

Utilisation of E-Government Services during the Covid-19 Pandemic: Exploring Efforts by the Government of Tanzania

Catherine G. Mkude

The Open University of Tanzania
catherine.mkude@out.ac.tz

Abstract

This article attempts to examine the Tanzanian Government's utilisation of e-government services during the Covid-19 pandemic. The methodological approach of the article is online content review due to the phenomenological nature of the unfolding pandemic. The review is based on the researcher's observations and analysis of the e-government platforms leveraged in Covid-19 pandemic. The results indicate that e-government has been embraced significantly through the efforts done by the government to make citizens more informed about the pandemic and to promote use of e-services. E-government is presented as among the key tools for managing the spread of the pandemic. The article also paints government digital transformation as a huge opportunity provided by e-government during the pandemic and beyond. The article contributes to literature by presenting the significance of e-government to developing countries during crises including: government-wide online presence, quality information provision, G2C and G2G e-services, online engagement and social media presence. The review shows that collaboration and coordination among government entities are strategic techniques for an integrated and efficient digital government. Rightly so, the policy makers are recommended to strengthen inter-governmental collaboration and coordination in planning, developing, implementing and maintaining e-government services.

Keywords: e-government, Covid-19, Tanzania, Public Administration

INTRODUCTION

E-government has constantly been a significant endeavour in government/public management reform, especially in developing countries. Public sector digital transformation is keenly considered as key to achieve the many benefits of e-government (Cordella & Bonina, 2012). These benefits include reduced administrative burdens, improved public access to government services, increased efficiency and effectiveness of

the public sector, reduced corruption, creation of knowledge society, etc. (Angelopoulos, Kitsios, Kofakis, & Papadopoulos, 2010; Norris & Reddick, 2011; Johnson & Sieber, 2012; Al-Mamari, Corbitt, & Gekara, 2013; Asogwa, 2013). E-government has certainly become a necessity and not just an option for governments – a notion much more realised during the Covid-19 pandemic.

According to the UN, nearly 97.5% of Member States had put covid-19 related information in their national portals by 13th May 2020 (UNDESA, 2020). The information varied from general health information (such as Covid-19 symptoms, precautionary measures, emergency measures), Covid-19 statistics, policies and regulations (UNDESA, 2020). Several channels have been used by governments to report on Covid-19, including existing government websites (especially websites of ministries of health and hospitals), dedicated Covid-19 portals, social media, TVs and Radios. Other channels included pushed USSD messages and pictorial presentations in all government buildings. As the pandemic intensified, governments increased their efforts in ensuring that citizens have access to Covid-19 information at their fingertips. As such, digital platforms emerged as crucial tools in disseminating Covid-19 information to the wider mass. With massive dissemination of Covid-19 information, there has also been waves of disinformation and fake news; leading to infodemic. In response, WHO established an EPI-WIN platform (WHO Information Network for Epidemics) which provided trusted sources of information regarding the pandemic; including the MythBusters.

Digital solutions have become vital in addressing the recommended pandemic control measures as operations in the public and private sectors must continue. Governments around the world have been challenged to explore new digital solutions to engage stakeholders in providing and accessing e-services, providing clear information about the pandemic, etc. Undoubtedly, Covid-19 has shown how critical e-government is in building resilience in functioning of the governments. Acceleration of e-government solutions during the pandemic have allowed governments, academic institutions and businesses to continue functioning and, more importantly, to provide health and safety related information. The 2020 UN survey critically states that ‘the way forward is a new “digital normal” in responding to global challenges and pursuing sustainable development’ (UNDESA, 2020). The survey reveals that nearly 97.5% of Member States had their national portals as a key source for Covid-19

related information (Ibid.). To increase access to the right information while addressing misinformation and disinformation, some countries developed dedicated Covid-19 portals and used social media (Lin, Chang, Chou, & Chang, 2020; UNDESA, 2020). Recent research and surveys in e-government shows intensification of effective use of new technologies by governments to contain the pandemic – virtual doctors in Indonesia and Croatia, 3D printing technologies in Italy, TraceTogether App in Singapore, etc. (Ibad & Lolita, 2020; Ullah, Pinglu, Ullah, & Abbas, 2021; UNDESA, 2020). The use of e-government is thus considered as an ideal and effective solution for governments in managing the pandemic and beyond. High rise of digital transformation in the public sector has been observed in the healthcare, financial services and education sectors. In the following paragraphs, digital transformation in the mentioned sectors is briefly reviewed to depict the role of e-government during the pandemic. It is worth to note that this section highlights the acceleration of digital transformation and its positive impacts in the mentioned sectors as influenced by the pandemic. Nevertheless, the author understands that in each sector, there have also been negative impacts associated with increased risks in digital transactions, demarginalization of communities, etc.; but this perspective is not the focus of this research.

Digital healthcare systems have been greatly transformed by governments as among the means to manage the spread of Covid-19. The pandemic saw the resurgence of innovative healthcare techniques and tools. In Saudi Arabia, for instance, digital healthcare platforms that emerged are virtual healthcare, Covid-19 diagnostic platform and e-prescription platforms (Alharbi, 2021). In China, the e-health facilities were also greatly influenced by the pandemic with the rise of e-services such as e-consultation, tele-consultation, e-payment and e-registration for healthcare services (Wang, Sun, Liu, & Lai, 2021). Other examples are video-call consultations with healthcare providers observed in Bangladesh, Pakistan, Kenya and Nigeria; presence of hotline numbers for Covid-19 related issues (Ahmed, et al., 2020). More advance uses of innovative technologies to manage the pandemic were seen in India, where real-time dashboards, chatbots, smart-cities, video monitors and drones were used to geolocate the pandemic cases as well as to identify open pharmacies and to monitor hospitals' capacity (UNDESA, 2020). In China, the government developed a Health QR Code service to assess persons' health and determine whether, according to the assessment, the

individual should isolate at home or continue with daily routines (UNDESA, 2020).

The financial sector also saw a rise in digital transformation especially in developing countries. With social distancing rules becoming in effect in many countries, citizens opted for digital financial services to pay bills, groceries, shopping, etc. High rise of digital payment services was observed during the pandemic with increases in transaction volume, number of transactions and customers opting for digital services. The pandemic also prompted service providers to introduce new services and products to steer digital financial services. For instance, some firms introduced new online payment channels and others waived/significantly reduced fee/commission for performing digital financial transactions (CCAF, World Bank, & World Economic Forum, 2020, p. 56). In Sub-Saharan Africa, an increase of digital transaction volumes was highly observed in South Africa, Kenya, Nigeria and Uganda, where the survey was conducted (CCAF, World Bank, & World Economic Forum, 2020, p. 80). In a research report by the IMF, digital financial services are depicted as crucial in promoting social distancing and reducing the spread of the pandemic; as well as in keeping monetary transfer consistent (Agur, Peria, & Rochon, 2020). The latter was observed as significant in the informal sector, where small-scale businesses loomed due to the pandemic-related restrictions.

The education sector has also experienced considerable digital transformation in electronic/online learning (henceforth eLearning) due to the disruptions resulting from the pandemic (Nicola, et al., 2020). Schools, colleges and universities that were not offering eLearning in pre-Covid-19, made considerable shifts in their structures. Education providers, especially in higher learning, have been highly influenced to adopt eLearning to minimise loss of instruction time. Adoption of eLearning has also received considerable attention from governments through strengthened eLearning support measures in universities, colleges and schools. For instance, the Italian government equipped schools with digital platforms, supplied devices to less well-off students and trained instructors in eLearning pedagogies (Schleicher, 2020). The Indian central and state governments strengthened existing ICT infrastructure in response to new demands on eLearning; new initiatives that emerged included the National Repository of Open Educational Resources (Singh, Adebayo, Saini, & Singh, 2021). The Chinese government instructed a

“quarter of a billion full-time students to resume their studies through online platforms”, resulting in the huge rise of the Tencent online classrooms in the country (Li & Lalani, 2020). These are just the fewest examples demonstrating the governments’ responses to Covid-19. The massive adoption of eLearning has also presented the education sector with innovative and sophisticated technologies to support teaching and learning. Tools/technologies that have largely been used during the period include online platforms (for informal and formal learning), virtual classes/lectures, TV broadcasts, radios and telephone lines (Schleicher, 2020). The pandemic also saw the rise of tech-giants offering online collaboration platforms, with some offering special licence packages for public and private education institutions; including Zoom, Coursera, Google Classroom and Google Meet.

As Covid 19 is still critical in many countries, research on how countries leverage e-government services specifically geared towards managing the pandemic and challenges that arise remains essential. This paper contributes to the existing knowledge by examining how the Government of Tanzania utilised e-government services during the covid-19 pandemic, especially in the healthcare, financial and education sectors. The objective of this paper is twofold: (1) to discuss the application of e-government services during the pandemic and (2) to shed light on the challenges arising in utilising e-government. To achieve the objectives, content analysis of secondary digital sources was adopted as well as researcher’s observations on on-going e-government initiatives during the pandemic.

The paper is organised as follows: section 2 presents the methodology followed by the findings and discussion in section 3. Finally, section 4 presents conclusion and recommendations.

METHODOLOGY

Generally, this study has adopted a qualitative research approach. This method is commonly used for detailed description and comprehensive exploration of a process (Williams, 2007). The focus of this research is to explore e-government related services adopted by the Tanzanian government in efforts to manage Covid-19 pandemic. For data collection, the study adopted online content review based on researcher’s observations of e-government practices adopted by the government, particularly between March 2020 and January 2022. Content analysis is a detailed examination of an existing body of materials to identify issues

and draw conclusions that addresses the research objectives (Williams, 2007). Content analysis is a two-step process: identification of the body of materials to be studied and presentation of themes/patterns emerging from the analysis.

The researcher acknowledges the biases that arise with this method; however, this method seemed appropriate with the ongoing pandemic-related cautions. Errors were largely minimised to increase reliability of results by triangulating the same information from different sources of data. All public institutions' online presence during the pandemic was reviewed to examine the e-services that were specifically triggered by the pandemic. The key sources of data used during the research include: the website of the Ministry of Health (www.moh.go.tz) and websites of relevant public institutions as presented in the next section.

FINDINGS AND DISCUSSION

This section provides empirical insights into the application of e-government services during the pandemic in Tanzania. The findings are drawn from data obtained from two (2) official central government websites and social media platforms, and seven (7) public institutions. Online review was mapped from relevant document review and is presented in three sectoral categories: digital healthcare, digital financial services and digital education provision.

In Tanzania, the pandemic has caused significant disruptions particularly in health, education and financial sectors. On 16th March 2020, the Government of Tanzania (Mainland) through its Ministry of Health, Community Development, Gender, Elderly and Children confirmed the first case of Covid-19 that had struck a Tanzanian traveller from Belgium¹. In Zanzibar, the first case of Covid-19 was confirmed on 18th March 2020. On 31st March 2020, the first Covid-19 death was reported in Tanzania by the Government. In May 2020, the Government suspended reporting Covid-19 situation; whereas, the statistics stood at 509 cases and 21 deaths. To date, Tanzania has recorded 33,620 confirmed Covid-19 cases and 798 deaths¹. On 17th May 2020, the Government of Tanzania submitted the necessary documents to join the COVAX programme, and administration of Covid-19 vaccine started on 6th July 2021 and 28th July 2021 in Zanzibar and Tanzania (mainland)

¹ Covid-19 (moh.go.tz) Last accessed 24th February 2022

respectively. To date, 4.07 Covid-19 vaccines have been administered per 100 population in Tanzania. All the while as the pandemic struck, several health precautions have been taken by the Government of Tanzania. For instance, during the announcement of the first Covid-19 case on 16th March 2020, citizens were urged to take precautionary measures including avoid crowded places, wash hands frequently, use hand sanitizers and limit touching of face just to mention a few. Travellers were also warned of limiting unnecessary travel to Covid-19 struck countries. In addition, hotels, schools, universities, shops and supermarkets, churches, mosques, public and private offices, markets, sports stadiums, and bus stations were urged to ensure availability of soap and running water for washing hands, as well as hand sanitizers. Although wearing of face masks has not been mandatory in Tanzania, citizens have been urged to wear the masks as one of the Covid-19 precautionary measures.

a) Digital healthcare

The healthcare sector was the most affected sector by the pandemic. Considerable efforts were needed to manage the pandemic on the one hand, and to manage the effects of the pandemic in general healthcare provision on the other hand.

Pre-Covid-19, the central government has had its presence on the internet – through official websites and social media platforms. As reported earlier, the first Covid-19 case in Tanzania was reported on 16th March 2020. Beforehand, the government used its online outlets (website www.moh.go.tz and social media platforms) to inform citizens concerning the pandemic. For instance, on 29th February 2022, the Minister of Health informed citizens concerning the progress of the pandemic worldwide and that there was no Covid-19 case in Tanzania at the time via the Ministry's Instagram account – [wizara_afyatz](https://www.instagram.com/wizara_afyatz). The social media platform was heavily used by the Ministry of Health during the pandemic to provide accurate information regarding Covid-19 pandemic progression. The platform was also used by the Ministry to educate citizens on recommended healthcare measures including frequent use of sanitizers and washing of hands with running water and soap and social distancing. The Ministry also used its online presence to counteract fake news (ref. Figure).



Figure 1: Excerpts from the Ministry of Health Instagram account

To proactively collect information on the ongoing pandemic, the Ministry provided health emergency numbers that citizens could freely use to update the government on individuals affected by the virus – 0800110125/0800110124/0800110037, of which the numbers were later changed to 199. In regards to travellers, the Ministry developed a Travellers’ Health Surveillance System (www.afyamsafiri.moh.go.tz). The system was developed for travellers wishing to enter Tanzania to have quick access to Covid-19 services including online payment to Covid-19 test, online results to the tests, as well travel guides provided by the Ministry.

Since joining the COVAX facility on 17th May 2020, the Ministry developed two online systems for effective administration of the vaccines. First, the online system for booking for Covid-19 test (www.pimacovid.moh.go.tz) has two (2) functionalities: (1) to allow anyone to book for Covid-19 test, and (2) to receive e-certificate for Covid-19. Second, the online system for requesting/registering for Covid-

19 vaccine (www.chanjocovid.moh.go.tz) allows anyone to request the vaccine at any approved health centre listed in the system as well as request for vaccination e-certificate. In addition to the systems, the Ministry heavily used its social media platforms to educate citizens about the vaccine, urge them to receive the vaccine and counteract a wave of misinformation regarding Covid-19 vaccination.

Major online service provided by public hospitals is the use of their online presence (website and social media platform) to educate citizens on the pandemic and recommended healthcare measures, e.g., social distancing, new regulations on hospital visits, use of sanitizers and handwashing facilities present in hospital premises. Such information could be found on websites of Muhimbili National Hospital (www.mnh.or.tz), Amana Regional Referral Hospital (www.amanarrh.go.tz), Dodoma Regional Referral Hospital (www.dodomarrh.go.tz), and other public hospitals with websites and social media platforms.

b) Digital financial services

Since the start of the Covid-19 pandemic, digital financial services have been seen as a safer alternative to cash. In Tanzania, long before the pandemic, adoption of digital payment had gained massive popularity, especially in the mobile money market. According to the statistics published by the Tanzania Communications Regulatory Authority's between 2019-2021, there is considerable increase in subscriptions to mobile money and usage of internet from approximately 25M to 35M (ref. Figure 2).

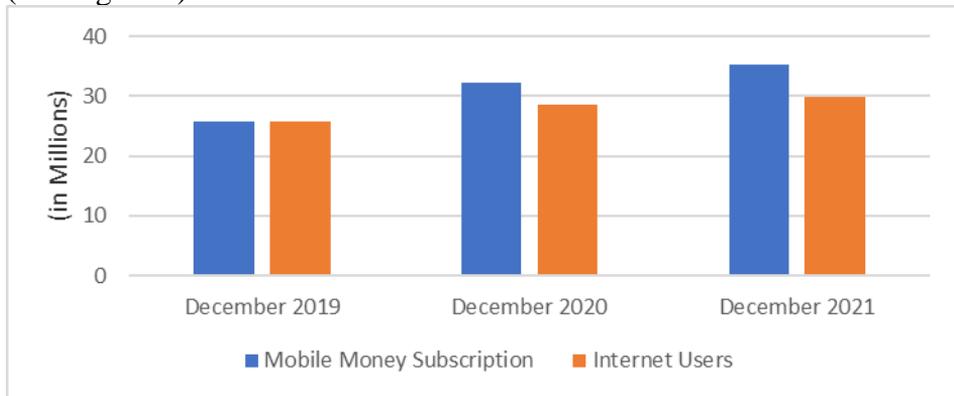


Figure 2: Trends on Mobile Money Subscription and Internet Users 2019-2021 (www.tcra.go.tz)

Online payment of government services has existed in Tanzania for more than five years. In 2017, the Government launched the Government Electronic Payment Gateway (GePG) – a centralised system of all government revenue collection channels (www.gepg.go.tz). The system facilitates electronic money transactions for citizens and businesses using mobile phones (via USSD and Mobile Apps). The system's role in providing citizens and businesses a convenient transaction gateway with the government has been cemented during the pandemic as it allowed citizens to pay their bills using their mobile phones at their own convenience while adhering to recommended health measures.

c) Digital education delivery

Undoubtedly, with closure of academic institutions due to the pandemic, eLearning has emerged as a necessity to reduce its impacts. As presented in section 2, eLearning was heavily promoted by international, regional and national bodies as the pandemic progressed. Similarly, in Tanzania, the widespread adoption of eLearning by academic institutions and service providers could be observed from public and private entities.

The initial reaction of the Government in response to the pandemic, was to close all schools, colleges and universities for one (1) month from 17th march 2020 (the notice was published by the Ministry of Education, Science and Technology (MoEST) via its social media platform [wizara_elimutanzania](https://www.instagram.com/wizara_elimutanzania)). To reduce the impact of missed learning hours, especially to schoolers, on 22nd April 2020, the government encouraged schools to use TVs and Radios as educational tools. The form VI students were especially emphasised to follow up on dedicated learning hours on government-owned Tanzania Broadcasting Corporation (TBC) as they prepared for the national examination in mid-2020. Subjects offered online include physics, economics, Kiswahili, geography, mathematics, chemistry and history. On 21st May 2020, all universities, colleges and schools were instructed to resume conventional education from 1st June 2020 ([Instagram: wizara_elimutanzania](https://www.instagram.com/wizara_elimutanzania)). From then on, the Ministry used its social media platforms and website (www.moe.go.tz) to educate all citizens on Covid-19 and recommended healthcare measures to contain the pandemic. Similar to the Ministry of Health, the MoEST also used its social media presence to advise schools, colleges and universities to ensure that the recommended healthcare measures are observed. On 4th July 2021, the MoEST released a public notice which directed schools, colleges and universities to adhere to the recommended healthcare

measures but also encouraged them to use ICT to reduce the spread of the pandemic.

Digitization efforts in provision of education in Tanzania includes the freely available online library provided by the Tanzania Institute of Education (see www.tie.go.tz). Through its social media account (Instagram account: taasisiyaelimu), TIE is quoted “due to the closure of schools and students directed to stay at home, TIE freely provides online library services. The library offers publications that are based on updated curricula”.

The significance of eLearning during the pandemic could particularly be observed in higher learning institutions. This paper draws experience from the Open University of Tanzania (OUT) (www.out.ac.tz). According to the well-known universities ranking web Webometrics (2021), the OUT ranked 16th out of 159 online universities worldwide, 1st out of 15 fully fledged Open Universities/HLIs in Africa, excluding those that offer dual modes of learning. The OUT is the only university in Tanzania that is a fully fledged online and distance learning university. As mentioned earlier, all schools, colleges and universities were directed to close at the beginning of the pandemic in Tanzania. During the closure, the OUT was the only university that remained open and continued to offer teaching and learning services. The university leveraged on eLearning management system (Moodle) and audio-visual collaboration tools for synchronous and asynchronous teaching and learning activities. Before the pandemic, the use of Zoom at the university was not cemented and education delivery was mainly through Moodle. During the pandemic, the OUT invested in Zoom for education licences to strengthen education delivery. For examinations, the OUT developed an innovative oral examination system known as OREX, which is the 1st system to be used in Tanzania for a similar purpose (The Open University of Tanzania, 2020). The OREX system integrated an online platform and audio-visual collaboration tools (Ally & Oreku, 2022). The software platform connected two examiners, an observer and a student to an examination session. The three parties would be joined together to an online session via Zoom for the oral examination; whereas, the links to the Zoom sessions were created by the examiners at least a day before the session (Ibid.). Several rules and regulations were observed during the examination such as presentation of student ID card, presentation of the environment where the student was located, all to always turn on their

cameras during examinations, etc. (Ibid.). OREX allowed the university to continue with its core functions while observing the strict Covid-19 measures as each student, examiner or observer could attend the examination sessions wherever they were.

The presentation in this section certainly highlights that e-government has also been embraced significantly during the pandemic. The efforts done by the government to make citizens more informed about the pandemic and to promote use of e-services are also positively considered. In the next section, policy implications of the article are reflected and conclusions are presented.

CONCLUSION AND RECOMMENDATIONS

The objective of this article was to highlight the Tanzanian government's embrace of e-government practices during the Covid-19 pandemic. The findings from the review of government websites show that there are even more opportunities presented by e-government during the pandemic and beyond. Accordingly, it is the function of the government to ensure that these opportunities are taken upfront. It is noteworthy to acknowledge that despite the presented efforts, the government and citizens still experience considerable challenges in providing and accessing/using e-government services, respectively. These challenges are such as inadequate ICT infrastructure, financial constraints, network accessibility barriers, etc. (Mkude, 2016). Nevertheless, the government must, now more than ever, review its e-government strategies, programmes and projects. The recommended foci are to identify critical enablers of e-government as well as e-services. In this way, the pandemic or not, the government will still be ahead in digital transformation of socio-economic sectors. Furthermore, the review in this article has shown that collaboration and coordination among government entities are strategic techniques for an integrated and efficient digital government. Rightly so, the policy makers are recommended to strengthen inter-governmental collaboration and coordination in planning, developing, implementing and maintaining e-government services.

This article concludes that even the basic e-government practices including government-wide online presence, quality information provision, G2C and G2G e-services and online engagement and social media presence significantly cements the need for further government digital transformations. The article provides opportunities for future

research in empirical examination of the impact of e-government during the pandemic in perspectives of the government, citizens and businesses.

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