



Virtual Information Services During the Covid-19 Pandemic in Makerere University Library, Uganda

Ruth Nalumaga , Helen Byamugisha , Caroline Kobusingye  & Patrick Sekikome 

Makerere University

Abstract

The unprecedented outbreak of Covid-19 led to disruptions in all aspects of life and the economy. Total and partial closures have characterised the pandemic period to contain the spread of the epidemic. Higher education institutions have devised new forms of existence. With the increasing mutations of the virus, coupled with slow vaccination rollouts in Uganda, e-learning remains the practical pedagogy, while electronic information resources are the vital support for learning and research in these circumstances. During the first lockdown, in April 2020, the library carried out a qualitative study on both frontline library staff and academic users. The aim of the study was to understand the experiences of use of electronic resources during the pandemic period. Among the observations of the study was a total decline in downloads from institutional subscriptions of up to about 20% in the year 2020. This finding was troubling, given prior assumptions that lockdowns would boost e-resources' uptake. Furthermore, while the library website and its aggregator tools had traditionally been assumed to be key access points for institutional resources, the study showed that most respondents preferred Google Scholar and not the library discovery tool, as their preferred key search interface. While Google Scholar worked perfectly on campus within permissible IP ranges, off campus access, as determined by the pandemic period, required a remote access tool. As such, respondents who utilised Google Scholar, experienced marked differences in the levels of access while outside the university network. Thus, the findings revealed that the library website was not the first point of recourse for most users and that this particularly affected the utilisation of e-resources. This chapter, therefore, highlights efforts to improve the use of e-resources through augmenting the website with interactive and other applications. It includes, but are not limited to, a subscription to another remote access system (MyLOFT – My Library on Finger Tips), which enables users to remotely access the library's electronic resources, using their personal accounts and internet from anywhere with more flexibility. Zoom



accounts have been established for blended information literacy trainings, complemented by social media platforms, especially WhatsApp and Twitter to facilitate seamless communication. Nevertheless, while the transition to virtual engagement offers opportunities, there are challenges as well. This chapter has chronicled and analysed the mediated undertakings of the Makerere University Library's ICT to maintain accessibility, visibility, and relevance in the face of physical isolation. It is based on the experiences of staff members at the frontline, coupled with observations of the library's social media feeds. It could be deduced that the adoption and acceleration of technological tools in the context of the pandemic were perceived as a case of *rising to the occasion*, while social media platforms were recognised as 'useful' and 'easy to use' (Davis 1989:320) applications in bridging distance and isolation. The paper also highlights factors influencing technology adoption in a critical period.

Keywords: Makerere University library; virtual information services; information literacy; social media; digital marketing; Covid-19

Introduction

The Makerere University Library emerged from a small library in 1949, housed within the main administration block. It was later constructed with seating space for 270 users and opened in 1959 by the Queen of England (Macpherson 1964:92-93, 138-140). The Main Library has been extended thrice since then, in 1962, 1972, and 2004. Currently it has a total area of 12,000 m² with a seating capacity of 3,980 users. In 2011, Makerere University adopted a collegiate system, with a semi-autonomous decentralised administrative structure. The implementation followed an earlier enactment of a statute for Constituent Colleges (Makerere University n.d.). New administrative units and services were established as a result, including College Libraries and positions for College librarians. Today, the library system consists of the Main Library and several College Libraries.

The library serves over 30,000 users, including students, staff, and external users. There is no requirement for the registration of users, except for external users, who are neither staff nor students of the university. The 1958 Makerere University Deposit Library Act of Parliament has empowered the library to be both a legal depository and a national reference source (cf. Makerere University n.d.). The collection includes over 290,000 titles of print books, 16,000 archival records, serials, e-books, audio visual materials, and digital records. Library users have access to over 12 million journal articles, including both subscriptions and open access, and over 240,000 e-books. Remote access to the e-collection was initially enabled through remote access software, which had been integrated into the university's mail database.

The library instituted information and communication technology (ICT) facilities in the Main and College Libraries, including computers for students and staff, discussion rooms, research and learning commons, a PowerPoint room, a multi-media unit, a music digital archive of Ugandan music, a training unit, a computer laboratory, and facilities for users with disabilities, as well as a mothers' space for expectant and nursing mothers. The library provides a variety of services that includes reference and information services, binding, photocopying, ICT and training, digitisation, document delivery services in instances where full text articles are not available within existing subscriptions, reading and study spaces, and current awareness especially with new acquisitions, changes in schedules, events, and any other relevant communication, through social media handles.

The library operates a hybrid model with a mix of print and electronic resources with an annual budget of approximately US\$650,000, including grants. However, during the pandemic period, this annual government subvention was reduced by 40%.

Strategies to Support Learning and Research during the Pandemic

The Covid-19 pandemic, like anywhere in the world intensified in 2020 and Uganda experienced the first ever total lockdown in April 2020, a phenomenon that was quite new to our existence. The closure happened midway through the university's academic calendar, usually running from January through June. However, the line government ministry in charge of education devised ways of facilitating continuous learning, but with a cap on final learner evaluations. The most prudent means of engagement remained e-learning systems. This was quite a challenge since most institutions operated face-to-face models with first generation distance education. Makerere University, though, had a policy in place on open and distance e-learning (ODEL), enacted in 2015. However, its adoption and implementation were sluggish with only eight courses operationalised by 2020 in student-centred blended learning. The uncertainties of the pandemic revitalised the necessity to accelerate ODEL. Consequently, the Ministry of Education issued emergency rollout guidelines that followed particular standards and infrastructural support. Institutions had to develop courses and teaching materials, and upload content in online platforms. The library had to provide support to learners and researchers. It is worthwhile to note that prior to the lockdown, the library had regular information literacy instructions. However, it was important to intensify the process. A 10 person committee consisting of professional librarians and ICT staff was constituted and transformed into a frontline force to offer support to users.

Enhancing the Library Website

The library website (Makerere University n.d.) was remodelled by the ICT team into a key communication and interaction tool. While earlier e-services mainly focused on reference queries and document delivery through e-mail and Facebook, the frontline team expanded user interaction by incorporating more digital applications. In order to enhance interactivity, communication platforms were synchronised within the library website to offer choices to users. Interactions could be channelled through Twitter, WhatsApp, Facebook, e-mail, telephone, and SMS. A simplified remote access instructional guide was posted on the website's landing page (cf. fig. 1). The facility available at that time (EZproxy) was integrated with the university's webmail database and it automatically recognised all institutional e-mails as authenticated 'passes' for remote access. Frontline staff soon realised that not every student had an institutional account, therefore a common account was created for students without institutional addresses. However, a single and collective identity for multitudinous users posed challenges with proprietary information.

DUE TO CORONAVIRUS (COVID-19), YOU CAN ACCESS THE LIBRARY ELECTRONIC RESOURCES AT HOME

A SIMPLIFIED GUIDE TO ACCESSING ELECTRONIC RESOURCES REMOTELY

- 1 VISIT THE LIBRARY WEBSITE**
The User/student can log in to <https://mail@mak.ac.ug>
- 2 SELECT ELECTRONIC RESOURCES**
Place your cursor on electronic resources of the menu bar and select for more options
- 3 DATABASES A-Z (Remote Access)**
DATABASES A-Z REMOTE ACCESS
In the red column on the right, confirm databases A-Z with Remote Access. Click on any database of your interest eg. JSTOR, Emerald, Sage, etc. The list of databases is arranged alphabetically.
- 4 YOU WILL BE PROMPTED TO LOGIN**
Login using your Makerere University webmail address as the username e.g. johnmuganyizi@lib.mak.ac.ug and then enter the corresponding password. Students without university emails can use the authentication details provided upon request.
- 5 RESEARCH4LIFE RESOURCES**
 - Login to <http://login.research4life.org>
 - On campus access is by IP restriction
 - Off campus access details are provided to all library registered users.You can find out more details from the E-Resources coordinator at chipsasa@lib.mak.ac.ug

CONTACTS
Makerere University Library
P.O. Box 10602 Kampala Uganda
Tel: +256414510431315
Fax: +2564145104315
Email: library@lib.mak.ac.ug
URL: <http://lib.mak.ac.ug>

[Makerere Library](#)
[@MakerereLibrary](#)

Figure 1: A simplified remote access instructional guide, posted in April 2020

Appraisal of Virtual Services

With the disruptions in learning and uncertainties around the pandemic, the library as a critical knowledge centre for the university, had to prepare for all possibilities and uncertainties. The library, therefore, carried out an exploratory study to understand the experiences of our users and the frontline team during the pandemic period. The study was carried out during August and September 2020. The goal was to ascertain how online information services can be enhanced and retooled to support e-learning in the event of isolation and other limitations to physical engagement and research. The study comprised qualitative, structured interviews, carried out with academic staff (users) from all colleges and the library team. Interview questions for users mainly focussed on awareness and the use of e-resources and challenges encountered. Questions for the library frontline team targeted tasks as well as challenges in execution of the functions. Usage statistics from database proprietors and documented user queries were also analysed. Results of the study were perceived to be vital in the eventual repurposing and reorienting information services to sustain a virtual learning environment in the event that this eventually constituted a 'new normal.' As unique insights and gaps in service delivery were observed, the study served as a form of appraisal for information services.

While an increase in the use of library e-resources was anticipated, download statistics for 2020 revealed a decline of almost 20% from the previous year, 2019, from 799,463 to 657,192 downloads from subscription databases. The study found several frustrations, among users, ranging from a partial to a totally blocked access to e-resources, poor connectivity, and an inability to access resources only available in print. In trying to navigate cases of obstructed access, researchers noted that users in this category who were predominantly teaching (academic) staff, tended to utilise Google Scholar as their preferred search engine. While Google Scholar worked perfectly within the institutional network when users were on campus, access was noticeably constrained outside the university's recognised IP ranges. Similarly, database service providers regularly upgraded their systems and access protocols to insulate against cyber threats.

Although the library website had regular updates from service providers and a remote access system that would facilitate a seamless access to institutional subscriptions, researchers found that the website was not the first point of interaction or 'front door' for users. The only exception was for respondents undertaking Covid-19 related research. Most subscription database proprietors had open agreements to provide free research information on the novel Corona virus (Elsevier 2020; Emerald Publishing 2020). Frontline library staff, on the other hand, predominantly complained

about the poor infrastructure, connectivity costs (data charges) and a lack of equipment. Working from home brought additional costs and equipment that had not been contemplated. Over time, the costs of connectivity/data charges would overwhelm, and this was outside the realm of regular institutional allocations. The government had imposed a daily levy on social media referred to as over the top tax. This targeted all social media platforms. However, in the financial year, 2021/2022, there has been a replacement tax on internet data (Mwesigwa, 2021). Although reliable connectivity tended to depend on the strength of network signals, there were variations in experience across geographical locations. In addition, there were complaints about power. This eventually affected the quality of user support offered by frontline staff. Most staff used their smart phones with a limited interface and display, making it difficult to navigate when faced with complex search requests or online guidance and training.¹

Information Literacy Instruction

Prior to the Covid-19 pandemic, the library engaged in information literacy instructions. However, findings of the study by Nalumaga and Byamugisha (2021) have revealed that user training had not been harmonised in the institutional academic programmes. The library relied on referrals from academic units mostly to train students. The problem of inefficient skills manifested in queries to frontline staff. Users without any skills to navigate e-resources across contexts and those with limited proficiencies tended to dominate inquiries to the reference desk during the pandemic. Academic staff were particularly ignorant about remote access options. Subsequent strategies, therefore, involved exploring flexible options to increase access. In October 2020, the library procured another remote access tool for IP restricted databases. The system was called MyLOFT (My Library on Finger Tips) and final subscription arrangements were concluded in January 2021. The old remote access system was kept running until the end of June 2021 to allow ample time for familiarisation with the new system.

The new system offers several advantages for both users and administrators, for example:

- The MyLOFT link is accessible on the library website to allow self registration. Self-registration grants a user a sense of ownership, thus motivation to easily navigate the platform.
- MyLOFT is downloadable as an app on smart phones and tablets.
- It allows a single sign-in on mobile apps and laptops.

1 See Nalumaga and Byamugisha (2021) for more information on findings of this study.

- The statistical function enables the library to generate usage reports per category; thus one is able to identify units (Colleges) that need support.
- It has features that allow users to save, organise, and access e-content across devices.
- It has an inbuilt share feature on which learners and lecturers can easily share content.
- The system synchronises with Google Scholar, assisting users to easily identify and access content that the library subscribes to. This feature is quite helpful for academic staff already familiar with the later search interface.
- The downloaded e-content on smart phones can easily be accessible when offline or without any internet connection.

However, the MyLOFT application was officially launched in June 2021, therefore it is quite new and still being evaluated.

To facilitate training in the new application, a short video demonstrating a step-by step registration process to the MyLOFT platform was designed and shared with all students and the Makerere University Academic Staff Association social media platforms. A zoom account was assigned to the library department to support the virtual learning environment. In mobilising students, the library successfully liaised with the wider student body or the 'Students' Guild' with a turn up of over 600 students for a virtual library Information Literacy training. In between the two lockdowns that the country experienced, the library has embraced a blended approach with both onsite (where students are physically available) and remote instructions. To facilitate connectivity, Wi-Fi has been installed to enable students' access to the internet from anywhere within the university premises. The total bandwidth available for internet access is 2.8 GB up from 100mbs. These figures were obtained from the university department of ICT support. In addition, the university has engaged internet service providers to provide what is referred to as 'zero-rates' to university websites. This implies that users can access particular university sites without having to procure data bundles. The staff's digital literacy skills have been enhanced through training workshops.

Administratively, the library has prioritised the subscription of e-resources in the financial year 2020/2021. The e-book subscription, for instance was increased compared to previous years where emphasis was put on the print collection. In 2021, the e-book collections of Springer, Wiley, and Emerald Publishing have been added to the institutional subscriptions. The library has also maintained the document delivery service to users for articles that are not readily available in full text. Usage statistics for 2021 remarkably rose from 657,192 downloads in 2020 to 894,374 in 2021. The figure represents an increase in the usage of e-resources by almost 27%. This could be attributed

to the use of multiple communication and interactive channels used to reach out to users.

Digital Marketing

This section discusses developments in the marketing of services within the technological era and the adoption of social media in the processes within libraries and ends by highlighting the digital marketing strategies of the Makerere University's Library.

Oracle, a technology firm, defines digital marketing as 'the creation and dissemination of content through digital media channels and the promotion of the digital content through various platforms (Oracle, 2021), including but not limited to websites, social media, e-mail, and mobile applications. Technological advancements have transformed human behaviour and interactions, thus prompting the need to reconsider marketing approaches within the digital space as another context of human interface (Tiago & Verissimo, 2014:704). Digital marketing, thus, leapfrogged online marketing which previously dominated the internet in the 1990s and early 2000s. With online marketing, firms concentrated mainly on establishing some form of online identity through web presence and informational websites, telemarketing, and the use of e-mails and search engines to connect with potential customers.

Within the library and information services, Otobrise and Omagbon (2019:47) state that digital marketing encompasses processes and interactions leading to the promotion and sale of information products and services through means of digital technologies. An information product is defined by Rowley (2002:353) as any product whose primary or core output is information or knowledge, packaged into tangible formats/mediums or as services, for example access to a database/s. These forms include electronic journals and electronic books, newsletters, magazines, digital music, audio, video, software, and images.

Social Media

Social media can be defined as a collection of software where users can send and receive digital content over an online social network, or a digital marketing channel that can be used to communicate with consumers through advertising or a social space where people live their lives (Appel, Grewal, Hadi, & Stephen, 2020:80). Social media can also be understood to be a medium of communication, using the internet to facilitate social interaction (Xie & Stevenson, 2014:502). The definitions encompass ICT tools with the capacity to create content, to reach out, to communicate, and connect with people with minimum limitations and interference.

By design, Mirembe, Lubega, and Kibukamusoke (2019:71) argue that social media platforms' operational models encourage knowledge creation, engagement, and customisation, and therefore fit very well in learning environments, especially academic institutions. Individuals can create their world views through interacting with information, therefore these tools can be effective in engaging users. According to the Internet World Stats website (n.d.), out of the world population of approximately 7.8 billion, 5.1 billion (65%) utilised internet as of March 2021. The percentage usage in Africa was recorded at above 590 million, representing a continental penetration of 43%. It can be postulated that this population similarly subscribes to various social media applications, thus the need to fully embrace this medium in scholarly communication.

Social Media in Academic Libraries

Social media have been adopted in higher education institutions and in support services. In the university library of Mzuzu in Malawi, for instance, a WhatsApp application was introduced in 2018 to augment reference services. A study was carried out to assess its effectiveness. Findings revealed that 85% of submissions were responded to and 83% of respondents expressed satisfaction with the service, especially users in the ODeL pedagogy. However, librarians observed less reference inquiries with face-to-face educational interfaces, implying that the effective use of the platform takes place while users are off campus. Technical and other challenges were, however, cited, as well as instances of unfulfilled expectations. There were also many repetitive requests which frustrated the reference librarians. However, overall, the application was useful especially in training users in information search, and downloading information answering queries, among others (Chaputula, Abdullah, & Mwale, 2020:723, 726-727).

Another study which investigated social media applications in the digital libraries of cultural institutions, including libraries and museums, found that the most popular applications were Facebook and Twitter, followed by Flickr, blogs, RSS feeds, YouTube, and Pinterest, while the least utilised were podcasts. Information disseminated through the applications was related to the marketing/promotion of services and events, outreach, peer-to-peer connections, and information sharing. Challenges comprised of a lack of consistency and standardisation in the posts, which hindered the development of professional institutional online identities (Xie & Stevenson, 2014).

A study by Ihejirika, Goulding, and Calvert (2021:74-78) examined management principles pertinent to sustainable library social media engagement with library users and found that libraries ought to have clear goals and policies communicated and understood by staff regarding the use of social media in relation to users. Another observation was that libraries' voices

ought to be strengthened through well crafted, unique, and clear content that possess the possibility of attracting and maintaining the attention of users. A framework for managing social media was proposed that focussed on management principles and included planning, organising, and evaluation. Libraries were advised to enact policies for social media use that do not just focus on the dissemination of information but to bring onboard users in dialogue.

A study by Luo, Wang, and Han (2013:462-465) describes a more successful strategy of utilising social media in libraries' marketing campaigns in a Chinese university library. A careful process involved the understanding of users and their behaviour, especially a specific age group and their interests, the production of videos, the promotion of a popular video, as well as the distribution and evaluation of the product. The researchers succeeded in marketing their library through a video entitled, 'Falling in love with the library.' Among the success factors cited, was a thorough internalisation of users and their environment, the use of humour, the involvement of users, and the choice of a specific dissemination channel.

Literature on the use of social media in libraries suggest that libraries have taken on the interactive platforms mainly in marketing their services, but it is important that effective strategies are adopted that include careful planning and regulation. A study by Adomi and Solomon-Uwakwe (2019:14, 15, 17) on the use of WhatsApp tools in knowledge sharing among librarians in Nigerian university libraries, for instance pointed out some drawbacks in the use of the platform, for example a nonadherence to group decorum, followed by an 'avalanche' of posts that make it difficult for members to follow through, and posts by members which are deemed unsuitable and controversial, among others.

The subsequent section will examine the social media usage in the digital marketing of Makerere University Library services prior and during the Covid-19 pandemic era.

Digital Marketing Strategies of Makerere University Library before Covid-19

The digital presence of the Makerere University Library could be traced back to around 2003 when the library developed its first website, originally static, but it slowly got populated. Later on, in 2013, with the advent of social media, two applications – Facebook and Twitter – were adopted with the sole purpose of connecting with the online user community. The aim was to generate feedback from the users about the physical services and facilities of the library, as opposed to marketing. This was a strategy designed to appraise library services.

Later, the university introduced an online teaching platform, marking a noticeable increase in the use of smart phones among the students, as some teaching staff transited to the Makerere University electronic learning environment. With the introduction of the e-learning platform, the library took advantage of this development to promote electronic resources. In 2014, the usage of electronic resources gained momentum and this resulted in a high demand for online library services. Library staff assessed the usage of the library collection in 2014 and found that there was too much pressure on the limited bandwidth, leading to a slow download time. Consequently, the two social media platforms (Facebook and Twitter) that had been created, were blocked in 2015 by the Directorate of Information and Communication Technology (DICTS), a department that regulates ICT services and facilities at the university. The blockage lasted for three years with the intention of maximising bandwidth for teaching and learning. By 2013, the university was subscribing to only 100mbs. At that point, the assumption about social media usage by university students was for personal and mostly entertainment usage, rather than academic purposes. Thus, video sharing sites, for instance YouTube, were blocked on the university internet. The situation has improved as the current subscription for 2022 is 2.8 GB of bandwidth for the entire university network, according to the DICTS support at the Makerere University. With improved bandwidth and internet access points including wireless connections in key study areas, all social media platforms are thus supported.

In 2019, Makerere Library staff benefitted from professional development programmes from the University of Pretoria, where they had inductions in the use of social media as an important tool in teaching and learning. The management of library services held discussions with the university's ICT supervisor at the DICTS, about the developments and request to unblock the two social media platforms and allocate the library's additional bandwidth. Usage was monitored from one of the students' computer facilities, the Learning Commons, where the biggest number of students were accessing Facebook and Twitter on library computers. The library found it necessary to promote its services and facilities using platforms already ascertained to be popular among the student population. Two librarians were identified to manage the social media platforms and to regularly post content, review comments, as well as respond to users' queries and comments. In February 2020, a librarian was sponsored to specifically undertake a course in Digital Marketing at the In-depth Research Institute in Nairobi, Kenya. After the training, the staff member applied the new skills acquired, including the use of online tools such as Canva.com to design online marketing content. This resulted in an increased number of online library followers between December 2019 and March 2021, from 12,390 to 14,250 on Facebook and from 894 to 2,455 on Twitter.

Academic Libraries: Reflecting on Crisis, 4IR and the Way Forward

Thus, before Covid-19, the social media platforms were mostly used for the provision of current awareness services, especially announcements that included alerting users of the new developments in the library as well as informing them of the new information materials added to the collections. Examples are indicated in figures 2 and 3.



Figure 2: Some of the current awareness services posted online

This figure portrays the university librarian, Dr. Helen Byamugisha (in blue coat), the Vice-Chancellor, Prof. Barnabas Nawangwe, (holding a book), and the Japanese ambassador (right), on the occasion of receiving donated books on Japanese culture, and establishing a Japanese corner in the Main Library. To the extreme left is Prof. Edith Natukunda of European and Oriental languages in the College of Humanities and Social Sciences, Makerere University.



Figure 3: Communication on changes in the library's operational hours during the graduation week

Digital Marketing during the Pandemic Period

Social media platforms have been instrumental in designing and disseminating information on library resources and services. During the pandemic period, posts and posters that promoted simplified access to electronic resources were designed and uploaded on the website and on the library's social media platforms, as indicated in figures 4 to 6.



Figure 4: A screenshot of one of the Tweets aimed at promoting electronic resources

In order to increase the visibility of the library website, the link is embedded in the social media posts. This is expected to multiply the number of visitors on the library website who in turn gain access to other resources on the website. The social media team observed that keeping an active social media page, generates more followers and in turn a wider coverage. Every post brings in a new follower. Since March 2020 to December 2021, followers on Facebook have increased from 13,183 to 14,250, while Twitter has shown an increase from 1,035 to 4,120. Library staff members are constantly encouraged to retweet the posts so as to improve visibility. The Vice Chancellor, Prof. Barnabas

Nawangwe, continuously re-tweets library posts and this brings in more views on the page since he too has a considerable following² on his Twitter handle. Figure 8 shows the numbers on the library's Twitter handle.



Figure 5: Services for users with visual impairment



Figure 6: Guidelines for thesis uploads

² His followers amount to 49,600 (figure taken on 19 January 2022 from @ProfNawangwe's handle).



Figure 7: Post of MyLOFT, a system used to access library resources remotely on Twitter



Figure 8: Number of followers on Twitter

Another observation made by the frontline staff is the importance of instituting a social media marketing plan. The plan determines when, what, and who should post on an institutional platform, as well as the frequency. As the feedback functionality is crucial in social media management, the Makerere University Library’s social media team constantly checks out every post to respond to comments. In addition to Facebook and Twitter platforms, the library introduced an instant messaging tool, WhatsApp, on its website. WhatsApp is considered to be one of the most used social media platforms among university students. Subsequently, users have been able to chat with the reference librarian in real time and feedback regarding different inquiries is provided immediately. Such possibilities of WhatsApp use in libraries had been highlighted by Arbani and Abdulla (2017:518) in relation to digital marketing. The proposed usage included the selective dissemination of information to different user groups and real time response to user issues. The WhatsApp

features of mass communication to groups, private chat provisions, as well as video and audio, make it appealing as an interactive platform. This serves the purpose of improving user satisfaction. A study of undergraduate students at the University of Brunei Darussalam found that most undergraduates utilised WhatsApp – 96% of a total of 156 respondents, almost three hours per day. The popularity of the application was attributed to its ease of use, ease of communication, instant messaging and relative cost-effectiveness in quick information retrieval and transfer. Students found the application convenient in sharing information in relation to their studies, group discussions, and assignments (Ahad & Lim 2014:192).

Figures 9 and 10 demonstrate some of the queries and feedback.

Other reference queries processed through social media are presented in table 1.

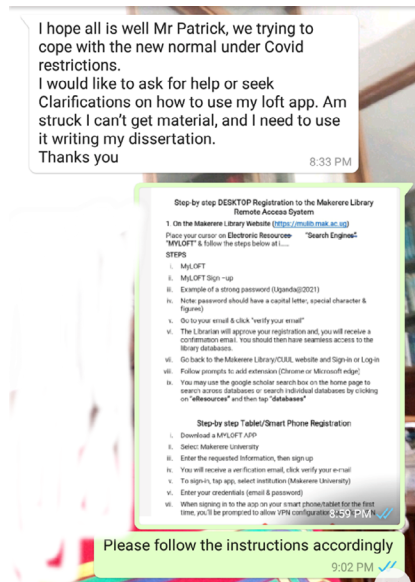


Figure 9: Screenshot of chats with users and the reference librarian on WhatsApp

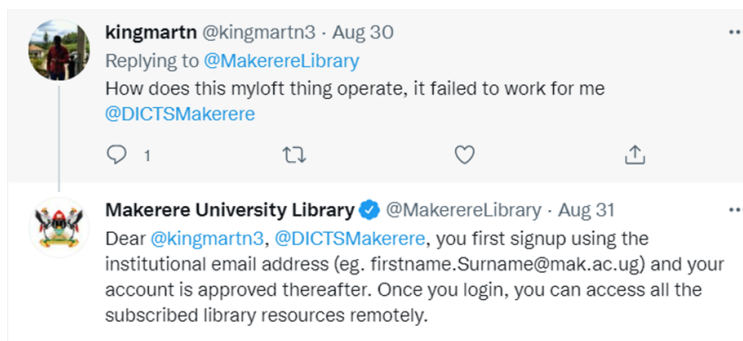


Figure 10: Inquiry and feedback on the MyLOFT application

Table 1 demonstrates requests received by the Main Library. Samples were gathered from the WhatsApp platform feeds. This is by no means exhaustive, since it only focused on queries from the reference librarian which average five to eight queries per day. The sample is meant to provide a clue on interactions from the social media platforms, which are managed by the reference librarian in the Main Library. The feeds exclude feedback from College librarians. Most requests are predominantly submitted through the library WhatsApp tool, and a simple analysis reveals that the majority concerns access to library resources and facilities from both students and staff. The library reference team observes that information literacy trainings often stimulate user interest and inquiries. Most inquiries tend to follow from users and academic units with a prior interface with the e-resources training team. Although the sampled queries reflect more female than male users, it would be misleading to presume a gendered perspective, since all queries were not included.

Table 1: Online information accessed via social media – WhatsApp tool

S/N	Date	Information required	Subject/ discipline	Category of the user	Gender	College/Unit
1	08-01-22	Guidelines on uploading research output into the institutional repository	Law	Staff	Male	School of Law
2	03-01-22	Granting submission rights to upload research into the repository	Information Technology	Student	Male	College of Computing and Information Sciences
3.	16-12-21	Information on accessing library electronic resources	Social Works and Social Administration	Student	Female	College of Humanities and Social Sciences
4	20-12-21	Reviewing the library website/ correct errors identified on the webpage	Website	Staff	Male	Public relations office
5	04-11-21 21-12-21	Information regarding printing services/ Braille for users who are visually impaired	Education	Student	Male	College of Education and External Studies
6	16-12-21	Accessing Electronic dissertations	Literature	Student	Female	College of Humanities and Social Sciences
7	25-10-21	Accessing Electronic resources remotely	Literature	Staff	Female	College of Humanities and Social Sciences
8	25-03-20	Thesis on functional characteristics of intensive care units in Uganda and their 28-day patient mortality	Medicine	Staff	Male	Public Relations Office
9	28-03-20	Login details for library electronic resources	Law	Student	Male	School of Law
10	03-04-20	Online Master's and PhD dissertation	Education	Student	Female	College of Education and External Studies
11	06-05-20	Details to gain access to research for life databases	Not specified	Student	Male	Not specified
12	07-05-20	Login details for library electronic resources	Education	Staff	Female	College of Education and External Studies
13	25-05-20	Journal article on Africa's and China's strategic partnership	Computer Science	Student	Female	College of Computing and Information Science

Virtual Information Services During the Covid-19 Pandemic

S/N	Date	Information required	Subject/ discipline	Category of the user	Gender	College/Unit
14	26-05-20	Link to Makerere University job application portal	Library and Information Science	Student	Female	College of Computing and Information Science
15	27-05-20	Application details for a Master's programme	Computing	External user	Female	Not specified
16	04-06-20	Login details for library electronic resources	Engineering	Student	Female	College of Engineering, Design, Art and Technology
17	17-06-20	E-books and dissertations on the environment	Environment	Student	Female	College of Agriculture and Environmental Sciences
18	24-06-20	Login details for library electronic resources	Psychiatry	Student	Female	College of Health Sciences
19	25-06-20	Login details for library electronic resources	Not specified	Student	Female	Not specified
20	08-07-20	Dissertation on Graphic Rating Scales, Open Behaviour Observation Scales, Procedural Justice and ratee satisfaction in performance appraisal of secretaries of Makerere University	Human resource	Staff	Male	College of Humanities and Social Sciences
21	14-07-20	Journal articles on energy consumption	Renewable energy	Student	Male	College of Humanities and Social Sciences
22	24-07-20	Login details for library electronic resources through Lib hub	Not specified	Student	Female	Not specified
23	01-08-20	Access to Makerere Institutional Repository (MakIR)	Library	Staff	Female	Sir Albert Cook Medical Library, College of Health Sciences
24	04-08-20	Simplified guide to accessing electronic resources	Library	Staff	Female	Main Library
25	07-08-20	Inquiries on the reopening of the Main Library	History	Staff	Male	College of Humanities and Social Sciences
26	14-08-20	Guide to accessing electronic resources	Not specified	Student	Female	Not specified

Opportunities Presented by Virtual Platforms during the Pandemic Period

The capacity to engage through interactive tools remains important in linking people (Ternenge 2019:3, 6 of 11). The physical distance is bridged by virtual connections, and within a service unit, there are several possibilities, for instance in marketing. The Makerere University Library has been able to proactively engage users and disseminate pertinent information about the services. Social media have thus provided more opportunities for the library to reach out to students and staff as well as the external user community. The information posted and used on social media is flexible and changes can easily be made to content compared to print media. In other words, virtual interactive media offer a fast method of appraising library services.

In reference to information literacy, remote instruction has enabled access to a multitude of users more than would be possible in a physical environment. Normally, the training venues of the library's e-resources accommodate a maximum of 33 students/users, while one example of an online tutorial registered up to 100 users at a time. In one case, one of the users was from another country, which would have been impossible without virtual support. Eventually, there are prospects for the democratisation of education with possibilities of wider access through online platforms. Other benefits include the capacity for a single message to be shared by several users simultaneously, the facilitation of instant feedback from users, making it easier for the library to improve on service delivery and to meet the relevance question, and the possibility to measure the impact of posts through sharing and re-sharing. This can be based on the number of views and the number of times information is shared and/or liked on Facebook and Twitter.

It is important to note that most feedback in the library's virtual encounters, especially with the virtual information literacy instruction, has been positive with the exception of perpetual connectivity issues and difficulties in practicum or practical sessions.

Challenges Experienced by Staff and Users in the ICT Mediated Information Services Landscape

Several challenges have been mentioned in the transition period. By far, connectivity remains the biggest handicap to the virtual experience, since users are geographically dispersed with variances in network capacity and strengths. The intermittent participation and concentration of users have been of concern in all e-sessions where participants are in and out, on and off sessions. The effectiveness of the virtual pedagogy becomes a challenge, with an inability to sustain continuous concentration.

In Uganda, data costs were initially slashed by more than 50% during the first half of 2020. However, the national financial forecasts of 2020/2021 proposed and introduced new levies of up to 12% on data, which diminished prospects of meaningful continuous learning in an era of unpredictability during the pandemic. Another notable challenge from library instructors included managing the technology, since this has been their first experience online. Some users were nostalgic and missed the emotional and physical contact. One of the main interactive platforms especially for young people, Facebook, was closed by the Uganda government during the election season in January 2021 and remains so, which limits choices and creates a big gap, since most users in Uganda prefer Facebook to Twitter due to its unlimited number of characters in a post (Olupot 2021).

While the virtual work environment may be flexible and with a wide reach and offers around-the-clock accessibility, in some instances, frontline library staff have expressed their concerns about a gendered expanded workload, especially when schools had been closed for a long time. Female staff narrated that 'home duties' disproportionately weighed heavy on their shoulders, especially where young families were involved. Duties included home schooling and domestic work, which extended the workload of the female staff. In a specific case, a female staff member intimated that at times she worked up to 1am in the morning, just to complete all her duties.

Again, the social media environment is notorious not just with unverified 'fake' information, but also with the intensity of human emotions. The digital librarians in Makerere have talked about experiences with insensitive and 'rude' patrons/users and the delicate balance in handling adverse circumstances.

The adverse side of the platforms are also compounded in studies by Latif, Hussain, Saeed, Qureshi, and Maqsood (2019:136) as well as García Gómez (2020). Latif *et al.* (2019) who carried out a study on social media and smart phones in medical education. The researchers observed several barriers including addiction that sometimes distracts and diverts the attention of students, cyber-bullying, workloads, time constraints, issues of maintaining privacy and integrity, multitasking and managing social media accounts which could disrupt academic performance, while excessive use could create difficulties in normal face-to-face interactions (Latif *et al.* 2019:136). García-Gómez (2020) examined WhatsApp as a learning tool in a cross-cultural analysis of British and Spanish university students. The researchers found that while students were using the application in group work, there were perceptions of language competency which in turn fuelled insecurities, eventually impacting on interpersonal relationships within the group discussions. Again, participants from diverse cultural settings found that there was an excessive utilisation of colloquial language and slang in

communication which negatively affected the use of the WhatsApp tool within a learning environment (García-Gómez 2020).

Conclusion

This chapter intended to highlight efforts by the Makerere University Library to improve the access and use of virtual services in an emergency situation. The library employed several technological tools, including revamping the website with social media and instant messaging applications to make it more interactive. Other measures included a subscription to a new flexible remote access tool that directly responded to user concerns. Information literacy has been enhanced, using a blended module. Digital marketing of these services was done, and also incorporated feedback. Accrued benefits included flexibility, wide coverage, reduced costs of operation, improved user engagement and feedback. and increased downloads which are an indication of the increased usage of e-resources, among others. The library can thus be perceived to have 'risen to the occasion' through the adoption of several technological tools to provide services.

The integration of the WhatsApp tool on the library website has gone a long way in providing instant feedback to users. WhatsApp has several advantages, especially its versatility which makes it popular among the university user community. Most of the interactions have been registered through the WhatsApp tool. Therefore, among the technological tools adopted during the pandemic period, the WhatsApp tool can be assumed to have been both 'useful' and 'easy to use' by the library and the user community. *Perceived usefulness*, *perceived ease of use*, and *attitude towards use* have long been considered useful constructs in understanding and determining technology acceptance and transfer. Other factors in adoption, besides beliefs in technology, include identification of external variables (Chau 1996:186-187; Taherdoost 2017:962-963). For the case of Makerere University library, Information literacy instruction, has been intensified, as one such external variable, to boost utilization of electronic resources.

However, there is a need to develop appropriate and clear strategies to market digital content as well as standardising content to appeal to users so that there is an optimal appreciation of information services and engagement of users in a virtual environment.

References

- Adomi, EE. & Solomon-Uwakwe, B. 2019. Work related WhatsApp groups as knowledge sharing platforms among librarians in selected federal universities in Nigeria. *Journal of ICT Development, Applications and Research* 1:11-19.

- Ahad, AD. & Lim, SMA. 2014. Convenience or nuisance?: The 'WhatsApp' dilemma. *Procedia – Social and Behavioral Sciences* 155:189–196. <https://doi.org/10.1016/j.sbspro.2014.10.278>
- Appel, G., Grewal, L., Hadi, R., & Stephen, AT. 2019. The future of social media in marketing. *Journal of the Academy of Marketing Science* 48:79–95. <https://doi.org/10.1007/s11747-019-00695-1>
- Arbani, DA. & Abdullah, CZ. 2017. Digital marketing and user satisfaction in library 2.0: A concept and research framework. *International Journal of Academic Research in Business and Social Sciences* 7(12):515–522. <https://doi.org/10.6007/IJARBS/v7-i12/3632>
- Chaputula, AB., Abdullah, H., & Mwale, B. 2020. Proliferation of social media in academic libraries: Use of WhatsApp as a platform for providing library services. *Library Management* 41(8–9):717–729. <https://doi.org/10.1108/LM-04-2020-0075>
- Chau, PYK. 1996. An empirical assessment of a modified technology acceptance model. *Journal of Management Information Systems* 13(2):185–204. <https://doi.org/10.1080/07421222.1996.11518128>
- Davis, FD. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly* 13(3):319–340. <https://doi.org/10.2307/249008>
- Elsevier. 2020. Novel Coronavirus information center: Elsevier's free health and medical research on the novel coronavirus (SARS-CoV-2) and COVID-19. Available at: <https://www.elsevier.com/connect/coronavirusinformation-center>. (Accessed on 21 January 2022.)
- Emerald Publishing. 2020. Covid-19, the management of epidemics & the broader impact on society. Available at: <https://www.emeraldgrouppublishing.com/about/our-stance/covid-19-latest-research-publishing-opportunities/special-issues-covid-19>. (Accessed on 12 November 2021.)
- García-Gómez, A. 2020. Learning through WhatsApp: Students' beliefs, L2 pragmatic development an interpersonal relationship. *Computer Assisted Language Learning*. <https://doi.org/10.1080/09588221.2020.1799822>
- Ihejirika, KT., Goulding, A., & Calvert, P. 2021. Rethinking academic library use of social media for marketing: Management strategies for sustainable user engagement. *Journal of Library Administration* 61(1):58–85. <https://doi.org/10.1080/01930826.2020.1845547>
- Internet World Stats. n.d. Usage and population statistics. Available at: <https://www.internetworldstats.com/stats.htm>. (Accessed on 13 November 2021.)
- Latif, MZ., Hussain, I., Saeed, E., Qureshi, MA., & Maqsood, U. 2019. Use of smart phones and social media in medical education: Trends, advantages, challenges and barriers. *Acta Informatica Medica* 27(2):133–138. <https://doi.org/10.5455/aim.2019.27.133-138>
- Luo, L., Wang, Y., & Han, L. 2013. Marketing via social media: A case study. *Library Hi Tech* 31(3):455–466. <https://doi.org/10.1108/LHT-12-2012-0141>
- Macpherson, M. 1964. *They built for the future: A chronicle of Makerere University College, 1922–1962*. London: Cambridge University Press.
- Makerere University. n.d. Website. Available at: <https://mulib.mak.ac.ug>. (Accessed on 12 October 2021.)

Academic Libraries: Reflecting on Crisis, 4IR and the Way Forward

- Mirembe, DP., Lubega, JT., & Kibukamusoke, M. 2019. Leveraging social media in higher education: A case of universities in Uganda. *European Journal of Open, Distance and E-Learning* 22(1):70-84. <https://doi.org/10.2478/eurodl-2019-0005>
- Mwesigwa, D. 2021. Uganda abandons social media tax but slaps new levy on internet data. *CIPESA: Promoting effective and inclusive ICT policy in Africa*. 1 July 2021. Available at: <https://cipesa.org/2021/07/uganda-abandons-social-media-tax-but-slaps-new-levy-on-internet-data/>. (Accessed on 23 October 2021.)
- Nalumaga, RE. & Byamugisha, H. 2021. *COVID-19 pandemic and virtual information services: Experiences of frontline librarians and users in Makerere University Library, Kampala, Uganda*. Handbook of Research on Library Response to the COVID-19 Pandemic. Pennsylvania: IGI Global. <https://doi.org/10.4018/978-1-7998-6449-3.ch006>
- Olupot, NE. 2021. Facebook displaced as the most used social media platform in Uganda. *Pctech*. 17 July 2021. Available at: <https://pctechmag.com/2021/07/facebook-is-no-longer-the-most-used-platform-in-uganda/>. (Accessed on 11 January 2022.)
- Oracle. 2021. What is digital marketing? Available at: <https://www.oracle.com/be/cx/marketing/digital-marketing/>. (Accessed on 6 August 2021.)
- Otobrise, HC. & Omagbon, AB. 2019. Digital marketing of library, information and knowledge products and services among librarians in selected academic libraries in South-South Nigeria. *Journal of ICT Development, Applications and Research* 1:47-60.
- Rowley, J. 2002. Information marketing in a digital world. *Library Hi Tech* 20(3):352-358. <https://doi.org/10.1108/07378830210444540>
- Taherdoost, H. 2017. A review of technology acceptance and adoption models and theories. *Procedia Manufacturing* 22:960-967. <https://doi.org/10.1016/j.promfg.2018.03.137>
- Ternenge, TS. 2019. Marketing library and information resources and services using social media platforms. *Library Philosophy and Practice* (e-journal). 11 pages. Available at: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=6323&context=libphilprac>. (Accessed on 14 December 2021.)
- Tiago, MTPB. & Verissimo, JMC. 2014. Digital marketing and social media: Why bother? *Business Horizons* 57:703-708. <https://doi.org/10.1016/j.bushor.2014.07.002>
- Xie, I. & Stevenson, J. 2014. Social media application in digital libraries. *Online Information Review* 38(4):502-523. <https://doi.org/10.1108/OIR-11-2013-0261>

Dr Ruth Nalumaga is an Academic Librarian at Makerere University.

Helen Byamugisha is an Associate Library Professor and the University Librarian at Makerere University

Caroline Kobusingye is National E-Resources Coordinator and Head of the Periodicals Section at Makerere University

Patrick Sekikome is an Academic Librarian and Head of the Reference and Circulation Section at Makerere University