Impact of Coronavirus Disease 2019 on the sales performance of the Electronic commerce industry in Lusaka City

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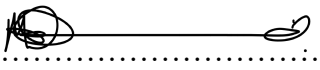
Declaration

I, Charles Mutale NRC 171179/10/1, do hereby declare that this dissertation is an original report of my research that has been written by myself and has not been submitted for any previous degree. Except where states otherwise by reference or acknowledgement, the work presented is entirely my own.

Student Signature  …… Date…31/03/2022……...
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Abstract

The electronic commerce industry in Lusaka and throughout Zambia has changed dramatically over the last few years, evolving from a limited number of players to a platform for consumers and enterprises to conduct business. Coronavirus disease 2019 (COVID-19), which affected the global population coupled with the increasing importance of the electronic commerce industry made for relevant research. The purpose of this study was to form a methodological approach to assess the impact of COVID-19 on the sales performance of the electronic commerce industry in Lusaka city. The research utilised a quantitative approach with the development of a hypothesis that was tested based on the collection and analysis of primary data. Consumers, small, medium, and big business owners from a sample of enterprises were included in the strata. The study found that COVID-19 has affected e-commerce sales performance in Lusaka.

Despite the fact that this research accomplished its stated aims, it would have been useful if there had been a greater number of respondents prepared to provide further data for the research.

The utilized data collection method which was electronic ensured that the responses remained anonymous and analysis was done with specialized tools and guiding models to prevent any misinterpretation.

Due to a deficit of studies of this type focusing on emerging economies, this research study adds to the body of work on COVID-19 and e-commerce sales performance by assisting future research.

Keywords: electronic commerce; coronavirus disease 2019; sales performance.

1. Chapter 1: Introduction

1.0. Introduction

Chapter one introduces the research topic and highlights the area of the study. This research attempts to outline the impact of the Coronavirus disease 2019 on the sales performance of the electronic commerce sector of Lusaka. In addition, the chapter provides a background of the study, the problem statement, justification of the research, research scope and objectives.

1.1. Background of Study

The increasing usage of the internet and in particular the world wide web (www) has changed the face of most day to day activities greatly enhancing communication and commerce. This rapid adoption of these various technologies has facilitated the rise of Electronic Commerce (e-commerce). Primarily defined as *"the use of the internet and web to transact business"*, e-commerce at its core aims to eliminate some of the barriers to conducting business locally and internationally. Over the years this application of technology has greatly impacted multiple countries of different sizes and has solved some of the teething issues faced by largely unbanked emerging economies similar to Lusaka. Although it is a developing city, Lusaka has taken steps to ensure technology is at the heart of business activities which results evident in the growing number of domestic and international online first stores, food delivery services and taxi hailing businesses.

One of the most prominent Lusaka e-commerce businesses, Dot Com Zambia which has been in operation since 2019 frames the case for this study. Boasting one of the first international and domestic online stores in the city, the business has grown over the years additionally transforming the online ticketing sector with products such as Bus Tickets Zambia, Book Now and e-Toll services aimed toward making transactions easier. Other areas of interest have been the growing individual non-brick and mortar stores which coupled with delivery services have become largely dependent on technology to handle the day to day business activities such as payments and delivery.

The coronavirus disease 2019 (COVID-19) which represents a black swan event has brought about unforeseen effects on commerce globally. Due to the COVID-19's ongoing nature very little research has been done on how exactly this has impacted the performance of e-commerce businesses, especially in emerging economies. This research aims to investigate the impact the disease has had on Lusaka's electronic commerce sector.

The growing dependency on technological tools has facilitated this growth industry which accounted for 18.6% of the country's Gross Domestic Product in 2020 (Bank of Zambia) Any

disruption to this global ecosystem is likely to impact the performance of businesses and in turn economies both domestically and internationally. The COVID-19 outbreak began in December 2019 and quickly spread throughout the world, fundamentally altering how people go about their daily lives (Billewar, et al., 2021). As a result, COVID-19 represents a watershed moment in the future of both e-commerce and offline businesses.

1.2. Research Problem

Globalization and the ever-increasing trans-border movement of ideas, goods, people, capital and services have created a world that is highly complex, interdependent and deeply integrated. Even in smaller and emerging economies such as that of Lusaka, the adoption and reliance on technology continue to increase with internet penetration going over 90% of the country's active subscribers in 2020 (Zambia Information and Communications Technology Authority (ZICTA), 2021). As a direct result of this growth, the digitization of the majority of trade transactions and the increased use of technology for communication, payment, and sales has resulted in a population that relies on internet purchases and the quick transfer of goods and services.

A major downside to this interdependency is seen in how quickly a crisis in one part of the world can impact and in some cases cause a global crisis. The disruption of global trade due to COVID-19 began in march 2020 drastically shaking up multiple industries, with those highly interconnected such as e-commerce suffering the worst of it.

This particular problem served as a basis for conducting a study that evaluated how COVID has impacted the performance(sales volume, growth of businesses & consumers) of the e-commerce sector in Lusaka.

1.3. Justification for the Research

Global e-commerce sales reached $876 billion in the first quarter of 2020, according to Forbes (2021). This shows how important the e-commerce industry is becoming in both developed and developing economies thereby calling for a sound strategy to stay relevant in the current business environment. With governments also taking steps to transform most activities into Information and Communication Technology(ICT) (Bank of Zambia, 2021) thus an impact study of the disruption to this sector was worth undertaking,

Research on the performance of e-commerce and COVID-19 will assist businesses and entrepreneurs in developing resilient online commerce strategies while also contributing to the body of knowledge in a rapidly changing field. In addition, the study will serve as a valuable source of information for Dot Com Zambia and similar businesses within the e-commerce

industry, because it is anticipated that as a result of the research, a group of new and effective models will be developed. The findings will also pave the way for future studies relating to this industry domestically and internationally.

1.4. Research Aim

To evaluate how COVID-19 has impacted the performance of the e-commerce industry in Lusaka by collecting and analyzing data from both businesses and consumers. The researcher will focus on stakeholders using e-commerce before and during COVID-19 to properly gauge its impact.

1.5. Research Objectives

The main objective of the research can be broken down into the following:

To determine the challenges of e-commerce during COVID-19

i. To determine the challenges of e-commerce during COVID-19
ii. To establish changes in e-commerce practices and e-commerce adoption due to COVID-19
iii. To determine whether COVID-19 has aided the growth or decline of e-commerce sales.

1.6. Research Questions

The research to be undertaken will have to answer the following questions:

i. How has COVID-19 affected consumers and businesses using e-commerce?
ii. What is the impact of COVID-19 on the growth or decline of the e-commerce industry within Lusaka?
iii. How has consumer adoption of e-commerce and related technologies risen or declined since COVID-19?

1.7. Research Hypothesis

- H_O: COVID-19 has not affected e-commerce sales performance.
- H_A: COVID-19 has affected e-commerce sales performance (alternative hypothesis)

1.8. Research Scope

The study was carried out on selected e-commerce businesses located within Zambia's capital city, Lusaka. This study gathered data from Dot Com Zambia, a market leader in e-commerce, as well as e-commerce consumers and small e-commerce enterprises. The research's target groups were comprised of; small and large e-commerce business managers, sales representatives and consumers. Due to the vast extent of modern e-commerce, there was a need to make the

project focus on a specific area which made the study viable. The research focused on domestic and cross-border internet-based e-commerce activities that are primarily business to consumer.

1.9. Research Contributions

The outcomes of this research are intended to be included in the already existing body of knowledge on how COVID-19 impacts businesses. Due to the limited number of studies on e-commerce and COVID-19, the findings from this study are particularly important in informing the future direction of both new and old businesses operating in emerging economies such as that of Lusaka.

1.10. Dissertation Structure

- Chapter one: Introduction
- Chapter two: Literature Review
- Chapter three: Research Methodology
- Chapter four: Findings and Analysis
- Chapter five: Recommendations and Conclusion
- References
- Appendices:
    - Appendix A: Research Questionnaires
    - Appendix B: Supervisor form
    - Appendix C: Acronyms
    - Appendix D: Tables and Figures

1.11. Chapter Summary

Chapter one largely presented an outline of the research project. Aside from introducing the project area, it provided aims and objectives while providing insight. Chapter two will provide literature associated with the project's research area while providing a conceptual and theoretical framework that unpins the study

2. Chapter 2: Literature Review

2.0. Introduction

Chapter two outlines the various literature associated with the area of study. This section additionally looks at similar studies carried out by other researchers and scholars. The literature review discusses the various interconnected themes that tie into electronic commerce and COVID-19. In addition, this chapter explores e-Commerce consumer adoption, awareness and its correlation to sales performance.

2.1. The evolution and role of e-commerce in modern businesses

At its core e-commerce combines traditional economic behaviour and the rapidly expanding information and communication technology(ICT) infrastructure to provide a linkage between the real and digital world through various workflows. To best understand the impact of the COVID-19 outbreak on the sales performance of e-commerce in Lusaka, there was a need to understand the development of e-commerce in recent years.

E-commerce, which is primarily conducted via the Internet has fast become an important channel in which many companies conduct business (Turban *et al.*, 2018). This has given e-commerce an important role to play in modern business as the world continues to go digital to maintain ease of use.

E-commerce is a concept that dates back to the 1970s and whose primary goal was to eliminate the need for paper in the workplace through the development of electronic data interchange (EDI). EDI allowed companies to exchange information, conduct electronic funds transfers(EFTs) and place orders using computers. Despite being the first generation of e-commerce, EDI had a slow adoption rate, with only a few companies using it in the early 1990s (Becker, 2007)

Contemporary e-commerce first began in 1995 with the development of a graphical user interface (GUI) and easy navigation of the World Wide Web (WWW) through Hypertext Markup Language(HTML) and Universal Resource Locators(URLs). This improvement in technology brought about a start to the e-commerce sector that is present today. Although its focus was on personal computers this stage of the evolution gave rise to large e-commerce businesses such as Amazon, Paypal and eBay which ultimately built a globally accessible value chain. Beyond 2007 there was another shift in the paradigm as computer processing and the network infrastructure become more realized prompting a focus on mobile devices as opposed to the limited desktop computers (Laudon & Laudon, 2019)

Present-day e-commerce unlike its forerunner is connected between social, mobile, and local. This is attributed to mobile devices becoming more advanced allowing for high-speed multimedia content and access to social media websites which include Facebook and Instagram. As mobile devices grow more prevalent, consumers can use them to locate local merchants, and merchants equally offer notifications on any available deals.

Becker (2007) argue that the role of e-commerce has primarily remained the same as many applications provide business with a platform to realize Porter's visions. Modern e-commerce is built on the internet's backbone, which has accelerated and improved communication between suppliers, distributors, and buyers. Finally, the low cost of the internet enables businesses of any size to benefit from value-chain integration.

2.2. Current e-commerce industry trends

E-commerce has evolved greatly since its inception and it continues to change today's business environment. At present, mobile commerce is the most widely used form of e-commerce and is composed of three major segments: retail goods, travel and services, and online content. (Laudon & Laudon, 2019). M-commerce has seen popular adoption in emerging economies due to the availability of cheap mobile handsets with companies like Samsung controlling the bulk of the market share on smartphones sold in Africa. According to the United Nations Economic Commission for Africa (UNECA, 2021), 83% of cellphones sold in Africa during the fourth quarter of 2019 were under $200. This further outlines how accessible and largely used mobile phones have become.

Another growing trend in modern e-commerce is Artificial Intelligence (AI).AI is the ability of a machine to perform functions that are normally associated with human intelligence and comprehension (Iafrate,, 2018). This technology alongside the vast collections of data has helped businesses offer personalized offerings to consumers and other businesses alike. This will continue to be a prevalent trend for business in the future.

Technological advancements will continue to affect e-commerce trends, as will customer expectations for their interactions with businesses. Understanding these trends is the first step toward staying ahead of them, as remaining current improves customer experiences and directs firms toward methods that significantly boost performance.

2.3. Types of Electronic Commerce

There are multiple business models of e-commerce with their application largely dependent on available infrastructure, target customers and business environment. Various literature exists on

the classification of e-commerce models, but for this research, the segments of interest are consumer to consumer(c2c), business-to-consumer(B2C), government-to-consumer (G2C) and m-commerce(mobile commerce)

2.3.1. Consumer to Consumer (C2C)

C2C is a type of e-commerce in which customers sell to one another and serves as the foundation for an online marketplace (Laudon & Laudon, 2019). One of the most popular global C2C platforms is eBay, which is a multinational e-commerce corporation founded in 1995 that facilitates consumer-to-consumer sales through its website, C2C e-commerce remains extremely popular with platforms targeting consumers to sell and manage varying product categories with each other.

2.3.2. Business to Consumer(B2C)

B2C is perhaps one of the most widely written about in research literature over the past decade due to the rapidly rising growth of the internet. Kremez et al., (2019, p.1293) define B2B e-commerce as *" the exchange of goods, services and information over the internet in return for payments, by electronic means, between businesses and consumer"*. B2C e-commerce is generally comprised of firms that sell to the general public, typically through catalogues that make use of shopping cart software to facilitate the transaction. Although B2C e-commerce receives a lot of attention, B2B transactions outnumber B2C purchases by a wide margin.

Regardless of the lower transaction volume, B2C e-commerce has continued to be popular, in part because policymakers are concerned about issues such as consumer trust and data protection (WTO, 2013). This makes it a relevant category for inclusion in the impact study relating to COVID-19.

2.3.3. Business to Business (B2B)

According to Solomon & Poatsy (2017), B2B primarily involves the sale of goods and services from one business to another. B2B transactions are extremely large in comparison to customer transactions and require the active involvement of managers from both organizations. Alibaba, a global Chinese wholesaler, and Elemica, a chemical and energy marketplace, are both popular B2B platforms (Laudon & Laudon, 2019).

2.3.4. Business to Government (B2G)

Business to government (B2G) commerce is generally defined as e-commerce between companies and the public sector it additionally refers to the use of the internet for public procurement, licensing procedures, and other government-related operations (WTO, 2013). In B2G e-commerce, the public sector typically takes the lead in establishing e-commerce to improve the efficiency of its procurement system. As a share of total e-commerce, the B2G e-commerce sector is currently quite small, owing to the relative underdevelopment of government e-procurement systems.. In the case of Zambia, this is exemplified by the ZamPass platform, a national authentication portal that grants citizens access to a variety of services ranging from vehicle road tax payment to immigration document filing.

2.3.5. Mobile Commerce (M-Commerce)

Although not strictly a form of e-commerce, mobile commerce (M-commerce) is rapidly becoming the primary method of conducting the majority of types of online commerce. In other publications, m-commerce is considered a subset of e-commerce, accounting for a sizable portion of total e-commerce business in some African countries – more than 50% in Kenya, Nigeria, Morocco and South Africa, and Morocco (United Nations Economic Commission for Africa, 2021) This is because smartphones have become more powerful, resulting in a general shift away from desktop computers thereby forming a close connection between social, mobile, and local e-commerce (Laudon & Laudon, 2019)

The transition from desktop and home computers to mobile devices has transformed e-commerce from an isolated activity to a new form of social commerce that not only addresses a national audience but also local merchants who are using location-aware devices.. Over half of online buyers now arrive via their cellphones at the top 100 e-commerce retail sites, and mobile now accounts for 48% of e-commerce sales, while desktop accounts for 52% of purchases. (Laudon & Laudon, 2019).

2.4. Electronic Commerce in Lusaka

Lusaka's e-commerce industry is still in its infancy, as it is a developing economy confronted with numerous challenges surrounding the wide digital divide, lack of financial inclusion, and slow internet connectivity. Historically, Africa has had a lot of ground to cover up in terms of internet penetration. The region as a whole continues to lag behind other parts of the world. Except for North America, every region of the world had a less than 10% internet penetration rate in 1999. By 2019, all regions, except Africa, had surpassed the 50% mark. (UNECA, 2021)

Despite these obstacles, regulatory policies have been developed to support this industry's continued growth, most notably a collaboration between the Ministry of commerce, trade, and industry and ZICTA in 2019. One of the policy outcomes has been a rise in transactions processed through mobile money platforms, which increased by 81% in 2019 (Bank of Zambia, 2019). In Zambia, e-commerce is considered a growing market although this varies across channels with mobile commerce coming out as a top performer. The rapid adoption of electronic payment platforms and rising internet usage have provided emerging economies with an opportunity to demonstrate novel approaches to closing persistent digital divides. These include; mobile money, cash on delivery, the use of landline phones, and social media to coordinate online orders for those with limited digital skills or access to digital tools.

Domestically some of the most common payment methods for e-commerce transactions include mobile money (facilitated by large telecommunications companies), credit and debit cards, kiosk payments at shopping centres, web-based payment gateways (543 Konse Konse, Cybersource), and Paybills.co.zm, payment service for utility bills, television and mobile plan subscription using VISA or MasterCard (International Trade Organisation, 2020)

Another catalyst for domestic e-commerce growth has been high social media adoption which has allowed individuals to establish online-only businesses primarily utilizing Facebook pages and more recently WhatsApp Business accounts which facilitate product catalogue listings and communication.

Cross border e-commerce continues to grow with most online purchases originating from eBay and Amazon in the United States and the United Kingdom and Alibaba in China. Products frequently purchased include electronics, shoes, clothing, and accessories, as well as motor vehicle spare parts and motor vehicles. The logistics and delivery of most international online purchases are handled by companies like Dot Com Zambia and Mercury logistics which maintains a presence in commonly traded countries.

The challenges associated with online purchases are similar to those encountered globally, including receiving defective or low-quality merchandise or products sold based on false information. Additional difficulties include a lack of information from the service providers, such as contact information, the right to withdraw, non-receipt of the purchased item, non-standard or vague terms and conditions, and additional costs such as customs duty, value-added tax (VAT), and import fees. (International Trade Organisation, 2020). According to the OECD (2020), factors limiting certain groups of individuals' participation in e-commerce are frequently related to broader economic and social conditions, such as rural-urban divides, income distribution, unequal access to education, and an ageing population.

E-commerce through the context of Lusaka shows a city that is quick in adopting technology and is aware of available opportunities thus leading to the emergence of businesses that cater for food delivery, transportation and purchasing of goods. To ensure an efficient e-commerce landscape that benefits all stakeholders, policymakers should continue to promote an enabling environment for online transactions in areas such as digital connectivity, international logistics, and trade (OECD, 2020)

2.5. The effect of COVID-19 on e-commerce sales performance

The world economy is facing major threats from the COVID-19 epidemic. As a public health epidemic, the COVID-19 pandemic is not only causing human diseases and fatalities but is also affecting the financial market.

2.5.1. Effects of COVID-19 on e-commerce consumers

Most of the literature surrounding COVID-19's impact on e-commerce consumers focuses on issues of adoption, supply chain disruptions and adjusting to a new reality. Historically there have been numerous factors that have helped shape consumer behaviour in both traditional and e-commerce sectors. The COVID-19 pandemic which begin in late 2019 and early 2020 represents a drastic departure from usual business activities on a global scale (Guo, et al., 2020)
One of the earliest impacts of COVID-19 was the shift in regulations instituted by most global governments, notably "stay at home" which was a way to mitigate COVID-19 spread by reducing human contact, which lead to most people seeking alternative means to work, shop and stay entertained (OCED,2020).
Gu et al., (2021) argue that as physical store visits were restricted and many consumers faced financial constraints, they turned to online shopping, causing online purchases to grow exponentially. Even before the pandemic, consumers were generally conscientious shoppers.
The change in consumer behaviour caused by COVID-19 led to an increase in sales in the digital economy with food delivery, essentials and pharmaceutical goods becoming some of the best performing shopping categories (UNCTAD, 2020)
Consumers in emerging economies have also transitioned to online shopping in huge numbers during the pandemic (UNTAD, 2020). Despite facing e-commerce adoption challenges in past, governments in emerging countries shifted to focus on building technological capacity and continue to introduce favourable policies which include waiving charges for person-to-person electronic money transfers for a given limit (UNECA, 2021). These policies were primarily aimed toward onboarding more consumers to e-commerce platforms.

Despite these policy reforms, COVID-19 increased ICT gaps by highlighting the fact that certain nations lacked accessible, affordable, and high-performing ICT infrastructure, particularly in rural areas where access to online markets is extremely limited and low digital literacy is a significant impediment (UNCTAD, 2020). Additionally, consumers have been compelled to be more security conscious (as a result of the rising usage of digital banking platforms), to limit the exploitation of personal data, while ensuring they maintain high connectivity.

Nielsen(2020 cited in (UNECA, 2021)) reports that a growing proportion of consumers in Africa will continue to shop online even as lockdown measures ease up, Additionally, more than forty per cent of the e-commerce shoppers in Africa's four largest economies plan to reduce their visits to physical supermarkets.

2.5.2. Effects of COVID-19 on e-commerce businesses

COVID-19 has had a significant impact on e-commerce enterprises because of their dependency on delivery networks. This has been amplified by worldwide lockdowns, as the interruption of supply networks has resulted in a slowing of lead times for products delivery (Butt, 2021). Supply chain issues have been prevalent in local e-commerce for landlocked economies that are heavily dependent on imports.

For most businesses, the effect of the COVID-19 crisis on sales performance is not uniform across product categories or sellers with an increase in groceries, home activities, ICT equipment, and a drop in items related to travel, sports or formal clothing (OECD, 2020). In general, e-commerce enterprises have witnessed a fall in sales, while over 60% of third-party online marketplaces have seen an increase in sales due to the addition of new merchants. (UNCTAD, 2020)

As a result of the pandemic, greater focus has been placed on the importance of many brick and mortar firms developing an e-commerce strategy. (OECD, 2020) thus potentially bringing about future opportunities for businesses within the sector. Social media and own e-commerce shops have become important sales channels for e-commerce companies while logistics and postal services have been slowed mostly due to supply chain disruptions.

The pandemic of COVID-19 has forced several businesses to reconsider their decades-old traditional business models or face permanent closure. Technologies both new and old are being pushed to the forefront of every company's toolbox, and forward-thinking companies are coping with the talent challenges that occur as a result of the new digital business skillsets being developed.

2.5.3. COVID-19 and e-commerce adoption

One of the most important questions has been how COVID-19 has impacted adoption as this directly correlates to potential sales growth. Multiple factors continue to shape consumer behaviour and the adoption of technology like e-commerce. Wide adoption still largely depends on a few factors. Closing of existing digital divides among individuals through expansion of affordable and quality broadband to rural areas, enhancing financial inclusion, and fostering trust and the acquisition of skills to participate in e-commerce. Governments can encourage small and medium-sized businesses to participate in e-commerce by offering policy, regulatory, or financial incentives for sales diversification and levelling the playing field for businesses that rely on online platforms (UNCTAD, 2020)

Developing and emerging economies have demonstrated innovative approaches to closing lingering digital divides, such as mobile money, cash on delivery, deliveries via mom-and-pop stores in remote areas, and the use of landline phones and social media to coordinate online orders for those with limited digital skills or access to digital tools. (OECD, 2020)

2.6. Looking forward and the future of e-commerce

Although e-commerce has made several leaps throughout the years, this sector will continue to undergo major changes, especially with the unforeseen challenges and opportunities presented by the COVID-19 pandemic.

Most businesses will take a ‘digital first’ approach as retailers will need to continue to meet customers where they are as consumers continue to shop online (Harvard Business School, 2020). Part of this strategy is companies reorganizing the physical retail space to make it more dynamic. Flexible retail space would allow brands to be in certain locations at certain times.

Due to some of the excessive product shortages experienced, sustainability and brands with a cause will be more important than ever in e-commerce as this will ensure reduced product development time and less congestion.

Quick delivery of products has been a major challenge for most e-commerce retailers and most businesses will need to develop mechanisms to keep up with high consumer expectations as this becomes a priority post-pandemic Lack of preparation and poor management of supply chains globally was by far the biggest challenge faced at the start of the pandemic. A rising trend and potential response to this is most businesses invest in Machine learning and Artificial Intelligence in the management of resilient supply chains.

2.7. Conceptual Framework

Based on the work of Miles and Huberman (1994), a conceptual framework is defined as a visual or textual product that conveys the major things to be examined in either a graphical or narrative format. This is a relevant part of the research design process as it shows relationships among ideas and how they generally relate to the study. Conceptual frameworks are commonly seen in qualitative research (Saunders, et al., 2016)

When formulating the conceptual framework for the research a few key concepts and variables were identified. Concepts of interest include sales performance, e-commerce, e-commerce adoption and the impact of COVID-19. From the pool of identified variables and concepts, they were three that best frame the study. The impact of COVID-19 is the independent variable while e-commerce sales performance is the dependent variable. The conceptual framework of this research attempts to rightly understand the impact that COVID-19 has had on e-commerce performance within Lusaka's economy. Figure 2.1 illustrates the identified variables and clearly outlines the study's conceptual framework

Figure 2.1 Conceptual framework showing independent and dependent variables

2.8. Theoretical Framework

The theoretical review examines the various variables that are interconnected with one another (Boateng , et al., 2009). This section looks at the different theories that outline the adoption and disruption of e-commerce in modern business activities and it also details factors that influence and are influenced by this independent variable. Ideally, research that is organized around a theoretical framework makes extensive use of that theory as the principal mechanism through which the research subject is understood and explored. Although theoretical frameworks tend to be common in quantitative studies, they can also be applied to qualitative research. There are

two categories of frameworks of interest which include technology adoption and opportunity assessment.

2.8.1. Transaction Cost Theory

Transaction cost theory provides a basis for arguing that information and communication technologies (ICT) reduce coordination costs in a transaction thus leading to market efficiencies (Becker, 2007) This is one of the most utilized ways to study issues related to assessing e-commerce opportunities. According to Rindfleisch and Heide (1997, cited in Rindfleisch, 2020), transaction cost theory implies that conducting transactions is a costly affair that often includes negotiating contracts, monitoring performance, and resolving disputes with the various modes of organizing transactions leading to extra costs.

The transaction cost theory distinguishes between two types of costs: coordination costs and actor motivation costs(Milgrom & Roberts, 1992 as cited in Pare, 2003). Coordination costs include the time and effort involved in locating items, services, suppliers, and purchasers; negotiating and assuring contract compliance while enforcing post-contractual arrangements. On the other hand, actor motivation costs are those associated with insufficient or imbalanced knowledge and imperfect commitment, which impair decision-making, performance monitoring, enforcement, or compliance processes, and hence result in contract loss and contractual disputes. (Pare, 2003). Transaction cost theory not only provides an understanding of the potential benefits of e-commerce buts also offers some prerequisites such as supporting services (payment systems, legal systems and logistics) necessary to create these benefits In addition, the theory essentially explains why businesses continue to use technology and in particular e-commerce which puts the reduction of transaction costs at the centre of all operations.

2.8.2. Technology Continuance Theory

TCT is a set of factors based on the technology acceptance model (TAM), the cognitive model (COG), and the expectation confirmation model (ECM) that is used to determine a user's intention to continue using technology. (Liao et al., 2009, cited in Rahi, et al., 2021). This theory examines why customers intend to use particular types of technology, and so may be applied to all stages of technology adoption, both short and long term.

Six components underpin the TCT: satisfaction, confirmation, perceived utility, attitude, perceived ease of use, and intention of the user to continue using. The TCT confirms that it has more applicability and explanatory power when compared with ECM, TAM and COG as

indicates that the success of services is dependent on long-term use instead of initial acceptance. (Rahi, et al., 2021)

Two constructs of TCT that were relevant for the research are satisfaction and perceived utility. if e-commerce is going to see continued adoption even after the effects of the pandemic it is relevant to the study to test out whether users are still wailing to use this technology even after the easing up of COVi19 restrictions.

2.8.3. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theory on how users embrace technology. Although this model is designed to help explain the adoption of computer-based technologies on the job or in the workplace, it has also been shown to provide a viable theoretical framework for the adoption of eCommerce (Johar & Awalluddin, 2011). The TAM is particularly relevant in this study as its focuses on understanding why users adopt certain different technologies. Due to the fact the research investigates the disruption of the e-commerce sector caused by COVID-19, it was important to understand what had driven some of the changes within and how both consumers and businesses responded to the change before then.

2.8.4. Gaps in the Literature

Although the research area is extensive there were some notable gaps identified in the use of e-commerce during the COVID-19 pandemic as outlined by the previous sections. According to

According to Gu et al. (2021), the number of publications connected to e-commerce increased significantly in 2020 as compared to earlier years with an increase of 1.4 times from 2019.

. This increase is primarily attributed to the academic interest in how COVID-19 has impacted e-commerce. Despite the existence of some research on the effects of COVID-19, studies on the impact of COVID-19 on e-commerce performance in developing markets are not widely available. The experiences gained from the context of Lusaka, in particular, are even more sparse, with the majority of research adopting a global perspective and covering subjects such as the impact of supply chains.

Another gap that existed within the research is the small number of large national-wide e-commerce businesses which would have provided an additional layer of context to further expand on the study by offering some product diversity.

The research filled these gaps by exploring how the face of the e-commerce industry in Lusaka has changed during COVID-19 from the perspective of businesses and consumers. Getting the

most accurate information on the performance data on online commerce will be from 2019 as that signalled the start of the pandemic.

2.9. Chapter Summary

Chapter 2, in particular, drew attention to relevant literature for readers to gain a comprehensive understanding of the fundamental aspects upon which this study was founded. To create a connection between some of the challenges presented and highlighted within the study, the chapter examines related material from studies conducted by other researchers. Based on the literature review, it is much easier to form a connection between the impacts of COVID-19, e-commerce and sales performance. In addition, this chapter highlights how COVID-19 has affected both consumers and businesses of different sizes while discussing the overall impact on e-commerce performance

3. Chapter 3: Research Methodology

3.0. Introduction

This chapter highlights the steps and procedures undertaken to achieve the objectives of the research. The study utilized self-completed questionnaires that were delivered through the internet. Chapter 3 highlights how data was collected and who the identified respondents were.

3.1. Research Approach and Paradigm– Positivism Paradigm

Academic writing presents many approaches to conducting research with the ideal approach depending on the focus of the study. The selected approach has to align with the research philosophy and data collection and analysis methods for the research to be successful.

Yin (2014, cited in (Saunders, et al., 2016, p. 184)) defines a case study as *"an in-depth inquiry into a topic or phenomenon within its real-life setting"*. Despite the widespread use of case studies in academic research, qualitative and quantitative approaches are the most effective at minimizing the biases contained in a single paradigm and also give the most reliable parameters for strengthening the dependability of findings.

Qualitative research is a preferred method in a situation where little is known about the research problem or if previous research doesn't fully explain the research question, where surveys and experiments are not accessible and lastly the end product is the proposal of new ideas (Saunders, et al., 2016). Given that the research does not meet these criteria, a quantitative approach was chosen because it stressed measurements in which numbers are used directly to define the characteristics of something, allowing for statistical analysis.

According to Saunders *et al* (2016), there are three approaches to research philosophy, namely; epistemology, ontology, and axiology. Due to the nature of the research question and objectives for this study, an epistemology method was used. There are three epistemological viewpoints to consider, namely positivism, interpretivism, and realism (Saunders, et al., 2016). Positivism is a research philosophy that considers reality as something that can be objectively determined and explained through research (Hair, et al., 2011). The researcher took this approach as they strongly believed that the most accurate findings would only result from carrying out scientific research. Because positivism believes that data should be acquired by observation and analysis, it is also a suitable paradigm for data gathering methods.

The research aimed to determine the impact of COVID-19 on the sales performance of the e-commerce sector by assessing the growth and buying patterns of consumers. In addition, the

study also drew attention to the adoption of e-commerce by new users and also determined the value that continued use brings.

3.2. Inductive Approaches

Inductive research methods involve finding patterns within a data collection to draw conclusions and construct theories. When researchers are aiming to construct a theory or conceptual framework from acquired data, they frequently employ an inductive approach, with the hypothesis being based on inductive reasoning or grounded theory. (Hair, et al., 2011). Saunders, et al., (2016) states that an inductive approach can be used if a research project is data-driven and develops a theoretical explanation as data are collected and analysed. Despite having relevance in most academic research conducted, this study did not utilize this approach as the methods were not in line with specified parameters.

3.3. Deductive Approaches

A deductive approach often requires the researcher to identify a clear theoretical position used to draft research questions and is later tested (Saunders, et al., 2016). Positivism is a research philosophy that is frequently connected with deductive approaches due to its highly ordered nature and emphasis on factual measurement.

Saunders, et al. (2016) argues that where a researcher wishes to adopt a clear theoretical position that will be tested through the collection of data it is best to take a deductive approach. As a result, existing hypotheses were evaluated in light of the gathered data to see whether they were relevant to the study. As a deductive approach was selected, there was a need to utilize existing theories to guide the research. To elaborate, the study collected data through empirical observations, such as questionnaires constructed based on proposed assumptions (Hair, et al., 2011). The use of a deductive approach allowed the researcher to only test existing theories but access whether they were valid, invalid or needed revision.

3.4. Time Horizon

Due to the study focusing on a global event that had started in 2020, there was a need to limit impact or performance from 2020 to 2021 to preserve integrity. According to Saunders, et al. (2016) the two types of time horizons are cross-sectional, which is a snapshot tied to an event in a given period and longitudinal which presents a diary-style approach that is used to study change and development. Cross-sectional time horizons are used to describe the incidence of a phenomenon at a given point in time to seek to explain a relationship between certain factors. Based on this reasoning the research decided to take a cross-sectional time horizon.

3.5. Sampling Frame and Sample Size

Concerning the requirement of the case study method, the research population was restricted to one long-existing e-commerce company, 11 small e-commerce businesses and 50 consumers. The demographic of eligible consumers is quite vast, with potential subscribers representing a sizable portion of the Lusaka population.

3.5.1. Sampling frame

According to Hair, et al., (2011) sampling frame provides a working definition of the target population and provides a comprehensive list of the elements from which the sample is drawn. A target population is the complete group of objects or elements relevant to the research project. It is from this larger target population that a sampling frame can be derived, through the selection of the right groups of individuals discussed in the next section.

For this study in particular the sampling frame was small, and medium e-commerce businesses and general e-commerce consumers who came from different places around the city of Lusaka with varying educational backgrounds, ages and gender

3.5.2. Sampling method

Despite the multiple sampling methods, Stratified random sampling was selected when dealing with small e-commerce businesses and e-commerce consumers. This was done to get respondents that were generally representative of the population and to remove any bias by the researcher lending credibility to the research. Following the identification of the population of interest, there was a need to divide these into three different groups. The process of Startificaiton was completed with the simple random sampling method applied to the subgroups (small e-commerce businesses and e-commerce consumers)

3.5.3. Sample Size

The study's sample size was divided into three groups due to the use of a random sampling method. The population of Zambia sits at 19 million with Lusaka accounting for 3.3 million (Zambia Data Portal: CSO, 2020). Potential e-commerce consumers are about 90% of the overall population (ZICTA, 2020). There were about 47 e-commerce consumers selected as this speaks to the saturation principle. In addition 11 e-commerce businesses were also selected to gauge their performance with one large e-commerce business Dot Com Zambia also included. Table 3.1 indicates the subgroups and the various sample sizes.

Table 3.1 Research sample size

Group	Sample
E-commerce consumers	47
Large local e-commerce businesses	1
Small e-commerce businesses	11
Total	**59**

3.6. Data Collection

Numerous data collection techniques can be employed in research, each with its own set of benefits and drawbacks. The appropriate method of data collection is determined by the nature of the questions and may use observation or surveys. Following a thorough examination of the primary and secondary data required for this research, a combination of interviews (structured/unstructured questionnaires, and self-completed internet surveys) were conducted. Since the researcher used a quantitative approach which was backed by a positivism paradigm, the usage of questionnaires for data collection was appropriate as they provided the ability for statistical analysis (Hair, et al., 2011)

In addition, electronic questionnaires were particularly ideal given the literacy levels of typical e-commerce consumers who possess some level of technical competence The ongoing COVID-19 pandemic also provided limitations for in-person meetings with various people.

3.7. Data Processing and Analysis

After the data collection process was completed the researcher had to go through all of the responses from the respondents just to see what questions were left unanswered and others that contained some logical inconsistencies or provision of answers in sections that were not applicable. The data collection approach for the questionnaires which was used through Google Forms gave the researcher not only a way to quickly and easily solicit responses but also a way to present questions conditionally and smartly,

After completing the data validation checks, the next process involved tabulation and coding of this data in a way that would be easily interpreted and analysed to make sense of it all Results from the findings and further analysis that was carried out are presented in chapter 4.

3.8. Validity and Reliability of Research Findings

In the natural sciences and quantitative social sciences, reliability and validity are critical for making judgments about the quality of research. According to Saunders, et al., (2016) replication and consistency are terms used to describe reliability, whereas validity relates to the suitability of the measurements utilized, the accuracy of the analysis of the results, and the generalisability of the findings.

The research insured validity by use of appropriate measurements of the elements were applied (Hair, et al., 2011). The questionnaire was divided thematically with each section addressing a research objective. Each questionnaire was pretested and revised before asking the respondents ot fill them in again. As a result, it can be said that the research was successful in quantifying the critical elements necessary to assure proper findings.

The investigation established reliability; however, it was necessary to ensure that measurements were accurate and of high quality. The precision of the measurements ensured that the research findings were not only correct, but also important. The results of the findings were consistent, as they could be repeated making them fit for use in other research

3.9. Ethical and Access Issues

3.9.1. Accessibility

In conducting the study, the researcher was able to achieve the needed level of access following the overall research approach and sampling methods. The relevant data was made available and made and medium e-commerce store owners and consumers from around Lusaka. The relevant research data was easily accessible because it was submitted electronically via an online survey tool. There was no requirement for a written letter from the university to gain access to Dot Com Zambia, owing to the researcher's prior employment with the company, although there was a need to avail the research topic with the business owner. The survey questionnaires presented to consumers and small businesses had a disclaimer indicating what study was being undertaken thus making it easier for respondents to answer the questions.

3.9.2. Research Ethics

The majority of research, whether in academia or business, involves some level of ethical consideration. Some relevant areas can be faithful participation, disclosure of research, freedom from harm and privacy. For this research faithful participation, disclosure of research and privacy were the relevant issues of concern. Due to the use of online surveys, faithful representation was

limited in circumstances where respondents were less attentive, especially in the case of e-commerce customers.

Researcher disclosure was important to individuals participating in the surveys. This was accomplished by including a clear and concise statement of the research's purpose prompting respondents to provide honest responses. Privacy is by far the most significant issue and worry associated with participation, as any research conducted must provide anonymity upon request. There was no requirement for users to disclose identifying information such as their name or address for this study, and the researcher made it very clear how the obtained data would be used and stored. The presentation of data after analysis was in an aggregated form instead of on an individual basis.

Financial data was quite difficult to attain so there was a need to represent sales performance in percentages to make it easier for most of the business respondents. Finally, the researcher confirmed that obtained data was securely stored and used for the intended purpose.

3.10. Chapter Summary

This chapter gave an overview of the selected research methodology and provided the reasons for the chosen approach. In addition, the chapter provided the research design, time horizon, research approach and discussed the various methods of how data was collected. Lastly, the chapter covered relevant details addressing the reliability and validity of the research findings as well as the ethical and access issues.

4. Chapter 4: Findings and Analysis

4.0. Introduction

Chapter 4 essentially provides an understanding of the research by interpreting the data that was collected from the various respondents in the identified groups. To answer the research questions and test the hypothesis, the collected data was analysed and broken down into a much more meaningful form Primarily, the questionnaires were developed to address the research questions identified in the first chapter and the findings have been documented and analysed with SPSS, Excel and Google Forms

4.1. Distribution of questionnaire

The questionnaire was created with Google Forms (an online survey creator) and the link was distributed over email, WhatsApp and text message. For the e-commerce consumers, a total of 50 surveys were sent with 47 being received back which represented a 94% response rate. The business questionnaire targeted 16 small businesses and one large e-commerce company Dot Com Zambia. The targeted small businesses sell products within different categories and started using e-commerce at various stages during the period of interest. The response from the targeted companies was 12 out of 17 representing a response rate of 70.6%

4.2. Assessment of Findings and Analysis for each Instruments

This section presents the findings into categories of amall and medium businesses (online traders and established platforms) and consumers of e-commerce solutions. To assess the findings the collected information is grouped into thematic areas that help answer the main study's questions.

4.2.1. Demographic information of Respondents

The starting point of each of the questionnaires was demographic which is important both for the businesses and consumers of e-commerce as it was primarily used to categorize findings even though it was not directly linked to research questions. This demographic information provided an additional layer of understanding which helped the study reach a meaningful conclusion. The breakdown of demographic data for the businesses and e-commerce consumers is as follows;

4.2.1.1. Small and medium e-commerce business demographic information

i. Distribution by business size

The first indicator of interest was the business size which served as a way to categorize the business and gauge impact based on that class of business. Figure 4.1 shows the distribution size

of the 12 business respondents. 33.3% represent businesses with 1 employee, 41.7% have 2-9 employees and 25% have 10-49 employees.

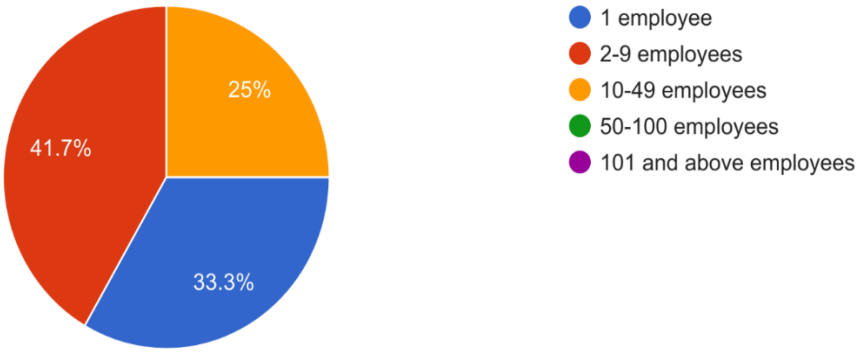

Figure 4.1 distribution by business size

ii. Distribution by years in business

The number of years a business has been in existence was important when used alongside the adoption of e-commerce. This provided some clarity and an idea of businesses that started using e-commerce as a way to capture value during the COVID-19 pandemic. Figure 4.2 shows the business years distribution with businesses less than 2 years accounting for 58%, 2-5 years representing 25% and 6-10 years representing 16%

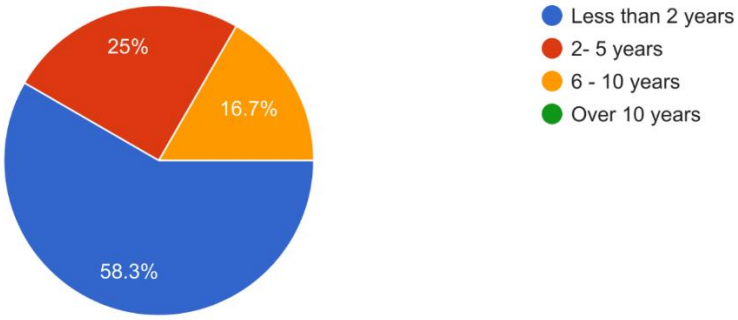

Figure 4.2 Distribution by years in business

iii. Distribution by business type

The type of business in terms of online or brick and mortar was important to know to determine what impact COVID-19 could have had in changing how the business operated. According to the responses, figure 4.3 shows the business type distribution. Wholly online businesses represent 70 % while wholly brick and mortar represent 20%, lastly, Brick and mortar stores using e-commerce represent 10%

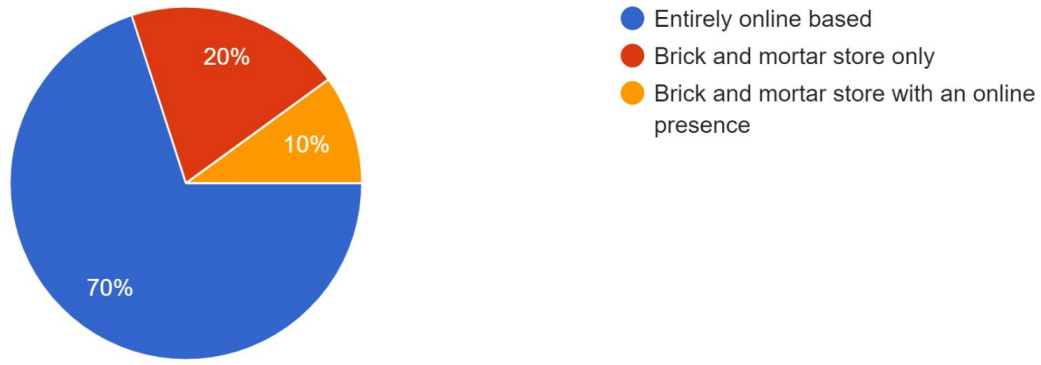

Figure 4.3 Distribution by business type

4.2.1.2. Consumer demographic information

i. Distribution by age

In the case of the consumers, getting the age group was important in identifying who typical e-commerce users are in Lusaka. Given the relatively young population that Zambia has, the results which are shown in figure 4.4 tells a similar story with 18-25 years representing 17 % which was similar to the 35 to 49 years segment. The largest was 26-34 years representing 61.7% and 50 and above representing 4.3%

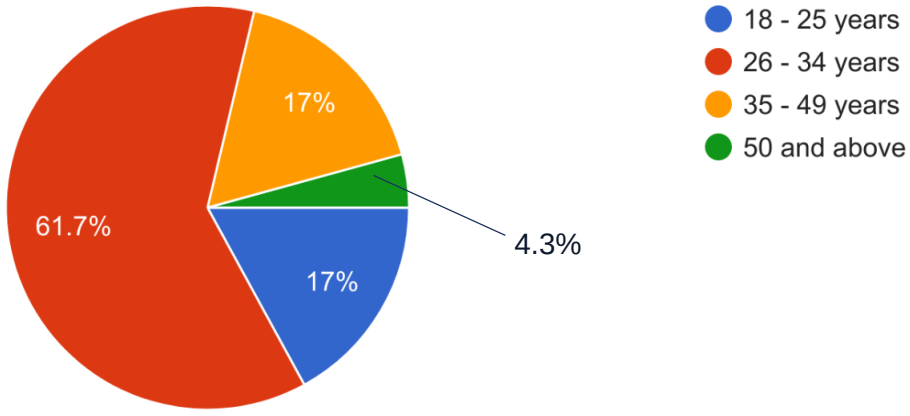

Figure 4.4 Age of consumer respondents

ii. Distribution by gender

The gender of the consumer respondents had to be well distributed to get less bias or one side data. Of the total consumers as depicted in figure 4.5, 51.1% represented the male respondents while 48.9 % represented the females. This distribution point did not correlate with most of the answers given for the research as this did not impact any consumer behaviour,

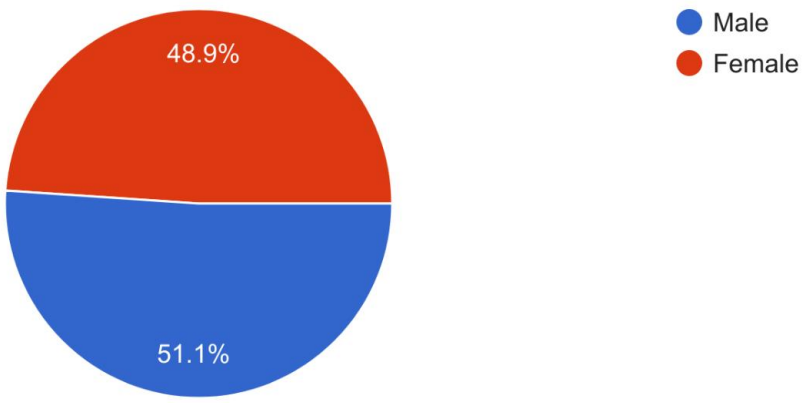

Figure 4.5 Gender of consumer respondents

iii. Distribution by education level

Education level was an important gauge to use in trying to understand the competency levels of the average e-commerce consumer in Lusaka. Figure 4.6 shows the distribution of respondents by education level. 21.3% represented the postgraduate degree holders, 59.6% were bachelor holders,17 % had a diploma. Respondents with secondary education represented 2.1% and lastly, there were no respondents without any educational background.

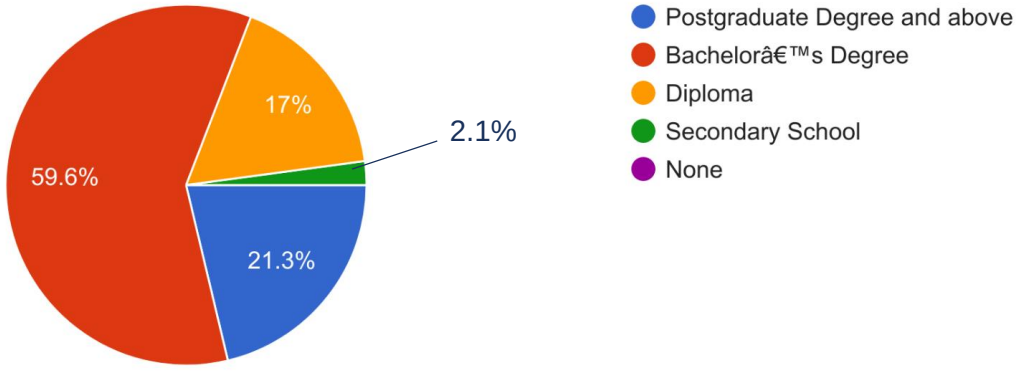

Figure 4.6 Distribution by education level

iv. Distribution by experience in the use of e-commerce

The metric helps identify the impact of COVID-19 on consumers by knowing when exactly a respondent first started using e-commerce solutions and platforms. This helped identify users who started to use any of these solutions due to the pandemic. Figure 4.7 depicts the distribution by e-commerce experience with 95.7 % representing users of e-commerce and 4.3 % representing none users.

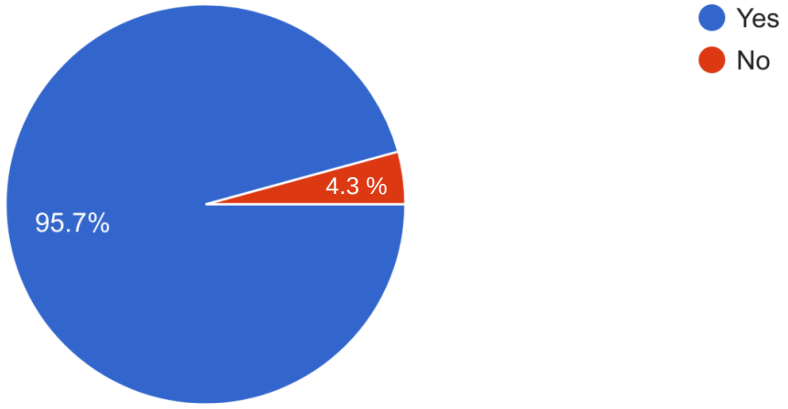

Figure 4.7 Distribution of e-commerce experience

4.2.2. Effects of COVID-19 on the e-commerce sales performance of businesses

The previous section analyzed the findings from the consumers and business demographic data this was done to establish and create a basis for an understanding. This section analyses the questions that are interlinked to the three research questions identified in the first chapter.

4.2.2.1. Challenges faced by Small and Medium Enterprises (SMEs) due to COVID-19

In identifying challenges presented by COVID-19 on the e-commerce sector, businesses with e-commerce stores were asked whether they still suffered disruption to their service delivery. 10% of the respondents said they did not face any disruption while 50% faced some disruption at the start of the pandemic while the large majority (40%) face disruptions sometimes

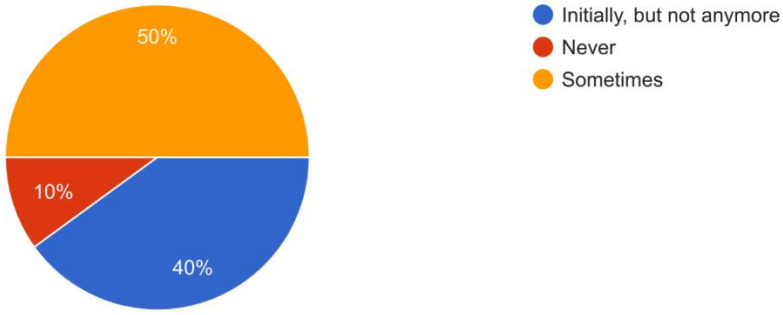

Figure 4.8 Business disruption of service caused by COVID-19

The areas that were mostly affected by COVID-19 are depicted in figure 4.9. According to the respondents, the most affected area has been product shortages(100%), additionally, supply chain disruptions from cross-border commerce affected 70% of respondents, and lastly, cancellation of

orders affected 80% of respondents. Only one business noted a challenge managing payment of employees.

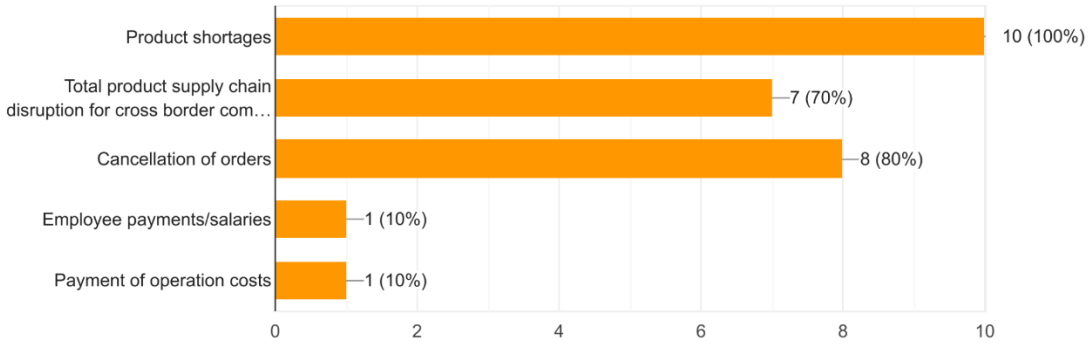

Figure 4.9 Areas facing service disruption due to COVID-19

4.2.2.2. Adoption of e-commerce by small and medium enterprises

For a few companies that did not have e-commerce services, There was a need to find out if they are willing to adopt e-commerce services. Figure 4.10 shows the results in which 50 % were unwilling and the other 50% were unwilling.

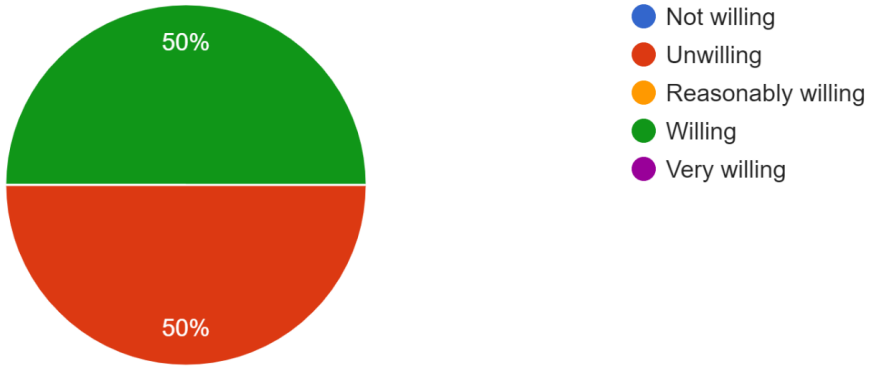

Figure 4.10 New adoption of e-commerce in business

Another indicator of adoption concerning businesses was knowing when companies started to conduct sales using e-commerce. Figure 4.11 shows when most of the companies started using e-commerce for business. Of the responses, 30% represented long time e-commerce businesses with 70% starting to use e-commerce during the COVID-19 pandemic

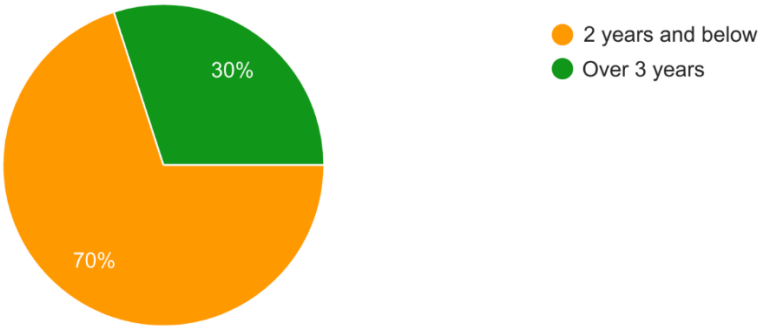

Figure 4.11 Usage of e-commerce for business

Another point of assessing the adoption and growth of e-commerce was finding out if companies started using any new related e-commerce rated technologies and approaches since COVID-19. 90% of the respondents overwhelmingly adopted some new technology to drive sales while 10% just used existing resources

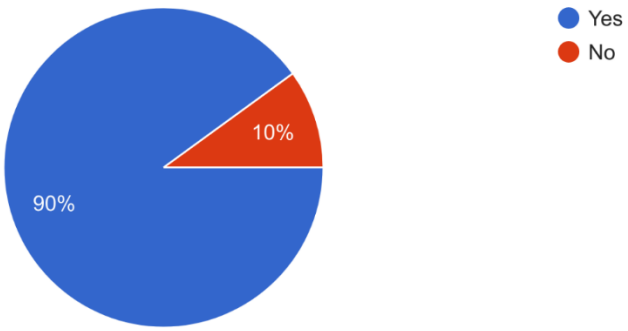

Figure 4.12 adoption of technology to improve sales

The last gauge or adoption was just a closed-ended question asking how the e-commerce business felt about the current sector and whether it presents any good opportunities for business growth. The large majority (50%) strongly agreed, 30% somewhat agreed and 20% neither agreed nor disagreed. This is illustrated in figure 4.13.

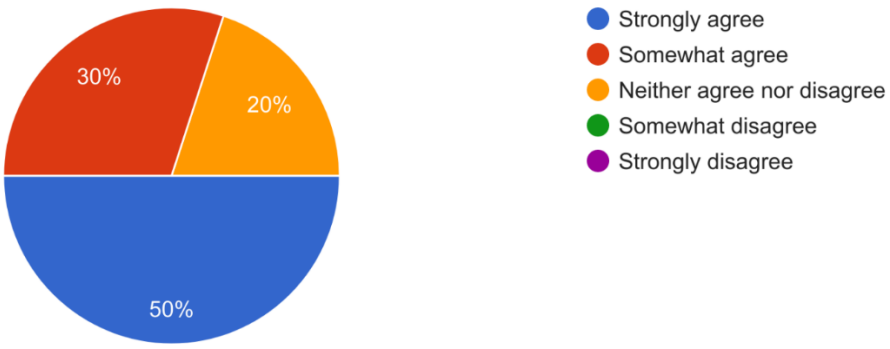

Figure 4.13 Sales growth and opportunities presented with e-commerce

4.2.2.3. Impact of COVID-19 on the performance of e-commerce SMEs

One of the indirect ways to gauge the performance of a business revolved around knowing how the business intended to scale up or down. Most businesses (60%) said they planned to slightly increase their employees. 10% opted to reduce slightly and the last 30% said they will stay the same. The distribution of responses is shown in figure 4.14

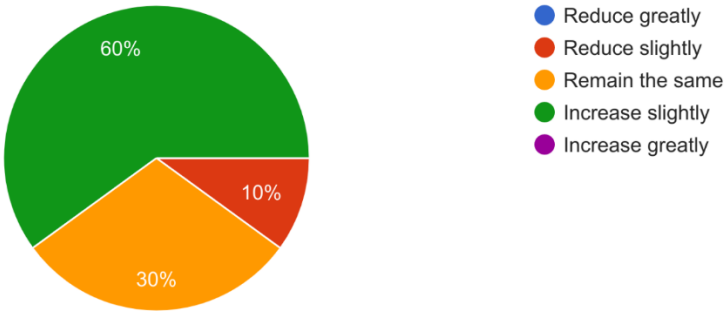

Figure 4.14 Business growth during COVID-19 (employees)

Customer size is directly correlated to the possible e-commerce sales. A comparison of customer growth from 2019 and the two years after (2020 to 2021) showed that 80% of businesses saw a slight increase, 10 % indicated a significant increase, and the rest indicated a decline. The findings are shown in figure 4.15.

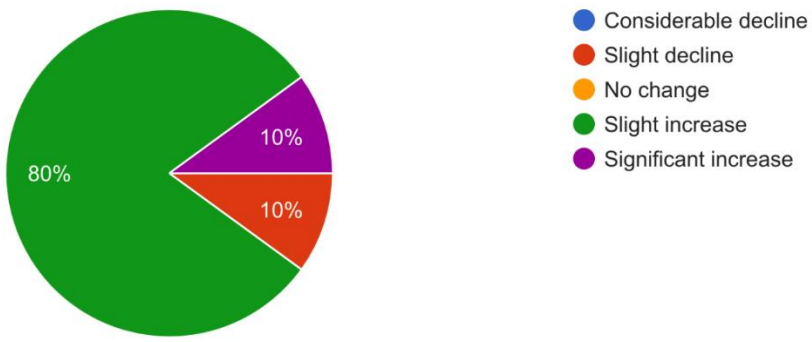

Figure 4.15 Rise or decline of active customers

Lastly, the businesses were asked about whether or not the sales increased in the last two years as opposed to the year before COVID-19. Figure 4.16 indicates the results for the respondents with 10% recording a significant increase, 80% indicating a slight increase, and 10% recording no change. This shows that most businesses did not see a decline in sales revenue regardless of the various challenges of COVID-19.

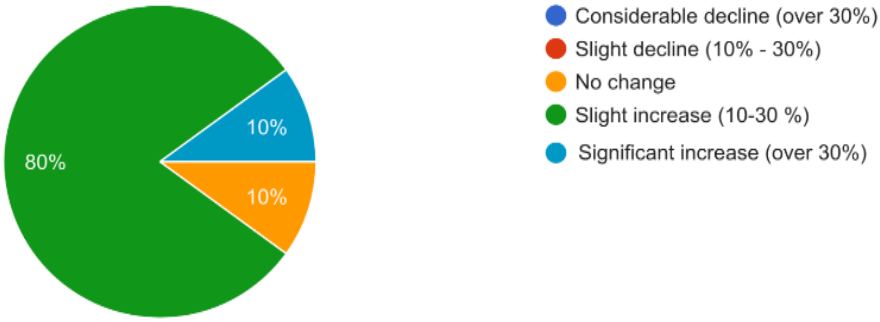

Figure 4.16 performance of sales

4.2.2.4. Consumer e-commerce challenges due to COVID-19

Consumers who had used e-commerce before COVID-19 were asked whether they notice any decline or improvement in their e-commerce experience as they would be positioned to identify any challenges. Figure 4.17 shows the e-commerce experience from the customer's perspective. 29.7% of customers indicated a decline in some services, while 13.5% indicated an overall decline. 16.2 % of respondents said this their experience stayed the same. The remaining respondents indicated a slight and overall improvement (27% and 13.5%)

Figure 4.17 Comparison of e-commerce performance before and after COVID-19

4.2.2.5. Consumer adoption of e-commerce due to COVID-19

New consumers are an indicator of sector growth thus translating to sales in the long or short term. Of the e-commerce users identified. The researcher tried to understand when they started to use e-commerce. 77.8% of respondents represented long-time consumers (over 3 years) and 22.2% represented new consumers.

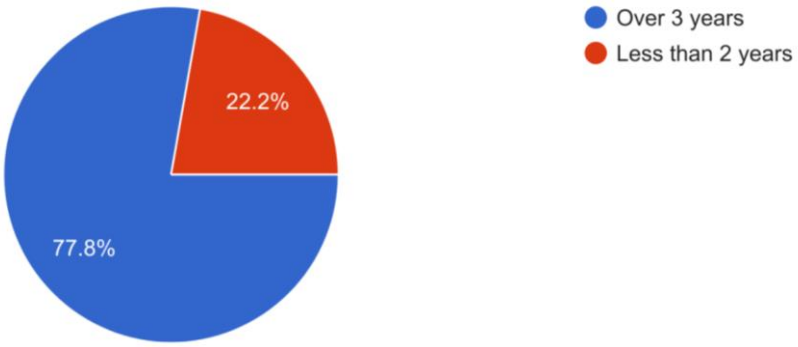

Figure 4.18 Length of e-commerce usage

To know any issues preventing adoption nonactive consumers were asked why they did not use e-commerce. 50 % said they are only comfortable doing it in person and the other 50% said they did not trust the process of making payments online. This is shown in figure 4.19

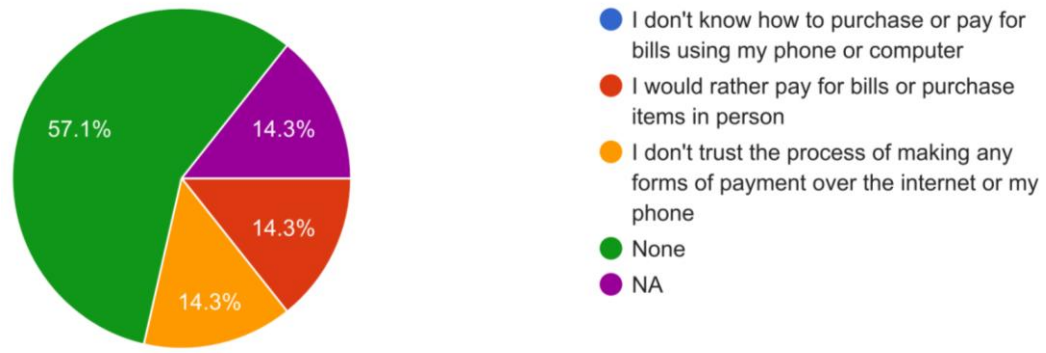

Figure 4.19 Reasons for not participating in e-commerce

The new e-commerce (less than two years) consumers were asked if e-commerce brought some convenience to the way they paid for services and purchased goods. 47.1% of respondents somewhat agreed, 29.4% strongly agreed and the remainder neither agreed nor disagreed. This is depicted in figure 4.20.

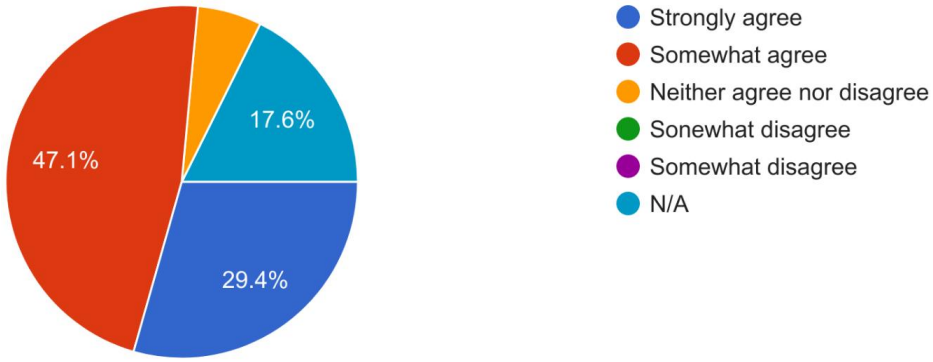

Figure 4.20 Benefits of e-commerce for new customers

4.2.2.6. Impact of COVID-19 on e-commerce consumer purchasing behaviour

To gauge purchasing behaviour, the researcher had to first know which of the respondents made purchases with their phone or computer. Figure 4.21 shows the responses with 95.7% of respondents saying that they have made a purchase and 4.3 have not used e-commerce.

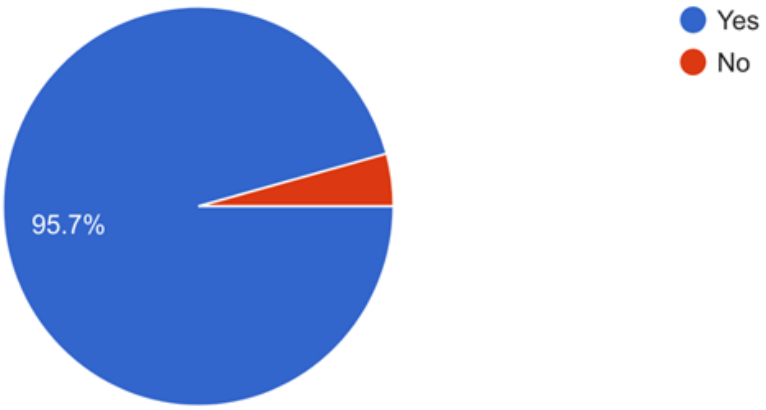

Figure 4.21 Particpation in e-commerce

After knowing the subset of e-commerce users there was a need to know how frequently consumers used e-commerce. Of all the respondents 56.6% stated they most used e-commerce for purchases, 17.8% stated they always use e-commerce for all purchases and payments while 26.7 stated they rarely used e-commerce.

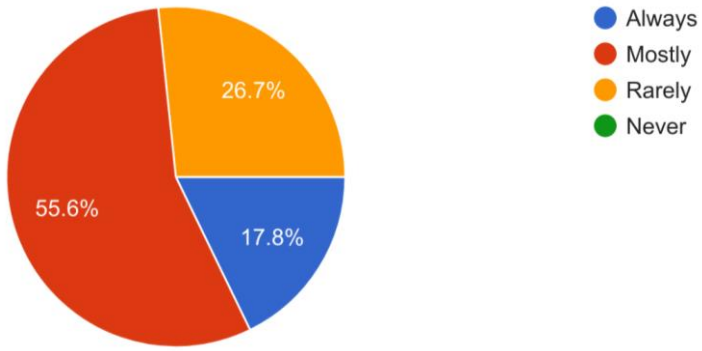

Figure 4.22 Frequency of participation in e-commerce

Active e-commerce consumers were asked which type of e-commerce they participate in. This was a way to know what is the main channels are most common. 60% of respondents said they participate in both local and international e-commerce, 11.1% only participate in international commerce and 17.8% represent local e-commerce participation only.

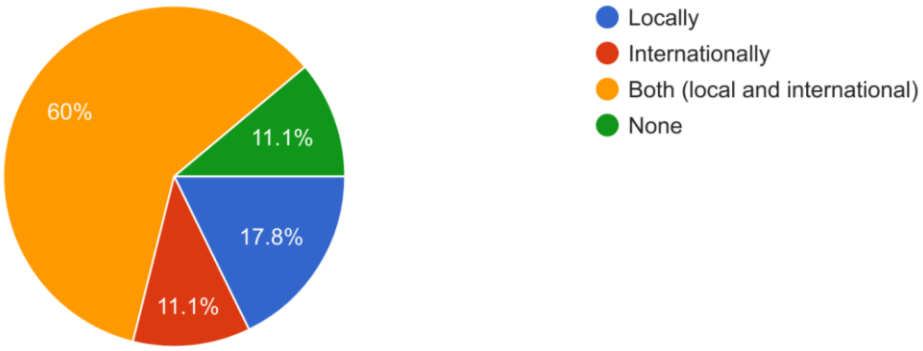

Figure 4.23 Type of e-commerce engaged in

The last question aimed to know the sentiment of e-commerce and the continuance of its use as COVID-19 restrictions are lifted to gauge further growth or decline. 55.6% of respondents say they mostly continued to use e-commerce, 42.2% stated they sometimes used e-commerce, and 2.2 % stated they never use e-commerce.

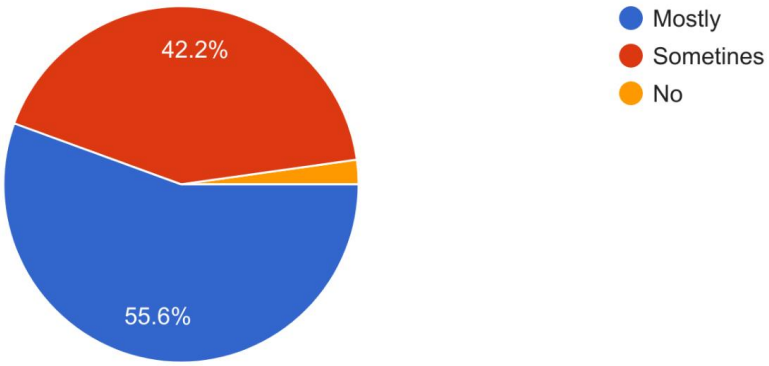

Figure 4.24 Continued use of e-commerce

4.3. Impact of COVID-19 on e-commerce Sales Performance in Lusaka

The research sought to determine whether COVID-19 affected the e-commerce sales performance in Lusaka. From the conducted research it can be seen that various relationships can be used to assess whether the impact of COVID-19 affected sales performance. We first have to find the chi-square value and the degree of freedom by first looking at the relationship between operating an e-commerce business during the COVID-19 pandemic and the performance of sales. Out of the 10 respondents that used running e-commerce businesses, 7 respondents (80%) stated that they saw some form of sales increase while 1 respondent (10%) reported no change. The result of the analysis is shown in table 4.1.

Table 4.1 Relationship between operating an e-commerce business during the COVID-19 pandemic and sales performance

How long have you operated an e-commerce store		Decrease	Increase	No change	Total
Two years and below	Count	0	6	1	7
		0.0%	85.7	14.3%	100%
Three years and above	Count	1	2	0	3
		33.3%	66.7%	0.0%	100.0%
Never	Count	0	0	2	2
		0.0%	0.0%	100.0%	100.0%
		1	8	3	12
Total		8.3%	66.7%	25.0%	100.0%

4.4. Hypothesis Testing

The collected data were analysed in SPSS and the results are shown in table xx, The analysed and sorted data produced a Chi-square value of 10.285714 with 4 as the degree of freedom. The computation of these two values produced a probability of 0.036968. This simply meant that the null hypothesis was rejected since the p-value of 0.03581 was smaller than 0.05.

Table 4.2 Chi-square test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.285714	4	0.035880
Likelihood Ratio	10.214308	4	0.036968
N of Valid Cases			

After testing the identified associations, a conclusion was drawn regarding the research's hypotheses, which were presented in detail in the report's first chapter. The hypothesis for this research was outlined in chapter one; The H_O (null hypothesis) stated that COVID-19 has not affected e-commerce sales performance. According to the research conclusion and findings, this is not true which makes the alternative hypothesis (H_A): COVID-19 has affected e-commerce sales performance true.

4.5. Chapter Summary

Chapter 4 presented and discussed the findings based on the research data collected from 50 respondents made up of 47 e-commerce consumers, 11 small e-commerce businesses and one

large e-commerce company. The main findings of the research were analyzed with the results supporting the alternative hypothesis which started that COVID-19 has impact impacted the sales performance of the e-commerce industry

5. Chapter 5: Conclusions and Recommendations

5.0. Introduction

The final chapter outlines the overall findings covered in previous chapters of the report. Additionally, the findings and conclusions regarding the impact of COVID-19 on the performance of e-commerce in Lusaka are discussed. Following the findings of the study, recommendations are offered for future research.

5.1. Discussion of Findings

Significant disclosures and findings from the study's problem definition, research methodology, and eventual data collection and analysis demonstrate that COVID-19 does have an effect on the performance and growth of e-commerce sales. The research drew its focus on three particular groups of interest which included e-commerce consumers, small and medium-sized businesses making the total of 59 research respondents. The research was guided by a relevant research methodology that supported much of the study's activities aiding the collection and analysis of relevant data leading to a conclusion.

Findings from the research revealed that the e-commerce consumer population for Lusaka is relatively young with the largest number falling within the age range of 26-34 years which aligns with the findings of UNCTAD (2021) who indicated the younger age groups were the prominent e-commerce participants

Supply chain disruptions have been a hallmark of the pandemic, affecting the majority of businesses globally. The findings showed that all businesses faced some form of supply chain disruption issue during the onset of COVID-19. Gu, et al., (2021) support these findings in their research on the impact of COVID-19 on food supply chains. Their research provides a deeper look into the various supply chain-related issues linked to food delivery services.

Relevant theoretical frameworks that are identified in chapter 2 had some linkages throughout this study and helped frame the hypothesis, COVID-19 is said to have an impact on the growth and sales performances of e-commerce and so a business needs to keep updated by adopting competitive technologies to drive sales revenue and retain customers. In addition, the study can be said to support the transaction cost theory which is corroborated by most of the research responses which stipulated the convenience of e-commerce services both for the business and consumers (Johar & Awalluddin, 2011).

5.2. Implications of Findings/Recommendations

The finding of the research can serve to inform potential e-commerce business entrepreneurs who intend to boost sales and acquire more customers.

5.2.1. Improvement of supply chain management

One of the overwhelming barriers to cross border e-commerce has been disruptions caused by the global supply chains, Due to its extensive scale, it has taken a lot longer to recover although lessons about readiness can be applied to the local supply chains to improve the issues that were first introduced with COVID-19. With local stakeholders, much depends on providing innovative and forward-thinking solutions that can learn from past mistakes.

5.2.2. Increase in e-commerce adoption by improving infrastructure

The improvement of ICT infrastructure is very important to further drive the adoption of e-commerce. This has to go further than urban areas but rural areas with the provision of services to the financially excluded population. Another layer of adoption is the need to create awareness of services that reduce any fears associated with online payment transactions as this tends to be a barrier to entry, especially for the elderly population.

5.2.3. Increased focus on mobile commerce and machine learning

A recommendation to further improve the performance of the e-commerce industry is a greater focus on mobile commerce as it is a widely used sector that will be a big driver for e-commerce adoption and onboarding further translating into sales. The application of a layer of personalization through machine learning will help businesses serve customers much better by providing a tailor-made experience.

With the provided recommendations being implemented, there is a greater possibility of the e-commerce industry within the city and the country at large experiencing some growth largely due to the opportunities that COVID-19 has presented.

5.3. Directions for Future Research

The study focused on Lusaka which is the capital city of Zambia and has a relatively good ICT infrastructure as compared to other parts of the country. Future research needs to draw its focus on the lingering digital divide in remote areas of the country with a focus on the unbanked or financially excluded parts of the population. In addition, some newer e-commerce companies such as Afridelivery and Ulendo were not included in the research due to access issues but would have been important to get their perspective as both companies experienced rapid growth during

the pandemic. A suggested frame of research could be a cross-examination of local businesses that transitioned from having a brick and mortar (physical presence) to a digital-first approach owing to the pandemic.

Lastly, future studies could examine the impact of COVID-19 on business to business e-commerce as this research would render an understanding of how aspects such as the local supply chains and manufacturers were affected.

5.4. Chapter Summary

The focus of this research was on consumers of e-commerce, small and large e-commerce businesses to get a wide perspective of how exactly COVID-19 has impacted e-commerce in Lusaka. Due to the quantitative nature of the study, the researcher collected data through a questionnaire and analysed all the findings to conclude. A lot of research still needs to be conducted in other areas of e-commerce to best inform others who are interested to know the effects of COVID-19 within other types of e-commerce.

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7. Appendices

7.1. Appendix A: Research Questionnaire

7.1.1. Sample of e-commerce consumer questionnaire (Primarily created using Google forms for quick delivery)

Dear Respondent,

As part of an academic project for partial fulfilment of the MBA-International Business certification, I am surveying the Impact of Coronavirus Disease 2019 (COVID-19) on the sales performance of the Electronic commerce industry in Lusaka City.

I am excited to have you as a respondent to this study and would appreciate you taking a few moments to answer the questions contained in this survey. The information you enter will not be associated with you and will be used solely for this research and not stored longer than it needs to be. You are not required to indicate your name as this survey is meant to be anonymous.

A. Demographic Information

i. Age

a) 18 - 25 years
b) 26 - 34 years
c) 35 - 49 years
d) 50 years and above

ii. Gender

a) Male
b) Female

iii. Level of education

a) Postgraduate Degree and above
b) Bachelors Degree
c) Diploma
d) Secondary School
e) None

B. Knowledge and personal use of e-commerce

iv. Have you ever bought a physical product or paid for a service over the internet (online) with your phone or computer?

a) Yes
b) No

v. If your answer to question 4 is No. Why would you say is the reason you have not? (You can give more than one)

[ ] I don't know how to purchase or pay for bills using my phone

[ ] I would rather pay for bills or purchase items in person

[ ] I don't trust the process of making any forms of payment over the internet or on the phone

vi. If your answer to question 4 is Yes. How frequently would you say you purchase products or pay for bill online since the start of COVID-19?

a) Always
b) Often
c) Rarely
d) Never

vii. If your answer to question 4 is Yes. Do you make purchases locally or from international e-commerce stores such as Amazon, eBay, Alibaba e.t.c

a) Locally
b) Internationally
c) Both (local and international)
d) None

C. E-commerce and COVID-19

viii. With regards to the COVID-19 pandemic. When would you say you started to use e-commerce services?

a) 3 years and above
b) 2 years and below
c) Never

ix. If your answer to question 8 is over 3 years, Have you noticed any decline or improvement in your experience? This includes payment, product availability and delivery

a) There has been an overall decline
b) There has been a decline in some services
c) It has stayed the same
d) There has been an overall improvement
e) There has been a improvement in some services

x. If you are a new e-commerce user (less than two years), Would you say e-commerce has brought about convenience to the way you pay for bills or make purchases?

a) Strongly agree
b) Somewhat agree
c) Neither agree nor disagree
d) Somewhat disagree
e) Strongly disagree

xi. Have you continued to use e-commerce as your primary way of making payments and purchases as COVID-19 restrictions have been lifted?

a) Mostly
b) Sometimes
c) No

7.1.2. Sample of e-commerce business questionnaire (primarily created using Google Forms for quick delivery)

Dear Respondent,

As part of an academic project for partial fulfilment of the MBA-International Business certification, I am surveying the Impact of Coronavirus Disease 2019 (COVID-19) on the sales performance of the Electronic commerce industry in Lusaka City.

I am excited to have you as a respondent to this study and would appreciate you taking a few moments to answer the questions contained in this survey. The information you enter will not be associated with you and will be used solely for this research and not stored longer than it needs to be. You are not required to indicate your name as this survey is meant to be anonymous.

A. Business Information

1. Business size?

a) 1 employee
b) 2 – 9 employees
c) 10-49 employees
d) 50-100 employees
e) 101 and above employees

2. How long have you been in business?

a) Less than 2 years
b) 2- 5 years
c) 6 - 10 years
d) Over 10 years

3. How would you categorize your business?

a) Entirely online based
b) Brick and mortar store only
c) Brick and mortar store with an online presence

B. Customers, Performance and COVID-19 Impact

4. If the answer is b in question 3, are you willing to transition to online commerce?

a) Not willing
b) Unwilling
c) Reasonably willing
d) Willing
e) Very willing

5. If the answer is a or c in question 3, how long have you operated an electronic commerce store or platform?

a) 2 years and below
b) 3 years and above

6. Does your business plan on reducing or increasing the number of employees?

a) Reduce greatly
b) Reduce slightly
c) Remain the same
d) Increase slightly
e) Increase greatly

7. Within the last two years (2020 and 2021) have you seen an increase or decline in the number of customers using your services as compared to 2019?

a) Considerable decline
b) Slight decline
c) No change
d) Slight increase
e) Significant increase

8. Can you say you have seen an increase in sales from the last two years (2020 and 2021) as compared to the years before COVID-19?

a) Considerable decline (over 30%)
b) Slight decline (10% - 30%)
c) No change
d) Slight increase (10-30 %)
e) Significant increase (above 30%)

9. Has your business adopted technological innovations such as online payments or courier/ doorstep delivery to improve sales performance since the start of the COVID-19 pandemic?

a) Yes
b) No

10**.** Since the start of the COVID-19 pandemic does your business continue to suffer from any form of disruption to your service delivery?

a) Initially, but not anymore
b) Never
c) Sometimes

11**.** If your answer to question 9 was sometimes, What areas would you say are affected the most (you can tick multiple answers)

a) Product shortages
b) Total product supply chain disruption for cross border commerce
c) Cancellation of orders
d) Employee payments/salaries
e) Payment of operation costs
f) Other

12. Following your experience with the COVID-19, do you feel that electronic commerce is still a growth sector that still presents some good opportunities?

a) Strongly agree
b) Somewhat agree
c) Neither agree nor disagree
d) Somewhat disagree
e) Strongly disagree

7.2. Appendix B: Acronyms

COVID-19 - Coronavirus disease 2019
E-commerce – Electronic Commerce
ICT – Information and Communication Technology
IT – Information Technology
SPSS - Statistical Product and Service Solutions
ZICTA – Zambia Information and Communications Technology Authority

7.3. Appendix C: Tables and Figures