Impact of Covid-19 on the Provision of Information Services in Academic Libraries

Amogelang Joshua
amogelangjoshua@gmail.com
Priti Jain
jainp@ub.ac.bw
Department of Library and Information Studies
University of Botswana
Gaborone, Botswana

ABSTRACT

Covid-19 pandemic is a worldwide crisis, which has affected all aspects of our lives, businesses, social, economic, academic, including libraries. This paper explores the impact of Covid-19 on the provision of information services in academic libraries. The paper is based on an in-depth literature review on Covid-19 and the authors' observations. The paper views the impact from two perspectives: challenges and opportunities. The major challenges are identified as the closure of the library, transition from physical to online information service delivery, digital divide, lack of policies, and, reduced budget. The opportunities are identified as increased use of Social Media, increased importance of librarians, and professional development through webinars. The paper recommends training, adoption of a hybrid model, disaster planning, investment in e-resources, and inventing a new service model for academic libraries to cope with the challenges posed by the pandemic.

1. INTRODUCTION

Academic libraries are the major information and knowledge access points to students and staff (Omosor, 2014). They facilitate academic research, teaching, and scholarly communication (Tait, Matzoukou, & Reid, 2016). Without efficient information service provision, the university's main mandate of teaching, learning and research is negatively affected. As a means to avail information services to the students, staff, and other academic communities at the university are dependent on the academic libraries' librarians. Like all aspects of our lives, the COVID-19 pandemic has affected academic libraries and librarians. The world has experienced several memorable pandemics up-to-date including the Black Death, Spanish flu, and HIV/AIDS (Madhav et al., 2017). In 1918, the flu pandemic led to the closure of libraries with some even being transformed into centers of community care (Skinner, 2021). On 11th March 2020, the World Health Organisation declared the outbreak of the Coronavirus disease (Covid-19) a global pandemic (Cuccinotta & Vanelli, 2020). This disease was first detected

in human beings in China in December 2019 and quickly spread to all other parts of the world (World Health Organisation, 2021).

According to Dadhe and Dubey (2020), the unexpected outbreak forced all countries to impose lockdowns as a way of containing the virus, which has impacted Socioeconomic development. Due to these lockdowns, businesses had to close their doors including universities as well academic libraries (Chisita, 2020), which affected information services provision. Issues of social distancing, lockdowns, and quarantines are now regarded as part of a new normal. Owing to Covid-19 universities suspended face-to-face learning and moved to online learning. This did not invalidate the requirement for information services to support learning. The transition from physical to online provision of information services brought both challenges and opportunities to academic libraries. According to Tammaro (2020) and Tolppanen (2021), covid-19 came as an emergency; academic libraries had to close their buildings during the initial stages of responding to the virus. Since academic libraries had to continue offering information services, online platforms were adopted. Even though the provision of information services through the Internet is not a new thing to academic libraries "the pandemic forced new considerations of the library as a place and space, the circulation of technological materials than print, sharing with other institutions through interlibrary loan and interactions with librarians" (Decker, 2021, p. 8).

Although pandemics came as an emergency, there should have been better initiatives in place to face the challenges that come with any pandemic outbreak. Libraries were left in limbo when such information was not readily available. Covid-19 is relatively new and the information on its impact on the provision of information services is still scarce. This paper aims to address this gap in the literature and provide academic libraries with an easy-to-access reference to impacts, threats, and opportunities including implementable adaptation initiatives to help survive the COVID-19 scare to their operations.

1.1 Objectives of the Study

The Covid-19 has brought both negative and positive impacts on the provision of information services in academic libraries. This paper, therefore,

deliberates on both the challenges and opportunities pursuing the following two objectives:

(i) Identify the major challenges of Covid-19 for academic libraries;

(ii) Recognise the opportunism that Covid-19 has provided to academic libraries.

2. LITERATURE REVIEW

2.1 COVID-19 and Library Resources

By touching surfaces that have been contaminated and then touching one's mouth, eyes or nose before washing hands, one gets the virus too (World Health Organisation, 2021). Similarly, with library resources, when a covid-19 infected person touches a surface or a library resource, that resource becomes infected as well and can pass the virus to the next person if after touching the affected surface they touch their eyes, nose, or mouth. In addition, Ahmed, Zviedrite & Uzicanin (2018) found out that increasing physical distance and reducing frequent gatherings in places that normally have large groups like a university could reduce the spread of influenza transmission. The same is applicable in reducing the transmission of Covid-19. However, avoiding all the gatherings and physical contacts, in turn, affects the provision of information services. Below is a table that shows how the virus survives in library materials and suitable temperatures.

Table 1: *Survival time of Coronavirus in different temperature*

Temperature	Survival Time
4° C	More than 14 days
5 – 22° C	14 Days
23 – 37° C	2 Days
38 - 56° C	20 Min
57 - 70° C	5 Min

Source: *Iran Public Libraries Foundation, 2020.*

Table 2: *Survival time of Coronavirus on surfaces*

Surface	Survival Time
Paper (books, magazines, newspapers, pencils, etc.)	3 hours
Wood (bookshelves, desks, tables, chairs, etc.)	2 days
Cloth (garments, handkerchiefs, towels, etc.)	2 days
Glass (windows, glass desks, monitors, dishes, etc.)	4 days
Steel (dishes, chair handles, metal shelves, doors, frames, and elevators)	7 days
Plastic (book covers, UV covers, keyboards, chair handles, printers, attendance devices, pends, erasers, disposable dishes, gloves, etc.)	7 days
Inside surfaces of masks Outside surfaces of masks	7 days

Source: *Iran Public Libraries Foundation, 2020.*

It is because of these reasons that academic libraries are also considered to be amongst possible areas of virus spreading. Trying to avoid this physical contact by students and avoiding overcrowding, in turn, affects the information service in different ways which will be discussed in the study.

2.2 Empirical Studies in Academic Libraries

Rafiq, Bafool & Ali (2021) carried out a study to identify ways in which academic libraries were responding to Covid-19 as well as determine their working patterns, strategies, and service patterns. The study found out that most libraries were closed and library operations were conducted online as well as some challenges and opportunities. While exploring library services during Covid-19 in a Nigerian University, Onifade (2020) found out that the library was also impacted by the state partial lockdown and the operation has also changed as now there are reduced workers, they ensure e-resources are always running, social media platforms are also used in service delivery and some information literacy pieces of training were conducted online.

A study by Dadhe and Dubey (2020) at Indian institutes revealed that technology became useful during these difficult times for libraries and that indeed the web and the internet helped libraries to continue supporting learning, teaching, and research. On a similar note, Friday, Oluchi and Ngozi (2020) focused on the social media adoption for library services which showed adoption was quite noticeable and is helping libraries provide the information services even though there are some challenges like funding and lack of knowledge on how to use the platforms by some librarians.

International Federation of Library Association and Institutions (2020) published information on libraries and resources on Covid -19 for libraries across the world. Similar to that the American Library Association (2020) also published for their libraries the resources as well as information on preparedness during Covid-19. With the influenza pandemics, Ahmed, Zviedrite, and Uzicanin (2018) and Williams et al. (2015) discussed social distancing as a way to avoid the virus transmission which is applicable even now during the Covid-19 pandemic.

3. RESEARCH METHODOLOGY

This paper is based on an in-depth and recent literature review on Covid-19 and the authors' personal experience and observations. Literature was reviewed from electronic databases as well as content analysis from websites. The keywords used for literature search were: academic libraries and covid-19 or academic libraries and coronavirus. Databases searched were: Goggle Scholar, Science Direct, and Ebscohost. The criteria of inclusion and exclusion of papers were based on the title and abstract review. The study included mostly studies and papers that addressed both academic libraries and covid-19.

4. FINDINGS

This section presents the findings of the paper the challenges and opportunities brought by Covid 19.

4.1 Challenges Faced by Academic Libraries due to Covid-19

"While academic libraries have long existed and served their users, the fallout from the reactive closures are likely to negatively impact academic libraries" (Decker, 2021, p. 78). Literature reveals the following challenges/negative impacts of Covid-19:

4.1.1 *Closure of the Library*

As a response to Covid-19, countries imposed national lockdowns and academic libraries like many other businesses had to close their doors too (Chisita C. T., 2020). This closure of libraries led to no access to the print collections, as patrons could not access the library (Nawaz, Gomes & Saldeen, 2020). The closure meant that users could not go to the library for their information needs and possibly could not find some of them online, as it was sudden and unplanned. Tammaro (2020) reiterates that it was

unfortunate that some requests for patrons were only available on paper and even the staff did not have access to them. This shows that user needs could not be met as the information service provision was affected and disrupted by Covid-19.

4.1.2 The transition from Physical to Online Service Delivery

After Universities were closed in response to lockdowns, teaching and learning were shifted to an online environment (Kavanagh, 2020). Students were also forced to dislocate and found themselves without course materials. Neither the institutions nor students were ready for this emergency. That challenged operations of academic libraries. Neither physical access to materials by users nor in-person service was allowed; hence the adoption of technology to support the academic community (Dadhe & Dubey, 2020). In doing so, academic libraries updated, developed as well as raised awareness of the available online resources which support research skills and learning (Kavanagh, 2020). Dadhe & Dubey (2020) assert that libraries are increasing their e-collections and also ensuring that the academic community has remote access to them. The sudden closure due to lockdowns intensified the need for digital resources, revealing their worth even for those who had limited resources (Decker, 2021). Therefore, the transition was a challenge to some academic libraries.

4.1.3 Digital Divide

The term digital divide refers to "a gap separating those who have access to new forms of information technology from those who do not" (Srinuan & Bohlin, 2011, p.1). Due to the Covid-19 outbreak, the gap between well-resourced libraries and technology-starved libraries was exposed (Chisita & Chizoma, 2021). This shows that the digital divide was also noticeable in academic libraries. The biggest challenge to users accessing library resources is the lack of devices for accessing the resources (Tammaro, 2020). This also affected some library staff as they did not have access to the Internet to work from home (Kavanagh, 2020). Rafiq, Bafool & Ali (2021) noted that slow internet and lack of digital literacy skills is a barrier to accessing library resources.

4.1.4 Relaxing of Policies

Nawaz, Gomes, and Saldeen (2020) opine that as a result of Covid-19, libraries were forced to relax their loan policies. For example, in the case of overdue books, the dates were extended. Ma (2020) also highlights an

extension of loans and waiving some fines which were incurred from specified periods due to Covid-19. Sharing the same sentiments Dadhe and Dubey (2020) mention that to avoid penalties on students, policies were relaxed as due dates for loans were extended. This is because the Covid-19 was sudden and unanticipated, same with movement restrictions, which did not give anyone, time to plan. However, it became a challenge for libraries to claim the overdue.

4.1.5 Lack of policies to regulate work of Librarians during the Pandemic

Working from home overburdened librarians as they had to attend to the academic community on a 24/7 basis due to connectivity problems. The new working environments had no policies regulating their operation (Rafiq, Bafool & Ali, 2021). According to Tolppanen (2021), some academic libraries had to hastily create procedures and policies to guide their service delivery. To avoid a similar situation in the future, academic libraries should revisit their policies and update them, so that whenever a similar situation arises they have policies in place to regulate their work.

4.1.6 Reduced Budgets and Staffing

As most funds are being directed to e-resources the academic libraries are likely to suffer a financial cut in the coming years. This can also affect professional development, new hires, print collections as well as some programs and services. Frederick & Elsenberg (2020) reiterate that in some libraries budgets have already been cut and the directors reported they have decided not to recruit any staff even where there are shortages. The budget and staffing cut in academic libraries is also a threat to collection development because without funds there are no new purchases and even subscriptions to databases. This reduces the accessibility of information materials to the academic community. Reducing library staff also impacts information service delivery, as the number of students will not reduce and all students should be attended to.

4.1.7 Abandonment of Physical Access by Patrons

The delivery of online information services to patrons can pose a challenge to traditional library services and physical face-to-face interaction. Library users might deem the physical library information service provision unnecessary as they may have misconceptions that whatever one needs from the library can be freely accessed online (Martzoukou, 2020). Despite the

increased use of online resources, it is still worth mentioning that the use of library resources was disrupted but online resources will never replace traditional ones as some students and faculty members still want to use physical books (Connell, Wallis & Comeaux, 2021). To promote physical access and utilization of information materials, academic libraries should continue marketing their services and resources to the students. This will make library users aware of the fact that not all books and information sources are available for free online; there is still a need to visit the library to access information materials that are not freely available online. Thus, even post covid-19 academic libraries will remain relevant and functional as information service providers and reading spaces for students.

4.2 Opportunities from the Pandemic

Despite the challenges discussed above, Covid-19 also presented some opportunities in academic libraries. This is attested by Chisita (2020) and Decker (2021), who consider Covid-19 to have provided unique opportunities for academic libraries to rethink their key roles in supporting teaching and learning. The literature review reveals the following opportunities:

4.2.1 Establishment of E-Resources

Academic libraries had to acquire more e-resources to support teaching and learning during the Covid-19 pandemic and also find ways of making them accessible after acquiring. As a result, academic libraries easily gained the support of the administration to acquire more digital contents to support online learning, teaching, and research (Rafiq, Bafool & Ali, 2021). This is an opportunity for academic libraries because these online resources will be available for use by students even after Covid-19.

4.2.2 Emphasized Importance of Academic Librarians

The covid-19 pandemic is an opportunity for libraries to reiterate their influence and usefulness by providing quality services using digital technologies (Chisita, 2020). The presence of technology alone is not enough, there is a need for a librarian to make users aware of the available information resources (Dadhe & Dubey, 2020). Covid-19 has stressed the importance of librarians as they had to help students develop information, digital, and media literacy skills so that they can be in a position to find and access authentic, reliable, and credible sources of information on their own. The information does not only help students in their studies but also in

keeping them safe from the virus (Martzoukou, 2020). In this time of crisis, many libraries have arranged webinars on topics ranging from information literacy to research ethics to educate their users on using digital information in learning and research and those have been deemed useful and relevant (Dadhe & Dubey, 2020). Concerning academic libraries, the importance of librarians is not only an opportunity for their recognition but also of much help to the new undergraduate students. For example in developing countries like Botswana, most students especially from public schools go to tertiary schools without computer knowledge (Mpofu & Chikati, 2013). Due to different backgrounds, some underprivileged students never owned a smartphone or a laptop. When such students have just started their university in this Covid-19 era where information services are mostly digitized, the presence of a librarian is of much importance to them. Students need librarians to guide them on where and how to find information so that they can be at the same level as other fellow students during learning.

4.2.3 Improved Library Cooperation

The 21st-century library service delivery is characterized by collaboration, networking, and flexibility (Chisita & Chizoma, 2021). The University of Botswana (UB) Facebook page (2021) also called the UB academic community to place orders for any book chapters they are interested in and cannot find access to so that they can be loaned from other libraries. This shows that Covid-19 did not bring only challenges but has also strengthened some information services, which were given less attention before the Covid-19 crisis. Stressing this point Connell, Wallis & Comeaux (2021) take us way back to 1999 when Eastern Illinois University was closed for 31 months; there was an increase in interlibrary loans. This is said to have been due to patrons placing requests to materials which the library did not have but available in other libraries.

4.2.4 Increased Use of Social Media

The growing use of social media by libraries has been visible during this pandemic. As observed by Chewe, Zulu & Musonda (2020), due to the Covid19 pandemic, academic libraries are increasingly featuring social media for better service delivery. Through these platforms, libraries have been able to provide information services to their users and make them aware of available resources and the relations with users have been

improved (Friday, Oluchi & Ngozi (2020). Academic libraries use social media for "marketing, dissemination of information, reference services, communication with users and answering student queries" (Chewe, Zulu & Musonda., p. 4 2020). It allows libraries to connect with users in a platform that they are already occupying. Social media platforms continue to be more useful to academic libraries in their provision of information services as they can reach even those users who are in isolation hence restricted to using the physical library collections (Friday, Oluchi & Ngozi, 2020). Most young people are active in these platforms therefore academic libraries can reach most of their users through social media.

4.2.5 Professional Development through Webinars and Conferences

As librarians have shifted from normal library services to virtual and online spaces, this has demanded continuous professional development for them to provide library services using digital platforms. Covid-19 has brought an opportunity for professional development through free-of-charge webinars and conferences. When libraries had closed their physical spaces and librarians worked remotely, most of them spent their time on professional development. Libraries had the highest numbers ever in their web junction webinars between March and April 2020 during lockdowns (Online Computer Library Centre, 2020). In a similar vein, Onifade (2020) further avers that the pandemic has also given rise to some online information literacy pieces of training for staff through zoom, skype, and google meet.

5. CONCLUSION AND RECOMMENDATIONS

In conclusion, the Covid-19 is still here and we are not sure how long it will exist. It is evident from the foregoing that the pandemic has impacted the provision of information services in academic libraries. It has brought both challenges and opportunities to librarians. The major challenges are identified as: closure of libraries, shift from physical access to online provision of information services, digital divide, relaxing of policies on loaned library resources, lack of policies regulating online work of librarians, and, budget constraints. The opportunities are the establishment of e-resources, the increased importance of librarians, enhanced library cooperation, improved social media adoption, and professional development through free webinars and conferences. However, the academic libraries will have to continue offering online services, and the students are also expected to continue working mostly in the digital environment. To overcome some of the

challenges, the authors put forward the following recommendations for 21st-century academic libraries to continue offering information services to the academic community and adapt to similar situations in the future:

(i) There is need to improve technological training in academic libraries among staff and library users for them to be effective in this era.

(ii) Academic libraries should consider deepening their electronic collections for them to have a hybrid collection (both print and electronic records). It is empirically evidenced that hybrid libraries faced fewer challenges in response to Covid-19.

(iii) Academic libraries should treat pandemics like any other disaster; hence there is a need for a contingency plan and risk assessment.

(iv) Academic libraries should use online platforms to enrich engagement with the academic community and increase the use of electronic resources.

REFERENCES

Ahmed, F., Zviedrite , N., & Uzicanin, A. (2018). Effectiveness of Workplace and Social Distancing Measures in Reducing Influenza Transmission: A systematic review. *BMC Public Health, 18* (1). Retrieved June 05, 2021 from 10.1186/s12889-018-5446-1

American Library Association. (2020, June 30). Retrieved June 03, 2021, from http://www.ala.org/tools/atoz/pandemic-preparedness#Responses

Bamidele, I. A., Omeluzor, S. U., Imam, A., & Amad, H. U. (2013). Training of Library Assistants in Academic Library: A Study of Babcock University Library, Nigeria. *SAGE Open,* 1-10. Retrieved June 07, 2021, from https://doi.org/10.1177/2158244013503964

Chewe, P., Zulu, Z., Chitumbo, E., & Musonda, Y. (2020). Enhanced Social Media in the Covid-19 Pandemic: An Anecdote of Academic Libraries in Zambia. *Library Philosophy & Practice*, 1-13. Retrieved June 03, 2021, from https://digitalcommons.unl.edu/libphilprac/4762

Chisita, C. T. (2020). Libraries in the midst of the coronavirus (Covid-19): researchers experience in dealing with the vexatious infodemic. *Library Hi Tech News, 37* (6), 11-14. Retrieved June 13, 2021, from https://doi.org/10.1108/LHTN-03-2020-0022

Chisita, C. T., & Chizoma, U. S. (2021). Rethinking Academic Library SpaceAdmistthe Covid-19 Pandemic in South Africa: Preparing for the future. *Information Discovery & Delivery , 49* (2), 105-113. Retrieved June 10, 2021, from https://doi.org/10.1108/IDD-07-2020-0087

Connell, R. S., Wallis, L. C., & Comeaux, D. (2021). The impact of Covid-19 on the use of Academic library resources. *Information Technology & Libraries*, 40(2). Retrieved June 10, 2021, from https://doi.org/10.6017/ital.v40i2.12629

Cuccinotta, D., & Vanelli, M. (2020). WHO Declares Covid-19 a Pandemic. *Acta Biomed , 91* (1), 157-160. 10.23750/abm.v91i1.9397

Dadhe, P., & Dubey, M. N. (2020). Library Services Provided During Covid-19 Pandemics Content Analysis of Websites of Premier Technological Institutions of India. *Library philosophy and practice (e-journal)*, 4445. Retrieved June 10, 2021, from https://digitalcommons.unl.edu/libphilprac/4445

Decker, E. N. (2021). Reaching Academic Library Users during the Covid-19 pandemic: New and adapted approaches in access services. *Journal of Access Services, 18* (2), 77-90. DOI: 10.1080/15367967.2021.1900740

Fitzgibbons, M. A. (2008). Human Resources Management in the Development of Information Commons in Academic Libraries. *Library Student Journal.* 3

Frederick, J. K., & Elsenberg, C. W. (2020, December 9). *The impact of Covid-19 on Academic Libraries.* Retrieved April 19, 2021, from ITHAKA S+R: https://sr.ithaka.org/blog/the-impact-of-covid-19-on-academic-libraries/

Friday, J., Oluchi, C., & Ngozi, C. L. (2020). Social media and Library Services: A case of Covid-19 Pandemic Era. *International Journal of Research and Review, 7* (10), 230-237.

Goddard, J. (2020). Public Libraries Responding to the Covid-19, Creating a new service model. *Information Technology & Libraries, 39* (4), 1-4.

International Federation of Library Association and Institutions. (2020, October 13). *IFLA.* Retrieved June 03, 2021, from https://www.ifla.org/covid-19-and-libraries

IPLF. (2020). *Iran Public Libraries Responding to Covid-19.* IPLF Guidelines for Reopening Libraries.

Kavanagh, A. (2020). Going Digital: Academic Libraries Response to the Covid-19 Pandemic. *A Librarian: The Irish Library, 29* (2), 26-33. Doi:10.21427/6mhq-hk30

Ma, L. F. (2020). Academic Library Services during Covid-19. *The Experience of CUHK Library, International Information & Library Review, 52* (4), 321-324. DOI: 10.1080/10572317.2020.1834251

Madhav, N., Oppenheim, B., Gallivan, M., Mulembakani, P., Rubin, E., & Wolfe, N. (2017). Pandemics; Risks, Impacts, and Mitigation. In D. T. Jamison, H. Gelband, & S. Horton, *Disease Control Priorities, Improving Health and Reducing Poverty* (3rd edition ed.). Washington DC: The International Bank of Reconstruction and Development.

Maponya, P. M. (2004). Knowledge Management Practices in Academic Libraries: A case of the University of Natal, Pietermaritzburg Libraries, South Africa

Martzoukou, K. (2021). Academic libraries in Covid-19: a renewed mission for digital literacy. *Library Management, 42* (4/5), 266-276. Retrieved June 03, 2021, from https://doi.org/10.1108/LM09-2020-0131

Mpofu, N., & Chikati, R. (2013). An Assessment of the Impact of High School Digital Divides to Students Performance at Tertiary Education in Botswana. *International Journal of Scientific & Technology Research, 2* (9), 68-71.

Nawaz , N., Gomes, A. M., & Saldeen, M. A. (2020). Artificial Intelligence (AI) Applications for Library Services and Resources and Resources in Covid-19 Pandemic. *Journal of Critical Reviews , 7* (18).

Omosor, U. A. (2014). Effect of Technology on librarians in academic libraries in Nigeria. *Journal of Information and knowledge management, 5* (2), 203-212.

Onifade, F. N. (2020). Library Services During Covid-19 Period: Federal University of Agriculture, Abeokuta Experience. *International Information & Library Review* , 320-320.

Online Computer Library Centre. (2020). Library staff learning surges on WebJunction amid COVID-19 closures. Retrieved June 06, 2021, from https://blog.oclc.org/next/library-staff-learning-surges-on-webjunction-amid-covid-19-closures/

Rafiq, M., Bafool, S. H., & Ali, A. F. (2021). University libraries response to Covid-19 pandemic: A Developing Country Perspective. *The Journal of Academic Librarianship, 47*(1). Article 102280

Simpson, J. (2016). The Heart of the University: Library Link Location on Doctoral Granting Institutions Webpages and Correlation with Research Output. The Journal of Academic Librarianship, 1-6. Retrieved June 13, 2021, from http://dx.doi.org/10.1016/j.acalib.2016.06.011

Skinner, J. (2021, April 1). Libraries and Pandemics: Past and Present. *JSTOR Daily*. Retrieved June 03, 2021, from https://daily.jstor.org/libraries-and-pandemics-past-and-present/

Srinuan, C., & Bohlin, E. (2011). Understanding the digital divide: A literature survey and ways forward. *22nd European Regional Conference of the International Telecommunications Society(ITS2011)*, Budapest, 18-21 September 2011: Innovative ICT Applications-Emerging Regulatory, Economic and Policy Issues.

Stojanovski, J., & Papic, A. (2012). Information Services in Academic Libraries: Browsing Services vs Searching Services. *Central European Conference on Information and Intelligent Systems: 23rd International Conference*, (pp. 85-90). Varaždin, Croatia.

Tait, E., Matzoukou, K., & Reid, P. (2016). Libraries for the future: the role of IT utilities and transformation of academic libraries. *Information Systems & Economics eJournal*, 1-9. Retrieved June 03, 2021, from Doi:10.1057/palcomms.2016.70

Tammaro, A. M. (2020). Covid-19 and libraries in Italy. *International Information and Review*, 52(3) .216-220. DOI: 10.1080/10572317.2020.1785172

Tolppanen, B. P. (2021). A survey of the response of access services in academic libraries to Covid-19. *Journal of Access Services, 18* (2), 65-76. DOI: 10.1080/15367967.2021.1871619

UB Facebook page. (2021). Retrieved June 10, 2021, from https://www.facebook.com/University-of-Botswana-Library-264091401868/

The University of Botswana. (2020). *UB Adopts Blended Teaching & Learning to Mitigate COVID-19 Impact*. Retrieved June 03, 2021, from https://www.ub.bw/news/ub-adopts-blended-teaching-learning-mitigate-covid-19-impact

Walsh, B., & Rana, H. (2020). Continuity of Academic Library Services During the Pandemic: The University of Toronto Libraries Response. Journal of Scholarly Publishing, 51 (4), 237-245. Retrieved June 07, 2021, from https://doi.org/10.3138/jsp.51.4.04

Williams, L., Rasmussen , S., Kleczkowski, A., Maharaj, S., & Cairns, N. (2015). Protection motivation theory and social distancing behaviour in response to a simulated infectious disease epidemic. *Psychology Health and Medicine, 20* (7), 832-837. Retrieved June 13, 2021, from https://doi.org/10.1080/13548506.2015.1028946

World Health Organisation. (2020). *Bordering Africa's Epicenter: How early action and careful border control policies have so far contained COVID-19 to clusters in Botswana.* WHO's Action in Countries. Retrieved June 09, 2021, from https://www.who.int/publications/m/item/botswana-bordering-africa-s-epicenter---how-early-action-and-careful-border-control-policies-have-so-far-contained-covid-19-to-clusters

World Health Organisation. (2021, April 30). *Coronavirus disease (Covid-19) how is it transmitted.* Retrieved July 27, 2021, from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19-how-is-it-transmitted

World Health Organisation. (2021). *Coronavirus disease (Covid-19) pandemic.* Retrieved April 20, 2021, from https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200423-sitrep-94-covid-19.pdf.