Utilisation of Library Websites by Undergraduates in University of Ilorin and Al-Hikmah University in Kwara State, Nigeria

¹Mutalib Olanrewaju ABDULRAZAQ

abdulrazaq.om@unilorin.edu.ng

²Adeyinka TELLA

Department of Library and Information Science.
University of Ilorin, Nigeria
tella.a@unilorin.edu.ng
and

³Najeebat Opeyemi, ABDULRAHEEM

^{1&3}University Library University of Ilorin, Nigeria abdulraheem.on@unilorin.edu.ng

Abstract

This study examines utilisation of library websites by undergraduates at University of Ilorin and Al-Hikmah University. The study uses a total population of undergraduates in the University of Ilorin and Al-Hikmah University is 40,674 and 7,232 respectively. A descriptive survey design is used and a stratified random sampling technique has been adopted. Raosoft formulae is used to derive sample sizes of 269 for University of Ilorin and 184 for Al-Hikmah University and with a total sample size of 438. A questionnaire is used to collect data and coded data is analyzed dusing IBM-SPSS version 21.0 with a focus on descriptive statistics of frequency. The findings reveal that the information provided on the selected university library websites is current. The study concludes that undergraduates in the University of Ilorin and Al-Hikman University can access the site within a few seconds and the information is current and it is timely enough to meet the information need of its users. Among the recommendations given is that the management should provide good internet facilities that will help both the student and the lecturers to effectively use the library website.

Keywords: ICT, Utilisation, Websites, Undergraduates, Internet

Introduction

The 21st Century is heralded with Information and Communication Technology to improve efficiency in private and public sectors. However, the advent of Information and Communication Technologies (ICTs), specifically, the introduction of the Internet and Web technologies brought new and unprecedented UMYU Journal of Library and Information Science VOL.1 NO.1 (March 2022) ISSN: ISSN: 2795-2274

opportunities to governments, businesses, educational institutions, and individuals to enable them to webcast any information using multimedia tools (Pareek& Gupta, 2013). One of the importance of the Internet and Web technologies they enable an individual to navigate and obtain information in different ways (Mairaj, 2013). In line with the importance of the Internet and Web technologies, academic libraries are now using web environment to provide high-quality information for their users mostly in digital format, and this gives numerous values and also enrich their services (Pareek & Gupta, 2013).

Information and communication technologies (ICT) are now being applied actively in libraries and information resource centers (IRC) all over the world. Especially, after the emergence of the Internet and WWW, website development has proliferated at an amazing rate. Libraries have started creating a specific place on the Internet via their websites and extended their scope to worldwide clients. In this way, they are serving remote users with their resources and services in an efficient way (Brown & Adler, 2008). The invention of the computer in the 20th Century has made it possible for libraries to computerize their operations and services. Information began to convert into digital form and this resulted in the establishment of digital libraries. The advent of the Internet in the 1980s has globalized the world by connecting worldwide computers to each other (Malik & Mahmood, 2009). The Internet has enormous benefits in the library, especially in library services. It showcases its print and electronic resources and it promotes services to students and faculty such as circulation, reserves, reference, library instruction, library events, and interlibrary loans. The library website displays information such as library hours, policy information, directions, the staff directory, and basic contact information (Polger, 2011). Therefore, a library website could be described as a virtual space where information is collected, organized, and presented. With the integration of the Internet and Web technologies into library operation, most especially, the creation of library websites, the traditional methods of offering library and information services in universities have changed greatly in recent years. The use of a library website in service delivery of library plays a role of an extension and augmentation of a traditional physical library and offers a variety of library services such as electronic resource access (such as e-books, electronic journals, and so on), online catalogs, and online reference services (Si, 2016). A website is a collection of web pages, images, videos, multimedia files, and many others, held on a single server or multiple servers and accessible via the Internet. According to Jeyshankar (2009), World Wide Web is a global network of internet servers that provides access to interlinked documents locally and remotely. Website is the face of an organization; it represents an organization virtually, especially for those who want to get information about the activities, services, and functions of the organization, without visiting physically (Ganaee, 2016).

Furthermore, the potential of web services offers many advantages to the library community, but the majority of these advantages will only be realized if web services are standardized. According to Jasek (2007), users of university library website uses the website "to conduct research (to find materials such as journal articles and books); find course materials (such as lecture notes, reserved books, or other materials or links related to certain classes); find user account information (such as checked-out books or fines); find library information (such as locations and hours of operation) and get help in using a library and library website" (p. 3).

In designing a university library website, the designer must consider the credibility of the website which will make people effectively use it. Silva and Wijayaratne, (2015) postulate that the credibility of the website enhances and increases the usage of the web. Utilization could be defined as an act of making practical and effective use of something that is reliable. This means that the use of a library website is largely dependent on the credibility of the library website. As such, website credibility has the potential to influence users' decision-making and information behaviors (Rains, 2007). Many universities in Nigeria have established websites for their libraries; however, factors that determine the use of these libraries particularly from the perceptive of the undergraduates are yet to be known. Additionally, studies that determine university library websites usage in Nigeria seem to be limited. Therefore, this study has examined the utilisation of library websites by undergraduates at the University of Ilorin and Al-Hikmah University in Kwara State, Nigeria.

Statement of the Problem

The advent of Internet and World Wide Web (WWW) play essential role towards academic libraries services in both the developed and developing worlds. It aids websites development which facilitates timely access of library services by the clientele. Nigerian universities have provided library with a website as the parent body to meet the new information superhighway's challenges (Kehinde & Tella, 2012). Several studies (Kehinde & Tella, 2012;Mairaj, 2013)have conducted research on the usability of library websites.

Mairaj (2013) evaluated the use of university library websites in Pakistan. Moreover, Kehinde and Tella (2012) conducted a study on the assessment of Nigerian university library web sites/web pages where analysis of some features (web 2.0, e-resources, and link to National University Commission virtual library website). However, it seems, none of these studies focused on utilisation of the university library websites. In addition, there is a dearth of empirical evidence on

UMYU Journal of Library and Information Science VOL.1 NO.1 (March 2022) ISSN: ISSN: 2795-2274

the utilisation of university library websites by undergraduates. It is against this backdrop, that this study sought to investigate the utilisation of university library websites by undergraduates in selected universities in Kwara State.

Objectives of the Study

The main objective of the study is to investigate the utilisation of university library websites by undergraduate students in selected universities in Kwara State. The specific objectives of the study are to:

- 1. examine the influence of accessibility on the use of University of Ilorin and Al-Hikmah University library website by the undergraduates;
- 2. determine the attractiveness of the information available on the University of Ilorin and Al-Hikmah University library websites;
- 3. determine the learn ability on the use University of Ilorin and Al-Hikmah University library websites and
- 4. examine users' satisfaction with the use of University of Ilorin and Al-Hikmah University library websites.

Literature Review

Mane and Panage (2015) observe that library portal/website is a tool for organizing information resources in such a way that supports users' need and effective web-enabling information services. A web portal from functionality point of view is defined by Duncan (2010) as a compendium of knowledge that expose library users to various information needed for research and personal development. Similarly, Mane and Panage (2015) posit that library website is web-platform where information services is made available to users at one stop on a secured and customized webpage(s) with broad array of services such as web OPAC as a literature searching tool, direct access to e-books and e-journals, as well as virtual help desk for users queries. Internet serves as a platform for website.

Internet is a major source of information, and library websites are now considered as source of scholarly and educational resources in academia (Lee, Han, &Joo, 2008). Velez and Pagan (2011) also observe that the advent of the internet and the subsequent web-based services have significantly influenced the way libraries facilitate access to information. Library website/portal is one of the channels through which information is been disseminated to library users. However, Tuner (2010) observe that the ways and manner in which information is been rendered to users have changed as a result of web-based information service libraries are integrating into their operations. Library website plays extension and augmentative role to traditional library services, and offers a variety of other

services such as access to electronic resource (e.g. e-books, electronic journals, etc.), online catalogs, and online reference services.

The site also serves as a platform through which an organization can interact with its stakeholders. University web sites are no exception (Tuner, 2010). The university website is not only a cost efficient and timely method to communicate with various stakeholders such as students, faculty, administrative staff and visitors it is also a way for a university to shape its image. University library websites are usable in keeping positive images with their various constituents, and one way to do this is to make use of website to promote library services.

Usability is defined in different terms by multiple researchers. Shackel (2009) describe usability as a technology's capability to be used easily and effectively by the specified range of users, given specified training and user support, to fulfil the specified range of tasks, within the specified range of environmental scenarios. Usability refers to terms such as ease of use and ease of learning that implies providing users with systems requiring minimum cognitive and physical effort to accomplish users' needs and expectations (Sindhuja & Surajith, 2009).

Powell (2000) observe that the web site usability as the extent to which a site can be used by a specified group of users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use. In other words, the web site usability is a test on the successfulness of web site's user in doing some task or finding information in the web site (Yusof et al., 2010). Usability of the website plays a central role in establishing a healthy communication between the university and its stakeholders. First, a well-managed website with high usability can stimulate a healthy dialogue between the university and its stakeholders.

Wamaitha and Mudogo (2021) investigated accessibility and usability of library websites to students with visual and physical disabilities in public universities in Kenya. The study used survey research design and adopted a mixed methods approach. Data was gathered using survey questionnaire, focus group discussions, structured interviews, and observation. The study shows that disabilities lack awareness of the existence of library websites and e-resources available through them. Attractiveness is one of the key factors to a successful website (Liu & Arnett, 2000). Attractiveness is the capability of the software product to be attractive to the user (e.g., through the use of colour or graphic design; ISO/IEC 9126-1, 2001). Attractive websites are visually pleasant, and appeal the interest of the users, whether it is functionality or information. Tan and Wei (2006) observe that the appearance of a website is a crucial factor that improves the perception of information in order for subjects to perform better cognitive mapping and assessment of decisions for execution. The same study suggests that the graphical representations such as icons, colours, images

and animations, give website a higher attractiveness. This could improve the degree of users' satisfaction with the website (Zhang et. al, 2000).

Harazeem, Mshelia and Bello (2019) assessed the usability of library websites in selected universities in North East Zone, Nigeria. The study covered three university libraries located in Borno, Adamawa and Taraba States respectively. The university libraries are Ramat Library University of Maiduguri; Robert Pastor Library, American University of Nigeria, Yola; and Taraba State University Library, Jalingo. The findings of the study show that the selected libraries have a quality but ineffective library website. Gbaje and Kotso (2014) report that most academic library websites have made it very difficult for users to locate information quickly and easily. According to Rogers and Hugh (2009) user satisfaction involves users' attitude and perception with regards to how enjoyable it is to use the library website. Moreover, Mohammed, Garba and Umar (2014) conducted a study on University Library Websites in Nigeria: An Analysis of Content in which 10 university library websites were used as the population and sample. The study clearly reveals that the analysis of selected Nigeria university library websites' features and content in comparison with international trends clearly indicates that library website development in Nigerian university libraries is puppet, which implies that most library websites in Nigeria have been experiencing difficulty in providing users with their information needs as a result of lack of proper development and maintenance of the websites.

Methodology

The study adopted descriptive survey design. The target population of the study consists of all the undergraduates in University of Ilorin and Al-Hikmah University with the total population of the undergraduates of 40,674 and 7,232 respectively. Questionnaire was used as data collection instrument and stratified random sampling technique was applied. Raosoft sample size calculator software was applied to derive sample size of 269 for University of Ilorin and 184 for Al-Hikmah University and whose total is 438. The data collected for the study was coded using IBM-SPSS version 21.0 and descriptive statistics of frequency was applied.

Data Presentation and Analysis

Table 1: Bio-data of the Respondents

Gender	Frequency	Percentage	
Male	275	62.8	
Female	163	37.2	
Total	438	100.0	

UMYU Journal of Library and Information Science VOL.1 NO.1 (March 2022) ISSN: ISSN: 2795-2274

Mutalib Olanrewaju Abdulrazaq,	Adeyinka	Tella and Najeeba	t Opeyemi,	Abdulraheem

Age		
16-20	162	37.0
21-25	164	37.5
26-30	111	25.3
31 and above	1	0.2
Total	438	100.0
Level of Study		
100	55	12.5
200	163	37.2
300	170	38.9
400	50	11.4
Total	438	100.0
Institution		
University of Ilorin	258	58.9
Al-Hikmah University	180	41.1
Total	438	100.0

Authors' Fieldwork (2021)

Table 1 shows the bio-data information of the respondents. The result shows that out of 438 respondents, 275 (62.8%) are male while 163 (37.2%) are female. This shows that majority of the respondents are male. Furthermore, the result shows that 164 (37.5%) are between the age of 21-25. This is closely followed by the respondents that fall between the age of 16-20 mounted at 162 (37.0%), and equally followed by the respondents between that ages of 26-30 representing 111 (25.3%) while 1 (0.1%) respondents are between the ages of 31 and above. In the same vein, the result shows that 170 (38.9%) are in 300 level, this is followed by the respondents in 200 level representing 163 (37.2%), followed by the respondents that are in 100 level representing 55 (12.5%) while 50 (11.4%) are in 400 level. This shows that majority of the respondents are in 300 level. Finally, the result shows that 240 (54.8%) respondents are from University of Ilorin while 198 (45.2%) are from Kwara State University. The finding shows that majority of the respondents are from University of Ilorin.

RQ 1: What is the accessibility of University of Ilorin and Al-Hikmah University library Website?

Table 2: Accessibility Library Website (n=438)

S/N	Statements	SA	A	D	SD
1	I can access the site within few seconds	165 (37.7%)	162 (37.0%)	111 (25.3%)	
2	The website are accessed publicly	217 (49.5%)	165 (37.7%)	-	56 (12.8%)
3	Site can be accessed not more than three clicks from homepage	165 (37.7%)	218 (49.8%)	55 (12.6%)	-
4	Information about the library can be found from the link with "Library" title	272 (62.1%)	57 (13.0%)	54 (12.3%)	55 (12.6%)
5	Information about the library resources, facilities and infrastructure can be found from link.	218 (49.8%)	163 (37.2%)	57 (13.0%)	-

Authors' Fieldwork (2021)

Note: SA+A=Agree while D+SD= Disagree

Table 2 shows that 327 (74.7%) have agreed that they can access the site within few seconds while 111 (25.3%) have disagreed with the statement. Furthermore, the findings shows that 382 (87.2%) have agreed that they library website can be accessed publicly while 56 (12.8%) have disagreed with the statement. Similarly, the findings show that 383 (87.5%) have agreed that the site can be accessed not more than three clicks from homepage while 55 (12.6%) have disagreed. Moreover, the result shows that 329 (75.1%) have agreed that information about the library can be found from the link with "Library" title while 109 (24.9%) have disagreed. Finally, the result shows that 381 (87.0%) have agree that information about the library resources, facilities and infrastructure can be found from link while 57 (13.0%) have disagreed. The findings suggest that the library website of the selected universities is highly accessible.

Research Question 2: What is attractiveness of the information available on the University of Ilorin and Al-Hikmah University library websites?

Table 3: Attractiveness of the information available on the University of Ilorin and Al-Hikmah University library Websites (n= 438)

S/N	Statements	SA	A	D	SD
1	The website is update frequently	165 (37.7%)	219 (50.0%)	54 (12.3%)	-
2	The information is current and timely enough to meet the information need of the users	110 (25.1%)	163 (37.2%)	-	165 (37.7%)
3	There is an indication of when the page was last updated/ revised	163 (37.2%)	165 (37.7%)	56 (12.8%)	54 (12.3%)
4	If information is presented in graphs or chart and/ or table, there is an indication of when the data was gathered.	272 (62.1%)	110 (25.1%)	56 (12.8%)	-
5	Copyright information is shown on the page to show when the webpage was updated	218 (49.8%)	110 (25.1%)	80 (18.2%)	30 (6.9%)

Authors' Fieldwork (2021)

Note: SA+A=Agree while D+SD= Disagree

Table 3 shows the currency of the information available on the selected university library website. The result shows that 384 (87.6%) have agreed that the website is updated frequently while 54 (12.3%) have disagreed. The finding shows that 273 (62.3%) have agreed that the information is current and timely enough to meet the information need of the users while 165 (37.7%) have disagreed. Similarly, the finding confirms that 328 (74.9%) have agreed that there is an indication of when the page was last updated/revised while 110 (25.1%) have disagreed. Furthermore, the study shows that 382 (87.2%) have agreed that if information is presented in graphs or chart and/or table, there is an indication of when the webpage was updated while 56 (12.8%) have disagreed. Lastly, the table shows that 328 (74.9%) have agreed that copyright information is shown on the page to show when the webpage was updated while 110 (25.1%) have disagreed. It can be deduced that the information provided on the selected university library website is current.

Mutalib Olanrewaju Abdulrazaq, Adeyinka Tella and Najeebat Opeyemi, Abdulraheem

Research Question 3:What is the learnability on the use University of Ilorin and Al-Hikmah University library websites?

Table 4: Learnability on the use University of Ilorin and Al-Hikmah University library websites (n=438)

Statements	SA	A	D	SD
Learnability refers to how easy it is for casual users to learn a system	110(25.1%)	163(37.2%)	109(24.9%)	56(12.8%)
Learnability is related to achieving a sufficient level of competence with the device	132(30.1%)	192(48.8%)	63(14.3%)	73(16.7%)
Learnability complete goals in an efficient and effective manner.	154(35.2%)	190(43.4%)	45(12.3%)	49(11.2%)
It promote functionality	149(34.0%)	175(40.0)	70(16.0%)	44(10.0%)

Authors' Fieldwork (2021)

Table 4 shows response on the learnability of university library websites with 273(62.3%) agreed that learnibility refers to how easy websites casual users to learn system while 165(37.7%) have disagreed. Table 4 also shows that 324(74.0%) agreed that learnability is related to achieving a sufficient level of competence with the device while 136(26.0%) have disagreed. Moreover, 344(78.5%) have agreed that Learnability complete goals in an efficient and effective manner while 94(21.5%) disagreed. Also, Table4 shows that 324(73.4%) have agreed that learnibility promotes functionality.

Research Question 4: What is users' satisfaction with the use of University of Ilorin and Al-Hikmah University library websites?

Table 5: Users' satisfaction with the use of University of Ilorin and Al-Hikmah University library websites(n=438)

Statement	SA	A	D	SD
Clear labeling promote satisfaction	183(41.8%)	155 (35.4%)	73(16.4%)	27(6.2%)
Visual appearance helps in satisfaction	129 (29.4%)	179 (40.9%)	92(21.0%)	40(9.1%)
Error corrections helps in satisfaction	283 (64.6%)	55 (12.6%)	75(17.1%)	25(5.7%)
Proper development brings about satisfaction	193 (44.0%)	171 (39.0%)	35(8.0%)	39(8.9)
Timely maintenance helps in satisfaction	136 (31.1%)	172 (39.3%)	80(18.3)	70(16.0%)

Authors' Fieldwork (2021)

UMYU Journal of Library and Information Science VOL.1 NO.1 (March 2022) ISSN: ISSN: 2795-2274

Table 5 shows response on users' satisfaction with the use of library websites with 338(77.2%) have agreed that clear labelling promote satisfaction while 100(22.8%) have disagreed table 5 also indicates that 308(70.0%) have agreed that visual appearance helps in satisfaction while 132(30.0%) have disagreed. Also, 338(77.2%) have agreed that error corrections helps in satisfaction while 100(22.8%) have disagreed. Finally, 308(70.3%) have agreed that timely maintenance helps in satisfaction while 150(29.7%) have disagreed.

Discussion of Findings

The study reveals that undergraduates in University of Ilorin and Al-Hikman University can access site within few seconds and that website can be accessed publicly. The most fascinating thing is that a site can be accessed in not more than three clicks from homepage. In addition, information about the library can be found from the link library title and information about the library resources, facilities and infrastructure can be found from link. The finding is supported by Mane and Panage (2015) and Iyambo (2018) that library website is web-platform where information services is made available to users at one stop on a secured and customized webpage(s) with broad array of services such as web OPAC as a literature searching tool, direct access to e-books and e-journals, as well as virtual help desk for users queries.

On the attractiveness of the information available on the University of Ilorin and Al-Hikmah University library websites, the study has revealed that website is updated frequently and the information is current and timely enough to meet the information needs of its users. There is an indication of when the page was lasted/revised and the copyright information is shown on the page to show when the webpage was updated. The finding of this corroborates Tan and Wei (2006) that the appearance of a website is a crucial factor that improves the perception of information in order for subjects to perform better cognitive mapping and assessment of decisions for execution

On the learnability on the use University of Ilorin and Al-Hikmah University library websites, it is revealed that learnability shows how it is for casual users to learn a system. Learnability is related to achieving a sufficient level of competence with the device. Learnability completes goals in an efficient and effective manner and it promotes functionality. The finding of this study is supported by Seffah et al. (2006) that capability of the software product to enable users to feel that they can productively use the software product right away and then quickly learn other new (for them) functionalities.

Moreover, the study has also revealed that clear labelling promotes satisfaction, visual appearance helps in satisfaction, error corrections helps in

satisfaction, proper development brings about satisfaction and timely maintenance aids satisfaction. As supported by Iyambo (2018) that satisfaction is concerned with areas of ease of use, organization of information, clear labelling, and visual appearance, contents, and error corrections, which are the various facets that users consider when determining the satisfactoriness of a digital library.

Conclusion

The study has established that library websites in the University of Ilorin and Al-Hikman University can be timely accessed publicly. The study concludes that information, resources, facilities, and infrastructure on universities websites could be located on the web links. Also, proper development, error corrections, visual appearance, and clear labelling promote satisfaction among undergraduates in the University of Ilorin and Al-Hikman University.

Recommendations

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

- 1. Management should provide good internet facilities that will help both the student and the lecturers to effectively use the library websites.
- 2. The developer and webmaster of the university library website should ensure that the links (hyperlinks) provided are active and functional.
- 3. Management should be consistent in the design of the library website. This will address the issue of lack of consistency in the layout of the library website.

References

- Brown, J. S., & Adler, R. P. (2008). Minds on fire: Open education, the long tail, and learning 2.0. *Educause Review*, 43(1),16-32.
- Duncan, S. (2010). The effectiveness of literature on acquisition of language skills and intercultural understanding in the high school context. A research report for the International Baccalaureate Organisation
- Gbaje, S.E&Kotso, J.A. (2014.Assessing the Content of Nigeria Academic Library Website. *Information and Knowledge Management*, 4(7), 34-43
- Harazeem A. O., Mishellia, P. Y. & Bello, R. A. (2019). Assessment of the usability of library websites in selected universities in North East Zone, Nigeria. *M A J A S S*, *18*, 1-14
- Iyambo, L. (2018). *Utilisation of library websites for information literacy delivery in five selected universities in South Africa* (Master's thesis, University of Cape Town).

- Jasek, C. (2007). How to design library websites to maximize usability (2nd ed.). San Diego: Elsevier.
- Jeyshankar, R. (2009). Websites of universities in Tamil Nadu: a webometric study. *Annals of Library and Information Studies*, 56, 69-79.
- Kehinde, A. A.&Tella, A. A. (2012). Assessment of Nigerian University Library Web Sites/Web Pages. *New Review of Information Networking*, 17, 69–92.
- Lee, J., Han, S., &Joo, S. (2008). The analysis of the information users' needs and information seeking behavior in the field of science and technology. *Journal of the Korean Society for Information Management*, 25(2), 127-141.
- Liu, C. & Arnett, K. (2000). Exploring the factors associated with Web site success in the context of 20 electronic commerce, *Information and Management*, 38, 23-33.
- Mairaj, M. I. (2013). Use of University's Library Websites in Pakistan: An Evaluation. *Pakistan Journal of Library and Information Science*, 14, 1-8
- Malik, A. &Mahmood, K. (2009). Web search behaviour of university students: a case study at University of the Punjab. Webology, 6(2). Retrieved November, 24, 2013 from http://www.webology.org/2009/v6n2/a70.html
- Mane, M. B. & Panage, B. M. (2014). Development of library portal imprint and non-print era, *International Journal of Advance Library and Information Science*, 2(1), 121-125.
- Mohammed, A., Garba, A., & Umar, H. (2014). University Library Websites in Nigeria: An Analysis of Content. *Information and Knowledge Management*, 4(3), 16-22.
- Pareek, S. & Gupta, D. K. (2013). Academic library websites in Rajasthan: An analysis of content. *Library Philosophy and Practice (e-journal)*. 913.
- Polger, M. (2011). Who's spinning the library? Responsibilities of academic librarians who promote. Library Management, 34 (3). 236-253.
- Powell, T.A. (2000). The complete reference for web design, Berkeley. McGraw-Hill Press
- Rains, S. A. &Karmikel, C. D. (2009). Health information-seeking and perception of website credibility: Examining web-use orientation, message characteristics, and structural features of website. *Computer in Human Behavior*, 25(1), 544-558.
- Rogers, R. & Hugh, P. (2009). Usability Analysis for Redesign of a Caribbean Academic Library Website: A Case Study. OCLC Systems & Services. *International Digital Library Perspectives*, 25(3), 200-211.
- Seffah, A., Donyaee, M., Kline, R. B., &Padda, H. K. (2006). Usability measurement and metrics: A consolidated model. *Software Quality Journal*, 14(2), 159-178.

- Shackel, B. (2009). Usability-context, framework, definition, design and evaluation, *In Interacting with Computers, 21(5), 339–346.*
- Sindhuja, P.N. & Surajith, G.D. (2009) "Impact of the factors influencing website usability on user satisfaction", The IUP Journal of Management Research, 8 (12), 54-66.
- Tan, G.W. & Wei, K. K. (2006). An empirical study of Web browsing behaviour: Towards an effective website design, Electronic Commerce Research and *Applications*, 5, 261-271.
- Velez, J. & Pagan, L. (2011). Usage statistics of specialized libraries websites. IFLA proceedings of challenges and changing roles of the science and technology libraries. Retrieved from: http://conference.ifla.org/ifla77.
- Wamaitha, K. B. & Mudogo M. S. (2021). Accessibility and Usability of library websites to students with visual and physical disabilities in public universities in Kenya. International Journal of Knowledge Content Development & Technology, 11(2), 30-42
- Yusof, U.K., Khaw, L.K., Hui, Y.C.&Neow, B. J. (2010). Balancing between usability and aesthetics of web design, *Information Technology*, 1(3), 1-6.
- Zhang, P., Von Dran, G.M., Small, R.V. & Barcellos, S. (2000). A two factor theory for website design, In Proceedings of the 33rd Hawaii International Conference on System Sciences, Hawaii, United States.