

Digital technologies in micro and small enterprise: evidence from Uganda's informal sector during the COVID-19 pandemic

Digital
technologies
in Uganda

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Abstract

Purpose – The purpose of the study was to explore the intention of micro and small enterprises' (MSEs) owners to adopt digital technologies as a strategy to catalyze sustainable growth of Uganda's economy.

Design/methodology/approach – This study adopted a qualitative, multi-case design. The unit of inquiry consisted of business owners operating in St. Balikuddembe Market, Kampala, Uganda. They were interrogated to explore their intention to adopt digital technologies during the total lockdown as a strategy to sustainably operate their businesses.

Findings – A total of four major themes emerged from the data analysis process and these are the impact of coronavirus disease 2019 (COVID-19) on business operations, awareness of digital technologies, usage of digital technologies and intention to use more digital technologies.

Practical implications – The findings of the study shed light on what policymakers, digital service providers and business owners can do to improve uptake of digital technologies among MSEs in Uganda.

Originality/value – This study contributes to the extant literature on digital technologies in MSEs using evidence from Uganda's informal sector. The results of the study may catalyze uptake of digital technologies as policymakers and digital service providers will devise appropriate strategies that will enable business owners to integrate these technologies into their business operations.

Keywords Digital technologies, Impact of COVID-19, Awareness, Usage, Intention, MSEs, Uganda

Paper type Research paper

1. Introduction

The outbreak of the coronavirus disease 2019 (COVID -19) pandemic forced governments across the globe to issue policies and restrictions to contain the spread. Specifically, lockdown of countries, social distancing, wearing of masks, closure of physical operations of businesses and cutting down of the working hours were implemented (Bartik *et al.*, 2020). Such restrictions have constrained businesses to the extent that their continuity is questionable (Donthu and Gustafsson, 2020). A critical analysis of events indicates that the effects of the restrictions seem to be more severe on micro and small enterprises (MSEs). This is because of being resource constrained and operating physically with less attention to digital



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technologies (Singh and Kumar, 2020; Bartik *et al.*, 2020). As a result, their operations have reduced significantly, leading to a cut on employees and closure of branches (Thorgren and Williams, 2020). Yet, MSEs greatly contribute to job creation, government revenue and national gross domestic product (GDP) (Buyinza *et al.*, 2018; Kintu *et al.*, 2019). Thus, this study suggests the need for MSEs to adopt digital technologies that have potential to catalyze their growth during and after the containment of the pandemic.

Digital technologies is the use of devices and Internet-based systems like computers, tablets, mobile phones, social media platforms, mobile money, closed-circuit television (CCTV) cameras, websites, smart phones, computers, printers, digital transport and digital banking in business operations (Ardolino *et al.*, 2018). These technologies enable MSEs to access markets, advertise their businesses and reach out to customers locally and internationally during and after the COVID-19 pandemic (Papadopoulos *et al.*, 2020). Anasi *et al.* (2018) added that digital technologies facilitate access to resources and interaction with customers and other stakeholders in the business community.

Recently, studies have been conducted on the adoption of digital technologies. For example, Papadopoulos *et al.* (2020) investigated the use of digital technologies by SMEs during COVID-19, Sein (2020) explored the serendipitous impact of the COVID-19 pandemic, Mancha and Shankaranarayanan (2020) examined the antecedents of innovativeness with digital technologies, Guo *et al.* (2020) studied the role of e-commerce in the urban food system under COVID-19, Singh *et al.* (2020) interrogated adoption intention and effectiveness of digital platforms for online learning and Saleh (2020) examined information and communication technology (ICT), social media and COVID-19 of the informal home-based business community. However, most of these studies are conceptual (*see*; Papadopoulos *et al.*, 2020; Saleh, 2020) with few qualitative studies, conducted in contexts outside sub-Saharan Africa that comprises developing nations where most of the businesses are MSEs (Kyambadde, 2015) and have paid less attention on the awareness, usage and intention to use digital technologies by MSEs owners using evidence from Uganda. It is upon that background that the current study explores the adoption of digital technologies in Uganda by addressing the following research questions:

- RQ1. How has COVID-19 affected your business?
- RQ2. What digital technologies have you heard of?
- RQ3. What digital technologies are you currently using in your business?
- RQ4. What are your plans regarding digital technologies in the next five years?

The four research questions were answered by the use of semi-structured interviews of the business owners operating in St. Balikuddembe Market, Kampala. The results show that their businesses came to a standstill as movements were limited. This affected the supply and demand aspects of their businesses. Awareness of digital technologies is distinct from usage as a number of digital technologies are mentioned, but a few of them are used. The study further revealed mixed opinions on the intention to use more digital technologies in addition to those in current use. Thus, a proportion of the respondents lack the intention to use more digital technologies due to the insufficient knowledge and skills associated with using digital technologies.

Our study makes relevant contributions. As such, it contributes to extant but scanty literature on digital technologies using evidence from Uganda. Policymakers and digital service providers may use our findings to devise strategies of catalyzing digital technology adoption by MSEs. Based on our results, the business community may develop plans to integrate digital technologies into their businesses. This will ultimately reduce the cost of doing business locally and across national boundaries.

The rest of this paper is structured as follows: literature review, methodology, findings and discussion. The paper ends with a conclusion, implications, limitations and further research.

2. Literature review

2.1 Study context (*St. Balikuddembe Market*)

St. Balikuddembe Market commonly known as “Owino market” is Uganda’s largest market. It was renamed St. Joseph Balikuddembe in memory of a martyr who was killed from this spot. It is located in Kisenyi, one of Kampala’s biggest slums. Nonetheless, it is the name Owino Market that continues to be popularized and used mostly (Abesiga *et al.*, 2014). It is located beside Nakivubo Stadium, Uganda’s second largest stadium. Owino Market today sells everything including fresh agricultural produce, old clothes, hardware, manufactured products including electronics, in addition to bars and restaurants. For the purpose of the market, these were grouped into eight submarkets including but not limited to food stuff, clothes, shoes, cosmetics, traditional herbs, crafts, kitchenware, plastic products, hardware, among others.

Owino Market however continues to be the biggest market in the country with over 50,000 vendors of which 70% are women (Abesiga *et al.*, 2014). Owino Market occupies an area of over 7.5 acres during day, and in the evening, the market spreads to the adjacent roadside. Owino Market has unique characteristics and managed through membership associations which have an executive that is responsible for their day-to-day activities of the market. The role of the association is to collect membership fees, ensure discipline and manage conflicts.

2.2 Micro and small enterprises

The Ministry of Trade, Industry and Cooperatives, Uganda (Kyambadde, 2015), views micro enterprises as a business organization with fewer than five employees and total assets not exceeding UGX 10 m. Small enterprises on the other hand are business entities that have employees between five and 49 and total assets ranging between 10 m and less than 100 m. The current study focused on MSEs due to the contribution to the growth of Uganda’s economy and their unique characteristics. Specifically, these businesses employ over 2.5 m people, account for approximately 90% of the private sector and produce more than 80% of the manufactured output with 20% contribution to the national GDP (Kyambadde, 2015; Buyinza *et al.*, 2018; Kintu *et al.*, 2019).

Despite their contribution, MSEs face several challenges that are not limited to access to capital, poor management, reducing sales, profits and production of poor-quality products and limited assets that affect their profitability (Ddamulira, 2018). This explains why they are the most affected business entities in Uganda after the outbreak of COVID-19 as presented in the subsequent section.

2.3 Impact of COVID-19 on MSEs

According to Donthu and Gustafsson (2020), the outburst of COVID-19 prompted governments worldwide to issue measures and prohibitions to contain the pandemic. In particular, countries were shut down, social distancing, the wearing of masks, the closing of physical business activities and the reduction of working hours were enforced (Bartik *et al.*, 2020). These restrictions affected the organizations, business operations, information management, technologies and general work performance (Sein, 2020). Information sharing has been majorly done through electronic media, social media platforms like WhatsApp, Snapchat, Facebook while also the mobile phone has been highly used. COVID-19 has changed the way we work. For example, most organizations are working from home and meeting virtually.

Meetings are being held on Zoom and other supporting video conferencing tools, while teaching is being conducted online (Singh *et al.*, 2020). This means, status quo is gradually changing due to the disruptions caused by COVID-19 to what is known as the new normal. Such effects have created challenges and opportunities to the business world (Ratten, 2020). Therefore, small business owners should treat their problems creatively to generate opportunities with special attention to sustainable entrepreneurship (Kimuli *et al.*, 2020). Currently, the COVID-19 outbreak has had severe effects on the economies and the general society. As such, businesses need to devise strategies to sustain their operations despite the pandemic.

2.4 Technology acceptance model

The technology acceptance model is one of the models used in understanding intention to adopt new technologies (Brandon-Jones and Kauppi, 2018). The goal of this model is to predict the intention to accept a certain technology and to identify the modifications which must be brought to the system in order to make it acceptable to users. This model indicates that the intention to accept an information system is determined by two main factors: perceived usefulness and perceived ease of use (Scherer *et al.*, 2019).

Perceived usefulness is viewed as the degree to which a person believes that the use of a system will improve his performance. Perceived ease of use refers to the degree to which a person believes that the use of a system will be effortless. Several factorial analyses demonstrated that perceived usefulness and perceived ease of use can be considered as two different dimensions (Dwivedi *et al.*, 2019). According to Ramkumar *et al.* (2019), this theory brings to our understanding that intention to use a new technology is a function of the users' feelings about the system and its perceived benefits.

2.5 Digital technologies

The concept of digital technologies is perceived by scholars differently. According to Welter *et al.* (2017), digital technologies are categorized as digital objects, digital platforms and digital infrastructure. Objects are the digital parts, programs and media content that provide defined value to the customers (Kallinikos *et al.*, 2013). Platforms include a set of services that serves to host additional offerings such as Google's Android and Apple's iOS platforms that enable smartphones to operate successfully (Zahra and Nambisan, 2011). Digital infrastructure on the other hand represents the tools and systems used by businesses to communicate and network with different stakeholders to support business operations (Aldrich and Yang, 2014).

They are also viewed as internal and external technologies (Sousa and Rocha, 2019). Internal technologies include search engine optimization, social media monitoring and analytics. External technologies on the other hand constitute the platforms that enable entrepreneurs to interact with customers and deliver content to meet their needs such as e-mails, different applications, websites and advertisements (Routley *et al.*, 2013). Crowdfunding systems, digital 3D printing systems, social media sites, pages and platforms present other examples of digital technologies used by businesses to operate effectively and efficiently (Rayna *et al.*, 2015). As such, we define digital technologies as electronic instruments, programs, resources and devices that are used to store and process data to achieve business goals and objectives.

Using digital technologies in business promotes communication, content management, networking, data analysis, employee and customer satisfaction and retention (Sousa and Rocha, 2019). Akpan *et al.* (2020) also add that digital technologies facilitate resource management, business agility, productivity, profitability and overall improvement in customer and employee experience. It is therefore important for MSEs in developing countries like Uganda to integrate digital technologies in their operations if they are to

sustainably operate in the uncertain business environment that has constrained business activities across the globe.

2.6 Digital technology awareness

Awareness of digital technology is known as digital literacy (Techataweewan and Prasertsin, 2018), digital knowledge (Kurkovsky and Syta, 2010) and digital awareness (Akpan *et al.*, 2020). This generally looks at one's ability to use information technology and the Internet to discover, review, use, distribute and generate content (Akpan *et al.*, 2020). Specifically, digital technology is the understanding demonstrated by entrepreneurs concerning the benefits, opportunities and challenges presented by digital technologies (Zilka, 2017). The author adds that lack of awareness constrains entrepreneurs and customers to appreciate the potential of the electronic environment in catalyzing business operations. This is brought about by a general lack of understanding of the existing digital technologies and the skills needed to efficiently utilize this infrastructure in business operations (Akpan *et al.*, 2020; Techataweewan and Prasertsin, 2018). It is therefore important for MSEs to appreciate the different digital technologies they can utilize to reach out to a wider market base.

2.7 Usage of digital technologies

Traditionally, most MSEs were carrying out their operations physically. This has significantly changed with the outbreak of COVID-19 where business owners are looking at usage of digital technologies as a viable strategy to sustain their operations. As such, MSEs have opened up websites, social media platforms, pages and channels to serve their customers during the lockdown (Papadopoulos *et al.*, 2020). Extant literature indicates that usage of digital technologies is associated with improved business competitiveness, productivity, profitability and overall performance (Tan *et al.*, 2010; Papadopoulos *et al.*, 2020). Usage of digital technologies also enabled businesses and customers to interact with each other (Kietzmann *et al.*, 2011). Trainor (2012) urge that businesses that employ these technologies are more likely to obtain significant information containing client complaints, user experience and client's requirement. This suggests that usage of digital technologies is likely to enable entrepreneurs offer superior services, given that customer complaints can be noted in real time.

In a study conducted by Papadopoulos *et al.* (2020), it is noted that SMEs need to use digital technology strategies as a response to COVID-19 while sustaining their operations. This suggests that uptake of digital technologies will enable MSEs to operate in a way that adds value to their stakeholders while containing the spread of the pandemic. Wang and Tang (2020) add that digital technologies facilitate public health education and communication, implying that the business community can as well use these technologies to educate their customers about new products in terms of their application and benefits. The same technologies can be used to get feedback from customers concerning the ability of the products to meet their perceived needs. However, Otieno (2015) indicated that perceived cost is not significantly associated with usage of digital technologies.

To date, most of the recent studies on the usage of digital technologies are common in the health sector (see; Beaunoyer *et al.*, 2020; Anthony, 2020; Wang and Tang, 2020; Whitelaw *et al.*, 2020), and the focus has been how digital technologies can be used in the sector to contain the spread of coronavirus. Little attention has been given to MSEs, except Papadopoulos *et al.* (2020) who conceptually reported about the digital technologies in SMEs. This study bridges these gaps by conducting a qualitative study on the usage of digital technologies using evidence from Uganda's informal sector.

2.8 Intention to adopt digital technologies

Intention has been generally described as the perceived probability of a person to engage in a particular behavior (Alawamreh and Fazidah Elias, 2015). Intention is a stimulant for a person's behavior (Majid *et al.*, 2017). Regarding digital technologies, intention entails the mental behaviors such as preparation and consideration to integrate digital technologies into business activities (Siddiqui and Khan, 2019). As such, business owners usually develop a positive intention to adopt digital technologies if they perceive it as important and easy to use. In addition, the intention to adopt digital technologies is feasible when business owners are ready to invest in technologies needed to support business operations. The current business environment is changing rapidly to the extent that MSEs owners need to develop a positive attitude and intention of embracing digital technologies if they are to sustainably contribute toward growth of both developed and developing countries like Uganda.

It is noted that empowerment of entrepreneurs by digital service providers positively affects their intention to adopt digital technologies (Naranjo-Zolotov *et al.* (2019). This indicates that service providers need to support businesses, especially in developing countries like Uganda to acquire skills and knowledge needed to incorporate such technologies into their businesses. In a study conducted by Tan *et al.* (2010) on ICT uptake among SMEs, it was noted that adoption of digital technologies is influenced by the industry in which businesses operate. Consequently, the author revealed that service-oriented SMEs demonstrated high intention as compared to firms in other industries. This calls for more studies in other contexts like Uganda to validate this finding.

Zenebe *et al.* (2018) also indicated that intention to adopt digital technologies is dependent on the perceived knowledge of technology and its application. This suggests that MSEs' owners need to be aware of the available technologies and how they can support business activities to develop a positive intention to adopt such technologies. However, most of the extant studies on the intention to adopt digital technologies have been conducted in contexts that are outside Uganda using a quantitative design (*see*; Naranjo-Zolotov *et al.*, 2019; Wang *et al.*, 2019), yet the characteristics of the Ugandan MSEs are different from those in other countries. This justifies the need for the current study using a qualitative design to understand the business owners' views, given that it was the state that ordered for a lockdown.

3. Methodology

3.1 Research design

The study adopted a qualitative design using a multi-case-based approach with 30 cases (business owners) from St. Balikuddembe Market, Kampala, Uganda. This approach was used to enable the researchers get a deeper understanding of the study phenomena and adequately answer the research questions (Patten and Newhart (2017). Data were collected using an interview guide with the help of a recorder in the local language (Luganda) from the business owners and then transcribed in English by the researchers following Creswell (2014)'s guidelines of qualitative data collection and analysis.

3.2 Sample selection

Purposive and snowball sampling were used to select the 30 business owners. Purposive sampling is where the researcher relies on their own judgment in selecting members of the population to participate in the study (Etikan *et al.*, 2016). Accordingly, purposive sampling enabled us to get the rightful respondents who finally participated in the study with the help of a field guide provided by the management of Owino Market (Etikan *et al.*, 2016). Snowball sampling on the other hand involved the respondents helping us to identify other business owners to partake in the study.

3.3 Reliability and validity

We triangulated our data as a way of achieving reliability and validity. Triangulation minimizes the weakness of one method by utilizing the strength of another method (Fielding, 2012). Thus, study data source and investigator triangulation were used to ensure credibility, accuracy and validity of the qualitative data (Denzin, 1984). Specifically, data were collected from a total of 30 cases (business owners) and three researchers participated in the data collection and analysis.

3.4 Qualitative data analysis

The collected data were analyzed using a step-by-step approach. This started with transcribing the stories by the researchers as told by the respondents during interviews that lasted about 30 min. Transcripts were extensively reviewed by a third party to eliminate grammatical errors. This was followed by generating themes from the transcribed data following our objectives and interview guide. As such, four themes were extracted for analysis and these include the impact of COVID-19 on business operations, awareness of digital technologies, usage of digital technologies and intention to use more digital technologies. Analysis was then done using Atlas-ti, version 8. This is a piece of qualitative analysis software sequentially synthesizing the 30 cases using the generated themes. Subsequently, an output of sequenced quotes against the four themes was generated from all the transcripts. This was then used to prepare the analytical qualitative report. The qualitative report was supported by outstanding quotes highlighted during the analysis.

4. Findings and discussion

The four major themes that emerged from the data include impact of COVID-19 on business, awareness of digital technologies, usage of digital technologies and the intention to use more digital technologies.

4.1 Theme 1: impact of COVID-19 on business

Analysis of our results indicates that COVID-19 has had far-reaching impacts on the country with the economy highly affected by government's efforts to control the spread of the disease. The climax of government measures led to the paralysis of business activities across the country, and particularly the MSEs were harshly impacted. The lockdown was a move announced by the Head of State instructing that areas and businesses with high concentrations of people suspend their activities and retreat to their households. Where it was easier for government to regulate their movements and for the population to observe the conditions of regularly washing hands with water and soap, wearing a mask, ensuring social distancing and self-isolation. Some respondents indicated that

... due to COVID-19, I stopped my employees from coming for work. A 32-year old female dealing in children's clothes.

4.1.1 Closure of business operations. The lockdown thus led to the closure of all business activities that involved gathering of people and propelled the need for businesses to orchestrate digital innovations if they were to continue with their operations. Since the COVID-19 virus hit the country when the population did not anticipate it, the lockdown caught many business entities by surprise. Most SMEs did not have the resources to morph into digital businesses on an instant, they needed orientation and education on how and which digital technologies they would mobilize and utilize for the continuity of their operations. From the interactions with proprietors, it was revealed that most businesses made panic decisions of laying down employees, suspending their business activities and

retreating to their homes with the hope that the COVID-19 epidemic was short lived. It has now been six months plus since the institution of the lockdown and only a selection of businesses and sectors of the economy have since been allowed to reopen under strict guidelines. The SMEs therefore continue to suffer the consequences of the lockdown, although the government has since relaxed restrictions on the operations of most businesses. Respondents indicated that the terms set for businesses to operate have had a strong bearing on the continuity of their operations complaining of market shortfalls, reduced productivity and the increased cost of doing business as indicated by one the interviewees:

... Due to the lockdown that happened suddenly, we left our goods in the lockers called gamula. These Gamulas let in water especially from the rains for the past two months. The rains damaged all our items and I am not sure that we shall even sell the surviving items since most of them have damages. These are all losses yet we have not even started working. My daughter has tried selling some items on her phone (social media) but purchasing power is low. She majorly sells to her old clients. *50-year old female dealing in toys and bags.*

4.1.2 Digitalization of business operations. On the other hand, businesses that quickly digitalized their activities to capitalize more on the use of digital technology platforms testify that their operations had a whole new look tapping into a new world of customers identified and harnessed only with a click of a button. In this regard, there has since been increased use of social media platforms such as Facebook, Snapchat and WhatsApp, digital transport like SafeBoda and Uber, mobile money and digital banking. The era of COVID-19 is noted by a section of business proprietors as a landmark for the transition of their operations from manual to digital interfaces, transactions and marketing strategies as disclosed by the respondents:

... Due to the lockdown, I get work for my children via the smart phone, put on the computer and print for them to read *A 37-year old male operating a restaurant business.*

... I have an Indian supplier that is now operating in industrial area because of COVID-19 and as I was in Masaka, my wife went to buy clothes. She told me that she had got good clothes from him and I used mobile money to give her money she used to buy the clothes. *A 53-year old male dealing in second hand clothes.*

... The issue of OTT is also going affect the Members of Parliament who approved it since now campaigns are going to be online due to COVID-19 where by people will not be able to listen. *A 42-year old female dealing in fresh vegetables.*

Our findings are in agreement with Fairlie (2020) who indicated a drop of 41%, 32% and 26% in the African American, Latinx and Asian businesses. Sein (2020) also revealed that COVID-19 standard operating procedures have affected the organizations, business operations, information management, technologies and general work performance. Singh *et al.* (2020) add that COVID-19 has changed the way we work currently like meeting virtually while working from home. This is because information sharing has been majorly done through electronic media, social media platforms like Facebook, WhatsApp and Snapchat while also the mobile phone has been highly used. This means generally changing the status quo due to the disruptions caused by COVID-19 to the new normal. Such effects have created challenges and opportunities to the business world (Ratten, 2020). Moreover, the pandemic has caused dramatic changes in how business organizations operate and the general behavior of consumers across the globe (Donthu and Gustafsson, 2020). The implication is that consumers' purchasing power has reduced significantly and in turn limiting business transactions.

4.2 Theme 2: awareness of digital technologies

Respondents demonstrated awareness of digital technologies with each one of them citing examples they knew of. The most popular of the technologies mentioned include social media platforms such as Facebook and WhatsApp, mobile money, digital transport, computer, digital banking, CCTV cameras, the website and smart phones as one respondent said,

Yes, I have heard about the following digital technologies; Social media platforms, Mobile money, CCTV camera, Website, Smart phones, Computer, printer, Digital transport like safe boda, Uber etc, Digital banking, Online selling and buying *a 45-year old female restaurateur in restaurant business since 1997.*

Awareness of digital technologies cuts across respondents of all businesses. There is a shared appreciation of the capabilities of the various modes of digital technologies with all respondents intimating to have interfaced with at least one of them in the course of their social and business lives. The most prominently mentioned modes are mobile money, WhatsApp, Facebook and the use of smart phones. There is growing popularity of the digital transport services, particularly the SafeBoda applications much as their usage is only prominent among youths. Awareness of digital technologies is distinct from usage as a number of digital technologies are mentioned, but a few are used.

Our results are supported by Akpan *et al.* (2020) who indicated that there is growing awareness of different technologies used by small businesses. This is because lack of awareness constrains entrepreneurs and customers to appreciate the potential of the electronic environment in catalyzing business operations (Zilka, 2017). Therefore, businesses owners who are aware of digital technologies have noticed improvements in the performance of their business (Effiom and Edet, 2020). This suggests that uptake of digital technologies is dependent on the owners' awareness of the available digital technologies and their application.

4.3 Theme 3: usage of digital technologies

4.3.1 The need to use digital technologies. Usage of digital technologies is becoming increasingly popular within the business community. The business fraternity is inadvertently coming to the realization that the world is becoming a global village and the digitalization of business activities is quickly becoming inevitable. Interactions with the business community revealed mobile money, Facebook and mobile banking as the most commonly used forms of digital technology. The use of digital transport such as Uber, Bolt and SafeBoda has not been fully embraced by the business community as they hold the impression that they are unsafe and cannot be trusted. With the exception of a few persons unable to enroll on any of the platforms due to logistical incapacitations, a greater section of respondents with smart phones reported to have used a mode of digital technology for varied purposes. One of the interviewees said:

... Mobile money 100%, traders of St. Balikuddembe use it a lot. I have not yet bought a smart phone, but I am using a small phone. However, I am working hard to buy a smart phone because of the digital era. Digital banking, it is very good and I am currently using it. *Confession of a 40-year-old male selling cereals since 1999 as the digital era was just setting in.*

...I use the following digital technologies in the business; social media platforms especially whatsapp, mobile money, smart phone and digital transport. *A 42-year old female selling imported carrots and green pepper since 2012.*

Respondents demonstrated a desirous attempt to use digital technologies in holding exchanges for business and social interactions, breaking the barrier of boundaries and distance. This is evident by one of the interviewees who indicated that

... I use whatsapp to communicate with my carrot suppliers from Kenya. Specifically, to update them about the market conditions in terms of prices and demand. A 42-year-old dealing in vegetables.

4.3.2 Challenges of using digital technologies. However, the use of digital technologies is faulted by some members of the business community as a hive of unscrupulous behavior orchestrated by operators of the platforms. The most avid experience shared by respondents is the tendency of impersonators that attempt to fleece users of mobile money transactions. As such, one interviewee said,

... There are many conmen and we are badly off. So, MTN needs to improve the functionality of mobile money since they steal a lot of money via it as compared to airtel given that you initiate the transaction, get the secret code that you use to access the money which is not the case with MTN. For example, I was once called and someone told me that he works with MTN. so, they wanted to improve their system asking whether I have some money on the account. He said they want to upgrade the system so; my money will be back. He told me what to press and, in the process, I entered my pin that enabled them to take Ugx 100,000. A 53-year old dealing in second hand clothes.

These results are in line with [Papadopoulos et al. \(2020\)](#) who noted that SMEs need to use digital technology strategies as a response to the COVID-19 measures while sustaining their operations. This suggests that uptake of digital technologies will enable MSEs to operate in a way that adds value to their stakeholders while containing the spread of the pandemic. This is strengthened by [Wang and Tang \(2020\)](#) who revealed that digital technologies facilitate public health education and communication, implying that the business community can as well use these technologies to educate their customers about new products in terms of their application and benefits. The same technologies can be used to get feedback from customers concerning the ability of the products to meet their perceived needs. Similar to our findings, [Otieno \(2015\)](#) demonstrated that perceived cost is not significantly associated with usage of digital technologies. It is important for the government and digital service providers to support businesses in getting technologies relevant to their operations. This can be achieved by providing these technologies at a subsidized cost and training them to appreciate their application. With such measures, usage of digital technologies is likely to improve in Ugandan businesses.

4.4 Theme 4: intention to use more digital technologies

4.4.1 Plan to use digital technologies. Respondents enrolled to the different digital technology platforms hold the intention to continue using those technologies. However, there are mixed opinions on the intention to use more digital technologies in addition to those in current use. The highlight of the respondents' hesitation to enroll to more digital technologies is the lack of knowledge to use/apply them. A section of respondents indicated they held plans of seeking more enlightenment from persons that are more knowledgeable to learn how their preferred new technologies are applied. This is indicated by

A 32-year old female selling chapati who said "... I admire to learn so that I can buy my own computer and use it accordingly. So, in case you have any programme to train me, I am ready. I intend to buy a smart phone so that I can start to use safeboda, Uber and other digital transports in my business."

This is supported by 45-year old male growing and selling watermelon who indicated that; "... I am intending to get people from the bank to come and train me on how to use digital banking in my business. I also plan to learn how to use computers so that all plans and programmes for my garden are on the computer system."

4.4.2 Reluctance to digital technologies. This initiative is only among a few of the persons that have the urge to learn and venture in new things. Discussions with a spread of respondents revealed a laxity by most proprietors to learn the application of other digital technologies as

they felt that mobile money was the most essential and all they needed to enroll to. Having a smart phone, a computer and enrolling to digital banking are increasingly becoming a priority to most proprietors in the whole sale and fashion business with many expressing desires to learn the usage of these technologies. This is however not the case for respondents in retail and vending business. They are hesitant to enroll to any form of digital technology other than carrying a mobile phone that has basic functions of text messaging and phone calls which they have also not fully harnessed for their personal and business operations. Thus, one of the respondents revealed that

...We do not have any consolidated plan to strengthen the usage of digital technologies in our business since my mother is now old. We also do not have any plan of installing CCTV cameras since we pay for security in the market. *A 28-year old male running a family enterprise training in cereals.*

Therefore, there is potential for digital technologies to have more impact on SMEs if the fraternity tapped into the myriad of opportunities and capabilities embedded in technologies such as mobile money, social media, smart phones, computer usage, and digital banking and CCTV camera functionalities that are yet to be harnessed by business proprietors. The intention by business proprietors to use other or rather adopt the use of digital technologies provides a strong foundation for innovation and competitiveness within the business community. This is however informed by indiscriminate knowledge and awareness of these technologies among all parties in the business fraternity, something that is yet to be achieved as per the observations and opinions established during the series of interactions held in this exercise.

...The problem is with the taxes such as OTT that is making it difficult for people to use social media. So, telecommunication companies should make that tax to be part of MBs and charge you once. So those in charge of OTT should work with those of MBs to make that process easier for the users. Mobile money charges are high and need to be reduced for us to use it well. They deduct money on the sender and receiver. This is too much and I suggest that mobile money taxes should be removed. For theft via mobile money. I feel that the conmen come from the telecommunication companies directly. This is because immediately after receiving money, conmen start to call you. So, my concern is how they know that you have received money. I therefore suggest that these companies should check their employees since there are some that deal with conmen and give them customers' information. *A 53-year old male dealing in women's outfits.*

Our results are supported by [Yang \(2019\)](#) who reported that easing paper work positively affected the intention to use digital technologies. This shows that business owners who perceive usage of digital technologies as easy, they definitely develop a positive intention to adopt digital technologies. [Zenebe et al. \(2018\)](#) also indicated that intention to adopt digital technologies is dependent on the perceived knowledge of technology and its application. This suggests that MSEs' owners need to be aware of the available technologies and how they can support business activities to develop a positive intention to adopt such technologies. This could be true, given that some business owners indicated lack of intention to use digital technologies. This negative attitude could be ascribed to their ignorance of the application and relevance of digital technologies.

According to [Tan et al. \(2010\)](#), intention to use ICT by SMEs is influenced by the industry in which businesses operate, and as a result, the author revealed that service-oriented SMEs demonstrated a high intention as compared to firms in other industries. This could be true given that respondents who we interrogated and reported lack of plans of using more digital technologies are operating trading businesses. It is therefore important to sensitize such entrepreneurs to understand the relevance of digital technologies in their respective business sectors.

5. Conclusion

The COVID-19 pandemic has had an increasing impact on the economy and has largely affected the MSEs in Uganda. Some have obviously taken on the positive side by exploring the opportunities that have come with the pandemic crisis. Digital technologies have been known to enhance the productivity of businesses. It is evident that the business owners are transiting to using digital technology, despite their lack of training in them. Digital technologies have been seen to decrease costs, advertise the businesses faster in doing businesses, better communication with the customers, suppliers and other stakeholders. It is also worth noting that the micro and small businesses mainly use social media platforms and are willing to embrace other technologies if only they are trained. Our findings indicate that government measures on COVID-19 paralyzed business activities across the country and particularly MSEs.

6. Implications

This study makes several contributions to academicians, policymakers and the society. The study contributes to extant literature by reporting the initial empirical evidence on impact of COVID-19 on business operations, awareness of digital technologies, usage and intention to use more digital technologies using evidence from Uganda's informal sector. Thus, policymakers, especially the Ministry of Trade Industries and Cooperatives as well as the Ministry of Information and Communication Technology need to develop programs such as educating the business community about the relevance of digital technologies, how to integrate these technologies into business operation, provide interest-free loans to entrepreneurs to access technology and allow investors to transfer digital technologies to Uganda. This will enable business owners to access and use digital technologies in their businesses cheaply. Moreover, the outbreak of the pandemic has changed business models, in that businesses that will maintain their physical presence may not survive in the digital transformation of business activities. It is also important for the digital service providers to sensitize and train business owners on the available digital technologies, their relevance and application in business. This will enable entrepreneurs to develop positive intentions of using more digital technologies in their businesses. Lastly, the society needs to understand that businesses in the informal sector need to have the intention to use digital technologies if they are to sustainably operate and contribute to the growth of Uganda's economy during and after the containment of the pandemic.

7. Limitations and further research

As it is for other studies, our study has some limitations which researchers can address in future research. This study was conducted in St. Balikuddembe Market and thus, other markets in Uganda were not investigated due to the restrictions brought about by the lockdown. Further research could be done in other informal markets across the country to increase on the number of cases interviewed across the country and world. The study also used a qualitative design based on 30 cases of business owners; future studies can be conducted using large samples to validate our findings with the help of a quantitative or mixed design. However, this study offers initial empirical evidence on the effect of the pandemic on businesses, awareness of digital technologies, usage and intention to use more digital technologies with evidence from Uganda's informal sector.

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