



Embracing Emerging Technologies in the New Normal

Libraries Staying Connected with Patrons During the Pandemic

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Abstract

The outbreak of the Coronavirus disease 2019 (COVID-19) generated health and social concerns for the world. Beyond the loss of lives, the pandemic had social effects like lockdowns and physical distancing, devastatingly affecting human lives. One area of the Ghanaian economy that was severely affected by the pandemic is the education sector, particularly institutions of higher learning. Academic activities in most institutes of higher learning thrive and revolve around the existence of dynamic academic libraries. To circumvent the social challenges of the pandemic, most academic libraries utilised collaborative technologies to stay connected to their users. The motivation of libraries for choosing collaborative technologies is yet to be scientifically investigated in the Ghanaian setting. Thus, using the Unified Theory of Acceptance and Use of Technology II model, this study examined how libraries in Ghana relied on collaborative technologies to stay connected with users during the pandemic. In all, sixteen librarians were purposively selected from four libraries in the Volta Region of Ghana. Semi-structured interview guides with questions that sought to respond to the objectives of the study were used to glean data from the study participants. The data were thematically analysed. Few libraries stayed connected to their users. It was realised that Zoom, Moodle, WhatsApp, email, Microsoft Teams, Google Meet, and Skype were the common collaborative tools used by libraries. Decisions regarding the acquisition of these tools came from non-librarians. Performance expectancy, effort expectancy, and facilitating conditions were the librarians' primary criteria for adopting these tools.

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Introduction

The central role of academic libraries in education delivery and advancement of knowledge can never be underestimated. According to Oluwaseyi, Omozaphue, Omolere and Motunrayo (2022), academic libraries help in achieving the missions of the universities of which they are a part by acting as functional allies in academic activities and providing support for students and faculties through the provision of information resources and technology, serene ambience for personal and collective activities, programmes and events, and assistance with information retrieval and literacy activities. Academic libraries have evolved over the years, particularly with the advent of information and communication technology (ICT), enabling them to seamlessly provide innovative and user-centred services to their users regardless of the time and location (Allen & Taylor, 2017). Furthermore, technology has placed academic libraries in better positions to support all aspects of open science, including open education resources, open access, research data management, e-infrastructures, distance learning, online reference interviews, and remotely supporting patrons (Ayriss & Ignat, 2018). The ability of libraries to rely on technology to constantly pursue development, adopt ground-breaking and innovative service models, and spur novelties (Allen & Taylor, 2017; Wenborn, 2018), has enabled libraries to resiliently survive many challenges, including the current Coronavirus disease 2019 (COVID-19) pandemic (Dadhe & Dubey, 2020; Lobo & Dhuri, 2021; Zhou, 2021).

The outbreak of the pandemic has generated health and social concerns for the world. Beyond the loss of lives, the pandemic has had social effects like lockdowns and physical distancing, devastatingly affecting human lives (Sikali, 2020). Notwithstanding the resilience of most library systems worldwide, the pandemic outbreak was seen as a major disaster that affected the regular operations of most libraries. In Ghana, one of the key areas of the sector severely affected by the pandemic is education, especially institutes of higher learning. Academic activities in most institutes of higher learning thrive and revolve around the existence of dynamic academic libraries. Libraries support curricula development, information literacy skills advancement, scholarly communication support, research data management, and archiving of scientific productivity, amongst other essential roles. The pandemic directly or indirectly affected all these essential roles that libraries play.

Progressively, most libraries found a way of responding to this pandemic. For instance, in separate studies by Ashiq, Jabeen and Mahmood (2022) and Hamad, Al-Fadel and Fakhouri (2022), it was found that most libraries during the disruptive pandemic period resorted to extended loan periods. The studies further recorded the suspension of fines and regular updates of library websites to stay connected with their users. Also, Harris (2021) reported on how academic libraries in Jamaica used the enforcement of government preventive protocols and the transition to online service delivery as strategies to respond to the pandemic. Meanwhile, Temiz and Salelkar (2020) observed that most libraries collaborated with other academic libraries and publishers to facilitate interlibrary loans and free access to databases, respectively. Some academic libraries utilised collaborative technologies to serve the needs of their diverse users and stayed connected to them to further circumvented the social challenges of the pandemic.

Collaborative tools include technologies that aid teamwork in achieving a common goal or objective (Whitsett, 2021). According to Lopes, Oliveira and Costa (2015), online collaborative tools help create teams composed of persons with different skills and knowledge, with such tools having the possibility to store and share information effortlessly. In the academic and scientific environment, collaborative tools integrate technology effectively into the curriculum in the project-based learning (PBL) context (Hsu & Shiue, 2017). Earlier studies on collaborative tools have focused on virtual teams in organisations (Dulebohn & Hoch, 2017; Gibbs, Anu & Boyraz, 2017), the application of videoconferencing to deliver education (Correia, Liu & Xu, 2020), telemedicine (Fatehi, Armfield, Dimitrijevic & Gray, 2014) and in the use of digital tools in business enterprises (Karl, Peluchette & Aghakhani, 2022). Amongst these tools, Zoom video conferencing, Microsoft Teams, Google Meet, WhatsApp, and Skype are the prevalent collaborative applications (apps) used for business activities and service delivery (Adipat, 2021; Hacker, vom Brocke, Handali, Otto & Schneider, 2020; Oloyede, Faruk & Raji, 2022; Pratama, Azman, Kassymova & Duisenbayeva, 2020).

In libraries, using mobile devices for service delivery is a common practice (Siregar & Dewiyana, 2018). In the developed world, videoconferencing platforms were widely utilised to assist digital technology for patrons (McMenemy, Robinson & Ruthven, 2022). Nevertheless, in developing nations, deploying online collaborative tools in library service delivery is an area witnessing a dearth of scientific literature. A search through the literature on collaborative tools in libraries, notably in the Ghanaian academic fraternity, showed that little or no work had been conducted. In an era where pandemic restrictions, blended learning, virtual meetings, and collaborative learning and working are taking centre stage, a study that sought to scientifically explore how libraries stayed connected

with their patrons during the pandemic is imperative. This is because the findings of this study will serve as a guide to using technology to mitigate the effects of future pandemics and disasters in libraries. The study also sought to understand why academic libraries chose specific collaborative technologies for service delivery during the pandemic.

Theoretical framework

This study was guided by the Unified Theory of Acceptance and Use of Technology II model (UTAUT 2) (Venkatesh, Thong & Xu, 2012). This model was deemed fit for this study because of its user-focused nature and because it comes with the synergy of the merger of eight technology acceptance models (Pinigas, Cleopas & Phiri, 2017). UTAUT 2 was also selected because of its reliability and validity. The theory informed the design of the study, the development of the data collection instrument, as well as the analysis of the data.

Methods

This study used the qualitative research design as it provided the researchers with the opportunity to solicit, in greater detail, responses from the study participants and, at the same time, helped the team to simulate participants' unique feelings regarding the objectives of the study (DeJonckheere & Vaughn, 2019). A semi-structured interview guide was used as the data collection instrument. Using this method with the guidance of the UTAUT 2 model helped to fill the literature gap regarding the focus of this study. Sixteen librarians were purposively interviewed from four academic institutions in the Ho Municipality of the Volta Region of Ghana. The interviews were conducted via phone after the researchers had scheduled to meet with the participants at periods convenient to them. The decision to conduct virtual interviews was because, at the time, the country still had some COVID-19 restrictions and protocols that prohibited face-to-face physical contact.

Further permission was sought from the participants for the audio recording of all the interview sessions, enhancing the word-for-word transcription of the interviews thereafter. Four university librarians and twelve systems librarians (or professionals in charge of e-resources in their respective institutions) were contacted. The libraries included the University of Health and Allied Sciences (UHAS) Library (the library of a public university exclusively dedicated to medical education), the Ho Technical University (HTU) Library (the library of a public technical university), the Evangelical Presbyterian University College (EPUC) Library (the library of a private university) and Ho Nursing Training College (HNTC) Library (the library of

a training college dedicated to the training of nurses). These libraries gave a good representation of academic libraries in the country. Also, the principle of saturation: a situation when no additional issues or insights were identified, and responses began to be repetitive, making further data collection redundant, which signified that an adequate sample size was reached, and staff strength: the number of staff in the departments targeted for this study, informed the sample size (Hennink & Kaiser, 2019; Saunders *et al.*, 2018). The data analysis followed the deductive thematic analysis approach, which enabled the researchers to develop the themes based on the research questions and aspects of the collaborative tools (Fereday & Muir-Cochrane, 2006). Thus, most of the themes that emerged from this study were guided by the research questions.

Furthermore, participants' phrases and sentences that were similar and sought to communicate the same idea were put together as codes. Eight initial themes emerged from the data. However, further consolidation was made to reduce them to six as some were related. It is important to note that only one of the university librarians was male, and about 70% of the systems librarians were men. Most of the participants had obtained second degrees in library and information science and related disciplines at the time of the study, with most of them spending a significant number of years in their current roles.

Results

This section of the study outlines the findings based on the themes that emerged from the data. First, the findings on the reasons libraries decided to stay connected with their patrons during the pandemic are outlined, after which the common collaborative tools used for engaging with their patrons are detailed. Furthermore, details on what motivated the libraries to adopt a particular collaborative tool, the possibility of choosing an alternative tool, the services performed with these tools, and the criteria the librarians used in selecting the collaborative tools are then offered.

The decision to stay connected

The first theme sought to respond to the question: Why did your library decide to stay connected with your patrons during the pandemic?

In this regard, only one academic library had a clear strategy to stay connected with its patrons and staff. Even with that, such a decision emanated from a general institutional directive. An assistant librarian in charge of systems at a library made the following statements:

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For us, once there was a national directive to close down tertiary institutions, we went on break. Some of us did not really engage with our patrons during such periods. You see, I am a back-end person. I offer technical services, and so once the library was on break, I had little to do (EPUC 1).

Even though the view of EPUC 1 reflected the views of most of the participants, a participant from another institution shared a varied view. Below is an expression from him:

As a university, there was a management decision to move most of the university's services [including library services] online. This meant that we kept a constant engagement with our patrons (UHAS 3).

A participant from the same library (UHAS) further clarified the earlier stated response:

The university librarian was proactive by first communicating to our patrons through our Public Affairs Directorate, our decision to stay connected and the various approaches they could use to reach the library (UHAS 1).

Another had this to say on the above theme:

No, we didn't have any formal policy to engage with patrons. However, there were many instances where faculty undertaking further studies would call and book for some time with you so that you take them through some training regarding a project they were undertaking (HTU 2).

The lack of directive from the libraries also came with its own challenges, as a participant from EPUC made the following observations:

Even though there was no directive to engage with our patrons (which meant that we were on break), some of us kept getting requests, especially from our faculty, on various issues. Sometimes, I had to use my own Internet connection, aside [from] sacrificing my private time, in order to be able to respond to them (EPUC 1).

Common collaborative tools

Another theme from the data was the collaborative tools available to the libraries. This theme was in response to the question: What digital collaborative tools are available for staying connected with your users?

Regarding this theme, it was observed that each institution used between one and four collaborative tools. A participant said the following:

We did not use only one tool. What we did was to sometimes complement our subscribed tool with other tools, especially where there was a limitation with the tool. Zoom, for instance, was good for engaging with patrons, but we could not upload files. As a result, we needed to add WhatsApp to share and maintain files (UHAS 1).

The study further observed that the common tools utilised by the libraries (in order of usage as provided by the participants in the interviews) included Zoom, Moodle, WhatsApp, email, Microsoft Teams, Google Meet, and Skype. A participant from HTU emphasised how Zoom was widely used:

You know the university has a Zoom subscription. As a result, the library had an automatic subscription (HTU 1).

Another librarian shared her view on this:

I think most universities through WACREN [an organisation that operates a cloud-hosted platform based on Zoom software which provides video conferencing, online meetings, chat, and mobile collaboration with users] have Zoom subscriptions. So yes, we used Zoom a lot. We also used Moodle to organise our training sessions (UHAS 2).

Motivation for adopting tools

For this subtheme, the question was: What factors does your library consider in adopting any of the collaborative tools?

Regarding the libraries' reasons for choosing a particular collaborative tool, the study found that none of the libraries directly influenced the tool to adopt. The study established that decisions regarding what application to subscribe to were influenced by the mother institution and the availability of the tools at the disposal of the mother institution. When a participant was asked a question on the above theme, he asserted the following:

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Hmm, unfortunately, the library was not involved in the decision to subscribe to Zoom. It was the university management that took the decision. And the decision was not made because of the library but to get a tool to serve all university services (EPUC 1).

A participant shared a similar sentiment from HTU:

Even though we used Zoom, it was never our decision. No, the library did not ask for that. And it is why we needed to use the free version of other applications like Microsoft Teams to complement the performance of Zoom (HTU 1).

Possibility of alternative decisions

The question: Would your library have decided otherwise with regard to the adoption of a collaborative tool if you had the chance?

This question produced overwhelming affirmative answers. A participant had this to say:

You are a librarian yourself, right? Don't you think that per the services we offer, we could get more tailored or customised applications? Zoom was okay, but we could not do much besides a few services like training and teaching (HTU 2).

I am sure that some of us would have chosen other tools than the one the university subscribed to. You remember I told you earlier that we had to resort to the functionalities of WhatsApp and, sometimes, Microsoft Teams ([for] which we only used the free version) before we could efficiently engage with our patrons. However, I must also say that the subscription or installation of Moodle was beneficial. It helped us to organise our training and teaching resources in an orderly form and also helped us to engage with the patrons (UHAS 3).

Services performed with the tools

This theme emerged from the question: What key services did your library offer with these tools?

The study found that most libraries used collaborative tools to engage with patrons for training and teaching, answering user queries, meetings and informing or updating the stakeholders.

The following are some responses to the theme above:

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It depends on the tool. For instance, we used the Zoom purposely for teaching and training, whereas the WhatsApp was used purposely for informing our users (EPUC 1).

Moodle was used for teaching. However, we engaged with the patrons via Zoom to explain further the materials we deposited on the Moodle (UHAS 2).

Criteria for selecting a tool where applicable

At this point, the participants were asked: If you or your library had the opportunity to select digital tools to engage with your patrons, what would be your guiding criteria?

Where applicable, most libraries focused on performance expectancy (efficiency), effort expectancy (user-friendliness), and facilitating conditions to make decisions regarding adopting collaborative technologies.

Yes, whenever we have our way to choose, we thoughtfully do that. For instance, when we decided to add the free version of Microsoft Teams, we considered how efficiently it was in helping us engage with users and add files for groups, amongst others. So yes, for me, the tool's efficiency is important (HTU 2).

You see, when I want to select an app, I always think about the end user. I ask if they can easily use it. So, for instance, I recommended we add WhatsApp to our collection of tools. This was because I felt that nobody teaches people how to use the app. It is very user-friendly (UHAS 3).

Discussion

The emergence of the COVID-19 pandemic disrupted the usual way of life. Business enterprises had to devise ways to circumvent this disruption by finding ways of staying connected with their patrons during the period. This study found out why enterprises like libraries decided to stay connected and by what means. It further sought to determine the factors that motivated the libraries to adopt specific collaborative tools and the library services performed with them. Also, the major criteria used to inform the choice of these tools were explored.

One of the key revelations of this study was that most libraries closed down during the pandemic without any formal plan of engagement with their patrons. In tandem with this study's findings, most Bangladesh libraries did

not formally engage with their users during the lockdown periods (Begum, Roknuzzaman & Shobhane, 2022). However, there are contrary findings, especially in the Global North. For instance, most libraries in the US decided to stay connected with their users by providing extended service through diverse means (McMenemy *et al.*, 2022). While some used collaborative technologies (Cowell, 2020; Johnson, 2020; Tanzi, 2020) and kept Wi-Fi services on throughout the pandemic (Matthews, 2020), others also loaned out library electronic devices (Garcia-Ortiz, 2021; Real, 2021) in order to stay connected to their users. A similar observation could be made from the South African experience, where the approach was to embrace the change by harnessing the opportunity to offer remote library services (Shirley, Mawire & Baloyi-Sekese, 2020). In this study, only one library had a formal decision to sustain engagement with its patrons. In this study, the libraries' decisions to remain open and stay connected to users were influenced by the mother institution. Thus, those academic institutions that decided to offer remote tuition to their students automatically enabled their libraries to stay connected with their users.

Regarding the common collaborative tools used by the libraries, it was realised that the libraries, particularly those that formally engaged with their users during the pandemic, used different tools ranging from the Zoom video conferencing tool to the WhatsApp messaging app. The decision to use multiple tools to engage with users might have stemmed from the diverse user group of the libraries to the fact that no one tool is complete for library service delivery. Earlier studies, for instance, have elaborated on how Zoom video conferencing and Google Meet became popular and were used together to rescue educational activities during the COVID-19 pandemic crisis (Adipat, 2021). Furthermore, the findings of Hacker *et al.*, (2020) showed how Zoom and Microsoft Teams emerged as widespread social technologies to enhance togetherness as a result of their abilities to enable access to human activities and contacts that were restricted as a result of the pandemic. Based on established criteria, to confirm the findings of this study, Oloyede *et al.*, (2022), identified Zoom, Skype, Google Classroom, CISCO Webex and GoToMeeting as the best and most common collaborative tools for educational activities. Thus, the findings of this study are a reflection of how these tools became common commodities, especially in the education sector in most countries.

The participants in this study, especially those affiliated to libraries that stayed connected with their users during the pandemic, revealed that their mother institutions often influence the decision to adopt a digital tool. In Ghana, most academic libraries are not autonomous, relying heavily on their parent academic institutions for most financial decisions. As a result, these academic institutions try to minimise the cost of operation by acquiring

tools that can serve a wider scope of the institution (Ajayi, Adetayo, Gbotoso & Salvador, 2021; Rachman, 2020; Rafi, Ahmad, Naeem & Jianming, 2020). Thus, once a digital collaboration tool has been acquired for teaching, the library is expected to use it for its service delivery. This finding is the main reason why the participants in this study indicated their willingness to opt for alternative tools if they had the opportunity. In some instances, the decision to acquire such tools may not involve librarians and can affect the acceptance of such tools for library service delivery.

Regarding the theme of the services performed with these collaborative tools: the findings of this study relate to earlier studies. For instance, Umaru and Oname (2020) have indicated how suitable WhatsApp and Skype are for virtual reference services. Also, Hacker *et al.*, (2020) confirmed that such tools are appropriate for numerous educational activities, including library service delivery. In a period of movement restrictions, tools that make virtual communication will be embraced by many. Thus, the acceptance and use of these collaborative tools during the pandemic might result from the convenience these tools bring to both the librarians and their users in overcoming the challenge of restrictions on movement.

Finally, this study revealed that whenever the participants had the chance, they focused on efficiency, user-friendliness, and their belief that such tools can solve their problems as the key criteria for making decisions regarding the adoption of collaborative technologies. These three selection standards have been confirmed by earlier studies conducted by Onaolapo and Oyewole (2018) and Zainab, Kaur, Karim and Muhamad (2018) as the preferred reasons why individuals adopt certain technologies.

Conclusion

Most libraries used in this study were caught off guard, as they had no plan to have virtual engagement with their users prior to the outbreak of the pandemic, resulting in most libraries not having formal engagements with their users. During this period, collaborative tools like Zoom, Moodle, WhatsApp, email, Microsoft Teams, Google Meet, and Skype became handy in library service delivery. The dependence on mother institutions for acquiring these tools resulted in the adoption of tools that the librarians would change if they had the opportunity. These findings are red lights for libraries to find alternative ways of funding (including grantsmanship) so as to limit the dependence on their mother institutions for such decisions. Pandemics will stay with us, so libraries and other stakeholders, including library associations, should keep preparing ahead by investing in digital collaborative tools.

References

- Adipat S. (2021). Why web-conferencing matters: Rescuing education in the time of COVID-19 pandemic crisis. *Frontiers in Education*, 6:1–6. <https://doi.org/10.3389/feduc.2021.752522>
- Ajayi FF, Adetayo AJ, Gbotoso AO & Salvador MY. (2021). Institutional support and collection development practices in private university libraries in South-West Nigeria. *Library Philosophy and Practice (e-journal)*, 6571:1–14.
- Allen LE and Taylor DM. (2017). The role of the academic library information specialist (LIS) in teaching and learning in the 21st century. *Information Discovery and Delivery*, 45(1):1–9. <https://doi.org/10.1108/IDD-09-2016-0030>
- Ashiq M, Jabeen F & Mahmood K. (2022). Transformation of libraries during COVID-19 pandemic: a systematic review. *The Journal of Academic Librarianship*, 48(4):102534. <https://doi.org/10.1016/j.acalib.2022.102534>
- Ayris P & Ignat T. (2018). Defining the role of libraries in the Open Science landscape: a reflection on current European practice. *Open Information Science*, 2(1):1–22. <https://doi.org/10.1515/opis-2018-0001>
- Begum D, Roknuzzaman M & Shobhane ME. (2022). Public libraries' responses to a global pandemic: Bangladesh perspectives. *IFLA Journal*, 48(1):174–188. <https://doi.org/10.1177/03400352211041138>
- Correia A, Liu C & Xu F. (2020). Evaluating videoconferencing systems for the quality of the educational experience. *Distance Education*, 41(4): 429–452. <https://doi.org/10.1080/01587919.2020.1821607>
- Cowell J. (2020). Managing a library service through a crisis. *Library Management*, 42(4/5):250–255. <https://doi.org/10.1108/LM-10-2020-0158>
- Dadhe PP & Dubey MN. (2020). Library services provided during COVID-19 pandemic: Content analysis of websites of premier technological institutions of India. *Library Philosophy and Practice (e-journal)*, 4445:1–18.
- DeJonckheere M & Vaughn LM. (2019). Semi-structured interviewing in primary care research: a balance of relationship and rigour. *Family Medicine and Community Health*, 7(2):1–8. <https://doi.org/10.1136/fmch-2018-000057>
- Dulebohn JJ & Hoch JE. (2017). Virtual teams in organisations. *Human Resource Management Review*, 27(4):569–574. <https://doi.org/10.1016/j.hrmr.2016.12.004>
- Fatehi F, Armfield NR, Dimitrijevic M & Gray LC. (2014). Clinical applications of videoconferencing: & scoping review of the literature for the period 2002–2012. *Journal of Telemedicine and Telecare*, 20(7):377–383. <https://doi.org/10.1177/1357633X14552385>
- Fereday J & Muir-Cochrane E. (2006). Demonstrating rigor using thematic analysis: a hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1):80–92. <https://doi.org/10.1177/160940690600500107>
- Garcia-Ortiz F. (2021). How Yakima Valley libraries took on COVID-19 and the digital divide. *Computers in Libraries*, 41(5):16–20.
- Gibbs JL, Anu S & Boyraz M. (2017). Investigating the impacts of team type and design on virtual team processes. *Human Resource Management Review*, 27(4):590–603. <https://doi.org/10.1016/j.hrmr.2016.12.006>

- Hacker J, vom Brocke J, Handali J, Otto M & Schneider J. (2020). Virtually in this together – how web-conferencing systems enabled a new virtual togetherness during the COVID-19 crisis. *European Journal of Information Systems*, 29(5):563–584. <https://doi.org/10.1080/0960085X.2020.1814680>
- Hamad F, Al-Fadel M & Fakhouri H. (2022). The role of academic libraries and information specialists during times of health crises in Jordan: The COVID-19 pandemic case. *Digital Library Perspectives*, 83(4):476–492. <https://doi.org/10.1108/DLP-02-2021-0009>
- Harris SY. (2021). COVID-19 impact on the Caribbean academic library: Jamaica's preliminary response to people, place, product and services. *Library Management*, 42(6–7):340–361. <https://doi.org/10.1108/LM-10-2020-0144>
- Hennink MM & Kaiser BN. (2019). Saturation in qualitative research. In: P Atkinson, S Delamont, A Cernat & R Williams (eds). *Sage Research Methods Foundations*. New York: Sage Publications.
- Hsu YC & Shiue YM. (2017). Exploring the influence of using collaborative tools on the community of inquiry in an interdisciplinary project-based learning context. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(3):933–945. <https://doi.org/10.12973/ejmste/81149>
- Johnson P. (2020). Libraries during and after the pandemic. *Technicalities*, 40(4):2–8.
- Karl KA, Peluchette JV & Aghakhani N. (2022). Virtual work meetings during the COVID-19 pandemic: the good, bad, and ugly. *Small Group Research*, 53(3):343–365. <https://doi.org/10.1177/10464964211015286>
- Lobo J & Dhuri KR. (2021). Positive impact of COVID-19 pandemic in enhancing digital literacy skills amongst library professionals: a study. *Library Philosophy and Practice (e-journal)*, 5243:1–18.
- Lopes I, Oliveira A & Costa CJ. (2015). Tools for online collaboration: Do they contribute to improve teamwork? *Mediterranean Journal of Social Sciences*, 6(6):511–518. <https://doi.org/10.5901/mjss.2015.v6n6s4p511>
- Matthews JR. (2020). COVID-19 and public libraries: a real paradigm shift. *Public Library Quarterly*, 39(5):389–390. <https://doi.org/10.1080/01616846.2020.1796431>
- McMenemy D, Robinson E & Ruthven I. (2022). The impact of COVID-19 lockdowns on public libraries in the UK: findings from a national study. *Public Library Quarterly*, 42(1):1–19. <https://doi.org/10.1080/01616846.2022.2058860>
- Oluwaseyi MJ, Omozaphue AK, Omolere OW & Motunrayo E. (2022). Academic libraries – catalyst of academic development: a case study of Lagos State University Library, Lagos State, Nigeria. *International Journal of Innovative Information Systems & Technology Research*, 10(1):1–10.
- Oloyede AA, Faruk N & Raji WO. (2022). COVID-19 lockdown and remote attendance teaching in developing countries: A review of some online pedagogical resources. *African Journal of Science, Technology, Innovation and Development*, 14(3):678–696. <https://doi.org/10.1080/20421338.2021.1889768>
- Onaolapo S & Oyewole O. (2018). Performance expectancy, effort expectancy, and facilitating conditions as factors influencing smartphone use for mobile learning by postgraduate students of the University of Ibadan, Nigeria. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 14(1):95–115. <https://doi.org/10.28945/4085>

- Pinigas M, Cleopas R & Phiri MA. (2017). Acceptance of e-resources by students in Zimbabwe state universities' libraries: a consumer behavior perspective. *International Information & Library Review*, 50(3):181–193. <https://doi.org/10.1080/10572317.2017.1387443>
- Pratama H, Azman MNA, Kassymova GK & Duisenbayeva S. (2020). The Trend in using online meeting applications for learning during the period of pandemic COVID-19: a literature review. *Journal of Innovation in Educational and Cultural Research*, 1(2):58–68. <https://doi.org/10.46843/jiecr.v1i2.15>
- Rachman YB. (2020). Disaster preparedness of academic libraries: a case study from Indonesia. *Preservation, Digital Technology & Culture*, 49(2):67–74. <https://doi.org/10.1515/pdte-2020-0002>
- Rafi M, Ahmad K, Naeem SB & Jianming Z. (2020). Budget harmonisation and challenges: understanding the competence of professionals in the budget process for structural and policy reforms in public libraries. *Performance Measurement and Metrics*, 21(2):65–79. <https://doi.org/10.1108/PMM-09-2019-0048>
- Real B. (2021). Bridging digital divides during COVID-19: findings from the 2020–2021 Connecticut state library digital inclusion survey. *Public Library Quarterly*, 40(4):283–309. <https://doi.org/10.1080/01616846.2021.1938918>
- Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, Burroughs H & Jinks C. (2018). Saturation in qualitative research: exploring its conceptualisation and operationalisation. *Quality & Quantity*, 52(4):1893–1907. <https://doi.org/10.1007/s11135-017-0574-8>
- Shirley J, Mawire B & Baloyi-Sekese M. (2020). COVID-19 and the National Library of South Africa: adapting to the new normal. *Alexandria*, 30(2–3):201–208. <https://doi.org/10.1177/09557490211002095>
- Sikali K. (2020). The dangers of social distancing: How COVID 19 can reshape our social experience. *Journal of Community Psychology*, 48(8):2435–2438. <https://doi.org/10.1002/jcop.22430>
- Siregar AR & Dewiyana H. (2018). Mobile technology for expansion of service range Medan public library. *Journal of Physics: Conference Series*, 978(1):1–5. <https://doi.org/10.1088/1742-6596/978/1/012052>
- Tanzi N. (2020). Providing patron tech help in a pandemic: in-person and virtual models. *The Wired Library*, 59(6):15–18.
- Temiz S & Salelkar LP. (2020). Innovation during crisis: exploring reaction of Swedish university libraries to COVID-19. *Digital Library Perspectives*, 36(4):365–375. <https://doi.org/10.1108/DLP-05-2020-0029>
- Umaru IA & Omame IM. (2020). Application of social media and video conferencing in smart library services. *Library Philosophy and Practice (e-journal)*, 3915:1–13.
- Venkatesh V, Thong JYL & Xu X. (2012). Consumer acceptance and use of information technology: extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36(1): 157–178. <https://doi.org/10.2307/41410412>
- Wenborn C. (2018). How technology is changing the future of libraries. *The Wiley Network*, April 11. <https://www.wiley.com/network/librarians/library-impact/how-technology-is-changing-the-future-of-libraries> [Accessed 18 May 2022].

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- Whitsett D. (2021). *What are collaboration tools?* Study.com. <https://study.com/academy/lesson/what-are-collaboration-tools-definition-types-quiz.html> [Accessed 4 June 2022].
- Zainab AM, Kaur K, Karim NHA & Muhamad S. (2018). UTAUT'S performance consistency: Empirical evidence from a library management system. *Malaysian Journal of Library & Information Science* 1, 23(1):17–32. <https://doi.org/10.22452/mjlis.vol23n01.2>
- Zhou J. (2021). The role of libraries in distance learning during COVID-19. *Information Development*, 38(2):227–238. <https://doi.org/10.1177/02666669211001502>

