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Reasons for Uganda's Slow Adoption of Digital Commerce.

International Business,
Bachelor of Business Administration (BBA)
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ABSTRACT

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Digital Commerce offers enormous business opportunities beneficial to almost all forms of enterprises, however SMEs in Uganda have been slow in its adoption. The purpose of this thesis is to develop a better understanding as to why Small and Medium sized Enterprises in Uganda have been slow in adopting Digital Commerce and thereafter present suggestions on how they can transition themselves into the Digital Commerce environment.

The study revealed a number of challenges SMEs in Uganda faced which limited Digital Commerce adoption, these challenges were indistinguishable from theories like the Diffusion of Innovation, Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology that were explored.

The qualitative research methodology was used which further proved to be in line with both the literature review and the theoretical framework of this thesis. Telephone interviews were conducted from SME stakeholders in Uganda, these respondents ranged from business owners, managers, employees, customers, and others, some which included a few IT experts.

Basic, simple, and inexpensive digital transformation processes were thereafter suggested for the SMEs to integrate digital technology into their brick-and-mortar stores, which would improve business processes and generate more revenue.

Keywords Digital Commerce, e-commerce, SMEs, Uganda

ACRONYMS AND ABBREVIATIONS

E-COM	Electronic Commerce
M-COM	Mobile Commerce
B2B	Business to Business
B2C	Business to Consumers
C2C	Consumers to Consumers
C2B	Consumers to Business
B2G	Business to Governments
E-PAY	Electronic Payment
SMEs	Small & Medium Enterprises
MSMEs	Micro, Small & Medium Enterprises
GDP	Gross Domestic Product
LDC	Least Developed Country
BOU	Bank of Uganda
UGX	Uganda Shilling (Currency)
URL	Universal Resource Locator
HTML	Hypertext Mark-up Language
ISPs	Internet Service Providers
SMS	Short Message Service
MNO	Mobile Network Operators
UCC	The Uganda Communications Commission
OTT	Over the Top Tax
MTN	Mobile Telephone Network

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1. INTRODUCTION

The objective of this chapter is to provide an overview of this thesis. It covers the background, states the objective of the thesis, the challenges and limitations subjected to thesis and finally the structure of the thesis.

1.1 Background

Small and Medium sized Enterprises (SME**s**) play a key role in the economic and social development of Uganda. They are estimated to employ over 80% of the population (Nangoli, Turinawe, Kituyi, Kusemererwa, & Jaaza , 2013), constituting up to 90% of the private sector while contributing over 70% of the total gross domestic product (Asiimwe, 2017, p. 1).

We are living in an exponential age brought about by advances in technological innovations that have created enormous business opportunities from which SMEs need to identify, adopt, and then utilize. When it comes to technology adoption, SMEs in Uganda, and other developing economies lag (Okeleke, 2019, p. 4).

1.2 Objectives of the Thesis

The main aim of this thesis is to get a deeper understanding as to why Small and Medium Sized Enterprises in Uganda have been slow in adopting Digital Commerce and then recommend or suggest uncomplicated and inexpensive ways how they can join the Digital Commerce environment. Additionally, the literature review will provide a wider perspective of what Digital Commerce is, its benefits as well realizing the state of Digital Commerce and SMEs in Uganda. These objectives will be achieved by reviewing available secondary literature and theories in addition to conducting first-hand research through interviews with SME stake holders in Uganda.

1.3 Challenges and Limitations of the study

Like many other studies, this thesis is subjected to several challenges and limitations some of which were beyond the writer's control. There were a few shortcomings however a few considered ones below have been products of general encountered research issues and methodological issues which might have had an impact on the results.

Outdated Information

Continuously, technological modifications and innovations are developed at a steadfast pace therefore some of the information researched in this thesis like from some older written books maybe rendered outdated, irrelevant, invalid and or unnecessary which may lead to inaccuracies. During the research process, the older outdated information to some extent helped to highlight the transformations in Digital Commerce over time, comparisons of these transformations have formed a better understanding of the present Digital Commerce environment from the past. In this thesis use of up-to-date Information has been emphasised by widening the literature research hence verifying that the information used to be up to date.

Credibility

A great deal of suitable information was available online however verification of the information from some websites to make it credible worth was challenge. For information to be credible it ought to come from a reputed source that possess elements of trustworthiness and plausibility. Factual information is highly considered for this thesis by observing the websites URL which proved credible. Information from resources with .edu, .gov, .org URLs proved to be more reliable, factual, and regularly updated henceforth credible. However, this does not incline that .com URLs provide untrustworthy information but rather an extra eye check to prove their credibility is needed. In this thesis factual secondary data has been collected from most credible digital media which has been consistent hence making the information credible.

Covid-19 impact

The planning period of authoring this thesis was pre Covid-19 while the actual writing period was during the pandemic. The initially planned and preferred method of conducting interviews was to be through direct personal interview however due to the travel restrictions, telephone interviews were alternatively used which led to loss of non-verbal communication due to inability to observe respondents body language and behaviour.

Variances in Statistical Information

Secondary data collected displayed significant variations in most especially statistical data. The data from reputable government organizations in Uganda did not match that from reputable international organization like the United Nations, International Monetary Fund, European Union

Poor co-operation

Unwillingness from SME owners to disclose comprehensive information that would have been vital for this research. It was observed that during the interview, that the owners avoided responding to a few particular questions as well as withholding statistical data perhaps due to fear that their competitors would use the data against them. Concealing of this data may have limited the scope of this study.

Insufficient sample size and profile for statistical measurement.

Forty-four telephone interviews were conducted in this thesis and considering that Uganda has over one million registered SMEs and a population of over 40 million, basing on this small sample size the results of 44 respondents may not adequately influence the statistical results to detect meaningful effects.

The aforementioned shortcomings may have not only limited the scope of this thesis but also delivered slightly varying results therefore in conducting further research these shortcomings should be addressed order to deliver high degree of accuracy in outcomes.

2 DIGITAL COMMERCE

2.1 Overview

The traditional way of conducting business has largely been through enterprises having physical presence in a particular or in multiple geographical locations and this form of commerce is usually referred to as brick and mortar (Schniederjans, Cao, & Triche, 2014, p. 4). A new form of commerce commonly referred to as electronic commerce (e-commerce) has emerged only within the last decade due to the mass adoption of the internet. This has changed and continues to change the way business is being conducted up to date. The traditional way of exchanging goods and services is gradually becoming unpopular as enterprises are joining the e-commerce bandwagon (Mourya & Gupta, 2014, p. 22).

Literature from experts sometimes refers to e-commerce as "Digital Commerce," therefore "e-commerce" and "Digital Commerce" are considered to be synonymous (Kenneth & Carol, 2019, p. 45) consequently in this thesis, Digital Commerce and e-commerce will be used interchangeably, however, Digital Commerce will be mainly used.

2.2 Definition of Digital Commerce

Digital Commerce cannot be exclusively tied to a single definition because it is a broad concept within different perspectives. Several scholars have therefore put forward distinctive perspectives based on the nature of their research hence the emergence of the different definitions as seen below.

Digital Commerce is a comprehensive term referring to the online trading of good and services (Williams & Morawczynski, 2019, p. 5).

"E-commerce is a platform upon which new methods to sell and to distribute innovative products and services electronically are tested" (Reynolds, 2017).

"The process of buying, selling transferring, or exchanging products, services, and or information via networks, mostly via the internet and intranets." (Turban, King, Lee, Liang, & Turban, 2015, p. 7)

According to Kenneth & Carol (2019, p. 44) "E-commerce involves the use of the internet, the world wide web (web), and mobile apps and browsers running on mobile devices to transact business".

Despite of the various definitions available, in addition to some mentioned above, one can denote that they all involve business activities conducted via the Internet or online. Therefore, we may successfully conclude that Digital Commerce involves business activities conducted via the Internet or online.

2.3 Evolution of Digital Commerce

The development of the Internet and its subsequent capability to innovate have led to enormous growth of e-commerce (Goetsch, 2010). Having been started in the 1960s for scientific and military purposes, the internet has provided vast abilities beyond communications to date. A concept of a "Galactic Network" was first documented in a series of memos in August 1962 by J.C.R. Licklider of the Massachusetts Institute of Technology (MIT) who envisioned quick access to data and programs from any site enabled through global interconnection network (Leiner, et al., 2020).

The early 1970s saw the development of the first Electronic Commerce applications with innovations in the transfer of funds electronically between predominantly large organizations, financial institutions, which were referred to as Electronic Fund Transfer (EFT) (Mourya & Gupta, 2014, p. 24). The introduction of the World Wide Web in the early 1990s saw a breakthrough for electronic commerce, which permitted online presence for companies with not only text but also photos (Turban, King, Lee, Liang, & Turban, 2015). Its popularity in the 1990s led to new developments and innovations where the functionality and integrations tremendously grew in the diverse sectors including commerce (Leiner, et al., 2020). With this impact, Schneider Gary pointed out that "the internet has changed the way people buy, sell, hire

and organise business activities in more ways and more rapidly than other technologies in the history of business" (2014, p. 6). Therefore, it can be noted that the history of selling and buying of products and services via networks dates as far back as 1991 when the internet was opened for commercial use (Mourya & Gupta, 2014, p. 24).

2.4 Digital Commerce Transformation

Digital Commerce has transformed over time and this has been attributed to a combination of technological developments and innovations. The introduction of the first iPhone by apple Inc. might have marked the beginning of a transformation into a new era in Digital Commerce. There has been a significant increase in internet access by customers via mobile devices especially smartphones and tablet computers using apps superseding the traditional desktop and laptop platforms using web browsers in the last ten years (Kenneth & Carol, 2019, p. 43). Rather than being confined to a specific location with the use of traditional desktop computers, mobile devices can be used from almost anywhere (Turban, King, Lee, Liang, & Turban, 2015, p. 265) and are integrated with multiple technologies most especially web and internet browsing enabled functionality (Xu & Quaddus , 2010, p. 282).

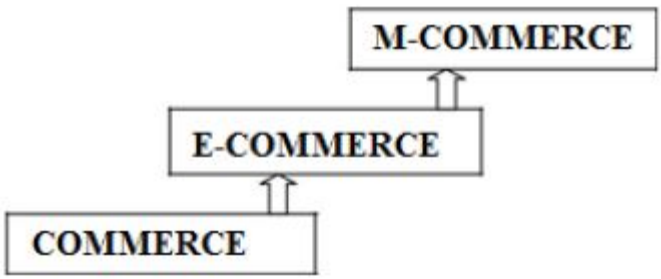

Figure 1: Commerce transformations

Digital Commerce transformation into Mobile Commerce (M-Commerce) was believed to have taken off as a result of a widespread increase in mobile device usage which permitted internet access (Schneider, 2014, p. 10). Laudon and Carol (2019, p. 47) define M-Commerce as "an online channel for sale and purchase of products, services and exchange of information through smartphones, tablet PCs, iPads and laptops using wireless technology" (Kenneth & Carol, 2019, p. 47). Michael J.

Shaw (2005, p. 191) predicted that M-Commerce may revolutionize the means used by businesses to buy, sell, work, and collaborate, where mobility creates convenience; convenience creates freedom; and then freedom creates choice and value. Indeed, the prediction is accurate as of to date in 2021 and what the future holds, technology might keep dictating how business could be conducted, therefore businesses ought to be agile and embrace the digital era.

2.5 Digital Commerce Business Models

Businesses that utilize information technology to gain a competitive advantage have been newly classified as digital enterprises (Turban, King, Lee, Liang, & Turban, 2015, p. 22). Digital enterprises can be categorised into different models in order to distinguish them according to the parties involved in conducting business electronically (Kenneth & Carol, 2019). Discussed below are some of the basic accepted business models: -

B2B (Business to Business)

The conducting of business between two or more business organisations largely over the internet. Exchange of goods and or services as well as passing of information between the organizations for example between manufactures and wholesalers, wholesalers, and retailers etc (Mourya & Gupta, 2014).

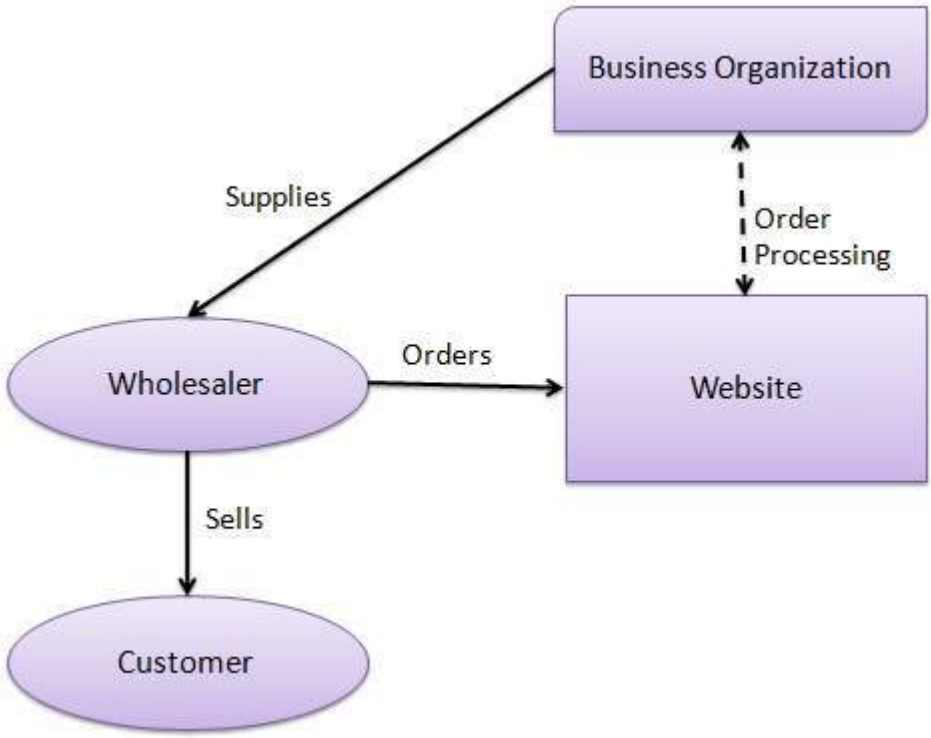

Figure 2: B2B Business Model

(Tutorialspoint, 2019)

B2C (Business to Consumer)

By far the most common one and sometimes referred to as "*electronic retailing,"* B2C model is the online buying and selling of good and or services between a business organization (seller) and a customer (buyer) (Mourya & Gupta, 2014). B2B ecommerce may include the following business processes: customer relationship management, demand management, order fulfilment, manufacturing management, procurement, product development, returns, logistics/transportation, and inventory management (Barlow, 2011).

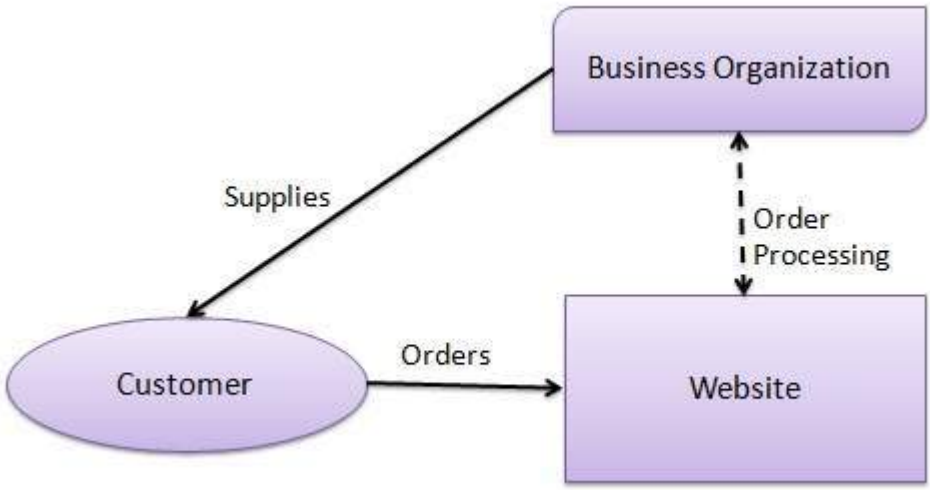

Figure 3: B2C Business Model

(Tutorialspoint, 2019)

C2B (Consumer to Business)

A complete reversal of the electronic commerce B2B model, which is not so common in nature, consumer to business phenomenon involves consumers selling goods or services to business organizations electronically (Nagaty, 2010)

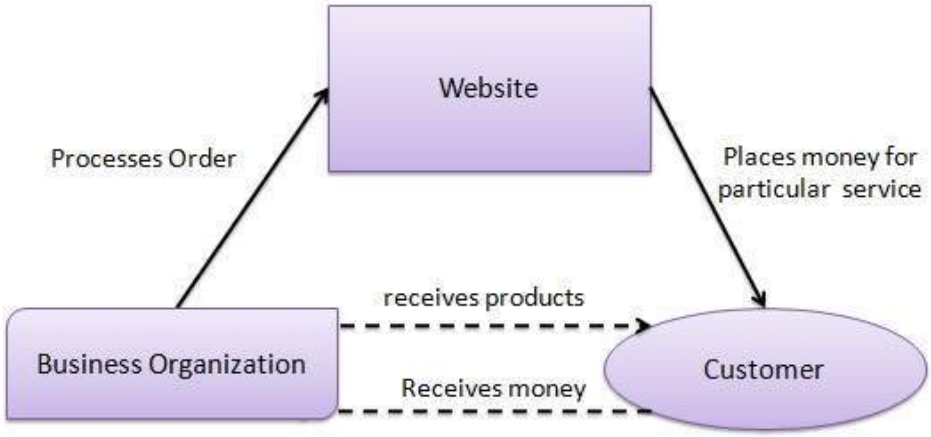

Figure 4: C2B Business Model

(Tutorialspoint, 2019)

C2C (Consumer to Consumer).

Electronic trading here, is conducted directly between consumers. This model has been facilitated by the development of both web-based trading platforms and payment terminals that directly connect consumers together (Nagaty, 2010).

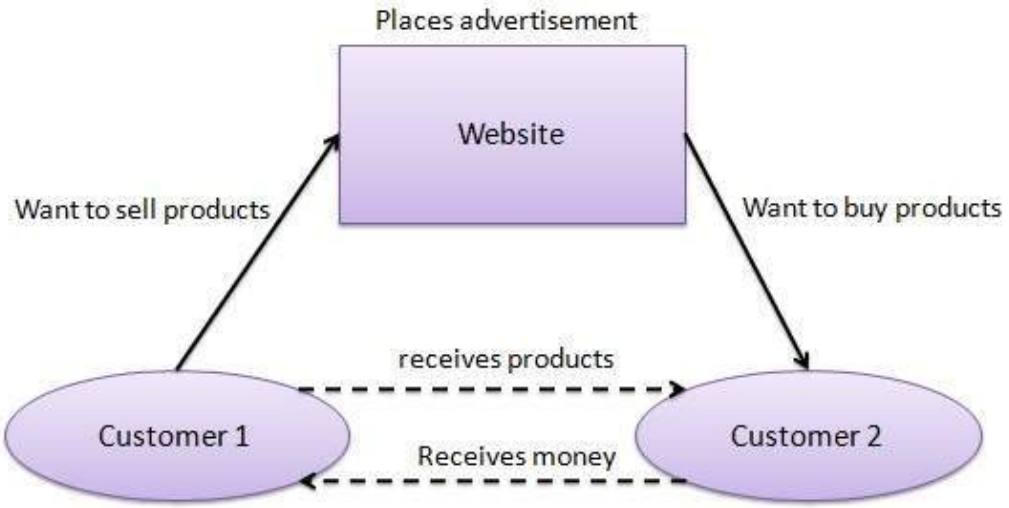

Figure 5: C2C Business Model

(Tutorialspoint, 2019)

Like in the traditional brick-and-mortar commerce, Digital Commerce enterprises fall into at least one of the above-mentioned categories which assists them in determining the opportunities and threats, consequently discovering their competitive advantage.

2.6 Benefits of Digital Commerce

The utilization of the digital technology enhances Digital Commerce bringing a diverse array of benefits for not only business enterprises but also customers (Lacka, Chan, & Yip, 2014, p. 24).

BENEFITS OF DIGITAL COMMERCE

GLOBAL REACH	The global availability of the internet expands the market reach not only beyond a particular geographical location but also a wider customer segment consequently generating more revenue (Amor, 2000, p. 15).
COST REDUCTION	Most of the major business costs incurred in e-commerce are incomparably cheaper as compared to cost incurred in traditional commerce (Turban, King, Lee, Liang, & Turban, 2015, p. 17 & 650).
BUSINESS IS OPEN AROUND THE CLOCK.	Business can be conducted 24 hours a day, 7 days a week, 365 days a year without incurring a lot of extra costs (Xu & Quaddus , 2010, p. 235).
IMPROVED REPUTATION	Builds credibility for an enterprise where customers, suppliers, partners, and financial intuitions can easily assess and verify the performance of the enterprise through their record of accomplishment online hence the trustworthiness (Lan, Carbone, Soprana, & Singhal, 2016, p. 19).
MULTI AND FRICTIONLESS PAYMENT SYSTEMS	Digital Commerce offers more payment options from credit cards, debit cards, it enables enterprises to accept a variety of payment options over the internet (Lacka, Chan, & Yip, 2014, p. 84) mobile payments like apple pay, android pay (now google pay) which are effortless are easily integrated in the e-commerce ecosystem (Ghose, 2017, p. 192).
AGILITY	A modern business needs to have the ability to quickly adopt and respond to the changes in market trends, e-commerce offers an enterprise agility (Lacka, Chan, & Yip, 2014, p. 26).

Table 1: Benefits of Digital Commerce

SMEs should not ignore the benefits mentioned above, these not only give them an edge in competing with not only SMEs but also with large enterprises in this highly competitive business environment. In addition to this SMEs can have better chances to remain in business therefore Enterprises ought to utilize Digital Commerce.

3 STATE OF DIGITAL COMMERCE IN UGANDA

Turban, King and Lee (2015, p. 632) point out that a country's degree of development is determined by its economic conditions. They further state that as other countries make strides in improving their economies, some developing countries like China, India, Malaysia are using Electronic commerce as a springboard to improve their economies.

3.1 Uganda's Digital Landscape

The launch of the Uganda Post and Telecommunications Corporation (UPTC) in 1977 began Uganda's digital Journey. Private investment into GSM-based technology accelerated progress in the telecom sector in the 1990s rolling out mobile networks (Okeleke, 2019, p. 15). According to the Uganda Communications Commission (UCC), there are 33 Telecom operators licenced to operate in Uganda as of 1st April 2020 and the main ones include Africell, Airtel, MTN, Smart, Smile, Tangerine and Uganda Telecom (UCC, 2020).

Digital services in Uganda have mainly been accessed via both fixed-lines and mobile networks. Fixed-line usage remains relatively low due to low infrastructure coverage and with high access fees and mostly consumed by public organisations, large businesses, or a few residential homes in urban areas. Mobile technology is the preferred platform, offering access to both basic communication services and the internet at favourable prices in addition to being widespread to most parts of the country (Okeleke, 2019, pp. 15-18). The main means of connection to the internet have been identified to be particularly through smartphones which revolutionized the telecom industry making them crucial drivers of economic growth and development (Gillwald, Onkokame, Ndiwalana, & Tusubira, 2019).

A significant increase in the number of people accessing digital services mostly via mobile devices than personal computers and other data-enabled devices was reported post 2000s. Mobile subscriptions in Uganda reached 19.8 million, equivalent to 44% of the Ugandan population. Telecom operators expanded to offer a variety

of digital services across multiple sectors rather than just voice and text communication. Internet connection through mobile was reported at 10 million by June 2018. Roughly 6 million people consume digital content through smartphones which makes it about a quarter of total number of mobile connections. Smartphone links to mobile networks have quadrupled over the last four years in Uganda. It can be noted that 90% of the population is able to at least access 2G networks, 3G and 4G accessible in mostly urban areas, (Okeleke, 2019, pp. 15-20).

3.2 Ugandan's Economy Outlook

Geographically located in the eastern region of Africa, Uganda possesses the 12th largest economy and the eighth largest population (north of 41 million) (UBOS, 2020) in Sub-Saharan Africa. The economy is composed of sectors like Agriculture 24.2%, Industry 25.5%, and Services 50.3% (GOU, 2017). In 2019, a strong economic growth was reported to be driven by expansion and growth in agriculture (3,8%), industry (6,2%) and services (7%). The Inflation rate was and is still anticipated to remain lower than 5%, therefore strengthening the domestic economy (African Development Bank Group, 2020, p. 187).

Despite of the economy having become more productive, largely driven by retail, construction and telecommunication, large productivity differences were detected across the industry, services, and agriculture. Low domestic revenues coupled with increments in the government expenditure especially with in the infrastructure and capital investments for the promising oil and gas industry, fiscal deficit has widened in 2019 (African Development Bank Group, 2020, p. 187). In foreign trade, Uganda had a widening trade deficit estimated at 9.4% of GDP in 2019 from 8.3% in 2018 especially due to the dependency on primary products for export (African Development Bank Group, 2020, p. 187).

According to the United Nation's lowest indicator of socioeconomic development index rating among all nations in the world, Uganda is classified to belong in the list of the Least Developed Countries (UNCTAD, 2020) (Gillwald, Onkokame, Ndiwalana, & Tusubira, 2019, p. 4). The poverty rate rebounded in 2016/2017 reaching 21.4% having fallen in the last two decades. Here, 10 million people were

living below the national poverty line. (African Development Bank Group, 2020, p. 187). Despite of Uganda being classified as a least developed country, its economy is classified as a developing economy (Economic Analysis and Policy Division (EAPD), 2020).

3.3 Digital Commerce in Uganda

Traditionally, brick and mortar stores have been a standard model of business in Uganda until the last five years where more Ugandans started to embrace e-commerce (Insider, 2018).

Run on mobile devices, Uganda's e-commerce is mostly conducted through platforms like Jumia, Dondold, GoodsExpress, Intraline, Paple Rayn, OLX and Eye Trade in addition to social media platforms like Facebook, WhatsApp, Snapchat, WeChat and. The rate at which e-commerce is growing in Uganda will shortly make it become the second largest online market next to Kenyan with in the East African region (SA, 2020).

4 STATE OF SMEs IN UGANDA IN RELATION TO DIGITAL COMMERCE.

Economies of Least Developed, Developing and Developed countries are dominated by Small and Medium Enterprises (SMEs). On a global scale, these SMEs account for 90% of the businesses and contributing up to 40% of the GDP therefore playing a vital role (Wordbank, 2019). Enterprises today come in different shapes and sizes making it a complex business environment from where one can draw a line whether a particular enterprise qualifies to be regarded as an SME or a large Enterprise. The European Commission defines an Enterprise as "any entity engaged in an economic activity, irrespective of its legal form" (European, 2015). The Commission outlined the main factors which determine if an enterprise is a Small and Medium-sized Enterprise (SMEs) that is, according to staff headcount and either turnover or balance sheet (European, 2015).

SME category determinants

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small	< 50	≤ € 10 m		≤ € 10 m
Micro	< 10	≤ € 2 m		≤ € 2 m

Table 2: The main factors determining whether an enterprise is an SME.

(European, 2015)

Enterprises with a workforce less than 250 persons, generating an annual turnover less than Euro 50 million and/or an annual balance sheet total not exceeding EUR 43 million (European, 2015). It is estimated that 99,8% of European companies are SMEs and they employ 67,4% of the work force while generating 58,1% to the total gross value added therefore making them major contributors to the economy (Christine & Céline, 2018).

In Uganda, the Ministry of Trade, Industry and Cooperatives further includes Micro enterprises to term SMEs therefore resulting into the term Micro, Small and Medium Enterprises (MSMEs). The ministry defines MSMEs as "all types of enterprises irrespective of their legal form (such as family enterprises, sole proprietorship or cooperatives) or whether they are formal or inform enterprises to ensure inclusiveness" (MTIC, 2015, p. 8). Spread across a variety of sectors (49% in service, 33% commerce and trade, and 10% in manufacturing), MSME account for approximately 90% of the private enterprises in Uganda contributing 20% of the GDP. They play a vital role in the economic development of Uganda like the rest of the world (MTIC, 2015, p. 7).

The Uganda Bureau of Statistics implemented a criterion categorizing enterprises basing on the fulfilment of the minimum requirements of any of the following two of the criteria; the number of employees, capital investment and or annual sales turnover or total assets (UBS, 2011, p. 34). Micro Enterprises employ less than 5 people with total assets not exceeding UGX 10 million. Small Enterprises employ between 5 and 49 with total assets between UGX 10 million and not exceeding UGX 100 million. Lastly the Medium Enterprises, employs between 50 and 100 employees with total assets value in excess of UGX 100 million but less than UGX 360 million (MTIC, 2015, p. 8)

Micro Enterprises in Uganda comprise of mostly established and start-ups of self-employed individuals operating their business from the comfort of their small premises (Asiimwe, 2017, p. 2), however, in this thesis focus will mainly be on the Small and Medium Enterprises.

4.1 State of SMEs in Uganda in relation to Digital Commerce.

In Uganda, it is estimated that SMEs employ over 80% of the population (Nangoli, Turinawe, Kituyi, Kusemererwa & Jaaza et. al, 2013), constituting up to 90 percent of the private sector, contributing to over 70% of the total gross domestic product (Asiimwe, 2017, p. 1) and over 80% of manufactured goods output (Turyahikayo, 2015, p. 23). In spite of their contribution to economic growth, the survival rate of

SMEs in Uganda remains exceptionally low (Asiimwe, 2017, p. 1; Turyakira, 2012, p. 1).

In the current digital era, it may be challenging for any business to thrive without better use of information communications technology (ICT). Businesses, particularly SMEs, cannot grow faster unless they embrace technology (Kozak, (2011).

Today, all businesses, regardless of their size, are faced with several competitive challenges. To cope with this phenomenon, managers are adopting e-commerce in their respective organizations in order to grow and remain competitive (Poorangi, Khin, Nikoonejad & Kardevani, 2013, p. 1593).

SMEs in particular need to embrace innovative e-commerce strategies in order to stay competitive, profitable, and successful in local and global markets (Awiagah, Kang and Lim, 2016). Indeed, e-commerce adoption has been earmarked as one of the innovations that could aid SMEs to grow and survive. Increased use of the Internet providing potential benefits to SMEs, such as cost reduction, improved operational efficiencies, access to new customers and enhanced business growth etc as earlier discussed in benefits of Digital Commerce table. Unquestionably, e-commerce builds communication within an organization faster and facilitates efficient management of the resources (Ahmad, Baker, Faziharudean, & Zaki, 2015, p. 555).

SMEs in Uganda have been sluggish in adopting e-commerce (Wanzu, Turyakira, & Katumba, 2019) which has been the same problem as other least developed and developing economies. A great deal of research has been conducted to determine the reasons as to why SMEs have been slow in adopting e-commerce, however this research was based on SMEs in developed countries as compared least developed countries, there is scanty literature on SMEs from least developed and developing countries (Kurnia, Choudrie, Mahbubur, & Alzagooul, 2015). Despite of the insufficiently literature, the available literature raises a great deal of challenges which contribute to several other factors that have contributed to the slow adaptation of e-commerce by SMEs in least developed countries including Uganda (Wanzu, Turyakira, & Katumba, 2019).

4.2 Challenges faced by SMEs in Uganda in adopting Digital Commerce

All SMEs face several challenges to survive in the business environment likewise SMEs in Uganda face some of the below mentioned challenges that limit or slow down their adaptation of Digital Commerce.

Affordability

The Ugandan government introduced the social media tax in 2018. This tax of UGX 200 (USD 0.05) per day was levied on accessing social media platforms like Face-book, Twitter, Instagram, WhatsApp etc. in addition to a high 12% excise duty, an 18% VAT and a 2% operator charge (Gillwald, Onkokame, Ndiwalana, & Tusubira, 2019). In general SMEs have limited financial resources and therefore extra taxes levied by the Ugandan government increase the already constrained business costs which becomes an obstacle in adopting Digital Commerce (Auboin, Smythe, & Teh, 2016).

Poor Internet penetration

A research conducted by ICT Africa (RIA) between 2017 and 2018 discovered that internet penetration in Uganda is one of the lowest in the sub-Saharan region. By the first quarter of 2018, only 60 out of 121districts in Uganda were connected to the internet. Only half of the population is covered by 3G, but broad band is at a minimal (Gillwald, Onkokame, Ndiwalana, & Tusubira, 2019).

Power Shortages

Ugandan's major source of electricity generation is Hydropower from the river Nile which produces 340 MW that is supposedly to cover a large Ugandan population. The 340 MW is not sufficient enough, only being able to cover only 27% of the country and leaving excess of 30 million Ugandans without access to electricity. The dependence on hydropower has further increased power shortages as a result of climate change i.e., persistence droughts have reduced hydropower production from 340 to 140 MW leading to constant power shutdowns (Mokveld & Eije, 2018).

These constant powers shutdowns making it a big challenge for SMEs in adopting Digital Commerce than entirely depends on electricity availability.

Owner complexity perception

SMEs are mostly set up and managed by their owner or owners who are the final decision makers. These owners perceive technological innovations in Internet-based information systems (IIS) as complex. They presume that adopting e-commerce would require extensive technical expertise which they do not possess therefore opting not to adopt e-commerce (Xu & Mohammed, 2009, p. 311).

Government policies and regulations

The Ugandan government developed a broad range of ITC polices and regulations, however a specific superbly detailed legal and regulatory framework that caters for e-commerce has not been well laid or implemented. With these legal impediments, many questions are left unanswered on privacy and data protection which results into online disputes unresolved (Kakooza, 2008).

Cyber Security

SMEs in Uganda are easy targets by hackers than large enterprises. Due to the limited resources, they evade investing in advanced security systems in addition to less awareness of threats. Hackers use methods like phishing, malware ransomware, usually sending random emails to unsuspecting employees with links that contain malicious files which automatically download giving hackers access to sensitive information, account details and credentials or restricting access to a computer data until a ransom is paid (Daily Monitor, 2020).

5 THEORETICAL FRAMEWORK

5.1 Introduction

The existing literature reviewed has unearthed a few appropriate models in information technology which can shed light on SMEs adoption of Digital Commerce. Information Technology is either enabled or hindered by a number of factors that can determine its acceptance and there after its usage. The models can help us understand the reasons as to why a technology can be accepted and used or rejected and neglected (Horberry, Regan, & Stevens, 2014, p. 37). Three models in particular have been chosen, that is: Diffusion of Innovation (DOI), Technology Acceptance Model (TAM), and Unified Theory of Acceptance & Use of Technology (UTAUT). In this chapter, the fore listed models will be analyzed to try and understand why SMEs have been slow in adopting Digital Commerce most especially in under and developing countries (Abdukhakeem, Helen Edwards, & Sharon, 2017) including Uganda.

5.1 Diffusion of Innovation (DOI)

Diffusion of Innovation is a theory that was introduced by Rogers (1983) seeking to provide an insight on how and why a new innovation can often be difficult to be adopted despite having obvious advantages. He defined Diffusion *"as the process by which an innovation is communicated through certain channels over time among the members of a social system."* Rogers examines four major elements from this definition which influence the delivery process of innovation which are, the innovation (itself), communication channels, period of time, and finally a social system (1983, p. 5).

Focus on the Innovation element suggests five features that may attribute to an overall individuals' perceptions of an innovation which can later determine its adoption. Rogers (1983, p. 11) describes Innovation as *"an idea, practice, or project that is perceived as new by an individual or other unit of adoption."* Perceived newness of an innovation is dependent on the period to which it is first used or

discovered. Technological Innovations ought to possess these below mentioned notable features that can determine the ability to persuade or dissuade potential adopters (p. 13).

Relative Advantage

The perceived degree of benefits achieved from an innovation that is deemed better as compared to the existing ideas, tools, or processes. This perceived degree of relative advantage is usually determined by the economic profitability of the innovation, nonetheless other factors are as well considered to be important for example convenience, satisfaction, and prestige which potential adopters can evaluate (Rogers, 1983, p. 213; Blackburn, 2011).

Compatibility

This involves a degree of innovation perception consistent with present and past values, experiences, and needs of the potential adopters. Compatibility may be embedded in sociocultural values and beliefs, pre-existing systems or with in an adopter's needs.

Complexity

The perceived level of difficult to understand and use to an innovation at its basic level. Classification of an innovation to the degree of complexity or simplicity repels or attracts adopters

Trialability

The ability to avail an innovation to be experimented or tested on a limited basis to determine its adoption. Innovations that offer a trial period increase the chances of adoption.

Observability

An innovation's ability to provide noticeable tangible or intangible results. Noticeable results of a technology can be easily communicated to a larger group of potential adopters which will positively enhance their overall decision.

Rogers (1983) argues that the above-mentioned perceived characteristics of an innovation cannot independently determine whether an individual's decision to adopt or reject an innovation but would rather accelerate or decelerate the rate of adoption.

The Diffusion model is a multidisciplinary conceptual paradigm cutting across many different scientific fields (Rogers, 1983, p. 89), it has widely been cited in SME adoption studies despite of not addressing e-commerce directly (Parker & Castleman, 2009). For instance, Pooragi's (2013) use of the innovation elements was consistently influential in explaining and exploring e-commerce adoption dimensions amongst Malaysian SMEs

Shortcomings in the DOI model has led to critics from different publications. DOI possess variations that cannot be applied to SMEs in particular but rather in a general ICT adoption scope. It neglects contextual issues like customer readiness and the limited resources most especially in developing countries thereby rendered to an extent adequate (Japhet, 2010) cited in (Abdukhakeem, Helen Edwards, & Sharon, 2017).

5.2 The Acceptance Model (TAM)

In the late 1980s, Fred D. Davis developed the Technology Acceptance Model which demonstrated how users accepted and adopted the use of information technology (Fred, Richard, & Paul, 1989). The model justifies that the determinants of computer acceptance are behavior based. It assumes that a user's overall motivation to using technology is influenced by two fundamental factors which are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) which explain and or predict the user's decision. Fred Davis explains these factors as follows, Perceived Usefulness "*as the degree to which a person is certain that the continuous usage of a particular system will enhance his or her job performance*" and Perceived Ease Of

Use "*as the extent to which a person believes that using a particular system would be free of physical and mental effort*" (Fred, Richard, & Paul, 1989, pp. 982-988)

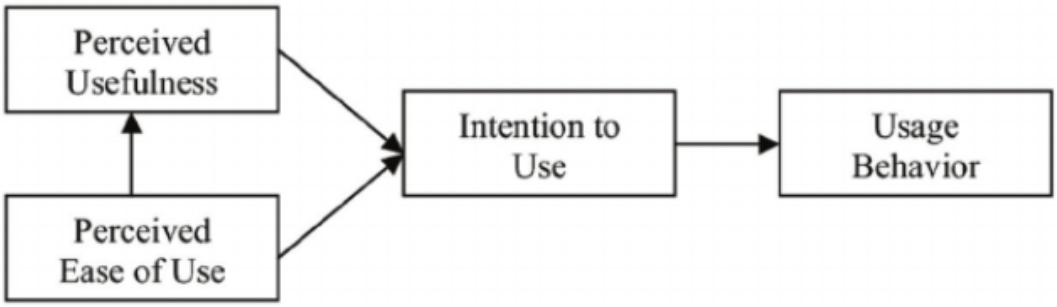

Figure 6. Technology Acceptance Model.

TAM has been a key study field in understanding a user's rationality in information technology related adoption, it has effectively predicted information technology usage which has continuously been underpinned to a number of studies and universally used since it was introduce over two decades back (Horberry, Regan, & Stevens, 2014, p. 57).

However, some researchers for example Nistor (Nistor, 2014) has drawn conclusions that TAM has go a number of short comings. Fundamentally the mode concentrates to a large extent on the perceived usefulness as the major influencer of technological adoption while neglecting the actual use of the technology. The actual use of the technology is equally important to be considered in a user's decision to accept and use, therefore TAM should have considered its significancy (Nistor, 2014) cited by (Abdukhakeem, Helen Edwards, & Sharon, 2017).

5.3 Unified Theory of Acceptance & Use of Technology (UTAUT)

The UTAUT is a consolidated model that was formulated by Venkatesh (2003) as a result of integrating components across eight prominent models. The eight models that were reviewed were, the Diffusion of Innovation theory, the Technology Acceptance Model, the Theory of Reasoned Action, the Motivational Model, the Theory of Planned Behavior, the Model of PC Utilization, the Social Cognitive Theory

and the finally a model combining the Technology Acceptance Model and the Theory of Planned Behavior. For technology to be accepted, it needs to improve productivity, therefore review of the fore mentioned models will provide an assessment of drivers that determine the extent to which intention and behavior over a period of time may lead to accept new technologies (Venkatesh, Michael, Gordon, & Fred, 2003)

Venkatesh (2003) mentions four constructs that seem considerably directed determinants of intentions or usage of one or more of the models, these are Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions.

Performance Expectancy described as an individual's degree of belief that a positive performance in a job will be achieved as a result of usage of the system. Effort Expectancy is the perceived degree of ease associated with using a system. Social Influence is one's perceived belief that the use of a new system is influential to the needs of others within the social environment. Facilitating Conditions is the perceived belief of an existing infrastructure's ability to support the use of the system (Venkatesh, Michael, Gordon, & Fred, 2013, pp. 446-453).

Four key moderators, that is gender, age, voluntariness, and experience played an important role in providing a justified hypothesis when examining at least one of the fore mentioned determinants (Venkatesh, Michael, Gordon, & Fred, User Acceptance of Information Technology: Toward A Unified View, 2003, p. 447).

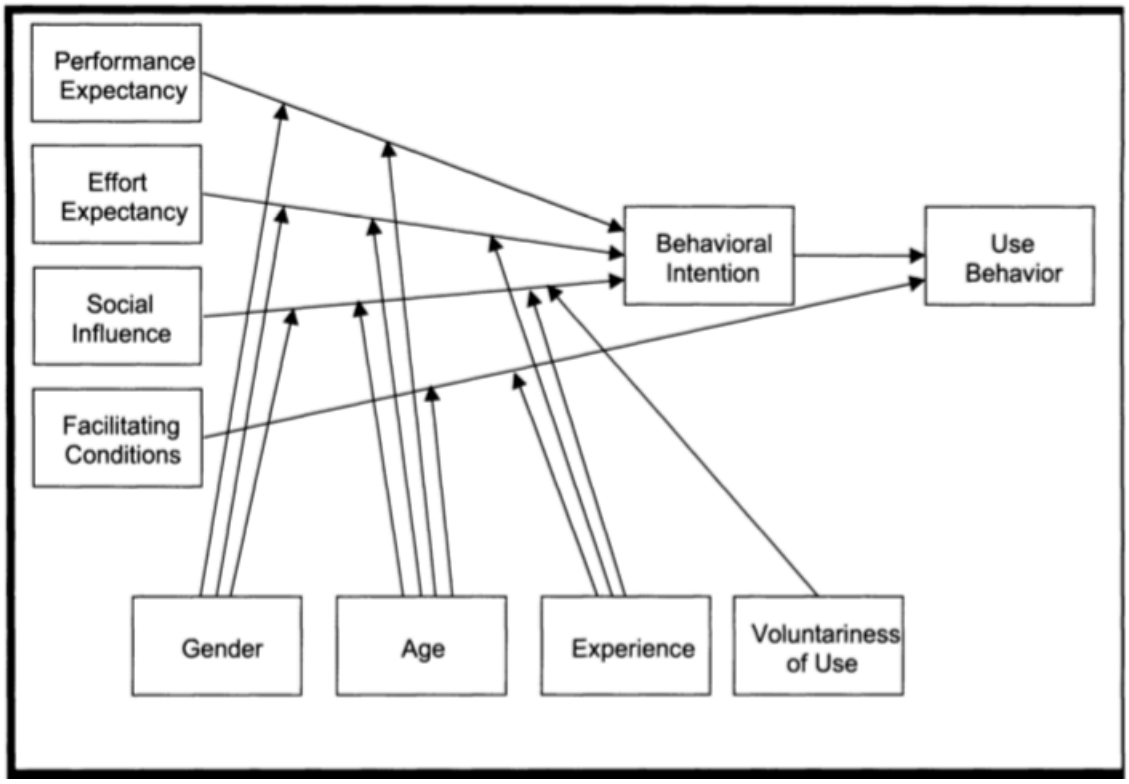

Figure 7. User Acceptance of IT: Major constructs of the UTAUT model

(Venkatesh, Michael, Gordon, & Fred, User Acceptance of Information Technology: Toward A Unified View, 2003, p. 447).

The UTAUT model achieved a score of 70% in explaining the variances in user intention hereby demonstrating its effectiveness in analysing technology acceptance and usage there by attracting different researchers. (Chao, 2019; Yogesh K. Dwivedi, 2017). Customized and applied, it has been used to explore its determinants in e-commerce adoption in 180 Small, Medium and Micro Enterprises (SMMEs) in south Africa (Ndayizigamiye, 2012) as cited in (Abdukhakeem, Helen Edwards, & Sharon, 2017). To this extent the UTAUT model will aid this thesis to understand its objectives.

UTAUT's integration of eight prominent models has been highly appreciated by researchers but despite of its appreciation, it has had some shortcomings. Yogesh (2017) acknowledges the significancy of the four key moderators but observes that

they may not be unanimously applicable. Use of these moderators may only be applicate to individuals within the same context but rather, distinctions within the individuals may render the mode irrelevant (Yogesh K. Dwivedi, 2017).

Analysis of the models and theories used in this thesis have shown that e-commerce adoption studies were mostly founded on the context of developed countries however despite of the limited theories in ecommerce adoption amongst SMEs in least developed countries, the forementioned theories developed an understand from which one can relate to as of why SMEs in Uganda have not joined the Digital Commerce band wagon.

6 RESEARCH METHODOLOGY

Sachdeva (2009, p. 6) defines research as "*the systematic process of collecting and analysing information (data) in order to increase our understanding of the phenomenon about which we are concerned or interested*". A methodology is an underlying theory and analysis used to conduct research in a systematic way, by collecting data or information which can help in making rational decisions (Sachdeva, 2009, p. 9). Basing on the type of methodology used, research can be categorised in a number of distinct ways; that is to say Qualitative research, Quantitative research, Pure research, Applied research, Comparative research, Exploratory research, Conceptual and empirical research (Chandra & Anand , 2017).

Research can be theoretical and empirical, in theoretical research a researcher develops, explores, or tests a theory/idea or theories/ideas. Empirical research is based on observations and a level of measurement to reality (Sachdeva, Business Research Methodology, 2009, p. 17).

Despite of a number of research methodologies mentioned above, two main methodologies will be considered and discussed from which one will be chosen

6.1 Methodologies

6.1.1 Quantitative Research Methodology

Alan Bryman (2012) broadly defines the quantitative research methodology "*as a strategy entailing the collection of numerical data, as exhibiting a view of the relationship between theory and research as deductive and a predilection for a natural science approach (and of positivism in particular), and as having an objectivist conception of social reality*". A logical approach is required for testing theories putting emphasis on quantification of data in its collection and analysis in order for the results to maintain a distance from the research not to be biased (Sachdeva, 2009, p. 189). Quantitative researches represent numerical systems, usually associated with large-scale statistical analyses measuring the validity and reliability but which may not include in-depth studies (Chandra & Anand , 2017). Data collected

from participants in quantitative research is often coded, categorized, and numerically condensed so that it may be manipulated for statistical analysis (Sachdeva, 2009, p. 183).

6.1.2 Qualitative Research Methodology

Bryman (2012, p. 380) defines the Qualitative research method as "*a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data*". Rather than proof, qualitative research focuses on discovery by utilizing an in-depth analysis approach. Simultaneous involvement and observation or measurement of impact are mainly involved (Chandra & Anand , 2017). Developing an understanding, qualitative research seeks details through descriptions predominantly building theories but rarely testing them (Sachdeva, 2009, p. 189). The detailed descriptions are all about texts which constitutes to data, this data can be verbal or visual interpretations that might be contained within the recordings of interviews along with notes taken during interactions (Sachdeva, 2009, p. 183).

6.2 Research Methodology of Choice

The qualitative research methodology has been chosen as the better option to use in this thesis. Numerical data is not necessarily needed in this thesis but rather focus on a deeper understanding of the views from respondents which fulfils the objective of this thesis.

The qualitative research methodology has a number of pros which have contributed to the decision of choosing it as a methodology of choice.

Flexibility, due to open-ended responses, new ideas can emerge which can be adopted during the data collection and analysis process. Respondents detailed descriptions, experiences, feelings, and perceptions can be acquired (Bhandari, 2020).

Factual and descriptive information collection makes the qualitative technique unique and advantageous. Not all data needed in research is quantifiable, therefore non-numerical data in for example text, audio, video format which would have been neglected would prove vital (Burke & Christensen, 2014, p. 82).

The qualitative approach is relatively easier to arrange and conduct in addition to being less expensive as compared to the quantitative approach (Kumar, 2011, p. 142).

Despite of the pros, qualitative research has some cons as well.

Higher levels of unreliability where samples attained from the collected data are usually small leaving a wider gap unpresented making it difficult to draw generalizable conclusions which may display some level of bias (Bhandari, 2020).

Neglect of important data due to varying differences in interpretations of the same collected data where the researcher has the final decision of what data is relevant for the study or not (Bhandari, 2020).

The data collection and analysis processes may require manual checking despite of the presence of software thereby making the qualitative method to be labour intensive (Bhandari, 2020).

6.2.1 Data Sources and Collection Methods

Qualitative based techniques will be used for gathering and measuring of data obtained from the respondents. For the integrity of this thesis, both primary sources and secondary sources will be used in the data collection process.

6.2.2 Primary Data Collection and Instruments

Primary data is data collected (using methods such as surveys, observations, interviews, logs etc.) during the initial process of doing research and is referred to as a primary source. Data from primary sources is unedited first-hand information making it reliable for a researcher due to having knowledge of the source of the data, how it was collected and analyzed (Sachdeva, 2009, p. 109).

Methods deployed to collect primary data will be illustrated in this part of the thesis. An informal systematic approach of interviews; in particular Semi-structured and Unstructured interviews was used to collect data for the study.

In using the interview approach, two or more respondents are needed for purposeful discussions which can be either formal and structured or informal and unstructured from which relevant, valid, and reliable data may be collected in order to achieve a researcher's objective (Saunders, Lewis, & Thornhill, 2007, p. 311). There is reliance on formulating a dialogue between a researcher and the respondent, therefore a researcher's interviewing skills, creativity and experience is vital in reaching greater clarity and elaboration from the responses (Sachdeva, 2009, p. 168).

Structured interviews are formal interactions with respondents by use of questionnaires that have been predetermined with identical set of questions and these are usually used for collecting quantifiable data (Saunders, Lewis, & Thornhill, 2007, p. 310).

Semi-structured interviews are informal in nature, a researcher conducting these kinds of interviews prepares themes and questions fore hand which would be discussed however, these may vary from interview to interview. Here, some questions may be omitted, or additionally new questions might be formulated depending on the flow of the discussion. Note taking is vital but recording of the discussion is highly recommended not only to interrupt the flow of the discussion but also giving a respondent a sense of attention. Unstructured interviews compared to Semi-structured interviews have no predetermined questions or theme, but a researcher has a clear idea of the topic to explore giving a respondent the opportunity to freely talk about idea there by giving an in-depth analysis of the topic (Saunders, Lewis, & Thornhill, 2007, p. 312).

6.2.3 Telephone interview

Telephone interviews encourage discussions between a researcher and a respondent, there is a sense of freedom of expression by the respondents from which a researcher can as well ask follow-up questions. Telephone interviewing aids with the ability to collect reliable data from respondents rapidly and from a wider geographical location. This mode is cost effective where travel costs are avoided in getting the researcher to a respondent's place of convenience or getting the respondent to a

neutral site. In addition to that, telephone interviews can be conducted at the respondent's time of convenience, place of comfort which can be their homes or offices hence may enhance the quality of the interview (Sachdeva, 2009, p. 169).

The mode of data collection in this thesis was mainly done through conducting telephone interviews. The interview questions were formulated beforehand (see appendix) covering the different areas of this thesis thereby aligning with the objectives of this thesis which gave respondents the ability to freely expand their thoughts and opinions. Respondent's selection was based on SME owners, managers, and employees. Appointments were arranged in advance where a convent time and place of convenience was suggested by the respondents. Interview etiquettes were highly followed where neutrality was observed there by encouraging the respondents to freely discuss and not feeling pressured or undermined when it came to inquiring for more details during the dialogue.

6.3 Secondary Data Sources

Secondary sources provide secondhand versions of data obtained from primary sources. This pre-existing data is collected and edited according to that researcher's own point of view in order to achieve his or her topic's objective. Data from secondary sources is vital in providing an evidence-based research thereby formulating a comparison with the collected primary data to establish validity and accuracy from the primary source (Sachdeva, 2009, p. 109).

Secondary data has been comprehensively used in this thesis with the information accessed from numerous documents such as books, journal articles, reports, newspapers articles, credible websites from Digital Commerce and SMEs experts, specialist, authors, and researchers from both Uganda and globally.

7 FINDINGS AND ANALYSIS OF THE RESULT

This section analyses and discusses the results achieved from the interviews conducted in accordance with the objectives of this thesis. The nine interview questions that were prepared beforehand were asked in a similar format (where applicable) to each of the respondents while an open dialogue was also observed. The interview questions tried to cover most areas of this this thesis. Despite of the number of questions asked, the main questions considered to meet objectives of the interview in this thesis were **1) Challenges their businesses face in adopting Digital Commerce? 2) Why their businesses have been slow in adopting e-commerce? 3) How their businesses can migrate to Digital Commerce?**

Findings

A total of 44 telephone interviews were conducted with SME stakeholders ranging from business owners, managers, employees, customers, and others some which included a few IT experts in Uganda categorized within the different classifications of SMEs. Originally, the minimum target was 50 interviews but as the interviews proceeded beyond the 35 respondents mark, some categories of respondents begun contributing similar answers to the main questions. For a research to demonstrate reliability and validity, its findings should repeatedly be consistent and demonstrate the objective it was designed for (Kumar, 2011, p. 172). The responses that were received did not only demonstrate the objectives of this thesis but also corresponded with the researched secondary data and the theories discussed in this thesis thereby provided further proof that the 44 interviews conducted displayed credible results which can be deemed reliable and valid.

Respondents in the interviews conducted, consistently yielded both indistinguishable and divergent responses. For that reason, in order to acquire a clear representation of the patterns from the responses, categorizing of the results was done as observed in the tables below.

	Micro sized Enterprise	Small sized Enterprise	Medium sized Enterprise	TOTAL	% Validity
Business Owners	8	5	1	**14**	32 %
Managers	-	2	6	**8**	18 %
Employees	-	4	9	**13**	30 %
Others	3	-	6	**9**	20 %
TOTAL	**11**	**11**	**22**	**44**	
% Validity	25 %	25 %	50 %		**100 %**

Table 3: Response distribution by category

Challenges	Details	Business Owners	Managers	Employees	Others
Costly	Requires large investment, hardware purchase, software subscriptions, staff trainings, maintenance.	X	X		
Internet and system reliability	Slow internet speeds and system crushes	X	X	X	X
Technology complexity perception	Too complicated to understand	X			X
Government policies	High taxes	X			
Cyber security concern	Risk of being hacked, viruses	X			
Business priorities	Low budgets opt for other priorities.	X	X		
Legitimacy	Prone to scams	X	X	X	X
Target market	Not on the internet	X	X	X	
Inability to bargaining	Customer's preference to bargaining			X	X
Return on Investment (ROI)	ROI is low and over an exceedingly long period of time.	X			

Nature of business	Not suitable for perishable commodities	X	X	X	

Table 4: Challenges distribution by category.

The respondents revealed several challenges (as mentioned above) that they faced when trying to adopt Digital Commerce, they subsequently confessed that these challenges were the major stumbling blocks that slowed them in adopting Digital Commerce. A few respondents were quoted when asked why they did not adopt Digital Commerce. Business owner, "yes, I agree selling online can improve my business, but the only problem is that technology is too complicated for me to understand. New technology is produced every day, yet I do not even understand the old one. How can I keep up?" Employee, "my boss thinks the customers will use the computer to swindler (scam) him and my customers think that we shall use the computer to cheat them" and customer, "wapi (commonly used Luganda word loosely meaning ABSOLUTELY NO!) I do not like buying things from a machine because I cannot bargain. I need to bargain to the last shilling which a machine cannot offer that. "

7.1 An Analysis of the findings

Findings yielded from the interview have proved connections with the fore mentioned challenges from the secondary data and the theoretical framework. SMEs' owners' perceptions of internet-based information system's complexity are not only in line with the perceived level of difficulty in understanding and use of technology at its basic level according to the Diffusion of Innovation theory but also with The Acceptance Model's Perceived Ease of Use as determining factor in accepting and adopting Information Technology and UTAUT's perceived degree of ease associated with using a system that is to say Effort Expectancy. Business priorities push Digital Commerce adoption further down the line while opting for higher value proposition alternatives, this can further be proved by the Technology Acceptance

Model's perceived degree of job improvement that is to say Perceived Usefulness. Digital Commerce is perceived by the respondents most especially SME owners to have a low Return on Investment that is as well spread over an exceedingly long period, this is as well in line with DOI's Relative Advantage feature which determines innovation adoption by its level of economic profitability.

The findings from the interview further revealed that respondents considered that they are at some level involved in Digital Commerce. In chapter two of this thesis, definitions of Digital Commerce were discussed. These definitions emphasized that Digital Commerce involved the actual buying and selling of good and or services conducted over the internet however majority of the respondents predominantly used social media platforms as a form of online presence for their businesses. Questioned how businesses can better utilize or migrate to Digital Commerce, all the respondents here suggested more presence on social media. To relate mostly to this, when respondents were asked how their businesses utilized Digital Commerce, presence on social media was main response from 95% of respondents in the small enterprises. Many of the SMEs had presence on social media from where they promoted awareness. They believed that they were advertising themselves on social media platform most especially Facebook and Instagram hence believing that they highly utilized Digital Commerce. Although none of the respondents confirmed to having conducted any form of actual transactions online, many were open to the idea and interested in learning how they would better migrate and utilize Digital Commerce.

7.2 Recommendations or Suggestions

The writing of this thesis was carried out during Corona Virus pandemic, respondents in the survey confirmed that many of SMEs joined and conducted business online (social media) during the lockdowns. Few could explain this transformation while most confirmed that they merely changed from social media "content consumers" to "content providers" in form of presence. In this chapter, basic, simple, and inexpensive ways through which SMEs in Uganda can digitally transform themselves into a digital environment will be recommended or suggested.

7.2.1 Digital transformation

Schallmo and Williams (2018, p. 6) claimed that there is currently no specific, commonly acknowledged description of digital transformation but suggested digital transformation to be processes of creating a digitalized business environment through integrating digital technologies and data into business areas essentially replacing and or transforming, improving business processes to generate more revenue. Digital transformation can be a lengthy process that involves several technological activities some of which can be complex and costly therefore making SME owners hesitant to join the Digital Commerce band wagon (Authorize.Net, 2012).

7.2.2 Creating an own website

As more enterprises harness the power of the web, online presence is very vital for an enterprise and its stake holders like customers, suppliers, banks etc. An enterprise needs to identify the goals of its website, some of which can be product display and description, marketing, sales brochure, Customer care centre, therefore for effectiveness a website should display information perceived important to the targeted user (Schneider, 2014, p. 91 & 131). 89% of purchasing decisions made by customers are through search engines (Lacka, Chan, & Yip, 2014, p. 89) therefore a website needs to be Search Engine Optimized (SEO) in order to drive traffic (potential customers) to the enterprise website.

Building and designing a website to date is no longer that complicated and expensive due to the availability of website builders that require little to no coding expertise in addition to low costs or even free of charge. There are a number of website builders (Forsey, 2019) but for this thesis focus will be on the three main ones:

Google Business Website

Online presence cannot go without a mention of the world's most popular search engine google (Reliablesoft, 2019). With a mission to organise the world's information and make it universally accessible and useful (Google, 2020), google has gone further to provide a free tool where businesses can promote themselves on google through Google My Business. With the Google My Business tool which

requires creation of a Business Profile Account, business not only promote themselves through the presence on the Google Search Engine, Google Maps but also a free professional business website. This free professional business website is automatically generated using information from the Business Profile Account or alternatively a business can edit by choosing from a variety of site themes that offer customers multiple ways to contact the business, like calling, messaging, or requesting a quote (Google, 2020).

Wix

Wix is a cloud-based development platform that provides templates where anyone including businesses empowering online presence by creating websites through providing as simple as drag and drop tools (Wix, 2020). With hundreds of powerful tools, Wix aids in customer connection and workflow automation through an all-in-one business solution in web designing and management. Creating a simple basic website on Wix is free but the website then contains Wix advertisements. Wix offers a premium plan that gives options like a Wix advertisement free website, connecting one's own domain, advanced marketing tools and a possibility to set up an online store accept multiple secure online payments providers and methods accept payments in more than 40 currencies (Wix, 2020).

WordPress

WordPress is a free open-source software used to manage the creation and modification of digital content also known as Content management System (CMS). Originally created as a framework for blog publishing, WordPress evolved into one of the most popular Content management System (running over 38% of the global websites) for building websites without any technical knowledge. Despite of almost everything being free on WordPress, upgrades are offered for advanced customization, security, and Search Engine Optimization like Wix as mentioned earlier. WordPress possess a logo maker feature for the creation of professional company and website logos (WordPress, 2020).

7.2.3 Joining Digital Commerce platforms

E-commerce platforms provide an online platform from where buyers and sellers meet to buy and sell goods and or services (Schwarz, 2016), some of the major platforms include Jumia, Kilimall, Amazon, eBay, Alibaba, Uber, Airbnb. These platforms offer sellers an opportunity to increase online visibility of their goods and or services to a larger market than in their geographical location. The same platforms provide opportunities for buyers to browse a wide variety of goods and or services from several sellers from various locations while comparing prices, quality quantity, make, model etc. E-commerce platforms as well act as deal facilitators by providing a variety of secure payment methods upon which once the two parties; that is a buyer and a seller have transacted, on receipt of a payment the platform can notify the seller to ship the goods to the buyer (Lan, Carbone, Soprana, & Singhal, 2016, p. 25).

Jumia (https://group.jumia.com)

The largest multi-industry online market on the African continent with a presence in 11 countries in Africa. Jumia is set to serves over 17 million SMEs across Africa by providing an online platform enabling African sellers to reach its 1,2 billion customers (Jumia, 2020). One of Jumia's mission is enabling SMEs to grow by taking African economies online to grow and reach new customers (Jumia, 2020).

Kilimall (www.kilimall.co.ke)

Kilimall is a Kenya based online shopping mall with presence in Uganda and Nigeria as well. Kilimall focuses to provide opportunities for retailers in the above mentioned 3 African countries to connect to new and existing customers through technology (Kilimall, 2020).

Amazon (www.amazon.com)

Amazon is the world's largest multi-industry online marketplace. Amazon provides a platform for SMEs to sell in more than 130 countries on the globe and it claims

that half of the items sold on their Amazon Market place are from SMEs (Amazon, 2020).

eBay (ebay.com)

A global e-commerce platform, eBay links millions of buyers and sellers worldwide and mostly facilitating C2C and B2B, eBay aims to reduce the barrier of entry into markets for sellers regardless of their size or geographic location. eBay operates both as an online shopping and auction website. eBay offers a limited number of free listings to sellers and charges a small commission after a product is sold (eBay, 2020).

Alibaba (www.alibaba.com)

Alibaba is a Chinese based global retail and e-commerce platform for most especially wholesale trade. It gives suppliers necessary tools to reach global customers quickly and efficiently (Alibaba, 2020).

7.2.4 Joining a Social media e-commerce

Social e-commerce is the promotion or sell of goods and services via the internet by use of interpersonal connections (Schneider, 2014, p. 10), a new wave of e-commerce that has emerged due to the increased popularity of social media platforms that enable online social relationships (Kenneth & Carol, 2019, p. 61). Not only have social media platforms (for example Facebook, Twitter, Instagram) radically changed the way people interacted online but also provided opportunities for businesses to boost popularity through the promotion of their products and services as a result of customer opinions, experiences, and online purchasing habits (Valerio, William, & Noémier, 2019, p. 1 & 2).

Social media can as well be utilized as a free or inexpensive way of effectively marketing, engage followers or supporters (clients), obtain real-time feedback, and rise brand awareness (Lacka, Chan, & Yip, 2014, p. 86).

8 CONCLUSION

Digital Commerce is considered to be the buying and selling of goods and or services over the internet. It revolutionized how business is conducted which has made it a global dominant growth force for most types of enterprises and its benefits cannot be neglected. This thesis has provided an in-depth understanding of Digital Commerce while investigating why SMEs in Uganda have been slow in adopting and utilizing it. A combination of secondary data and interviews have established that the SMEs in Uganda have been slow in adopting Digital Commerce hence adhering to the objectives of this thesis.

One of the main objectives was to gain a deeper understanding as to why Small and Medium Size Enterprises in Uganda have generally been slow in adopting e-commerce, this was consequently as result of challenges like Affordability/Costly, Internet penetration/internet systems reliability, power shortages, complexity perception, government regulations/policies, cyber security/legitimacy faced by SMEs. In addition, theories like DOI, TAM and UTAUT were examined which further established a general understanding of the determinants of technology adoption there by correlating with the challenges aforementioned. The second major objective was to suggest uncomplicated and inexpensive ways how they can join the Digital Commerce band wagon. Here, a digital transformation process has been suggested which would involve website creation, joining a digital platform and finally joining a social media e-commerce platform. Lastly in conducting this thesis, an improved broad understanding of Digital Commerce, its state and the state of SMEs in Uganda have been achieved.

SMEs in Uganda need to consider the data and the consequent suggestions in this thesis in order to embrace the Digital Commerce phenomenon. They need to overcome the challenges which slow or limit Digital Commerce adoption to relish the enormous benefits it presents therefore without a doubt the SMEs ought to integrate their brick-and-mortar stores with Digital Commerce.

8.1 Area of further research

Having observed the low rate of Digital Commerce adoption by SMEs in Uganda, further research is arguably needed. Further investigations into what caused and consequent suggestions on how to navigate the challenges is need. Employment of a large-scale sample size of both quantitative and qualitative data approaches over a wider geographical area than the capital city would highly be recommended; these will provide a firm in-depth opinion on the results. The points of further research will equip SMEs with valuable data from which they can make informed decisions to smoothly join the Digital Commerce band wagon.

APPENDIX.

Interview questions.

1. Can you please tell me about your business?

_____

2. What challenges does your business face?

_____

3. Can you describe what the term e-commerce means to you?

_____

4. What are the benefits of e-commerce?

_____

5. What is your view on the state of e-commerce in Uganda?

_____

5. How is your business utilising e-commerce how

_____

6. How is your business utilising e-commerce?

_____

7. How can your business benefit from ecommerce?

_____

8. Why has your business been slow to adopt e-commerce?

_____

9. How can you migrate to e-commerce?

REFERENCES

Abdukhakeem, I., Helen Edwards, & Sharon, M. (2017). E-commerce adoption in Developing Countries SMEs: What Do the Prevailing Theoretical Models Offer Us? *4th International Conference On E-Commerce.*

African Development Bank Group. (2020). *African Economic Outlook 2020.* Retrieved May 2020, from African Development Bank (AfDB) Group: https://www.afdb.org/en/documents/african-economic-outlook-2020

Alibaba. (2020). *About alibaba*. Retrieved September 11, 2020, from Alibaba: https://activities.alibaba.com/alibaba/following-about-alibaba.php?spm=a2700.8293689.0.0.500267afOGWwpH

Amazon. (2020). *About Amazon*. Retrieved September 11, 2020, from Amazon: https://www.aboutamazon.com/?utm_source=gateway&utm_medium=footer

Amor, D. (2000). *The e-business (R)evolution: Living and working in an interconnected world.* Saddle River (NJ): Prentice.

Asiimwe, F. (2017). Corporate Governance and Performance of SMEs in Uganda. *International Journal of Technology and Management*, 14. Retrieved from http://137.63.185.45/index.php/ijotm/article/view/20/23

Auboin, M., Smythe, H., & Teh, R. (2016, July 1). Supply chain finance and SMEs: Evidence from factoring data. *WTO Working Paper Series*.

Authorize.Net. (2012). *CyberSource solution.* Retrieved September 10, 2020, from Authorize.Net: https://www.authorize.net/content/dam/anet-redesign/documents/ecommerceguide.pdf

Barlow, A. (2011). *Web Technologies and Supply Chains.* Glasgow.

Bhandari, P. (2020, July 30). *Qualitative Research.* Retrieved December 2020, from Scribbr: https://www.scribbr.com/methodology/qualitative-research/

Blackburn, H. (2011). *Millennials and the Adoption of New Technologies in Libraries through the Diffusion of Innovations Process.* Nabraska: Criss Library Faculty Publications.

Bryman, A. (2012). *Social Research Methods* (4th ed.). New York, USA: Oxford University Press. Retrieved 2020

Burke, J. R., & Christensen, L. (2014). *Educational research: Quantitative, qualitative, and mixed approaches.* London: SAGE Publications, Inc.

Chandra , V., & Anand , H. (2017). *Research Methodology.* Uttar Pradesh, India: Pearson Education India. Retrieved from https://learning.oreilly.com/library/view/research-methodology/9789353067090/xhtml/chapter001.xhtml

Chao, C.-M. (2019). Factors Determining the Behavioral Intention to Use Mobile Learning: An Application and Extension of the UTAUT Model. *Frontiers in physchology, 10*.

Christine, T., & Céline, B. (2018). *Risk Management : Lever for SME Development and Stakeholder Value Creation.* Hoboken: John Wiley & Sons, Incorporated.

Daily Monitor. (2020, December 8). *SMEs should be concerned about cyber security*. Retrieved December 9, 2020, from Daily Monitor: https://www.monitor.co.ug/uganda/business/prosper/smes-should-be-concerned-about-cyber-security-3222238

eBay. (2020). *About eBay*. Retrieved September 11, 2020, from eBay: https://www.ebayinc.com/company/

Economic Analysis and Policy Division (EAPD). (2020). *World Economic Situation and Prospects.* Economic and Social Affairs of the United Nations Secretariat (UN DESA). New York: United Nations. Retrieved 2020, from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&

ved=2ahUKEwjn4ceuraDtAhXtxIsKHftXDFsQFjACegQIARAC&url=https%3A%2F%2Fwww.un.org%2Fdevelopment%2Fdesa%2Fdpad%2Fwp-content%2Fuploads%2Fsites%2F45%2FWESP2020_Annex.pdf&usg=AOvVaw065xmHqvRLVFfIspX0

European, C. (2015). *Internal Market, Industry, Entrepreneurship and SMEs*. Retrieved May 13, 2020, from European Commission: https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Forsey, C. (2019, October). *Free website builders*. Retrieved September 10, 2020, from Blog hubspot: https://blog.hubspot.com/marketing/free-website-builders

Fred, D. A., Richard, B. P., & Paul, W. R. (1989). *User acceptance of computer technology: A comparison of two theoretical models* (Vol. 35). Michigan, U.S.A: School of Business Administration; Management Science.

Ghose, A. (2017). *Tap, Unlocking the mobile economy.* Cambridge: The MIT Press.

Gillwald, A., Onkokame, M., Ndiwalana, A., & Tusubira, T. (2019, May). *The state of ICT in Uganda.* Retrieved May 2020, from Research ICT Africa: https://researchictafrica.net/wp/wp-content/uploads/2019/05/2019_After-Access-The-State-of-ICT-in-Uganda.pdf

Goetsch, K. (2010). eCommerce in the Cloud. Califonia.

Google. (2020). *About us*. Retrieved September 8, 2020, from Google: https://about.google/intl/en-GB/

Google. (2020). *Google My Business*. Retrieved September 8, 2020, from Google: https://www.google.com/intl/en/business/faq/

GOU. (2017). *Ugandan Economy*. Retrieved May 2020, from Governmnet of Uganda: https://www.gou.go.ug/about-uganda/sector/economy

Horberry, T., Regan, M. A., & Stevens, A. (2014). *Driver acceptance of new technology : Theory, measurement and optimisation : theory, measurement and optimisation.* Ashgate Publishing Limited.

Insider, T. (2018, October). *Business*. Retrieved May 2020, from The Insider: https://theinsider.ug/index.php/2018/10/05/a-look-at-ecommerce-and-business-culture-in-uganda/

Japhet, L. (2010). The factors that influence adoption and usage decision in SMEs: Evaluating interpretive case study research in information systems. . *The electronic journal of business research.*, 51-62.

Jumia. (2020). *About us*. Retrieved September 11, 2020, from Jumia group: https://group.jumia.com/

Jumia. (2020). *Jumia Presskit.* Retrieved September 11, 2020, from Jumia: https://11f5n223it01wurm02957bjg-wpengine.netdna-ssl.com/wp-content/uploads/2020/04/Jumia_presskit_2020.pdf

Kakooza, A. C.-C. (2008, August). EMBRACING E-COMMERCE IN UGANDA: Prospects and Challenges. *ResearchGate*. Retrieved from https://www.researchgate.net/publication/228247063_Embracing_E-Commerce_in_Uganda_Prospects_and_Challenges/link/5e43946d458515072d933c09/download

Kenneth, C. L., & Carol, G. T. (2019). *E-commerce. business. technology. society* (Vol. Fifteenth Edition). Harlow, England: Pearson.

Kilimall. (2020). *News*. Retrieved September 11, 2020, from Kilimall: https://www.kilimall.co.ke/new/

Kumar, R. (2011). *Research Methodology: a step-by-step guide for beginners.* (3rd, Ed.) London: Sage Publisher Ltd.

Kurnia, S., Choudrie, J., Mahbubur, R. M., & Alzagooul, B. (2015). E-commerce technology adoption: A Malaysian grocery SME retail sector study. *Journal of Business Research*.

Lacka, E., Chan, H., & Yip, N. (2014). *E-commerce Platform Acceptence; Suppliers, Retailers, and Customers.* London: Springer.

Lan, J., Carbone, I., Soprana, M., & Singhal, A. (2016). *Publications.* Retrieved June 2020, from The International Trade Centre (ITC): http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Bringing%20SMEs%20onto%20the%20e-Commerce%20Highway_final_250516_Low-res.pdf

Leiner, B., Cerf, V., Clark, D., Kahn, R., Kleinrock, L., Lynch, D., . . . Wolff, S. (2020, February). *History of the Internet 1997.* Retrieved from www.internetsociety.org: https://www.internetsociety.org/wp-content/uploads/2017/09/ISOC-History-of-the-Internet_1997.pdf

Michael, S. J. (2005). *E-Commerce and the Digital Economy.* London: Routledge. Taylor & Francis Group.

Mokveld, K., & Eije, S. (2018, July 30). Final Energy report Uganda. (N. E. Agency, Ed.) The Hague, Netherlands. Retrieved 2020

Mourya, S. K., & Gupta, S. (2014). *E-Commerce.* Oxford, UK: Alpha Science International.

MTIC. (2015, June). *Sustainable MSMEs for Wealth Creation and Socio-Economic Transformation.* Ministry of Trade, Industry and Cooperatives (MTIC). Kampala: Ministry of Trade, Industry and Cooperatives (MTIC). Retrieved May 13, 2020, from Ministry of Trade, Industry and Cooperatives: http://mtic.go.ug/2016/index.php?/doc_download/288-msme-policy/

Nagaty, K. (2010). *E-commerce business Business Models.* Retrieved from Researchgate: https://www.researchgate.net/publication/233820093_E-Commerce_Business_Models_Part_1/citation/download

Nangoli, S., Turinawe, D. D., Kituyi, G. M., Kusemererwa, C., & Jaaza , M. (2013, April). Towards Enhancing Business Survival and Growth Rates in LDCs: An Exploratory Study of the Drivers of Business Failure among SMES in Kampala-Uganda. *International Journal of Humanities and Social Science, 3*.

Ndayizigamiye, P. (2012). A Unified Approach Towards E-Commerce Adoption By SMMEs In South Africa. *International Journal of Information Technology and Business Management,*, 92-101.

Nistor, N. &. (2014). Non- significant intention–behavior effects in educational technology acceptance: A case of competing cognitive scripts? Computers in Human Behavior. *ScienceDirect*, 333-338.

Okeleke, K. (2019). *GSMA_Connected_Society_Uganda_Overview.* Retrieved May 2020, from GSMA: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA_Connected_Society_Uganda_Overview.pdf

Parker, C. M., & Castleman, T. (2009). Small firm eBusiness adoption: a critical analysis of theory. *Journal of Enterprise Information Management*, 167-182.

Poorangi, M. M., Khin, E. W., Nikoonejab, S., & Kardevani, A. (2013). E-commerce adoption in Malaysia Small Medium Enterprises Practitioner firms: A revisit on Rogers' model. *Semanticscholar*.

Reliablesoft. (2019). *Popular search engines*. Retrieved September 8, 2020, from Reliablesoft: https://www.reliablesoft.net/wp-content/uploads/2016/12/popular-search-engines-2020.png

Reynolds, J. (2017). *The Complete E-Commerce Book: Design, Build & Maintain a Successful Web-based business.* Boca Raton: CRC Press.

Rogers, E. M. (1983). *DIFFUSION OF INNOVATIONS* (3rd Edition ed.). Newyork, U.S.A: The Free Press.

SA, E. E. (2020, May). *Explore new markets: Uganda*. Retrieved May 2020, from Nordea Trade: https://www.nordeatrade.com/en/explore-new-market/uganda/e-commerce

Sachdeva, J. K. (2009). *Business research methodology.* Mumbai, India: Himalaya Publisher House. Retrieved 2020

Sachdeva, J. K. (2009). *Business Research Methodology.* Mumbai, India: Himalaya Publisher House. Retrieved 2020

Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research Methods for Business Students.* Harlow, Essex, England: Pearson Education Limited. Retrieved 2020

Schallmo, D., & Williams, C. (2018). *Digital Transformation Now! Guiding the successful digitalization of your business model.* Ulm, Germany: Springer Nature.

Schneider, G. P. (2014). *E-Business.* Hamphire, United Kingdom: Course Technology, Cengage Learning EMEA.

Schniederjans, M., Cao, Q., & Triche, J. (2014). *E-commerce. Operations Managment* (2nd ed.). Toh Tuck Link, Singapore: World Scientific Publishing Co.

Schwarz, L. (2016, April 18). *What is an Ecommerce Platform?* Retrieved September 11, 2020, from Netsuite: https://www.netsuite.com/portal/resource/articles/ecommerce/what-is-an-ecommerce-platform.shtml

Turban, E., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. (2015). *Electronic Commerce: A Managerial and Social Networks Perspective* (Vol. Eighth Edition). Pearson. Retrieved 2020

Turban, E., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. (2015). *Electronic Commerce: A Managerial and Social Networks Perspective* (Vol. VIII). Newyork: Springer. Retrieved 2020

Tutorialspoint. (2019). *E-Commerce - Business Models*. Retrieved 2020, from Tutorialspoint: https://www.tutorialspoint.com/about/contact_us.htm

UBOS. (2020, May). *Population Clock*. Retrieved May 2020, from National Bureau Of Statistics: https://www.ubos.org/

UBS. (2011, December). *Census of business establishments 2010/2011*. Retrieved May 14, 2020, from Uganda Bureau of Statistics: https://www.ubos.org/wp-content/uploads/publications/03_20182010_COBE_Report.pdf

UCC. (2020, April). *Telecom Providers*. Retrieved May 2020, from Uganda Communications Commission: https://www.ucc.co.ug/list-of-telecom-providers/

UNCTAD. (2020). *Least developed countries*. Retrieved November 26, 2020, from United Nations Conference on Trade and Development: https://unctad.org/topic/vulnerable-economies/least-developed-countries/list

Valerio, C., William, L., & Noémier, Q. (2019, March 12). The Impact of Social Media on E-Commerce. *International Journal of Technology for Business (IJTB)*, 1&2. Retrieved September 15, 2020

Venkatesh, V., Michael, M. G., Gordon, D. B., & Fred, D. D. (2003). User Acceptance of Information Technology: Toward A Unified View. *MIS Quarterly, 27*(3), 425-478.

Wanzu, I., Turyakira, P., & Katumba, P. M. (2019). E-Commerce Adoption and Growth of SMEs in Uganda. *International Journal of Business and Management*.

Williams, T., & Morawczynski, O. (2019, February 27). *Digital Commerce.* Retrieved May 2020, from Mastercard Foundation: https://mastercardfdn.org/research/digitalcommerce/

Wix. (2020). *About us*. Retrieved September 8, 2020, from Wix: https://www.wix.com/about/us

Wix. (2020, September 9). *Website*. Retrieved from Wix: https://www.wix.com/ecommerce/website

Wordbank. (2019, August). *SME Finance*. Retrieved from World Bank: https://www.worldbank.org/en/topic/smefinance

WordPress. (2020). *Logo maker*. Retrieved September 10, 2020, from Wordpress: https://wordpress.com/logo-maker/?tk_amp=1*tyd8f5*amp_client_id*REd5Nm00SDhrTy8vMjZ1dkR4d1B1WXQx

Xu, J., & Mohammed, Q. (2009). *E-business In The 21st Century: Realities, Challenges And Outlook.* Singapore: World Scientific Publishing Company.

Xu, J., & Quaddus , M. (2010). *E-business in the 21st cetury. Realities, challenges and outlook.* (Vol. 2). Toh Tuck Link, Singapore: World Scientific Publishing Co.

Yogesh K. Dwivedi, N. P. (2017). Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model. *Springer*, 719–734.