N	Y	Y	N	Y	N	Y	Y	7(63.3%)
5.	Is main navigation menu easily identifiable?	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y	8 (72.7%)
6.	Are navigation labels understandable and concise?	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	9 (81.8%)
	Accessibility												
1.	Is website load speed reasonable?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
2.	Does style (text-to-background contrast, font size, etc.) conform to the desired style?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
3.	Is there visual appeal in the website? N Site is made up of simple HTML pages	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	8 (72.7%)
4.	Do images have appropriate ALT tags (helpful to read by screen readers)?	N	N	N	N	N	Y	N	Y	N	N	Y	3(27.3%)
5.	Is text simple, concise and clear?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
6.	Do the pages display on an average-sized screen?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
7.	Does the site work with different browsers?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11 (100%)
8.	Is there navigation back to home page?	N	N	N	N	Y	Y	N	Y	N	N	Y	4(36.4%)

***Y = Yes** ***N=No**

Table 3 shows that for effectiveness, search tool is effective for only 1(9.1%) of the library websites. Site maps were not available so there is absence of links in site maps.

For learnability when compared to other usability attributes majority of the library website 7(≥ 63.3%) have the elements of learnability.

For accessibility, all library websites11 (100%) have the attributes of accessibility excerpt for availability of ALT tags (Item 4) and Navigation to back page (Item 8) where they scored below 50%.

Summary of Usability Attributes of University Library Websites in South-South Nigeria

Summary of usability attributes of University Websites in South South Nigeria is shown in Table 4

Table 4: Summary of Usability Attributes of University Library Websites

	FUPRE	***FUO***	***NOUN***	***DELSU***	***UNICAL***	***UNIPORT***	***UNIUYO***	***UNIBEN***	***NDU***	*AAU*	***RSUT***
Usefulness 14	Y= 7 (50%)	Y= 4 (28.6%)	Y= 7 (50%)	Y= 4 (28.6%)	Y= 10 (71.4%)	Y=10 (71.4%)	Y= 1 (7.14%)	Y=8 (57.14%)	Y= 3 (21.5%)	Y=6 (46-8%)	Y=6 (46-8%)
***Efficiency* 5**	Y= 2 (40%)	Y= 2 (40%)	Y= 1 (20%)	Y= 3 (60%)	Y= 3 (60%)	Y= 5 (100%)	Y= 2 (40%)	Y= 3 (60%)	Y= 2 (40%)	Y= 2 (40%)	Y=3 (60%)
Effectiveness 5	Y=2 (40%)	Y=1 (20%)	Y= 1 (20%)	Y= 1 (20%)	Y= 2 (40%)	Y= 5 (100%)	Y=0	Y= 2 (40%)	Y= 2 (40%)	Y=1 (20%)	Y=2(40%)
Learnability 6	Y= 6 (100%)	Y= 5 (83.33%)	Y= 3 (50%)	Y= 3 (50%)	Y=6 (100%)	Y= 6 (100%)	Y= 2 (33.3%)	Y= 6 (100%)	Y= 5 (83.3%)	Y= 4 (66.7%)	Y=6 (100%)
Accessibility 8	Y= 6 (75%)	Y= 6 (75%)	Y= 5 (62.5%)	Y= 7 (87.5%)	Y= 7 (87.5%)	Y= 8 (100%)	Y= 5 (62.5%)	Y= 8 (100%)	Y= 5 (62.5%)	Y= 6 (75%)	Y=8 (100%)
Total Usability score 38	Y= 23 (60.5%	Y= 18 (47.4%)	Y=17 (44.7%)	Y= 18 47.4%)	Y= 28 (73.7%)	Y= 34 (89.5%)	Y= 10 (26.3%)	Y= 27 (71%)	Y= 17 44.5%	Y= 19 (50%)	Y= 25 (65.9%)

Tables 4 shows the total scores on each of the five Usability attributes by the eleven University Library Websites in South-South Nigeria.

Website Usefulness: Only five of the eleven websites scored above 50% in terms of site usefulness attributes, UNIPORT and UNICAL libraries scored the highest with a score of 71.4% respectively. They are followed by UNIBEN (57%) and FUPREE and NOUN (50%). Others scored below 50%

Website Efficiency: Six out of the eleven websites scored 50% and above. UNIPORT scored the highest with 100%. NOUN 80%, and DELSU, UNICAL, UNIBEN, RSUT scored 60% respectively

Website Effectiveness

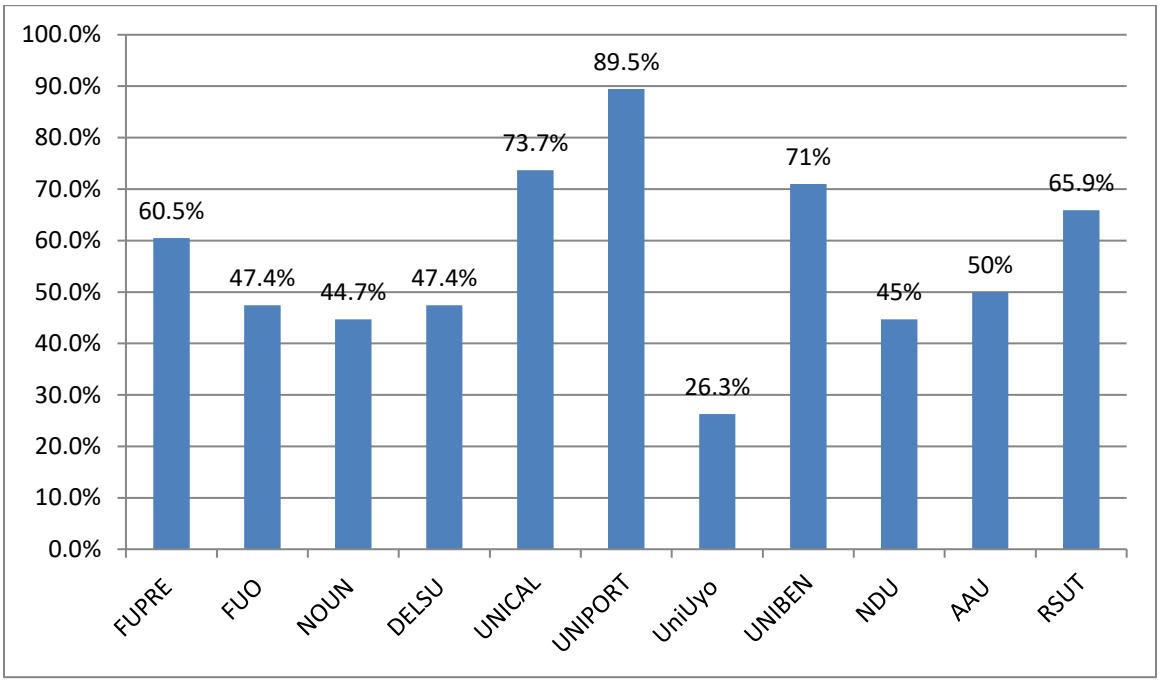
Only UNIPORT library website scored 100%. Others scored below 50%

Website Learnability: All the library websites scored above 50% except UNIUYO which scored 33.3%

Website Accessibility

All library websites scored 50% and above. Three library websites UNICAL, UNIPORT, and UNIBEN scored 100%. DELSU library website scored 87.5% while FUPRE and FUO library websites scored 75% respectively.

Figure 1: Total Usability Scores of University Library Websites



TOTAL USABILITY SCORE

Figure 1 shows the total Usability score of University Library Websites in South-South Nigeria. Generally, six of the eleven library websites examined have a usability score of 50 and above. As shown in the figure UNIPORT Library Website scored the highest with a score of 89.5%. This is followed by UNICAL Library Website which scored 76.3% and UNIBEN Library Website (76.3%) RSUT (65.9%) and FUPRE (60.5%)

DISCUSSION

Evaluating a library websites quality using established criteria can effectively shed light on a website ability to meet the needs of the library's users. Usability attributes of University Library Websites in South-South, Nigeria were evaluated using standard checklist provided by Pant (2015).

Websites usefulness

Results on summary of the Websites usefulness scores for each university library website studied shows that only five of the eleven websites scored above 50% in terms of site usefulness attribute, UNIPORT and UNICAL libraries scored the highest with a score of 71.4%. Examination of the individual items shows that majority provided links to electronic database resources. However, only National Open University of Nigeria stated the purpose of the website. The findings of this study agrees with the findings of Sahni and Dubey (2014) that some websites never explain or tell users what the site is all about, This may be because all the Universities are hosted by their parent institutions which have provided a general introduction to their institutional websites. Majority of the websites do not have dates on their websites. Generally many of the websites lack some of the usefulness attributes as listed by Park. None of the websites have a section for frequently asked questions. Many do not have feedback and question or help facilities. Over half of the websites do not have full contact details, such as phone, fax, e-mail and postal address, on the site. The implication is that these libraries have not provided interactive platforms and are not offering web based digital reference services. Researcher, scholars and academia generally will benefit more if the library includes a feedback page on its web to communicate with users and address their concerns by including them in the process of enhancing the library's services. Islam and Tsuji (2011) study on evaluation of usage of university websites in Bangladesh revealed that the usability features of the university websites in Bangladesh do not have good features. Also, at user end, the website failed to meet the user demands and expectations. They conclude that university websites should go through several design guidelines to ensure that users are more satisfied with the services provided by these websites.

Efficiency and effectiveness

For efficiency and effectiveness, summary of the total scores shows that six out of the eleven websites scored 50% and above. UNIPORT Library scored the highest with 100%, NOUN Library scored 80%. For

ease of use, almost all websites studied have simple designed that facilitates ease of use. There is absence of site map in almost all the sites. While five sites provided search tools however, this search tools were not functional. It is only UNIPORT Library that has a functional Online Public Access Catalogue (OPAC) hosted on the sited which retrieved relevant result to a search query. The implication is that these libraries have not created online access to their print collections. It is important to note that poorly designed websites can lose 50 per cent of potential user and that when people cannot find what they are looking for, 40 per cent of users do not return to that site since the first experience is negative (Harley, McCarthy & Souza, 1998).

Effectiveness of University Library Websites in South-South, Nigeria

Result of the study shows poor effectiveness attributes of the sites. Only UNIPORT Library website with a very functional OPAC scored 100 percent. Other websites scored below 50%

For learnability, all the websites scored above 50% except one which scored 33.3%. The learnability attributes include having user-friendly and descriptive headings, jargon free terminology, correct spelling, grammar and punctuation, logical to learn data grouping (Information Architecture), easily identifiable main navigation menu. Are navigation labels understandable and concise?

Accessibility of University Library Website in South-South, Nigeria

The university websites showed good accessibility scores. All websites scored above 50%. Commendably, three websites scored 100%. They websites had reasonable website load speed, visual appeal and simple, concise and clear text.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. The university libraries should improve on the design and information architecture of their websites. This will help attract more users.

2. Equally, the universities need advance developed websites that can be interactive, with futures that support digital reference services. This will contribute to the optimal utilization of the websites.

3. The university libraries should increase resources provided through the websites. Many of the resource links on the websites are free and open access resources on the web. There is need for libraries to undertake subscription of subject databases that can be made accessible through their websites.

4. There is urgent need for the libraries to fully automate their services and host their OPAC on their websites. This will increase users visit to the sites, and their visibility.

CONCLUSION

The study showed that majority of government owned Universities in South South Nigeria have Library websites. However, usability examination shows that these websites need improvement in many aspects of usability. These libraries can serve their users better by improving on the areas of deficiencies identified in the study. Globally, the reason for academic library website is to support members of the university community at large in pursuit of their academic and professional goals. It's worth to note, that regular evaluation of a library website is core to

maintaining the library‘s ability to fulfill these goals and also to compete successfully with other standard academic websites.

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