The utilisation of mobile technologies in outreach services at the National Archives of Zimbabwe

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Abstract

This article focuses on investigating the utilisation of mobile technologies in outreach services at the National Archives of Zimbabwe (NAZ). The study adopted a case study strategy anchored on an interpretivist paradigm. Data were gathered from interviews with a purposively selected maximum variation sample of NAZ staff members and from relevant primary documents and physical artefacts. The collected data were thematically analysed and presented in accordance with the research objectives. The findings established that staff were aware of and keen to adopt mobile technologies for outreach purposes. However, negative conditions at NAZ such as limited access to the internet, lack of a clear policy, equipment, and technical support hindered mobile technology adoption for outreach purposes. The study established that the disparity between staff awareness levels and institutional preparedness influenced staff members' adoption of mobile technologies outside official channels. As such, mobile technologies used in outreach services at NAZ were ad hoc. Overall, the study established that mobile technology utilisation at NAZ was in the elemental stages, where use variety, breadth and intensity were constrained. The study recommends that NAZ should craft a policy to regulate and institutionalise the use of mobile technologies for outreach purposes, and upgrade their ICT facilities.

Keywords: Mobile technologies, utilisation, adoption, archives, outreach services, National Archives of Zimbabwe

1. Introduction

Mobile technologies have significantly reduced the digital divide across all regions and demographics and are now regarded as a key driver for social, political, and economic development (United Nations (UN) 2021; Tomer 2016). Reports of International Telecommunications Union (2021) and UN (2021) confirm governments and private institutions in developing countries, where the penetration of other technologies remains low, are leveraging on mobile technologies to expand services to previously

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underserved communities. Both the International Telecommunications Union (2021) and UN (2021) reports show that mobile technologies are transforming various sectors of the economy, including agriculture, health, education, and banking in developing countries. The Global System for Mobile Communications Association (2021:11) elaborates that the Covid-19 pandemic demonstrated the role mobile technologies play in societies and economies on a global scale, with "billions turning to mobile technologies to remain connected with families and friends, access education or health information and keep their businesses operating." In view of this, UN (2021) suggests that mobile technologies should not be viewed as only communication technology, but also as a tool for universal access to services. This article explores the utilisation of mobile technologies for outreach purposes at NAZ.

2. Statement of the problem

Despite mobile technologies being the most popular communication and information consumption technology in Zimbabwe, limited evidence exists of how NAZ used mobile technologies for outreach purposes. Bishi (2020) and Chaterera (2017a) acknowledge the relevance of mobile technologies for archival outreach in Zimbabwe, but shed little light on how NAZ used them for such purposes. Scholars such as Dabros (2017), Mukwevho (2017), Duff and Haskel (2015), Duranti (2015), Şentürk (2014) and Cox (2007), who have discussed the use of mobile technologies in archival outreach in various countries, provide little detail of how they were used, rather they dwell on justifying their use. Therefore, knowledge of the utilisation of mobile technologies in archives services remains scant and less detailed. This raises some questions regarding how archival institutions, particularly NAZ, use mobile technologies for outreach purposes. The relevance of mobile technologies in the provision of archival outreach services and lack of detailed information on the matter motivated this study.

3. Purpose of the study

The aim of the research was to establish the utilisation of mobile technologies in archival outreach services at NAZ.

4. Objectives of the study

The specific objectives of the study were to:

- determine mobile technology awareness among NAZ staff members.
- determine mobile technology adoption preparedness at NAZ.
- establish ways in which mobile technologies are utilised for outreach purposes at NAZ.
- determine mobile technologies adoption and use constrains at NAZ.

5. Literature review

Mobile penetration represents an opportunity for NAZ to reach out to new audiences, increase visibility, and build big and loyal user populations (Bishi 2020; Chaterera 2017a; Tomer 2016). Kim, Kang, Kim and Kim (2014:29) specify that mobile technologies provide a means to make archival services more agile, scalable, ubiquitous, and accessible to new audiences. Bishi (2020), Chaterera (2017a), Dabros (2017), and Mukwevho (2017) confirm a growing interest in the use of mobile technologies in information services. However, none of these studies provided detailed information on how mobile technologies were for archival outreach; therefore, there was still a lack of information on this.

Caniano and Catalano (2014) argue that discussions on mobile technologies are rendered obsolete by rapid mobile technologies developments. According to Brodin (2016) and Newton (2012), new

generations of mobile technologies present new challenges and opportunities different from those presented by older technologies. Therefore, it is necessary to constantly conduct studies on mobile technologies to keep pace with rapid mobile technology developments.

In Zimbabwe, NAZ is mandated with managing public archives. NAZ is a government department established through the National Archives Act, 1986. In terms of this Act, NAZ is mandated to acquire, preserve, and provide access to archival heritage in whatever format. NAZ, which has its headquarters in Harare, has five provincial offices and consists of seven sections: Public Archives and Research, Records and Information Services, Sound and Film Archives, National Reference Library, Human Resources, Finance and Administration, and ICT (National Archives of Zimbabwe 2021).

NAZ is open to the public, and its services are largely accessible via the Harare and Bulawayo archives (National Archive of Zimbabwe 2016). According to Murambiwa and Ngulube (2011) and the National Archives of Zimbabwe (2010), NAZ endeavours to expand its services and increase access to archival holdings through outreach platforms such as databases, email, annual reports, and social media to increase access to its services. Accordingly, all NAZ provincial centres "market the institution as a whole by conducting various outreach programmes." (National Archives of Zimbabwe 2010:6). Chaterera (2017a:173) reports that despite marketing efforts, NAZ maintains a low profile and its services are underutilised. Chaterera (2017b) and Bishi (2020) concur that NAZ online outreach platforms are yet to realise their full potential and very few people engage with them.

High mobile penetration in Zimbabwe presents an opportunity for NAZ to reach out to new audiences, increase visibility, and build user populations of significant size and loyalty (Bishi 2020; Chaterera 2017a; Tomer 2016). Statistics show that mobile penetration in Zimbabwe was 87.8% in the first quarter of 2021 (Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) 2021). Gambanga (2016) and the Independent (2013) claim that mobile phones have become the most effective and cheapest means to disseminate public information in Zimbabwe when compared to traditional print and other electronic media. The mobile telecommunications industry in Zimbabwe has grown into a major industry with three major cellular and several small mobile network service providers since the establishment of the first mobile cellular network company in 2000 (Kwabeza 2014; African Development Bank Group 2011).

The POTRAZ regulates mobile communications and other telecommunications in Zimbabwe, through the Postal and Telecommunications Act, 2000. Other legislative tools facilitate and regulate the use of cellular networks subscribers, most notably the Interception of Communications Act, 2007 and the Banking (Money Transmission, Mobile Banking and Mobile Money Interoperability) Regulations2020. African Development Bank Group's (2011:3) claims of the existence of various legislative tools and the abundance of mobile network service providers suggest high mobile technology readiness in Zimbabwe. POTRAZ (2021) and the Reserve Bank of Zimbabwe (2018) confirm that mobile technologies in Zimbabwe universalised access to banking through mobile banking services platforms. Other areas where mobile technologies are being applied in Zimbabwe are education, healthcare, agriculture, and public awareness (Chingweta & Ndoma 2021; Musungwini 2018).

Bishi (2020) and Chaterera (2017a) advise that NAZ use mobile technologies to improve its outreach services. The role mobile technologies can play in archival outreach is also recognised by archival scholars beyond Zimbabwe (Dabros 2017; Wicks 2015; Stancic, Rajh & Milosevic 2016; Duff & Haskel 2015; Duranti 2015; Kim et al. 2014; Şentürk 2014; Cox 2007).

However, the wide acceptance of the importance of mobile technologies in archival outreach across the globe is not being matched by real work being done as there has been little critical writing,

specifically on the intersection of mobile technologies and archives Dabros (2017:7). La Counte in Duff and Haskel (2015:46) raises concerns over the hesitation by archives professionals' hesitation to adopt mobile technologies and argues that most archival institutions are yet to serve mobile users as well as possible.

Siregar and Dewiyana (2017) and Dabros (2017) concede that while the provision of mobile-centric services is a requirement for information institutions, it is also a huge challenge. The UN (2021) suggests that the ability to utilise a technology is described in terms of availability, affordability, awareness, accessibility, and ability to effectively use technology. Chipangura (2016:19) benchmarks mobile technology adoption readiness against infrastructure development moderated by penetration, affordability, broadband quality, accessibility, and the enabling environment moderated by policy framework and technical support. These parameters constitute facilitating conditions enabling organisations or individuals to adopt and use technologies (Venkatesh, Morris, Davis & Davis 2003).

Seles (2016), Saurombe (2016), and Wamukoya and Mutula (2005) discuss challenges that affect the adoption of ICTs in archives, which mostly include staff shortages; a lack of policies, time, human, and financial resources; limited staff competences; technological obsolescence and incompatibility. This article explored how mobile technologies are being utilised for outreach purposes at NAZ against these challenges.

6. Research methodology

A single descriptive case study design anchored in an interpretivism paradigm was adopted to solve the research problem. Qualitative methods were used to collect, analyse, and present data to answer the research questions. Ten NAZ staff members in various positions and with differing work experience were interviewed. The participants were drawn from five NAZ sections that were directly involved in outreach activities, namely, Public Archives and Research, Records and Information Services, Sound and Film Archives, Reference Library Services, and ICT. The interviewed staff members were selected using a purposive maximum variation sampling technique. Purposive sampling was used to select staff members with knowledge about the research questions, while the maximum variation sampling technique was used to ensure all categories of NAZ staff were included. The interviewed persons were involved with the National Archives clients and outreach activities in various ways, including responding to remote minor inquiries, helping researchers at the research desk, solving user complaints and queries, supervising staff involved in outreach activities, managing NAZ online platforms, and offering technical and support services to staff involved in outreach activities. The responses from these participants were coded to protect their privacy, and their responses are presented in direct quotes. Data were also collected from documents and physical artefacts. The collection of data from different sources was done construct more valid interpretations by converging evidence from different data sources. The collected data were thematically analysed and largely presented in straightforward descriptive narratives in separate topics according to the research objectives and subtopics based on themes that emerged from the data.

7. Presentation of findings

This section presents the findings and is organised into sections reflecting the research objectives.

7.1 Mobile technology awareness among NAZ staff members

As part of the first research objective, participants were asked about their awareness of the usefulness and various ways to use mobile technologies for outreach purposes. The findings showed that NAZ staff were aware of the convergence between popular social media apps such as WhatsApp, Facebook, Twitter, and outreach services. Specific responses are as follows:

- Participant 1 said, "They are very-very useful...besides we can afford them, for example WhatsApp, I already use it…."
- Participant 2 said, "...I think they are useful…because they are convenient and effective …."
- Participant 4 explained, "I can say they are very effective and help clients to be sure that they are communicating with someone at National Archives. I can say its official…the emails are safe should someone want to go through them later."
- Participant 5 said, "They are useful for quick feedback to clients…for example we have clients who are asking us about what we have…."
- Participant 6 said, "I think they have been useful…they have been quite useful…you can of course get instant alerts…on whatever…when communicating with clients even when out of the office."
- Participant 9 said, "They are very useful...they are very effective in communicating day-to-day activities of the institution."
- Participant 10 said, "They are well known, our clients have them already…."

When asked which mobile phone applications they thought NAZ should use for outreach purposes their responses showed they considered a variety of applications and they were aware of the potential uses of various mobile applications in outreach programmes. The suggested applications and their uses are shown in Table 1.

Table 1: Mobile applications and their outreach uses identified by participants

Application	Suggested uses	Contributing participant
Facebook	Notices	1,2,4,6,9,10
	Bulk messaging	6
	Individual messaging	6
Instagram	-	2
WhatsApp	Booking appointments	2,4,5
	Inquiries	1,6
Twitter	Notices	2,5,6,9, 10
Internally developed mobile app	Gateway to archives services	7,8
WhatsApp business	Bulk messaging	6,9
Canvas	Making marketing pictorial collages	4
Facebook lite	Instant messaging	5,6
Voice Calling	-	3,5,6,9
SMS	-	5,6,9
Linked inn	Professional discussions	4
Blogs	Discussions and forums on specific topics	1
WhatsApp	Distribution of digital fliers, fact sheets, posters, and banners	5
YouTube	Distribution of short video clips Distributing short clips	5

7.2 Mobile technologies adoption preparedness at NAZ

The study explored adoption preparedness factors of various mobile technologies, including availability of reliable wireless network infrastructure, device ownership, technical support, and an

enabling policy framework. Findings on each preparedness factor are detailed in subsequent subsections.

7.2.1 Mobile devices ownership

Participants were asked which mobile or portable devices their employer provided to enhance outreach activities. The responses indicated that NAZ staff did not have access to work-sponsored devices and used their own devices for work activities. Specific responses are as follows:

- Participant 2: "…also we don't have work phones, we use our own mobile phones."
- Participant 3: "When I communicate with clients via emails its usually on phone because there are no computers at work...."
- Participant 6: "...not everyone at NAZ has access to a computer. If they have access to the internet on their mobile phones, then they can immediately serve clients...."
- Participant 8 acknowledged having a work-sponsored laptop a but indicated that "…the laptop is outdated and malfunctioning…."

7.2.2 Network infrastructure

When asked how internet resources at NAZ facilitated the use of mobile devices for outreach services, responses indicated that staff members were not allowed to access their work internet on their mobile devices. Specific responses are as follows:

- Participant 1: "Ordinary employees are not allowed to connect using mobile phones…if you look, at the moment internet connection is only allowed through computers…to be honest enough, phones are not allowed but if you have a friend with a password, then you may get it. In my case, I once requested to access the network using my tab phone since I use it for work, but I don't know what happened. I was just removed. I think a decision was made that phones should not be allowed, and the passwords were changed. So, we largely rely on personal data."
- Participant 2: "I think it's fairly ok…it's fairly ok but I think they need to improve on their Wi-Fi."
- Participant 3: "…officially, mobile gadgets are not supposed to be connected the internet, our Wi-Fi, because they say that the internet will be congested…it is actually a hustle for someone to get Wi-Fi passwords for their cell phones. Unless you are a head of section or a person of interest or someone of position, unfortunately, you have no access to internet on your mobile gadget. For every Tom and Dick, it is difficult unless you are in good books with someone from ICT, but through interaction, we end up with passwords through the back door…Sometimes with laptops can create Wi-Fi hotspots and share the password with colleagues to connect their phones…"
- Participant 4: "At NAZ, the issue of internet is something we have to look as we move forward …we need to upgrade the system at NAZ so that everybody can enjoy….There should be no passwords so that everyone staff member in the company should have access...It's like you have ten children but you are feeding one…we need to upgrade so that everyone can use mobile phone…."

7.2.3 Mobile software

The findings showed that NAZ had optimised mobile official outreach platforms that mediated interaction between the staff and the clients. When asked which official optimised platforms they accessed on their mobile devices for outreach purposes, responses participants' showed that mobile

outreach services were available via public platforms such as Twitter, Facebook, text messaging, email, voice call, and WhatsApp. Specific responses are as follows:

- Participant 1: “In my case, I was not aware that we have a Facebook and Twitter accounts until Mr (name withheld) called telling me that there was a post our Facebook requiring a response from our office...so some people are not even aware of how they should participate...some are not even aware of the existence of the NAZ Facebook page.”
- Participant 6: “If you look at our website there are notifications...if there are any new developments.”
  Participant 9: “We have Facebook and Twitter...If there is an event prior to the event information is disseminated using those platforms...and we get feedback through messages and likes.”

Staff members confirmed they accessed the platforms using mobile phones, suggesting that the applications are mobile optimised. Specific responses are as follows:

- Participant 4 said, “Researchers send their research inquiries on official email account. I used to respond on my mobile phone.”
- Participant 1 said, “…we now have online ISBN issuance...during the first days I was not familiar with the process, so I had to go on the website on my mobile phone to take users through the process.”

7.2.4 Technical support

The study established that mobile technologies were adopted outside official channels without any official technical support from the IT department. Participants were asked what material support NAZ offered. Specific responses are as follows:

- Participant 2: “Sometimes getting airtime when going for work trips.”
- Participant 2: “Top management get airtime allowances.”
- The other participants indicated that they did not receive any material support.

When asked how the ICT department helped staff members to access internet facilities on mobile phones, responses indicated that they were not allowed to connect to the internet on their mobile devices, hence the ICT department rendered no technical support. Specific responses are as follows:

- Participant 6: "...officially mobile gadgets are not supposed to be connected to the internet, our Wi-Fi, because they say that the internet will be congested…it is actually a hastle for someone to get Wi-Fi passwords for their cell phones. Unless you are a head of section or a person of interest or someone of position, unfortunately you have no access to internet on your mobile gadget. For every Tom and Dick, it is difficult unless you are in good books with someone from ICT. But through interaction we end up with passwords through the back door…Sometimes with laptops we can create Wi-Fi hotspots and share the password with colleagues to connect their phones…”
- Participant 8: "They don't give passwords to everyone...maybe if you have a laptop they can help, but most of us don't have laptops...we don't use WiFi...we use cables."
- Participant 9: "In my case I was told if we allow everyone to connect using phones the internet will be slow...so they refused to help me connect my phone...".
- Participant 6: "...before I became head of section it was just like everyone else…but when I was made head of my section I can call IT to put the password on my phone and connect my phone on the internet. Whenever I have a problem with my wifi they assist me, but before I was head of section it was a hastle." When further asked what other support was rendered to the management, participant 6 said that "...airtime...this is not for heads of sections but the directorate...they receive airtime allowance...as head of section I don't get air time...".

Participants made numerous suggestions that since there was a shortage of ICT equipment at NAZ, they should be allowed to use their mobile devices to connect to the internet, as they used their personal devices for work activities. Specific responses are as follows:

- Participant 3: "when I communicate with clients via emails, it's usually on phone because there are no computers at work..."
- Participant 6: "...not everyone at NAZ has access to a computer. If they have access to the internet on their mobile phones, then they can immediately serve clients...."

7.2.5 Policies

The findings indicated that NAZ did not have a policy to guide the use of mobile technologies for outreach purposes. When asked if there was a policy to guide the use of mobile technologies, responses were as follows:

- Participant 1: "the policy is not there...we don't have a policy...we have zero...but if we had, it could facilitate the use of these technologies."
- Participant 4: "there is no policy that governs our use of mobile devices...."
- Participant 10: "from my own point of view, there is yet to be a policy that regulates the use of mobile technologies…."

The study established that lack of a functional policy caused confusion among participants and, in a way, discouraged the use of mobile technologies for outreach purposes. When asked how they viewed NAZ's stance on the use of mobile technologies for outreach purposes in the absence of a policy, responses were as follows:

- Participant 2: "It was not well pronounced."
- Participant 10: "It was not clear."
- Participant 6: "You can of course communicate with clients using mobile devices but it cannot be something that is official, as long as you use your mobile gadget...for anything else we can interact they need something that they can point to tomorrow to say there was a communication that happened between so and so. As long as it was done on mobile gadget not through official channels, they say whatever you did was none of our business. So you cannot give an official position via mobile phones...so you can do whatever and assist a client via whatsapp, but when they ask you cannot say you assisted the client via whatsapp...they will say that was an unofficial channel that they do not recognise...they want something that they can file in the registry files that they can refer to later..."
- Participant 7: "...the official position is that when we communicate with clients, we have to give them landline numbers…Actually, the organization does not promote the use of mobile phones. But, clients ask us our private numbers and we give them...."

7.3 Actual use of Mobile technologies at NAZ

One of the study objectives was to find out how NAZ used mobile technologies in outreach services. Subsequent subsections present the various use aspects, namely use variety (UV), use intensity (UIN), and use breadth (UB).

7.3.1 Use variety

According to Brodin (2016:180), the different applications for which or the different situations in which a product is used determines UV, regardless of frequency and number of people to whom the services are directed and from whom services are received.

Participants were asked "How do you use your mobile devices to communicate/interact with clients?" Their responses indicated that mobile technologies UV at NAZ was restricted to reference service activities such as booking appointments, research inquiries, and issuing public notices. Responses and specified uses are presented in table 2.

Table 2: Uses of mobile technologies for outreach purposes

P1	P2	P3	P4	P6	P7	P9	P10	Specified uses
Clients want to know about services			Users make inquiries about the availability of records before coming	Confirming availability of records to clients	Helping clients look for records	Respond to clients asking about our operations	Clients often ask if we have what they are looking for	Enquiries
		Booking appoint-ments and meetings	Booking appoint-ments, confirming meetings		Booking, changing dates			Booking appoint-ments
	Getting complaints from clients	Getting feedback from clients						Feedback
Help clients look for ISBN				Sending ISBN documents to clients				Issuance of ISBN

7.3.2 Usage intensity

UIN is determined by how often the product is used or the time/duration of use (Van Biljon 2016:169). Participants were then asked which mobile applications they used to interact and communicate with clients. The responses by participants indicated that NAZ staff members frequently utilised WhatsApp, SMS (text messages) and email to communicate with clients. Specific responses were as follows:

- Participant 1: "Clients make initial communications using WhatsApp...and for serious communications I use e-mail..."
- Participant 2: "...mostly, its help clients on WhatsApp…"

- Participant 3: "…mostly use WhatsApp most because it's cheaper. We can't use phones…Getting emails from our clients it's mostly on my mobile phone."
- Participant 5: "I communicate with clients using WhatsApp and text."
- Participant 6: "I use WhatsApp and text."
- Participant 9: "I usually use WhatsApp, then text message,…"

The findings suggested that voice calls were less used and were only used when initiated by clients, since they were expensive. Specific responses were as follows:

- Participant 4: "…receiving voice calls from clients. I don't call usually call because I don't have airtime… Gmail and WhatsApp...just that."
- Participant 7: "Clients ask for our phone numbers and they call us."

7.3.3 Usage breath

According to Van Biljon (2006:169), the number of people involved in the use of a technology determines UB, meaning the number of people to whom the service is directed and from whom services are received. When asked how they reached out to clients using mobile technologies; responses showed that the engagements were mostly initiated by the clients and therefore limited to clients with prior contact with staff members. As such, users without prior contact with staff members were largely excluded. Specific responses were as follows:

- Participant 1: "Clients ask our numbers, and they get hold of us via WhatsApp.. I cannot tell clients not to communicate via WhatsApp. WhatsApp is there and we cannot stop clients using it..."
- Participant 4: "I don't usually call the clients, they call me…"
- Participant 6 indicated that although the use of mobile applications was not officially recognised, even top management sometimes used them to conduct official business. "Even [Name withheld] forward some WhatsApp discussions with clients asking you to take over the issue and assist the clients."
- Participant 7; "…it is usually the users who request for our phone numbers."
- Participant 9: "…the communication is mostly initiated by the clients themselves...It's mostly clients requesting some information and I respond accordingly."

7.4 Mobile technologies utilisation constrains at NAZ

The findings showed that although NAZ staff found a way around prohibitive conditions at NAZ for initial adoption, sustained use was frustrated by various challenges, including security risks, privacy and confidentiality issues, and limited internet access. Specific responses were as follows:

- Participant 1: "The issue is that in most cases, you have to use your own data to serve clients…sometimes you wish if you had airtime to open your email and serve clients…"
- Participant 2: "As I have said, before we have limited access to Wi-Fi…also we don't have work phones, we use our own mobile phones."
- Participant 3: "Their internet…you know they have to open it up…"
- Participant 5: "... Lack of data, and poor network…also policy..."
- Participant 6: "Being connected to the internet at NAZ is difficult...other challenges are personal. Sometimes, clients abuse the privilege, they come directly to you looking for help ignoring the protocols...and sometimes it looks like you have underhand deals….Another challenge is lack of memory space on personal phones to handle work activities...I recently experienced it, we had no camera, so I was

taking photographs using my mobile phone; during a work programme, I ran out of space…"

- Participant 7: "Lack of connectivity in terms of internet speed. Another problem is that the policy of the organisation doesn't promote the use of mobile phones."
- Participant 8: "At the moment the network cannot accommodate everyone..."
- Participant 9: "Just normal problems, network, data…"
- Participant 10: "Accessing the internet at the National Archives of Zimbabwe is a challenge because IT don't freely give access…Again my phone belongs to my family, when I go home my family, my children use my phone. They can access some work information...."

8. Discussion

This section provides the discussion of the research findings organised according to the research objectives.

8.1 Awareness

The study established that NAZ staff were aware of the usefulness and various ways to use mobile technologies. Staff were mostly aware of the convergence between already popular social media such as Facebook, Twitter, WhatsApp, and archival outreach. Consequently, staff members showed the intention to use popular social media they were aware of for outreach purposes. However, staff lacked awareness and showed no intention to use socially invisible, but potentially useful, mobile technologies such as short-range networks, QR codes, AR, streaming media, and e-readers. This confirmed the importance of awareness as a catalyst for adoption and use of new innovations, whereby awareness encouraged adoption while lack of awareness hindered adoption, regardless of the potential usefulness of technology.

8.2 Preparedness

While staff were aware of and keen to adopt mobile technologies for outreach purposes, conditions at the NAZ negatively affected adoption and use of mobile technologies. Overall, the findings indicated that conditions at NAZ were prohibitive to the actual adoption of mobile technologies as an outreach tool. The findings indicated that the lack of a clear policy framework, lack of technical equipment, and restricted access to wireless internet caused confusion and frustration, which hindered the use of mobile technologies for outreach purposes at NAZ.

8.3 Actual use

The study proved that mobile technologies suited archival outreach purposes well. The study showed that staff used mobile technologies, regardless of the various constrains, because they offered the convenience to interact with clients anywhere at any time. However, the study established that the use of mobile technologies at NAZ was in the elemental stage, where the UV, UB and UIN were constrained to varying degrees.

The study established the variety of mobile services offered were limited to entry level services such as minor inquiries, booking appointments, and issuing notices. The results indicated that the variety of available mobile services were mostly informal and were offered by individual staff members via readily available applications such as Facebook, text messages, and voice calls that required no specialised investment by the employer. The study established that NAZ lacked self-optimised platforms required to provide more advanced mobile services.

With regard to UIN, the study established that the mobile technology utilisation lacked consistency. The study concluded that staff members did not feel obliged to use mobile technologies and only used them when it was convenient to do so. Use was mostly informal and done outside official communication channels based on personal arrangements between individual staff members and clients, and was mostly client initiated. The findings showed that restricted UIN was mostly associated with lack of access to mobile internet and a clear policy on mobile technology use for outreach purposes.

Regarding UB, the study concluded that usage breadth was narrow. While all staff used mobile technologies for outreach purposes, the services were only offered to clients with prior contact with staff members. Clients without direct contact with staff members were excluded since mobile communications were mostly client initiated, making it difficult for clients without prior contact with staff members to get involved.

8.4 Constrains

The study revealed that while staff worked around prohibitive conditions to adopt mobile technologies for outreach purposes, they faced challenges that threatened sustained and effective use of mobile technologies. Major challenges were storage space on devices and confidentiality issues partly to do with staff members using their own personal devices and lack of clear policy on the use of mobile technologies. The findings showed that staff were not comfortable to use mobile devices for official communications, as they feared that they would breach confidentiality regulations since they used their own devices without proper guidelines and regulations. Staff encountered space challenges, as they stored work and private files on their devices.

9. Conclusions and recommendations

The study established a disparity between awareness of and facilitating conditions at NAZ as staff members were aware of mobile technologies, but the institution lacked enabling policy framework and infrastructure to facilitate adoption and use of mobile technologies. The disparity between awareness and readiness manifested in a disorganisation and potentially risky use of mobile technologies, while high levels of awareness encouraged staff members to use mobile technologies without proper institutional provisions. The findings showed that the absence of an enabling policy framework and infrastructure had a negative impact on actual use, as use was less pronounced and spontaneous, more constrained, and done haphazardly. Mobile technology use in outreach services was mostly informal, where use was done outside official communication channels based on individual staff members'. As such, UV, UB, and UIN were found to be constrained, as

i. the variety of mobile technologies used was restricted to popular social media applications
ii. the variety services provided was limited to entry level services
iii. mobile services were largely offered to traditional clients with prior contact with staff members.

Based on these findings, NAZ should put in place measures to regulate and support the adoption and use of mobile technologies to strengthen their outreach services by developing appropriate policies. Indications were that use outside official communication exposed NAZ to potential loss of information and security threats, as staff used own devices without any guidelines. A clear policy on the use of mobile technologies would encourage systematic utilisation of mobile technologies and minimise potential risks associated with the use of mobile technologies. When crafting such policy, NAZ should realise that staff already used mobile technologies. Thus, the new policy should not ignore existing use practices, but should try to find a way to accommodate existing practices into the policy without drastically changing them. Ignoring existing use practices and introducing new

approaches may result in resistance. NAZ should understand that the policy should not try to abolish use of mobile technologies, as mobile technologies use is inevitable and will happen with or without institutional permission. Therefore, the best approach is to create an environment that encourages good use rather than discouraging use altogether.

Furthermore, NAZ should craft an ICT resources utilisation strategy to ensure that use of available ICT resources is tied to service provision. The strategy can be part of the policy or stand on its own. The study established that distribution of and access to ICT resources at NAZ was based on seniority rather than need. As such, junior staff involved in outreach activities were denied access to wireless internet facilities although they relied on mobile devices to connect to the internet. NAZ is encouraged to compile a service-oriented ICT facilities and resources distribution and use strategy. Such a strategy is important as it helps to effectively utilise the available resources, especially considering that NAZ does not have abundant resources. In the end, NAZ should upgrade its internet facilities to accommodate all staff members without any restrictions.

Declaration

Authors declare that:

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- All authors contributed to the writing of the article manuscript.
- Authors take responsibility for keeping participants' information confidential as required by legislation, including the Protection of Personal Information Act.
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