Digital Skills: The Unavoidable Tool for Use of Academic Libraries during Covid-19

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: This study set out to establish the relationship between digital skills and the use of academic libraries in the Anglo-Saxon State Universities in Cameroon during the covid-19 period.
Study Design: The study adopted a sequential explanatory mixed method research design.
Place and Duration of Study: The study was carried out in the University of Bamenda Central Library and the University of Buea Library from 2020 to 2023.
Methodology: A sample of 377 was selected from library staff and users through simple random sampling. Instruments for data collection were an interview guide, an observation guide and a questionnaire. Validity of instruments was guaranteed with the help of subject and language

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experts. Reliability was guaranteed by the use of Cronbach's alpha and a value of .83 was attained. The data collection process was achieved using both direct delivery and electronic methods (Google Forms and Phone calls). Response rate for the questionnaire was 92.16% and for the interviews, 80%. Data from interviews were analysed thematically, from observations narratively and data from the questionnaire analysed using both descriptively (frequencies and percentages) and inferentially (Pearson correlation and simple linear regression).

Results: The study found a positive correlation between use of academic libraries and digital skills (r(329) = .531, p < .01). Regression analysis showed that Digital Skills is statistically a significant predictor of the use of academic libraries (β = .632, t =7.269, p < .001). Challenges witnessed in relation to digital skills of library users and staff include technophobia, software, poor digital skills, and limited access to digital tools and insufficient equipment. The libraries under study made efforts to manage challenges through: networking, training, adopting new software and machines, and IT staff. These challenges therefore served as a barrier to the effective use of academic libraries.

Conclusion: The study concludes that digital skills is a significant predictor of use of academic libraries in crises periods and if such challenges identified are not properly addressed, libraries are likely to register lower rates of patrons' use and satisfaction.

1. INTRODUCTION

Increasing awareness on the importance of information has prompted information seekers to not just be comfortable with the physical library but electronic platforms of information as well. Academic libraries are considered a very important component of universities and higher institutions of learning since they provide relevant and quality information resources of different formats, and provide a conducive environment for individual and group studies. This is the case in several academic libraries today, libraries which the American Library Association [1] refers to as those associated with a degree-granting institution of higher education (post-secondary institution), and provide: an organised collection of printed or other materials or a combination thereof; a staff trained to provide and interpret such materials as required to meet the informational, cultural, recreational, or educational needs of clientele; an established schedule in which services of the staff are available to clientele; and the physical facilities necessary to support such a collection, staff, and schedule. These libraries are important in that they fuel users with academic resources (print and electronic), working spaces, opportunity for self-development, encourage thinking processes, creativity, and inquisitiveness [2]. Since the advent of digitisation in the 1950s, there became an urgent need for individuals to acquire and improve their digital skills. This is because most jobs now require certain levels of digital skills especially as technology takes over traditional professions [3]. Although digitisation has been on the rise across the globe, academic libraries in

the developing and less developed worlds have had to put more efforts towards it especially since the covid-19 pandemic which ushered in significant challenges. The pandemic came with several challenges and opportunities for academic libraries [4]. These challenges were mostly in providing access to collections and services, a situation which promoted their digital services [5].

During the critical period of the covid-19 pandemic, there was need for social distancing and lockdowns, leaving such libraries with no option but to increase efforts towards digital services as a means of reaching out to their users. This led to an abrupt shift towards rendering of digital information services with improper planning. Academic libraries risked having their patrons suffer under-satisfaction of information needs. The researchers' observation since 2020 was that users and staff of academic libraries in Cameroon's Anglo-Saxon universities (The University of Bamenda and the University of Buea) had to embrace new and improved ways to access, request and deliver information. These only came to add to some of the academic problems already faced by academic staff and students of these universities such as limited information resources, limited means of finance to cater for Internet expenses, lack of proper orientation, inadequate research facilities, language difficulties, and several others. The libraries had before the covid-19 embarked on strategic plans for digitilisation requiring gradual implementation. Nevertheless, they were prompted to make urgent changes which required digital skills on the part of library staff

and users. In the case where staff and users do not possess such skills, consequences could be devastating to the user as an individual, the library and the mother institution. It is based on this that the current study was deemed necessary. The main objective of this study was to establish the relationship between digital skills and the use of academic libraries of Anglo-Saxon State Universities in Cameroon during the covid-19 period. The key question which this work set out to answer was: Is there a relationship between digital skills and the use of academic libraries of Anglo-Saxon State Universities in Cameroon during the covid-19 period? The null hypothesis was presented as: There is no significant relationship between digital skills and the use of academic libraries of Anglo-Saxon State Universities in Cameroon.

2. BACKGROUND AND LITERATURE

The transformation or blending of traditional library procedures with digital ones could be traced back to the late 19th century when the growth of higher education transformed academic libraries into information resources on campuses, thus increasing their use [6]. Before that, focus was on collections but gradually shifted to access and use with application of the laws of library and information sciences. These laws were formulated by Ranganathan in 1928 and published in 1931, and they represent the ideal services and organisational philosophy of libraries regardless of their type. The first law, "books (information resources) are for use" implies that, libraries must make sure patrons use materials made available for them [7]. The second law, "every reader/user, his or her book (information resource)" speaks to the fact that information needs of library patrons are diversified and there are books and other information resources that are available for each patron's consumption. The third law, "every book (information resource) its reader/user" lays emphasis on facilitating access to information resources through the best possible connections. The fourth, "save the time of the reader/user" emphasises the need for libraries to strategise and plan towards reducing the length of time spent by patrons in retrieval of information resources. The fifth law, "the library is a growing organism" indicates that since libraries are likely to continue to struggle with the problem of inadequate space, embrassing electronic materials in addition to print materials is the future. The implications of the laws is that library and information professionals must serve the right information to the right users at the right time; libraries do not just exist to store information resources, but to help users access them; library professionals must treat users equally, to help them find the information they require and to ensure that they derive satisfaction from the services rendered to them; patrons must be able to use information resources of interest to them to the maximum; and Information and Communication Technologies (ICTs) should be used to save thousands of hours since the library user is assumed to be a busy person and he/she must get the needed service in the minimum possible time [8].

It is obvious from the fifth law that the future of every kind of library is technology. To understand the stand of the International Federation of Library Associations and Institutions (IFLA) in relation to libraries and technologies, IFLA in the Lyon Declaration on Access to Information and Development, launched at the IFLA World Library and Information Congress in Lyon, France on 18 August 2014 [9] with the goal of improving people's lives through access to information emphasised on technology in the following words:

"We, the undersigned, believe that increasing access to information and knowledge across society, assisted by the availability of information and communications technologies (ICTs), supports sustainable development and improves people's lives.… Libraries and other information intermediaries can use ICTs to bridge the gap between national policy and local implementation to ensure that the benefits of development reach all communities…"

The above extract is proof that libraries especially today have an unavoidable role to play in the global development agenda and are expected to embrace technology. This explains why there is a paradigm shift towards delivery of digital information services in most modern libraries today especially with unpreventable attacks on the library environment including the covid-19 pandemic. The world today is plagued by increase adoption and use of technologies at a Malthusian rate. As such, users are more likely today to be digital natives and digital immigrants, a term first coined to describe those born before and those born after the Internet was invented in 1993 [10]. Adoption and use of technologies in delivery of library services thus indicates that library staff as well as users must poses certain

basic digital skills to ensure smooth services especially in this digital age.

Digital skills refer to the capabilities to use digital tools including computer hardware, software, and apply appropriate security measures to protect digital information [11]. UNESCO puts forth that digital skills encompass the capability to use computer hardware and software, communication applications, use appropriate security measures, and protect digital information [12]. Furthermore, it is the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments [13]. With increasing demand for digitised documents in higher education institutions [14] and increase in library automation as well as creation of digital and virtual libraries [15], libraries must ensure that their users and staff possess skills required to ensure realisation of goals. Librarians need skills and competencies to establish and maintain a digital repository, including traditional library skills and knowledge, management and technical skills, familiarity with metadata creation, and knowledge of copyright [16]. With an increase in demand for digital libraries and digital librarians [17], individuals need to possess digital skills such as knowledge of the basic principles of computing devices, skills in using computer networks, the ability to engage in online communities (virtual communities) and social networks, the ability to find, capture, and evaluate information, and also critical thinking skills [18]. This is especially important given today's opportunities provided by digital technology, easing access to information and services regardless of location and in the shortest possible time [19]. These therefore show that for library patrons to consume digital content, they must possess digital skills, and for library staff to create and communicate digital content, they must be digitally skilled. With the suspension of in-person services in academic libraries during the covid-19 lockdown, access to physical collections was withheld, circulation of physical materials stopped, visits were restricted and demand for digital resources increased. Challenges faced during covid caused policy makers and service providers such as librarians to adapt and adopt technology as a viable and valuable option [20]. This is to ensure that library staff and users are able to connect to each other irrespective of distance as proposed by the theory of connectivsim.

Connectivism is the first theory on which this study was grounded. It was propounded by George Siemens in 2005. This theory is based on eight principles which view learning as a network phenomenon influenced by technology and socialization [21]. It emphasises on knowledge acquisition through distributed networks using technologies from various locations. Thus, digital skills which is the independent variable of this study is inevitable in such a learning environment. The second theory is the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, Morris, Davis and Davis [22]. The theory brings together alternative views on the user and innovation acceptance based on four theoretical constructs which play essential roles as surrogates of technology acceptance. The theory shows that academic library users will hardly use digital information services rendered without accepting and using technology, hence the need for digital skills. It also applies to academic libraries themselves who will hardly render digital information services without accepting and using technology. Acceptance and use of technology is almost a necessity for academic libraries in a world faced with pandemics like covid-19 and as such relates to all variables of this study.

This study is justified in that the pandemic highlighted the importance of ensuring equitable access to educational resources. Studying the impact of digital skills on use of academic libraries can shed light on whether services were able to bridge the accessibility gap for students and researchers who faced limitations in physical access to library facilities during lockdown. The findings can inform strategies to enhance industry and support diverse learning needs in future. The covid-19 pandemic was an unprecedented crisis that significantly disrupted higher education institutions and libraries. By studying the relationship between digital skills during this crisis, academic libraries can identify strengths, weaknesses and areas for improvement in their response to similar challenges in the future. The findings can inform strategies for crisis preparedness. The study made use of the method presented in the subsequent section.

3. METHODS

This study used a sequential explanatory mixed method research design, blending quantitative and qualitative approaches. The population of the study included all library staff and library

users of the University of Bamenda and the University of Buea, the 2 Anglo-Saxon State universities in Cameroon. While library staff were 16 and 32 respectively, users were estimated at 18,000 and 20,000. Using simple random sampling, a sample size of 377 persons was selected to participate in the study. This included 160 library users and 10 library staff from the University of Bamenda Central Library, 197 users and 10 library staff from the University of Buea Library. The sample size presented above was estimated using the table proposed by Gill, Johnson and Clark [23] based on Desired Accuracy with Confidence Level of 95% and 5% error margin as accepted in social science research. The primary instruments used for data collection were an interview guide for library staff and a questionnaire for library users. Reliability was guaranteed by the use of Cronbach's alpha and a value of 0.83 was attained attesting to the quality of the instruments. While the response rate for the questionnaire was 92.16% that for the interview guide stood at 80%. Both direct delivery and electronic methods (Google Forms and phone interviews) were used. Data collected through interviews were analysed thematically, data from observations analysed narratively and data from the questionnaire were analysed using both descriptive and inferential statistics. Interview participants were coded using letters (from A to Q). Percentages and frequencies were computed for descriptive statistics, and as for inferential statistics, regression analysis was conducted to test hypothesis and Pearson correlation coefficient was also run. Efforts were made to respect research ethics through seeking of permission where necessary, seeking participants' consent, and acknowledging works cited, among others. The findings have been presented and discussed in the following section.

4. RESULTS AND DISCUSSION

4.1 Digital Skills

Frequencies and percentages from questionnaire in line with digital skills are shown in the following Table 1.

Table 1. Library users' views on digital skills in academic libraries

Statements	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The covid-19 pandemic helped me improve my ability to use computers and digital devices to create, use and manage information confidently	110 (33.4%)	62 (18.8%)	87 (26.4%)	70 (21.3%)	00 (00%)
I now use search engines more to source for and retrieve information on the Internet safely thanks to the pandemic	82 (24.9%)	73 (22.2%)	102 (31.0%)	72 (21.9%)	1 (.3%)
As a result of the pandemic, I am now better at downloading files from the Internet such as email attachments which I store for future use	89 (27.1%)	74 (22.5%)	84 (25.5%)	80 (24.3%)	2 (.6%)
The pandemic made it easy for me to use various technologies to connect, exchange and collaborate with others via the Internet	93 (28.3%)	85 (25.8%)	73 (22.2%)	76 23.1%)	2 (.6%)
I can locate databases and repositories to sort through relevant materials better thanks to the covid-19 pandemic	82 (24.9%)	62 (18.8%)	104 (31.6%)	79 (24.0%)	2 (.6%)
I am able to evaluate information accessed through ICTs to solve my information needs especially after the coming of the pandemic	92 (28.0%)	78 (23.7%)	80 (24.3%)	79 (24.0%)	00 (00%)
When confronted with a technological or non-technological problem, I can use the digital tools I know to solve it thanks to exposure to ICTs during the covid-19 pandemic	69 (21.0%)	89 (27.1%)	103 (31.3%)	68 (20.7%)	00 (00%)
Covid-19 has helped me to improve my overall digital skills	114 (34.7%)	66 (20.1%)	77 (23.4%)	69 (21.0%)	3 (.9%)

* Source: Field Survey by Researchers, 2023

Findings relating to digital skills of library patrons are presented in Table 1. Over half of patrons (52.2%) contradicted the claim that the covid-19 pandemic helped them improve their ability to use computers and digital devices to create, use and manage information confidently. However, 21.3% of them were of the opinion that the pandemic helped them to improve on these abilities. Going by this, it is obvious that while some people may have improved their digital skills as a result of the pandemic and physical limitations to access libraries, many others did not experience the same outcome. In addition to that, 47.1% of respondents disagreed to making more use of search engines to retrieve information on the Internet thanks to the pandemic. This shows that for this proportion of patrons, their use of search engines was not affected either positively or negatively by the covid-19 pandemic. Some however, 22.2% were pushed to use search engines safely thanks to the pandemic. This suggests that the pandemic did not have a significant impact on the way patrons use search engines to retrieve information on the Internet probably because using search engines had been a common practice in most educational settings even before the pandemic.

An assessment of how the pandemic has been instrumental in helping library users develop their ability to download files such as email attachments from the Internet for future use found 49.6% holding opposing views to this. That is, they expressed that they are not in any way better now at downloading files such as email attachments from the Internet for future use as a result of the pandemic. A quarter (25.5%) of respondents were neutral, while 24.9% agreed that the pandemic has been instrumental in this regard. Views on whether patrons can locate databases and repositories to sort through relevant materials in a better way due to the covid-19 pandemic had 43.1% opposing to this. While 31.6% were neutral, 24.6% agreed to this claim showing that this aspect of digital skills was improved in some patrons thanks to covid-19. In relation to the ability to evaluate information accessed through ICTs to solve information needs especially after the coming of the pandemic, 51.7% of patrons disagreed to some extent. The implication is that the pandemic has not successfully enabled them to be able to evaluate information accessed through ICTs to solve their information needs. On the other hand, while 24.3% took neutral stands, 24.0% gladly confirmed that the pandemic facilitated their

ability to evaluate information accessed through ICTs to handle their information needs.

Majority of respondents, 48.1% disagreed to being able to use digital tools to solve technological and non-technological problems during the covid-19 pandemic. 20.7% however were confident in that they could achieve this. Over half of patrons disapproved to the claim that the pandemic made it easy for them to use various technologies to connect, exchange and collaborate with others via the Internet. 23.7% however agreed to this, implying that some patrons actually improved their skills in connecting, exchanging and collaborating with others over the Internet thanks to covid-19. While 54.8% of patrons stated that the pandemic did not help them improve on their overall digital skills, 21.9% supported the claim that the pandemic helped them improve on these skills, and 23.4% were neutral.

In addition to the above, it was observed that 50% of library staff have workstations with functional computers in both libraries. Although this was the case, some library staff shared computers with their colleagues implying that the actual level of exposure to computers might be slightly higher than half. Other library staff had job requirements which were still manual as seen from their workstations. As such, the level of digital skills possessed by library staff could be attributed to their exposure to computers. Those with computer workstations are likely to have higher levels of digital skills than those with little or no access to computer workstations. Furthermore, it could also be seen that the university libraries have sections with computers for users. Several users visited these sections daily but there were days when the available computers were insufficient. Although these have been made available, there are many library users who visited the libraries but did not go near the computer sections. It could be observed for example that some post-graduate students in both libraries visited just the sections for past dissertations. This could indicate that the level of digital skills of users cannot be determined by the availability of computers for users since some users may already have had such skills outside the library environment.

4.2 Use of Academic Libraries

The following Table 2 presents frequencies and percentages that were obtained for each item measured under use of academic libraries.

Table 2. Library users' views on use of academic libraries

Statements	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The covid-19 pandemic has pushed me to use the library very often to search for information that meets my information and research needs	82 (24.9%)	81 (24.6%)	104 (31.6%)	61 (18.5%)	1 (.3%)
Several students now use the physical and online library to access databases, find books and magazines, and complete class assignments thanks to the pandemic	65 (19.8%)	87 (26.4%)	98 (29.8%)	78 (23.7%)	1 (.3%)
Digital library components introduced during the pandemic are satisfactory and motivate me to use the university library	53 (16.1%)	77 (23.4%)	128 (38.9%)	70 (21.3%)	1 (.3%)
Assistance I receive from library staff in locating documents during covid-19 pandemic motivates my use of the library	62 (18.8%)	96 (29.2%)	84 (25.5%)	86 (26.1%)	1 (.3%)
The quality of information I get from the library (print and electronic) encourages me to return to the library whenever I have an information need	57 (17.3%)	70 (21.3%)	122 (37.1%)	79 (24.0%)	1 (.3%)
I can use the library by myself thanks to incorporation of new technologies during the covid-19 pandemic	87 (26.4%)	69 (21.0%)	89 (27.1%)	83 (25.2%)	1 (.3%)
As a result of the benefits I get from using the library since the pandemic, I encourage my friends and mates to make use of the library	94 (28.6%)	76 (23.1%)	84 (25.5%)	73 (22.2%)	2 (.6%)
I am very satisfied with the library facilities, resources, services and approaches the library takes to meet my needs and expectations especially since the covid-19 surfaced	66 (20.1%)	97 (29.5%)	97 (29.5%)	67 (20.4%)	2 (.6%)

* Source: Field Survey by Researchers, 2023

Table 2 above presents views on effective use of academic libraries during and following the covid-19 lockdown. Few of the respondents (18.8%) held that the covid-19 pandemic pushed them to use the library very often to search for information that meets their information and research needs, as opposed to 49.5% who insinuated the opposite. The proportion of those who agreed to this shows that the pandemic actually affected use of the library to an extent. While 46.2% of patrons suggested that few students use the physical and online library to access databases, find books and magazines, and complete class assignments as a result of the pandemic, 29.8% were neutral on this and 24% agreed. The indication is that the pandemic did push some library users to use the library more often. Many respondents, 38.9% neither agreed nor disagreed that digital library components introduced during the pandemic

were satisfactory and motivate them to use the library, while 39.5% disagreed and 21.6% agreed. Again, 48% of the respondents disagreed that assistance received from library staff in locating documents during covid-19 motivates them to use the library. 26.4% agreed that they use the library more thanks to assistance received, while 25.5% neither agreed nor disagreed. Furthermore, 37.1% of respondents were neutral on the point that the quality of information they get from the library encourages them to return to the library whenever they need information. 24.3% agreed to this showing some level of satisfaction and motivation to keep using the library thanks to services received during and after the covid-19 lockdown.

Similarly, a quarter of patrons (25.5%) were of the opinion that they can now use the library by

themselves thanks to incorporation of new technologies during the covid-19 pandemic. 47.4% however were of the opinion that they pandemic had no link to their ability to use the library by themselves. In addition, 51.7% of patrons were in disagreement with the fact that they encourage friends and mates to use the library based on the benefits received during the pandemic, 25.5% neither agreed nor disagreed with the statement and 22.8% of them agreed. This indicates that those who agreed were willing to encourage others to use the library. While 49.6% of patrons disagreed to being very satisfied with the library facilities, resources, services and approaches the library takes to meet their needs and expectations especially since the covid-19 surfaced, 21% supported the claim and 20.4% were neutral. Overall, the results suggest that the covid-19 pandemic has had a mixed impact on the effective use of academic libraries. While some individuals reported increased use and satisfaction with the facilities and resources, others remained neutral and others reported no significant change. These findings contradict the first three laws of library science in that although books/information resources are for use, there is likelihood that some of these information resources were not being used during the covid period since use of the library was not effective. Again, every user was not able to access his/her information resource as well as every information resource was not able to find itself in the hands of its user as some users complained of not making use of the library for several reasons. This could probably be because not all library staff and users have accepted technology and as such some find difficulties using them. Thus their ability to connect remotely is doubtful.

4.3 Relationship between Digital Skills and Use of Academic Libraries

To establish if there is a statistically significant relationship between digital skills and use of academic libraries during the covid period, the null hypothesis was stated thus: There is no significant relationship between Digital Skills and the Use of Academic Libraries in Anglo-Saxon State Universities in Cameroon. The findings from the regression analysis revealed that digital skills is statistically a significant predictor of the use of academic libraries (β = .632, t =7.269, p < .001) in Anglo-Saxon State Universities in Cameroon. This indicates that a one-unit increase in digital skills is associated with a .632 increase in use of academic libraries. Therefore,

the hypothesis was rejected. Rejection of the null indicates that there exists a relationship between digital skills and use of academic libraries. The positive and statistically significant regression shows that the observed relationship between digital skills and use is unlikely due to chance. These findings propose that developing digital skills among library users and staff can enhance the use of academic libraries. The implication of the findings could be that library administrators may consider investing in digital skills training programmes and providing access to digital resources to improve the use of academic libraries. Through this, they can create an environment that better supports the needs of users and helps to achieve the mission of the university. In addition, Pearson correlation established that higher levels of digital skills are associated with higher levels of use of academic libraries [(r(329) = .531, p < .01)]. The significant positive correlation between use of academic libraries and digital skills suggests that digital skills may play an important role in promoting use of academic libraries.

In comparison to other studies, Hamad, et. al. [19] found a high level of digital skills among librarians and showed that financial issues are the main challenges that librarians face to obtain the required skills. These differ from the findings of this study which saw low levels of digital skills and other challenges. In relation to the study of Karagul, Seker and Kolay [24], their findings indicate that learners have sufficient levels of digital skills like some learners of this study. Some of the major challenges they found to affect digital skills were also found by this study and these are lack of necessary technologies and difficulties in adapting to new approaches of learning. As concerns the study by Adeoye and Adeoye [25], while majority of their population was confident on their level of information literacy skills, majority of those in this study were uncertain on their digital skills. This study's findings are similar to those of Udoh, Ekpenyong and Olowookere [26] in that digital literacy skills of students were found to be inadequate by both studies.

4.4 Challenges Relating to Digital Skills in Academic Libraries during Covid-19

Insights from library administrators and staff concerning challenges of digital skills of staff and users were summarised in four (4) themes: technophobia, software, digital skills and access to digital tools. With respect to technophobia,

several respondents were of this opinion, with **P** for example stating that, *"In a short statement, many of them are technophobic"*. Software is the next theme that came up with 2 sub-themes as; migration to new software and low digitisation. In line with migration to new software, few persons stated that it led to challenges in digital skills. For example, **G** expressed that, *"During this period we migrated from PMB to KOHA and there was need for training on the new software"*. Low digitisation is another sub-theme that was derived from responses such as, "*Low digitisation contributed to limiting access of the library by the students"*, obtained from interviewee **B**. Relating to the theme digital skills, 5 sub-themes were derived. The first, poor digital skills was mentioned by majority of the participants such as **L** who said, *"Many students are not computer literate, as such it is difficult to access e-resources. Same with staff"*. Regarding forgetfulness, a few persons brought this up including **Q** who expressed that, *"It was observed during the lockdown that library staff had forgotten what they learned from prior trainings"*. Poor referencing skills is another sub-theme as was obtained from some participants. **H** for instance stated that, "*Many users don't have referencing skills"*. Similarly, poor research skills also came up, from **J** for example who said, *"They lack search or research skills"*. Limited analytical skills is the last sub-theme under digital skills. **J** for instance expressed that, *"Users don't have enough analytical skills"*. Relating to the theme access to digital tools, 2 sub-themes were identified. To start with, limited access to digital tools was picked out of some responses. In the words of **Q**, *"The lockdown was a long period of time and library staff didn't have the digital tools to use"*. In addition, insufficient equipment came up as a sub-theme and is supported by responses such as that by **A**, who explained that, *"There is not enough electronic equipment and lack of mutual understanding of some users"*.

Another question in the interviews addressed recommendations based on how they managed the situation. Four (4) themes were identified (networking, training, software and equipment and IT staff). Networking had 2 sub-themes, consortia building and improving Internet quality. Consortia building came up as one of the ways that is already in place to manage digital skills challenges. Extracting from interview **L**, *"We are trying to connect with other universities to benefit from expertise"*. On the other hand, some participants thought that improvement in Internet quality is a way that is helping with the

challenges of digital skills. As **B** explained, *"There was improvement in Internet services so that staff can serve users in a better way"*. Training as a theme had 4 sub-themes. The first sub-theme, on-the-job training, was mentioned by over half of the participants including **C** who said, there had been *"In-service training of staff on basic computer skills"*. Secondly, physical and online seminars and workshops played a great role in these libraries with respect to improving digital skills. As **J** stated, *"Academic librarians and paraprofessionals are encouraged to attend online seminars on topics related to ICT skills like we have been doing"*. Furthermore, the sub-theme, train students, was identified, seen in statements such as, *"We organise periodic trainings for students. When we have up to 25 registered people, we train them on how to use ICT tools"*. This was obtained from **P**. Computer course is the last sub-theme here and is supported by **L**'s words, "*Since the library organises small trainings for students, the university can create a compulsory computer course for level 200 students"*. Away from that, software and equipment as a theme had 2 sub-themes which are; adopt new software and acquire new machines. Participants expressed that they had adopted new software and this plays a role in managing the digital skills challenges they experience. To back this, **G** expressed that, *"We embraced KOHA which has proven to be efficient in Anglo-Saxon Universities"*. On the other hand, some participants raised the need to acquire new machines in an effort to managing challenges related to digital skills. **B** for example expressed that, *"We're trying to acquire machines and improve Internet services to increase the opportunities to gain IT skills"*. The next theme derived was IT Staff and had no sub-theme. Participants expressed that they had increased the number of IT staff and this was helping in managing challenges of digital skills. Sentences like, *"We have had two IT staff added to our library staff to ease IT related processes and assist in training the others"* support this theme as obtained from **P**.

In relation to the theory of connectivism which connotes that, individuals (for example, library staff and users) must be able to filter content to determine which information is valuable, the several digital skills challenges recorded by this study are an indication that many library staff could not effectively filter and serve the right information. In addition, many users could not fully benefit from digital information services

during the pandemic. Pertaining to the UTAUT which states that technology is only used when accepted, and use is determined by behavioural intention which goes along with effort expectancy, the covid-19 period was a trial period but the findings of this study show that there was an increase in efforts made by individuals to adapt to new technologies. Without sufficient digital skills, library users could not access their libraries electronically during the covid-19 lockdown. None of the digital services could have been delivered effectively without library staff and users possessing digital skills. Academic libraries during and after the covid-19 lockdown are to continuously work on adapting to technological changes to ensure continuous satisfaction of their patrons' needs.

Unlike this study, Bassey and Ayeni [27] found that library staff had high levels of digital skills, but like this study, they found lack of funds to be a major challenge relating to digital skills acquisition. Similar to the study by Karagul, et. al. [24] who investigated technology-related challenges students experienced during COVID-19 pandemic, this study found several learners to have sufficient levels of digital skills. Some of the major challenges found by Karagul, et. al. to affect digital skills were also found by this study, and these are lack of necessary technologies and difficulties in adapting new approaches to learning. Existence of such challenges is prove that in as much as these libraries are growing as indicated by Ranganathan's law number 5, the time of the user is not being saved as mentioned in the fourth law. This is because library staff have to scale through several digital skills challenges to reach out to users, and users as well have to do same to reach the library. The findings of this study differ from those of Coşkunserçe and Aydoğdu [28] in that they brought out digital skill levels of the undergraduate students who attend IT courses and also related digital skills with gender, unlike this study which focused on post graduate library users regardless of sex. Closely related to the findings of Chukwueke and Idris [29], this study found that digital literacy skills possessed by librarians was low although they rendered numerous services. Like the findings of Arslantas and Gul [30], this study found a link between digital skills and exposure to computer workstations, although their study focused on digital literacy skills and daily use of the Internet. This insinuates that digital skill levels of library staff are highly dependent on their exposure to technologies and the Internet. Such exposure is deemed crucial to their ability to render services that could attract users of libraries in this information era.

5. CONCLUSION

This study found that there is a positive correlation between use of academic libraries and digital skills. Regression analysis showed that digital skills is statistically a significant predictor of the use of academic libraries in Anglo-Saxon State Universities in Cameroon. The null hypothesis was rejected. Challenges witnessed in relation to digital skills of library users and staff include technophobia, software (migration to new software and low digitization), digital skills (poor digital skills, forgetfulness, poor referencing skills, poor research skills and limited analytical skills) and access to digital tools (limited access to digital tools and insufficient equipment). The libraries under study made efforts to manage the above-mentioned challenges in a few ways. These include: networking (consortia building and improving internet quality), training (on-the job training, physical and online seminars and workshops, train students and computer course), software and equipment (adopt new software and acquire new machines), and IT staffing. Since there was a positive correlation between effective use of academic libraries and digital skills, and so many challenges were put forth by respondents, it could be inferred that digital skills have a relationship with effective use of academic libraries. Again, rejection of the hypothesis brings us to the conclusion that digital skills is statistically a significant predictor of effective use of academic libraries in crises periods. If the challenges expressed by library users and library staff are not properly addressed, the libraries are likely to register lower rates of patrons' use and satisfaction.

6. RECOMMENDATION

Taking into consideration the findings of this study, it is recommended that all stakeholders of academic libraries in developing and less developed countries do their best to promote acquisition of digital skills. This could be achieved through periodic trainings to cater for the skills requirements of either library users or library staff. This is so that staff can be effective in delivering digital services while users can be able to benefit fully from modern and growing library services in the digital age.

7. SUGGESTIONS FOR FURTHER RESEARCH

Firstly, other researchers could conduct studies to build upon the findings of this one. For example, a study on digital skills and use of academic libraries using other research designs than that used by this study could be conducted. Moreover, the same topic could be researched in a different context or location such as taking into consideration other types of universities since this one is strictly on Anglo-Saxon Universities in Cameroon. Furthermore, a different variable could be studied alongside the response variable (use of academic libraries). Last but not the least, a similar study could be carried out with the population comprising of just library staff or just library users and not blending both as this study has done.

ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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