UNIVERSITY OF ZAMBIA

GRADUATE SCHOOL OF BUSINESS

ASSESSING THE UPTAKE OF DIGITAL FINANCIAL SERVICE (DFS) BY MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES (MSMES) IN CROSS BORDER TRADING IN ZAMBIA

Dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of the degree of a Master of Science in Operations, Project, and Supply Chain Management

By

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2024

DECLARATION

I do solemnly declare that this dissertation represents our own work and that it has never been submitted for a Master's Degree at the University of Zambia or any other University. It does not contain any material written or published by another author except were due citations and acknowledgements are stated.

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APPROVAL

This dissertation of Nawina Imwiko has been approved as fulfilment of the requirement for the award of the Masters of Science in Operations, Projects and Supply Chain Management by the University of Zambia.

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ACKNOWLEDGEMENT

My sincere gratitude goes to all who made this project a reality. Dr Richard Kasongo, your guidance was invaluable. I appreciate the dedication of my teammates and colleagues whose collaborative efforts brought this project to fruition. To the institutions, Associations and individuals that provided the data i acknowledge the massive contributions to this study. The support from the Graduate School of Business was crucial in ensuring a smooth execution.

Lastly my family, friends and loved ones who provided unwavering support and motivation. Their belief in my abilities kept me focused on this project.

Together, your collective contributions have been the force behind the success of this project and for this i am profoundly grateful.

DEDICATION

I dedicate this dissertation to God Almighty my creator, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program and on His wings only have I soared. This dissertation work is also dedicated to my mother, Her Majesty the Litunga La Mboela, Mbuyu Imwiko, who has been a constant source of support and encouragement during the challenges of graduate school and life. I am truly thankful for having you in my life. Furthermore, I dedicate this dissertation to my children Ngombala, Luyando and Imasiku, who have always loved me unconditionally, understood when I could not be the mum they needed due to the focus on this project. You inspire me to work hard for the things I aspire.

ABSTRACT

The purpose of the study was to investigate the uptake levels of Digital Financial Service (DFS) and its enhancement on operations of Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. The study's presentation, analysis, and conclusion were based on three hundred (300) respondents which included two hundred and ninety one (291) registered MSMEs found in Lusaka that carry out cross-border trading, 1 (one) response from Financial Regulator (Bank of Zambia), six (6) responses from registered Commercial Banks and two (02) responses from Mobile Network Operators (Airtel and MTN Zambia) in Zambia. The data was analysed both qualitatively and quantitatively. The study revealed that 71.3% MSMEs interviewed acknowledged that Digital Financial Service (DFS) is important and facilitates effectiveness in conducting business and those that had access to DFS have had a good experience with the digital platforms. However, only 35% of the interviewed MSMEs were utilizing DFS in conducting their business across borders. Majority of the MSMEs are lagging in adopting digital financial services (DFS) due to lack of awareness of the innovative lending options and digital financial platforms that may enhance the operations of their businesses and improve their business performances. The study further revealed that there are barriers/challenges that limit the MSMEs in utilizing digital financial Services (DFS). These include, lack of knowledge of the many advancements that have been in the Digital Financial Service (DFS) sector, high transaction costs, deliberate government policy targeting MSMEs in cross border trading and security concerns, Despite the sensitization that the Service providers of DFS are advancing, the channels of communication being used on product information which is mostly institution website is not accessed by the MSMSEs in cross border trading. The study recommends enhanced information dissemination to cross border traders by DFS would enhance the uptake of DFS by MSMEs. The study also revealed that most of the service providers do not have targeted policies for MSMEs, as most of their policies are blanket type that cover a wide base of clients despite their different needs. This observation was also extended to the DFS regulator (Bank of Zambia) which lacked targeted policies on MSMEs. Deliberate capacity building in digital skills and digital entrepreneurship for MSMEs to be done by DFS providers and other relevant stakeholders. In conclusion, the study revealed the there is low uptake of DFS by MSMEs resulting in inefficiencies in the operation(s) of MSMEs in cross boarder trading.

Keywords: Commercial Banks, Digital Financial Services, Digital Platforms, Financial Regulator, Government Policies, Information Dissemination, Micro Small Medium Enterprises, Mobile Network Operators, Operational Efficiency, Uptake levels.

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List of Abbreviation and Acronyms

7NDP	Seventh National Development Plan
BOZ	Bank of Zambia
CBTA	Cross Boarder Traders Association
COMESA	Common Market for Eastern and Southern Africa
DFS	Digital Financial Services
FSP	Financial Service Provider
GSM	Global System for Mobile Communication
ICT	Information Communication Technology
IFC	International Finance Corporation
LDC	Least Developed Countries
MNO	Mobile Network Operators
MSME	Micro Medium Size Enterprise
NFIS	National Financial Inclusion Strategy
PPP	Public Private Partnership
SME	Small Medium Enterprises
SPSS	Statistical Package for Data Sciences
UNCDF	United Nations Capital Development Fund

OPERATIONAL DEFINITIONS

Digital Financial Services (DFS): include a broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances, and insurance. DFS concept includes mobile financial services (MFS).

Digital channels: refers to the internet, mobile phones, ATMs, and POS terminals.

MSMEs: Medium, Small and Medium-sized Enterprises

Financial inclusion: is access to and informed usage of a broad range of quality and affordable savings, credit, payment, insurance, and investment products and services that meet the needs of individuals and businesses.

Mobile payment: involves the use of a mobile device to make payments for goods or services either at the point of sale or remotely.

Mobile Financial Service: is the use of a mobile phone to access financial services and execute financial transactions. It includes both transactional services and non-transactional services. Mobile Financial services include M-Banking, M-payments, M-money, Mobile money transfer and Mobile international remittance services.

M-Money: is a service that provides clients with a channel to interact with a bank via a mobile device.

Mobile money operators are banks or non-banks that facilitate the electronic transfer of value via mobile phones or similar devices.

Mobile Services; mobile-based service facilitating electronic transfers and other transactional and non-transactional services using mobile networks

M-Banking: is the use of a mobile device to access banking services and execute financial transactions.

Mobile international remittance services: a remittance transfer service which allows a person in one country to securely and electronically transfer or top-up mobile credit to another mobile belonging to a family member or friend abroad.

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

This Chapter aims to give an introduction and background to the study on Enhancing operations in cross boarder trading through digital financial services (DFS) of Micro and Medium sized enterprises (MSMEs) in Zambia.

This study assessed the uptake and effectiveness of Digital Financial Services (DFS) on Micro, Small and Medium Sized Enterprises (MSMEs) for efficient operations in cross boarder trading in Zambia. Chapter one presents the introduction and background to the study. As an introduction to the study, the chapter gives an overview to the background of the study, the problem statement, its aim to the study, set objectives, questions, significance of the study, scope of study and lastly, the outline of the dissertation before proceeding to chapter two.

1.2 Background to the Study

Generally, Micro, Small and Medium Enterprises (MSMEs) are key to the economies of several developing countries as they play a vital role in driving economic activity and employment generation. According to Madan (2020), MSMEs are often described as the engine of growth for emerging economies from the perspective of employment and innovation. The UN estimates that MSMEs constitute 90 percent of global businesses and account for 60 percent to 70 percent of global employment. However, access to digital financial services has been recognised as a major obstacle in their development or growth, especially in developing countries. Digital Financial Service (DFS) is an integral part of the business strategy of Micro, Small and Medium Enterprises (MSMEs) for their expansion and growth in both domestic and international markets (Acs et al, 2017).

According to (COMESA Business Council, 2020) studies have been conducted on the access to finance issues relating to MSMEs and concluded that difficulties in access to finance are a widely accepted constraint globally. To make progress in this area, there is increasing recognition that Digital Financial Service (DFS) has the potential to increase and accelerate MSME financial inclusion when compared to traditional brick and motor models (International Finance Corporation (IFC) and Mastercard Foundation, 2018). Digital Financial service is an integral part of the

business strategy of MSMEs for their expansion and growth in both domestic and international markets. It helps overcome barriers to accessing financial services. Janine (2018), alluded that mobile money schemes allow people who own a phone but do not have a bank account to make and receive payments. Also, small, and medium-sized enterprises in Africa are assessed to account for 80 percent of the region's businesses. Regional integration and increased participation by the small businesses can provide a wider market and potentially better prices for their goods and services with the possibility of crossing overseas frontiers (Janine, 2018).

Lauer and Lyman (2015) add that small business, by leveraging DFS and digital platforms, can find access to regional markets and potentially expand to overseas markets. By being able to participate in regional economic activities through DFS, vulnerable groups can gain sources of income for their welfare and economic development at large. Increasingly, properly harnessed, this trade could have positive macro-economic and social implications. It also has the potential to play a critical role in poverty alleviation efforts by African governments (International Monetary Fund, 2017).

The most recent statistics on DFS in Zambia are provided in the latest UNCDF and BoZ State of the DFS Industry report for 2018. This report states that in 2018: "The DFS industry in Zambia experienced significant growth in terms of the number of active customers, agents and DFS providers. The industry went from having only 2% active DFS accounts from four providers in 2014, to 44% active DFS accounts from 18 providers in 2018. Between December 2017 and December 2018, active DFS accounts grew by 89%. Responding to the rise in active customers, the number of active agents grew from 22,965 to 46,747 in the same period. Significantly, in 2019, the Zambian digital finance ecosystem has grown exponentially and has now exceeded the expectations of both domestic and international audiences. The transformation of the Zambian digital finance ecosystem can easily be seen in the raw numbers. There are 478 active agents per 100,000 adults compared to just 13 five years ago. The number of active customers in 2019 has reached 4,350,000, surging from just 330,000 five years earlier. By the end of 2019, universal DFS accounts active for 90 days increased to 6,522,399 from 4,345,858 in 2018. The sector has gone through a revolution, and it is poised for the next wave of inclusive digital finance innovations (UNCDF, 2019).

Globally, the Covid-19 crisis has altered the way consumers and companies do business and has shifted operating business models, especially those of MSMEs. Electronic and digital commerce has exhibited unprecedented growth as businesses and consumers turned towards digital channels to maintain their activities, meet their everyday needs, and develop new operating models to stay relevant and profitable. Therefore, digital financial services and e-commerce has been vital, and at times, the only means through which some MSMEs were able to sustain their incomes during the crisis (World Bank, 2020).

Today, people mostly rely on DFS as their primary method of conducting business or managing their money. This is evidenced by the fact that, globally in 2019, digital transactions accounted for most of the mobile money flow. The confidence and trust in DFS indicate stability and sustainability of the industry, which will yield further growth and expansion in the years to come (Manda, 2020).

In African countries and COMESA, small-scale cross-border trade (CBT) plays a very important role in generating jobs and ensuring food security in nations' economies. In Africa, MSMEs are likely to be left behind in economic growth. They usually rely on informal financial services due to the barriers to mainstream financial services. Like countries in developed some African countries have also been utilising the digital financial service which includes mobile money and bank transactions but still MSMEs face challenges with financial services. According to GSMA (2019), the biggest growth was in sub-Saharan Africa, where digital financial services (DFS) are being used to reach all people with products and services to improve their livelihoods and quality of life. However, Madan (2020) states that it is sometimes hard for financial institutions to identify Micro, Small and Medium Enterprises because of the methods they use to conduct their transactions. As a result, many MSMEs are facing the challenges that come from traditional practices adopted in borrowing the funds, intense competition, ever-demanding customer preferences and lack of digital presence which are added problems for their growth (Madan, 2020).

Similarly, in Zambia, thousands of MSMEs across the country's borders every day bring in revenues from the informal trade of clothes, household items and food items that often exceeds that of formal exports and imports. Cross-border trade is essential for reducing poverty, since the poor, including many women, are intensively engaged in the informal production and trading of

goods and services. Further, in Zambia and many other developing countries in the world, MSMEs are perceived to be economic drivers as they reliably create employment providing opportunities for low-income poor people, thereby increasing financial inclusion. The MSMEs contribute approximately 88 percent of employment and the sector is estimated to account for 97 percent of all businesses in Zambia (Bank of Zambia, 2019).

Despite the growth in digital finance, conducting cross-border transactions remains a tough business for small traders. In the recent past, the business environment has not been supportive enough for the growth of MSMEs for several reasons. The sector face challenges some of which include a lack of digital financial services by many of the traders, and unanticipated financial mismatches between their income and expenses (Manda et al, 2020). World Bank (2020) emphasised that Zambia has made significant strides on its path to digital transformation over the past few years. Progress is particularly evident in digital infrastructure, digital financial services, and digital platforms, while more significant gaps remain in digital skills and digital entrepreneurship (UNCDF and Bank of Zambia, 2019). Despite these attempts there leaves much to be desired on how they are effective the advancement in DFS has been in supporting MSMEs in cross border trading. Therefore, this study attempted to address the gap between the advancement of DFS infrastructure, DFS and the uptake of DFS by Micro, Small and Medium-sized Enterprises (MSME's) in enhancing operations of cross border trading.

1.3 Statement of the Problem

Globally, digital financial services are in the middle of a revolution which has taken place in the last decade. This has dramatically improved financial inclusion rates across the continents. In Zambia, several MSMEs in cross border trading are not using digital financial services and use cash when making business transactions. SMEs cannot fulfil their full potential, since institutional and market failures, most importantly the constrained access to finance, disproportionally affect smaller firms. Therefore, increasing access to financial services through digital financial services has been on the agenda the world over (United Nations, 2019). In Zambia, in 2019, universal DFS accounts active increased to 6,522,399 from 4,345,858 in 2018 (UNCDF, 2019). Increasingly, the government's commitment to promoting DFS can be seen through several policies which include, the National Financial Sector Development Policy 2017, the National Financial Inclusion Strategy 2017–22 (NFIS), and the National Payment System Vision and Strategy 2018–2022 (World Bank,

2020). According to UNCDF and Bank of Zambia (2019), Zambia has a strong policy environment and regulatory framework supporting the emerging DFS sector.

Despite the growth in digital financial services and the effort by the Zambian government to improve outreach and adoption of DFS as one of the key drivers for accelerating the country's transition from cash to digital payments, conducting cross-border transactions remains a tough business for MSMEs in Zambia (COMESA business Council, 2021).

Studies consulted fetched little information on whether DFS is being utilized by MSMEs cross boarder traders and its effect on enhancing operations of MSMEs in cross border trading in Zambia. It was not clear on the barriers and measures to promote DFS in cross border trading. There was no evidence on whether Digital Financial Services does increase efficiency in the way the cross-border traders carry out their business. It was not clear how many MSMEs were aware of the Digital Financial (DFS) platforms that are available to them and how to access these platforms.

According to (World Bank, 2017) nineth edition of the Tanzania Economic Update of, Uptake of Digital Financial Services for Tanzania was at 62% of the population in 2017 while Zambia was at 39% according to (UNCDF, 2019).

Furthermore, it was not clear if Zambia had adequate DFS policies compared to countries such as Kenya that have been labelled as leading in the Digital Financial Services (European Investment Bank, 2014) to support MSME's to conduct their businesses profitably while using DFS platforms. While mobile phone users in Kenya and Zimbabwe must pay consumer taxes representing 21% of the total cost of mobile ownership, Zambian mobile users pay 26 percent, which is 6 %above the Sub-Saharan average level (20 percent). However, no empirical verification of such and other factors was done to determine whether they do affect the uptake of Digital Financial Services.

It is from this background that the study was conducted to fill the gap(s).

1.4 The Aim of the Study

The study aimed to assess the uptake levels of Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia.

1.5 Specific Objectives

i. To assess the uptake levels of DFS by MSMEs in cross-border trading in Zambia.
ii. To determine the barriers of DFS on MSMEs in cross-border trading in Zambia.
iii. To promote use of DFS by MSMEs in cross boarder trading.

1.6 General Research Question

The general research question was whether MSME's in Cross Boarder trading were utilizing Digital Financial Services (DFS), if so to what extent was DFS being utilized.

1.6.1 Research Questions

i. What were the uptake levels of DFS on the operations of MSMEs in cross-border trading in Zambia?
ii. What were the main barriers of DFS on MSMEs to operate efficiently in cross-border trading in Zambia?
iii. How Can DFS uptake among MSMEs be promoted?

1.7 Significance of the Study

This study may aid Financial Service Providers (FSPs) (banks, microfinance institutions, mobile money providers and fintech institutions.), the MSMEs and the government in Zambia to get a better understanding of the importance of the DFS in financial service and improve the contribution to the Zambian Economic growth of the MSMEs. The results of the study may help in understanding the importance of DFS in the running of cross-border businesses by MSMEs and the various perceptions held by many about them. It may also bring forth the possible constraints MSMEs would face in accessing DFS and applying them to their businesses as well as find out the possible drivers or barriers to enhancing the application of DFS.

Further, the results of the study may induce policymakers in government institutions to develop policies aimed at encouraging MSMEs to apply DFS when conducting business. This research work may also aid MSMEs in participating in national, regional, and global supply chains thereby promoting trade within the Africa region and globally. This study contributes to the body of knowledge by giving statistics on the current DFS uptake levels.

1.8 Scope of the Study

This study particularly focused on assessing the uptake and effectiveness of Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) for efficient operations in cross-border trading in Zambia.

The study was limited to MSMEs registered with the Cross Boarder Association found in Lusaka trading with businesses in Tanzania, Digital Financial Service Providers, Regulators of Digital Financial Services and the Cross Border Traders Association (CBTA) in Zambia.

1.9 Outline of the Dissertation

This chapter serves as an introduction to the study, while subsequent chapters in this dissertation cover the following: Literature Review in chapter two which delves into and examines literature that the researcher consulted; followed by Research Methodology in chapter three, comprising the Research Design, Study Population, Sample Size and Sampling Procedures, as well as Data Collection and Data Analysis. Chapter four represents the Findings, Discussion and Conclusion.

1.10 Chapter Summary

Chapter one introduces the study on Enhancing operations in cross border trading through Digital Financial Service (DFS) of Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. The Chapter discusses the background of the study, the current gaps in use of Digital Financial Serviced by MSMEs cross boarder trader as perceived by the author. This chapter further highlights the aim of the study, its objectives and expected outcome of the study that will facilitate the enhancing of operations in cross border trading through Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. Finally, the Chapter discusses the outline of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents extensively reviewed the literature on previous related studies relevant to the study topic. It discusses in detail the Digital Financial Services (DFS) and Micro small Medium Enterprises (MSMEs) in cross-border trading. The study will look at what different authors had to say about DFS and MSME operations. Further to which the author analysed previous findings on the subject matter and the findings related to this study without reinventing the wheel.

2.2 Theoretical Literature Review

The theoretical literature review aided the establishment of concepts/theories about Digital financial Services for Micro Small and Medium sized Enterprises (MSMEs) that already existed and their relationship. This further investigated the degree at which these existing concepts/theories have been investigated and thereafter developed a new hypothesis that was tested through this study.

2.2.1 Digital Financial Services and MSMEs

Micro Small and medium-sized enterprises (MSMEs) are pivotal for inclusive economic development, but suffer disproportionally from institutional and market failures, especially from constrained access to external finance. Digitalisation of the financial industry is often seen as a game changer. Digitalisation holds great promise for supply of, access to, and diversification of financial inclusion for MSMEs. New players enter the stage, capitalising on the opportunities of digitalisation, above all the reduced transaction costs, the broader access to more and alternative data and the convenient experience for customers. This mitigates many of the challenges in MSME finance. Digital instruments increase efficiency and economies of scales, which reduces costs significantly. Digital advances in the financial sector also alleviate the challenges for potential borrowers by reducing costs, improving the customer experience, and scaling up accessibility and inclusiveness. Digital finance providers can pass on cost savings from better and more efficient lending and screening procedures to customers. More importantly, digital loan applications significantly reduce the time and resources needed in the application process: online applications only take a few minutes and can be done via laptop or phone at any time in contrast to burdensome, hour-long, and paper-based procedures at conventional banks; approval times shrink from weeks

to days or a few minutes. The greatly improved convenience for borrowers does not only address cost issues, but also internal constraints of SMEs (Mills and McCarthy, 2017).

Despite the many benefits being highlighted in the use of Digital Financial Services, the question of how many MSMEs have access and utilize these services was prominent.

2.2.2 Technological Appropriation

The uptake of DFS is strongly linked to experiences with the technology and knowledge of how the technology works, and fears of what the new technology may bring. Technological appropriation is not only related to skill and technical literacy, but also to perceptions of new technology and the role it can and should play in the existing monetary ecosystem. One of the advantages of DFS is the speed with which one can transmit money from one place to another, compared to older transfer techniques. However, speed and accessibility may not always be positively perceived by users or potential users. In many African communities, the social network of the extended family offers financial support but is also linked to financial obligations. In the past, not being able to quickly transfer money could be an excuse not to respond to a request for financial support from your social network. Some informants told the researcher that this becomes more difficult with the use of DFS. This seemed to be the case especially in Zambia, where international remittances play a central part in the economic lives of many families (International Finance Corporation (IFC) and Mastercard Foundation, 2017).

Therefore, DFS are relatively new, a single bad experience can damage the reputation of providers overall. This is perhaps especially true in markets where trust in the financial sector and/or financial services is historically low, and/or where financial literacy and awareness is particularly low. The perceptions of how DFS technology works can be as influential in the decision on whether to appropriate the service or not as the actual performance of the service. The standard complaints regarding lack of network coverage, issues with agents' float and fears of fraud that one often encounters in DFS markets, but also negative perceptions of new technology based on more cultural ideas.

There was need for a study to be conducted to ascertain whether technological advancement is a hindering factor for MSMEs to participate in DFS.

2.3 Empirical Studies

The studies were reviewed by looking at the purpose, the methodology used such as study design, sample size, data analysis tools and population target. The study also reviewed the findings and conclusion of the studies.

2.3.1 MSMEs and Digital Financial Service

Most countries are still in the process of framing laws about contract enforcement and resolution of insolvency. Specifically, on the demand side, entrepreneurship is not viewed as a career option and risk acceptance is overall low. According to the study, Digital Finance Services (DFS) initiatives specifically linked to increasing MSME access to finance are few, and there are no specific policy initiatives (in the target countries) linking the two, development of DFS and its spread is likely to positively affect MSME access to finance. This is because DFS helps to create a digital footprint that when combined with other accumulated data can yield business intelligence to make decisions related to credit risks, for example. In all the countries reviewed, there is a notable push in terms of policy and mobile connectivity that favour the growth of digital payments.

A study was conducted by Madan (2020) to review access to finance by Micro, Small and Medium Enterprises and Digital Financial Services in Selected Asia-Pacific Least Developed Countries. Amongst, the countries reviewed in this paper - Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, and Nepal – Bhutan is the only target country where the supply of finance to MSMEs is favourable with nearly 68% of the demand being met. Cambodia has the highest finance gap followed closely by the Lao Peoples Democratic Republic and Nepal. While examining the finance gap between microenterprises and SMEs, the gap revealed in Bhutan, Cambodia, Lao People's Democratic Republic, and Nepal is not substantial. However, in Bangladesh, the differences are much larger between microenterprises and SMEs with only 14% of microenterprise demand being met.

Another study was conducted by Liu and Youtang (2020) on the digital financial inclusion and sustainable growth of small and micro-enterprises. Evidence-based on China's new third board market listed companies. The study examined the impact and mechanism of digital financial inclusion on the sustainable growth of small and micro enterprises in China. The research used the data from China's New Third Board Market listed companies from 2011 to 2018 and the digital financial inclusion index of Peking University. Further, the study revealed that the development

of digital financial inclusion helps promote the sustainable growth of small and micro-businesses, particularly in private, high-tech industries, and competitive markets.

The impact mechanism of this development prevents any financial crisis caused by the capital structure imbalance and capital liquidity problems of small and micro enterprises by alleviating the financing constraints, thus, promoting their sustainable growth. It prevents the financial crisis caused by the imbalance of capital structure and capital liquidity, thus promoting the sustainable growth of small and micro enterprises (Shuanglu and Peipei, 2019). The research results show that, under the background of high-quality development of China's economy, continuous promotion of digital financial inclusion and reshaping of the ecological pattern of the financial industry can provide steady financial support for the sustainable growth of small and micro enterprises and realize the healthy development of micro-enterprises and macro economy (Liu and Youtang, 2020).

The research concluded that the rapid development of digital technology has promoted the integration of finance and technology, has given birth to a series of new financial forms, and brought great changes to human social life. Promoting inclusive and sustainable economic growth and encouraging micro-sized, small, and medium-sized enterprises to formalize and grow through access to financial services is a development goal of the United Nations' 2030 Agenda for Sustainable Development. The study finds that the development of digital financial inclusion helps promote the sustainable growth of small and micro-enterprises. In contrast, the development of digital financial inclusion can effectively promote the sustainable growth of small and micro enterprises in the private nature, high-tech industry, and competitive market (Ibid).

The number of banks and non-bank agents in Zambia's neighbouring countries has shown a significant increase as has the adoption of payment services by populations. This has in part been supported by the high levels of 3G and 4G mobile service penetration. Finally, DFS offers immense potential and efforts need to be made to move beyond payments and into digital lending, savings and insurance simultaneously building up consumer protection policies related exclusively to DFS (Ibid).

This piece of literature provided insights into how DFS has been applied in different countries to promote financial services by MSMEs. It also gave insight into policy initiatives undertaken by regulators and governments in different countries to increase access to finance. The study was

conducted in selected Asia-Pacific Least Developed Countries with different digital infrastructures than Zambia. Therefore, it is also imperative to conduct this study in Zambia to understand how MSMEs in cross-border trading are linked to DFS and how effective are the digital platforms in promoting the efficient operation of MSMEs. There is also little information in Zambia on the effectiveness of DFS in promoting efficient operations of MSMEs in cross-border trading.

This study, therefore, had provided insights into how DFS has improved MSMEs' operations in conducting businesses. It has also given insight into the digital financial inclusion and sustainable growth of small and micro-enterprises. The study has provided powerful descriptive and explanatory insights into the importance and perceptions of MSMEs on DFS. Unlike this study, the above study was conducted to examine digital financial inclusion and sustainable growth of small and micro-enterprises. This study concentrated on the uptake of concentrate DFS and the efficient operation of MSMEs in cross-border trading. Therefore, it was also imperative to conduct this study because there is little information in Zambia on the effectiveness of DFS in promoting efficient operations and uptake of DFS of MSMEs in cross-border trading.

2.4 The Zambian digital financial services industry

In 2015, only 4% (334, 373) of Zambian adults had an active digital finance account. Despite having seen one of the earliest launches of mobile money services on the continent, the sector was stagnating. Mobile money was accused of being stuck in what was referred to at the time as the ‘sub-scale trap;’ namely, Zambia was too small a market and too geographically spread out to be a mobile money success story (UNCDF, 2019).

In 2019, the Zambian digital finance ecosystem had grown exponentially and well past the ‘tipping point’ and had now exceeded the expectations of both domestic and international audiences. The transformation of the Zambian digital finance ecosystem can easily be seen in the raw numbers. Active digital finance accounts now represented 44% of the adult population compared to 2% in 2014. There were 478 active agents per 100,000 adults compared to just 13 in previous five years ago. The number of active customers in 2019 reached 4,350,000, surging from just 330,000 five years earlier. Somewhere around this time, Zambia had broken out of the sub-scale trap. The sector had gone through a revolution, and it was poised for the next wave of inclusive digital finance innovations (Ibid).

Similarly, in 2019, it was clear that the efforts to develop and expand the market was paying off and the number of active customers was growing significantly. By the end of 2019, universal DFS accounts active over 90 days increased to 6,522,399 from 4,345,858 in 2018 (Bank of Zambia, 2019). The Zambian financial industry has changed tremendously thanks to increased trust in digital services and innovations that rely on digital infrastructure; use cases had expanded from first-generation services, such as person-to-person transfers, to second-generation services, including merchants and bill payments, microloans, micro-savings and microinsurance. The industry was also testing new business models by building partnerships between financial institutions and non-financial institutions, including mobile network operators (MNOs) and financial technology companies (Thopacu, 2021).

2.4.1 The importance of DFS to increase the efficient operation of MSMEs.

Vijaya and Glory Swarupa (2021) researched gauging the impact of digital financial literacy on MSME firms' performance in India. The study was conducted by using a structured questionnaire covering a sample of 150 MSMEs in the state of Telangana. SPSS software version 20, Simple Linear Regression analysis, Anova and Descriptive Statistics were used to analyse the data to find out the impact of Digital and Financial Literacy variables on MSME firms' performance in India. The results of the study revealed that there is a significant impact of Digital and Financial Literacy on MSME performance. The study concluded that Digital Financial Literacy is essential for the MSMEs to enhance access to finance, skill up-gradation, and impart the technology and marketing support that leads to inclusive growth of MSMEs in the country.

This literature review provided insights into the effectiveness of DFS to increase the efficient operation of MSMEs. It provided information on the importance of training MSMEs in DFS to enhance access to finance, skills up-grade, and impart the technology and marketing support that leads to inclusive growth of MSMEs in the country. It was important to carry out this study in Zambia to understand the uptake and effective DFS on MSMEs cross border is to be promoting efficient operation of MSMEs.

Mwila (2019) conducted a study on the use of ICT by SMEs in Zambia to access business information services and investments: barriers and drivers. The research aimed to answer key questions regarding the use of ICTs among SMEs in their businesses with analysis and consideration of the possible factors that enable ICTs to be valued, as drivers and the possible

factors that deter them not to be recognised as business development agents be the barriers. The research was conducted on a sample of 60 SMEs with no formal business registration and 40 SMEs with formal business registration with a response of 76.7% and 87.5% respectively. The study revealed that ICTs are a major aspect of business operations, formally and informally with the major drivers happening to be the reduction in cost and ease of doing business. The major challenges were the expense at which ICTs come and the poor ICT infrastructure. Further, according to the study, ideally more investments in ICTs should result in improved business services and products among SMEs because of the enabling results which ICTs have on businesses (Mwila, 2019).

There is a relation between the investment in ICTs in businesses with the increase in productivity as 67.04% of the respondents confirmed the effect of implementation. The study recommended that Government fully implements the framework for ICTs laid in its Seventh National Development Plan (7NDP) to make ICTs available for socio-economic development through infrastructure development, reduction of taxes laid on ICT-related goods and through Public-Private Partnerships (PPPs) that seek to enhance the communication (Ibid).

The above study provided insights into how digital transformation has tremendous potential for enabling MSMEs to reduce costs, standardize and automate business processes, increase productivity, enhance competitiveness, and understand consumer behaviour. It gave insight into the whys and wherefores of MSMEs implementing DFS. Nonetheless, the study used quantitative design and it was about the use of ICT by SMEs to access business information services and investment. Unlike the above study, this study was about Digital Financial services and it used both quantitative and qualitative research design to analyse data. Data was collected using questionnaires and guided interviews.

In furtherance, the Global Findex Database 2017 estimates that 1.2 billion adults globally obtained a bank account between 2011 and 2017 and 69% or 3.8 billion adults have a bank account. While the increased numbers do generate optimism as it shows that more adults have an account in a financial institution or through a mobile money provider, the gender gap is still a source of concern, as is the number of adults who continue to remain unbanked. With DFS taking off in many countries, particularly the Least Development Countries (LDCs), this does offer the opportunity to accelerate financial inclusion. A key takeaway from the Findex report was that most significant

gains (including progress on gender equality) have been in countries where governments have focused on digital payments. Other studies too show DFS as one of the primary ways to accelerate financial inclusion, as it often serves as a 'gateway' to other financial services. Additionally, when digital solutions are applied to various types of financial products there can be a positive effect on financial inclusion (Demirgüç-Kunt, 2018).

Concerning MSME, DFS is considered an important if not essential means of accelerating the pace of their financial inclusion. In general, a significant portion of MSME financial inclusion research is concentrated on MSME access to credit and comparatively, little research is available on non-credit financial services, research available shows, that financial institutions (FIs) are often reluctant to lend to MSMEs due to challenges about lack of financial and/or credit history information and inadequate or inappropriate collateral (Nemoto and Yoshino, 2019).

2.4.2 Barriers to implementation of DFS by MSMEs

According to Joo and Grabel (2000), entrepreneurs make inappropriate and ineffective decisions because of a lack of financial knowledge about alternative sources of funds and complexities in financial transactions. For effective decision-making, businesspeople must have the adequate financial literacy to overcome financial barriers. Remund (2010) stated that Small and Medium Enterprises in developing economies are facing significant obstacles to sustainable performance due to a lack of knowledge, skills, attitude, and financing of their operations transparently and professionally.

The results from the study of Gupta and Kaur (2014) revealed that most entrepreneurs possess a lower level of financial and accounting knowledge. Visa Financial Literacy Survey (2014) results show that only 25% of the Indian population is financially literate and ranked 23rd among 28 countries. Drexler et al (2014) stated that due to a lack of financial literacy, entrepreneurs face complexities in taking the right financial decisions. As per World Bank Report (2017), about 80% of total SMEs are informal, and these firms consistently report access to finance as the biggest constraint they face. The results from the study of Prasad and Meghwal (2017) revealed that SMEs are having a lower level of financial literacy and suggested the Government and other financial institutions should work towards creating a better awareness level of financial products and services about the digital platforms.

Manda et al (2020) surveyed how micro-and small enterprises (MSEs) leveraged informal financing and digital technology during the COVID-19 pandemic in Zambia. The survey was conducted through an online, web-based interview. The survey occurred in three waves, as part of a global research effort occasioned by the COVID-19 pandemic. The respondents were owners of micro and small businesses, who were recruited through the Cint marketplace for market research panellists, with a total sample size of 560. Wave one included 170 business owners, Wave two included another 202 business owners and Wave 3 included 188 business owners.

According to the survey, Zambia has undergone a decline in digital marketing and sales whereas other markets saw an increase. In the COVID-19 era where one's customers may be unlikely to patronize one's business in person, the digital space may offer a lucrative alternative for businesses to reach their customers. However, it was found that businesses surveyed in later waves were more likely to cite costs as the most significant barrier to their digital adoption. This sensitivity to costs suggests that as the recession makes cash increasingly scarce, businesses become increasingly sensitive to costs. The median percentage of digital payments declined from 30 to 20 percent between June and November, and the average declined from 39 percent to 32 percent over the same period. The same declining trend is observed for businesses' proclivity to use digital technology in their business. The study also revealed that Zambian SMEs facing liquidity constraints become more sensitive to costs of digital adoption and therefore participate less in digitization (Manda et al, 2020).

The studies above have highlighted the barriers that MSMEs are facing concerning DFS in Zambia. some studies used conducted through an online, web-based interviews. However, this current study shall utilise the physical questionnaires to collect data and use qualitative and quantitative data analysis. It was important to carry out this study in Zambia to understand the uptake and effectiveness of DFS by MSMEs involved cross border trading to promote efficient operations of MSMEs.

2.5 Lessons Learnt from the Studies Reviewed

The literature review provided insights into how DFS has improved MSMEs' operations in conducting businesses. It gave insight into the digital financial inclusion and sustainable growth of small and micro-enterprises. The studies reviewed provided powerful descriptive and

explanatory insights into the importance and perceptions of MSMEs on DFS and the barriers that MSMEs are facing concerning DFS in Zambia.

The history of the empirical literature on Digital Financial Services has been too narrow concentrating on the uptake of DFS through only a single channel of DFS which is Mobile-Money-which is provided by the Telecom Mobile Service Providers such as MTN, Airtel and Zamtel mobile network operators (MNOs). There was little information on the use of DFS by MSMEs in cross-border trading in Zambia. However, this study aimed at broadening the subject matter by concentrating on cross-border trading and included all channels of DFS by not only focusing on the Telecom Mobile Financial Services but also considering the Banking Digital Financial Services, for instance, e-banking, agent banking, business-to-business B2B supplier payments, business-to-customer B2C bulk payments. Thus, this research will fill this gap of finding out the uptake of DFS including other non-banks like Fintech and Micro Finance Institutions (MFIs).

The Financial Capability and Inclusion Survey Report (2017), on the other hand, was able to establish significantly low utilization of e-money services and postulated that one probable barrier to digital financial inclusion is the comparatively high level of taxes associated with mobile services because Zambia is in the top 5 Sub-Saharan economies that have the highest mobile consumer tax rate. While mobile phone users in Kenya and Zimbabwe must pay consumer taxes representing 21% of the total cost of mobile ownership, Zambian mobile users pay 26 percent, which is 6 %above the Sub-Saharan average level (20 percent). However, no empirical verification of such and other factors was done to determine whether they do affect the uptake of Digital Financial Services.

Given the above, study that will holistically analyse and evaluate aspects of DFS in cross boarder trading of MSMEs will add value to the operations of the MSMEs.

2.6 Theoretical Framework

The theoretical framework for this study is built on three main theories;

i. Technology Acceptance Model (TAM)
ii. Agency theory
iii. Institutional Theory

2.6.1 Technology Acceptance Model (TAM)

TAM is one of the most influential extensions of Ajzen and Fishbein's theory of reasoned action (TRA) in the literature. Davis's technology acceptance model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) is the most widely applied model of users' acceptance and usage of technology (Venkatesh, 2000).

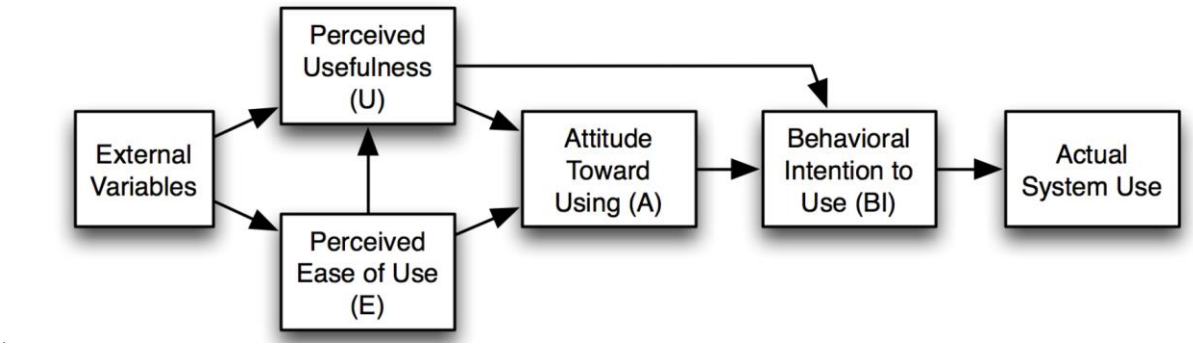

Figure: 1

For this particular study, this model is useful as it aids the analysis through TAM's constructs of like perceived usefulness and ease of use.

2.6.2 Agency theory

Agency theory is a principle that is used to explain and resolve issues in the relationship between business principals and their agents. Agency theory is based on several main assumptions.

Theory assumptions:

i. It assumes that the principal and agent have different purposes and risk preferences, leading to potential conflicts of interest.
ii. It assumes that there is information asymmetry between the principal and agent, with the agent having more knowledge and control over the resources.
iii. Thirdly, agency theory assumes that managers are self-interested and economically rational, while shareholders monitor their behavior through disclosures.
iv. It assumes that voluntary disclosures are motivated by managers' desire to reveal positive information, potentially in self-serving ways.
v. Finally, agency theory assumes that the principal may face difficulties in verifying the actions of the agent, especially when their goals conflict, leading to agency problems.

This theory aids the study to analyze the relationship between MSMEs and service providers and how information asymmetry and agency costs influence decisions related digital financial services adoption.

2.6.3 Institutional Theory

This theory examines how institutions, including regulations, norms and cultural values sharp organization behaviour.

This theory guides this study through understanding the institutional environment and its impact on adoption decisions.

2.7 Conceptual Framework

A conceptual framework provides a visual representation of the research problem and outlines the key factors and relationships that will be studied. The conceptual framework for this research topic is presented below.

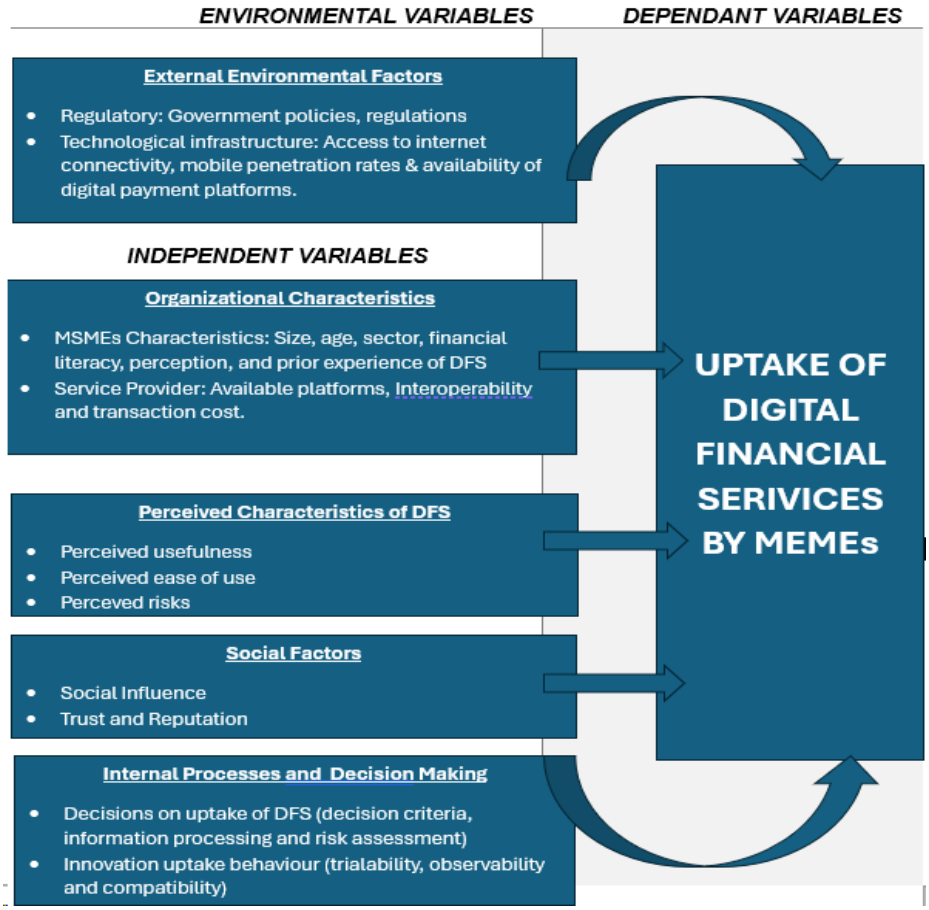

Figure 2 (Source: Author)

2.7 Knowledge Gap

The literature review found a gap in that despite the growth in DFS and government's deliberate policies to promote digital space, MSMEs have been facing challenges in payment systems and there is low usage of DFS. From the literature review conducted, the focus had been on one channel of DFS which is Mobile money services. There are other aspects that have not been holistically analysed and evaluated such as the commercial banking services, fintech and many other DFS platforms. To fill this gap, the study aimed at enhancing operations in cross border trade through Digital Financial Service (DFS) for Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. This study aimed to contribute to the body of knowledge on the empirically verified factors that affect the uptake of DFS by MSMEs in cross-border trading in Zambia.

2.8 Chapter Summary

Chapter two provides a review of the pieces of literature that are related to the study on enhancing operations in cross border trades through Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. A literature search was conducted to locate and analyse the relevant academic publications about Digital Financial Service (DFS) and Micro, Small and Medium-sized Enterprises (MSMEs) operations. The search had been conducted logically, adapting the methodology used by previous scholars. The chapter presented the theoretical and empirical literature review of the study. The empirical review covered work on the importance, barriers, and measures of DFS in business. Therefore, the chapter reviewed literature from within Zambia, regional level and globally. However, despite studies conducted relating to DFS, the author identified a gap in factors that may will operations of MSMEs through the use of DFS. Despite DFS's growth and deliberate policies being put in place by the Zambian Government, MSMEs have been facing challenges in payment systems and there is low usage of DFS. Thus, the study attempted to fill the gap in knowledge through measuring uptake of DFS and its efficiency by MSMEs in cross boarder trading by determining its barriers as well as the measures that could be put in place to promote the DFS of MSMEs in cross border trading.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the procedures, methods, and techniques the researcher adopted in the research work. Research work most often is appraised based on the quality and accurateness of the analysis and information it provides at the end. Therefore, this was dependent on the nature of the data collected during the research. As a result, this chapter looks at how data was gathered for the research. The methodology enlightens on the tools or techniques for research design, data collection, the population and sampling techniques, data sources, data collection instruments, and data analysis plan.

3.2 Research Philosophy and Approach

Research philosophy relates to the development of knowledge, and the nature of knowledge in a particular field and is defined by the procedure, time constraints and the chosen route. (Tsung, 201) The research approach could be achieved through experiments, surveys, case studies, active research, grounded theory, ethnography, and archival research. All approaches and philosophies are based on assumptions and practical considerations.

3.2.1 Ontological Assumptions

According to Saunders et al. (2009), the research philosophy is guided by nature; ontology, and structure of reality of the study of acquiring such knowledge. Ontological assumptions entail that things exist independent from who is conduction the research. This study assumed MSME's do utilize DFS, however the uptake levels are not known. Therefore, the researcher ensured that the study was independent.

3.2.2 Epistemological Assumptions

Epistemology is the procedure of the theory of knowledge. "This issue is concerning the major question that is regarding as obtainable discipline in the field of knowledge," (Bryman, 2001). Normally this process has two major traditional procedures. One is positivism and another one is interpretivism.

3.2.3 Phenomenological Assumptions

These refer to a philosophy where the researcher groups assumptions. It involves conscious experience other than traditional data (Neubauer B. E. et al, 2019). It is non positivism.

3.2.4 Axiological Assumptions

This assumption basically centres around the researchers perceived value (Bidde and Scfft, (2015). What the researcher values is what will be valued in the research.

3.3 Research Design

This study adopted a cross-sectional survey method to investigate the uptake of digital finacila services and enhancement of operations of cross border traders through Digital Financial Services (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. A cross-sectional survey is non-experimental research that is based on the observation of phenomena in their natural environment. It provides data from many different individuals at a single point in time. A cross-sectional study was designed to employ both quantitative and qualitative data collection methods. The design is used when finding out a prevalence of an outcome at a certain moment and allows for easy collection of data that can be used as a basis for further research. The study would have been conducted in the entire country but due to a lack of resources and time, it was narrowed down to Lusaka, Zambia.

3.4 Research Approach

The study approach adopted two broad methods of quantitative and qualitative means which are used in the collection, analysis, and interpretation of data. The research approach builds on the research strategies involving critical thinking, built on theoretically known concepts through observation of facts, theory building and collaboration (Fellows and Liu, 2015). The research that is followed in this study, considers the basic understanding of respondents to draw on the efficiency, barriers, and measure to promote DFS in cross border trade. Based on that analogy, specific instances or occurrences in the sample drawn from a population is used to draw conclusions about the entire classes of objects or events. It is also debated that the research

approach taken should consider social interactions and take cognisance of the extent and direction of dynamics of change.

For this study, it was considered within the premise of the reality and truth perception, as well as theory of knowledge about use of DFS by MSME's and chose a proper methodological approach to be undertaken. Aiming to demonstrate awareness and understanding, the study created a solid background to the full research design.

3.4 Population of Study

The study population comprised of MSMEs found in Lusaka's COMESA market that carry out cross-border trading (who were members of the Cross Boarder Association), Commercial Banks, Mobile Network Operators (Airtel and MTN Zambia) and Financial Regulators e.g., Bank of Zambia. The study was conducted in Lusaka because Lusaka is the Headquarters of Mobile Networks and Central bank. Lusaka also hosts the biggest cross boarder trading market called COMESA market. The MSMEs found at COMESA market are mostly involved in cross boarder trading as the market is created for intra-regional trade for the twenty-one COMESA Member States (Countries). Commercial Banks and Mobile Network Operators are some of the providers of Digital Financial Services (DFS) who may cater for MSMEs. There was need for the researcher to be familiar with the regulation that governs the Digital Financial Service sector in Zambia, hence interviews with the DFS regulators.

3.5 Sampling Techniques

This study focused on MSME's dealing in cross boarder trading and as such, the major stakeholders in DFS for cross boarder trading were part of the sample. These included the cross-border traders, the digital financial service providers, and the relevant policy makers in the DFS sector in Zambia.

The study used purposive sampling and systematic random sampling. The researcher selected the sampling techniques depending on the characteristics of the population and aimed at having a representation of all the different target populations. The purposive sampling was used to select Financial Regulators and Mobile Network Operators. The process involved purposely, handpicking individuals from the population based on the authority or the researcher's knowledge and judgment. This was so because the study area had a limited number of individuals possessing

the trait of interest thus it was a viable sampling technique for obtaining information from a very specific group of people.

Systematic random sampling was used to select registered cross-border MSMEs in Lusaka. This type of sampling, also known as chance or probability sampling where each item in the population has an equal chance of inclusion in the sample and each one of the possible samples, has the same probability of being selected. The population consisting of cross-border MSMEs was randomly selected from the members of the Cross Border Association. Contacts and addresses for those within Lusaka were obtained from a database provided by the Cross Boarder Association based in Lusaka. Therefore, data collection was obtained by will visiting participants from their workstations.

3.6 Sample Size

According to the Cross Boarder Association in Zambia, a total of one thousand cross boarder traders were registered in COMESA market at the time of this research. Therefore, researcher sampled 300 participants which included, two hundred and ninety (290) registered MSMEs found in Lusaka that carry out cross-border trading, a team from Financial Regulators (Bank of Zambia) and Seven (07) Financial Service Providers and Two (02)Mobile Network Operators (Airtel and MTN Zambia) in Zambia (key informants). The researcher arrived at this sample size because the research was conducted in one specific area with limited cross-border MSMEs, therefore, the researcher felt the sample was appropriate.

3.7 Data Collection Instruments

A questionnaire and interview guide were used to collect data from the respondents, in a language they understand best. The questionnaire was developed from validated questionnaires that have been used in previous studies. Using primary data, the study area would gather and collect information on the efficiency of Digital Financial Services (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) for efficient operations in cross-border trading in Zambia. The primary data source included first-hand information from the field of study population using a structured questionnaire and unstructured interviews.

3.7.1 Questionnaires

A pre-formulated written set of questions was formulated to which respondents recorded their answers, usually within closely defined alternatives. (Taherdoost, 2016), highlights the fact that "the objective of questionnaires in a research is to obtain relevant information in the most reliable and valid mannet". The researcher employed both open and closed-ended questions as they are an efficient data collection mechanism whereby the researcher knows exactly what is required and how to measure the variables of interest. In collecting data, the researcher used personally administered questionnaires.

The design of the questionnaire was guided by the research questions and objectives as these had to be addressed with the data collected. The questionnaire was used to get a standard form of answers or responses. The questionnaire was designed into two sections, section A comprised of the respondents' background characteristics and section B comprised of questions related to the subject matter of the study. A well-structured and undisguised questionnaire ensured that accurate, unbiased, and relevant data of the correct type was gathered in line with the research objectives. The semi-structured part of the questionnaire gave the flexibility to get explanations and more information from respondents.

3.7.2 Interviews Guide

The interview guide is one of the primary data collection techniques that was used by the researcher. Interviewing refers to structured or unstructured verbal communication between the researcher and the participants in which information is provided to the researcher. The interview guide was used to collect data from the key informants from the Financial Regulators, Commercial Banks, and Mobile Network Operators in Zambia.

3.8 Validity and Reliability

To test the validity, and reliability of the questionnaire, the researcher conducted a pre-test with respondents in the main study population. Pretesting assisted to evaluate whether the questions were adequately capturing and measuring the concepts specified by the research objectives. Questionnaires were distributed to several cross borders MSMEs within the COMESA Market in Lusaka and an interview guide was distributed to key informants from the Financial Regulator, Commercial Banks and Fintechs.

Reliability indicates the extent to which a measure is without bias and hence affects measurement across time. A measurement tool should be reliable to the extent that repeat measurements made by it under constant conditions in future should give the same results. Reliability in this study will be ensured by triangulation of research instruments; that is the use of different data collection methods to measure the same phenomenon which shall be employed by the researcher throughout this research. The data collected edited to check contradictions and ensure consistency. In analysing the primary data, descriptive and inferential statistics such as percentages were used which improved the reliability of the instruments used.

3.9 Data Presentation and Analysis

The analysis of data collected was both qualitative and quantitative. Qualitative data was analysed using content analysis. The analysis done by going through observations and questionnaire notes identifying features and coding them to obtain different emerging ideas. This coded information was then arranged, presented, and interpreted through graphs and tables. Whilst content analysis will be used in qualitative data, descriptive statistical tools including graphs, charts, and tables were employed in the quantitative analysis. The quantitative data was edited coded and fed into the computer using the Statistical Packages for Social Sciences (SPSS) version 21 and Microsoft Excel. The reasoning behind using SPSS is that it offers a comprehensive solution for reporting, modelling, and analysis of data. The software is user-friendly in the sense that it automatically converted data into statistical charts, graphs, percentages, and tables to determine tendencies in response patterns. Descriptive statistics like frequencies, percentages, and means were computed.

3.10 Ethical Considerations

Data collection always carries with it the possibility of harming others and these risks must always be minimized. Therefore, concerns and care must be taken to ensure that the questions are not damaging to either of the parties. Ethical considerations clearance sought from the University of Zambia Ethics Committee to carry out the study. Before conducting interviews, participants were briefed about the purpose, procedure and risks associated with the study before being allowed to ask questions about the study, to which the researcher consequently responds. There was voluntary participation by the respondents they were not coerced into participating in the research. Interviews with participants who decided not to participate during the process were terminated.

The anonymity of participants was maintained by structuring the questionnaires such that there was no mention of the interviewee's name. The anonymity of respondents was kept thereby affirming the respondents that the collected information was used only for academic purposes and there was no mention of the names. To ensure participants' confidentiality, the data collected was not shared with other people except with the university authorities. Recorded data was then destroyed after reviewing the study by the University. Furthermore, the following specific ethical considerations were made:

3.10.1 Informed consent

Participants were invited to participate voluntarily in this study. Participants were assured not to feel obliged to participate and complete the questionnaire or be respondents in the interviews and that they might withdraw from the study at any point in time if they see it fit to do so.

3.10.2 Confidentiality

Participants were informed that all information would be treated with strict confidentiality and used only for research purpose only.

3.10.3 Anonymity

Anonymity was safeguarded. The questionnaire did not require names of respondents and so was the interview transcripts.

For the interview process, the respondents were not identified by name or position in the report (s), confidentiality as a participant in this study remained secure.

Subsequent uses of records and data was subjected to standard data use policies, which protect the anonymity of individuals and institutions. Un willing interview participants were given chance to decline the interview.

3.10.4 Privacy

The participants were requested for the most ideal time and place where the questionnaire would be administered. This was to make sure that privacy was employed at the utmost.

3.10.5 Coercion

All participants were informed of the purpose and scope of the study and asked if they were willing to be part of the study before questionnaires were administered. This was done to make sure that no one was coerced in participating n the study without knowing what the purpose of the study was.

3.10.6 Transparency

In accordance with the principles of transparency all information addressed to the participants was concise, easy to understand and the purpose of the study was communicated clearly. This was done to ensure transparency.

3.10.7 Plagiarism

In order to ensure that no work was plagiarised. All work done by other authors has been acknowledged by making sure that it properly referenced and cited.

3.10.2 Trustworthiness of Research

3.10.2.1Credibility

Lincoln and Guba (1985) identified credibility as an overriding goal of qualitative research, reflecting the relativistic nature of truth claims in the interpretive tradition. Credibility refers to the conscious effort to establish confidence in an accurate interpretation of the meaning of the data (Carboni, 1995Seliger and Shohamy, 1989; Hatch and Lazaraton, 1991; MacNealy, 1999).

3.10.2.2 Authenticity

The authenticity of this study is about convincing readers, not only that the interpretation is drawn from the data, but also that the researcher has brought the reality of the status of DFS for MSME's involved in cross boarder trading. In this study, authenticity was met by conveying clearly depicting the processes of data collection and analysis, together with demonstrating the researcher's thoroughness in these processes and qualifying anything that might compromise this, i.e., personal biases.

3.10.2.3 Conformability

The study addressed the core issue that "findings should represent, as far as is (humanly) possible, the situation being researched rather than the beliefs, pet theories, or biases of the researcher" (Gasson, 2004: 93). It is based on the perspective that the integrity of findings lies in the data and that the researcher must adequately tie together the data, analytically process, in such a way that the reader is able to confirm the adequacy of the findings.

3.11 Chapter summary

Chapter three provides a guide on the procedure, methods and techniques that were employed in gathering the data for this study. The study looked at the major elements of the Digital Financial Services which are the user of DFS (MSMEs), the Service provider, digital platform and the regulation that govern DFS in Zambia. The sample population 290 MSMEs, 7 commercial banks,

2 MNOs and the financial service regulator. The study approach adopted two broad methods of quantitative and qualitative means which were used in the collection, analysis, and interpretation of data. The tools used to collect data were pre-tested to ensure validity and reliability of the data. As per requirement of research, ethical consideration was made by obtaining clearance from the University of Zambia ethical clearance committee. During the interaction with the respondents, all ethical considerations were made.

CHAPTER FOUR

DATA PRESENTATION, FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents the output of data analysis following the data collection exercise. The presentations are in the form of tables, charts, graphs, and statements. The chapter gives the results and the research on the enhancement of operations in cross border trading through utilization of Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. The study's presentation, analysis, and conclusion were based on 300 respondents which included Two hundred and ninety (290) registered MSMEs found in Lusaka that carry out cross-border trading, team form Financial Regulator (Bank of Zambia) and Seven Financial Service Providers (Commercial Banks) and Two (02) Mobile Network Operators (Airtel and MTN Zambia) in Zambia (key informants). The findings are explained, and inferences are made as well as referring to the available literature.

4.2 Demographic Information of the Respondents

This section deals with the main characteristics of the MSMEs. The background information of respondents was necessary and important because the ability of the respondents to give satisfactory information on the study variables greatly depended on their demographics. The profile of MSMEs was analysed based on age, gender, education level, form of business, industrial sector of the business as well as the number of years spent doing the business.

4.2.1 Response Rate

The table 1 shows the response rate which translates to 100% of the total sample size.

Table 1: Response Rate

Category	Sample size	Respondents	Percent
MSMEs	300	290	97
Financial Regulators (Bank of Zambia)	01	01	100

Commercial Banks	10	07	70
Mobile Network Operators	03	02	67
Grand Total	**300**	**300**	**100**

The response rate was high as the researcher managed to reach average 83% of the targeted sample.

Table 2. Age Characteristics of the MSMEs

	Frequency	**Percent**	**Cumulative Percent**
under 20	35	12.1	12.1
21 - 30	95	32.8	44.8
31 - 40	69	23.8	68.6
41 and above	91	31.4	100.0
Total	**290**	**100.0**	

According to the table 2, the respondents representing 32.8% were aged between 21 and 30 years, 31.4% were aged between 31 and 40 years and the lower proportion of the MSMEs representing 12.1% were under 20 years of age.

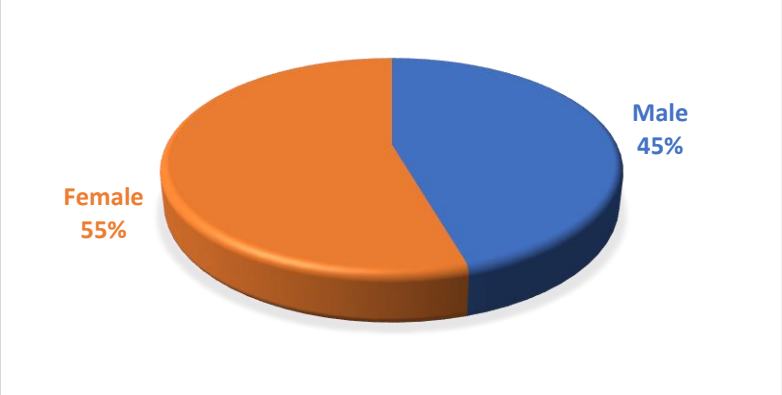

Figure 3: Gender Distribution of the respondents.

According to figure 3, most respondents were female representing 55% while 45% of the respondents were male.

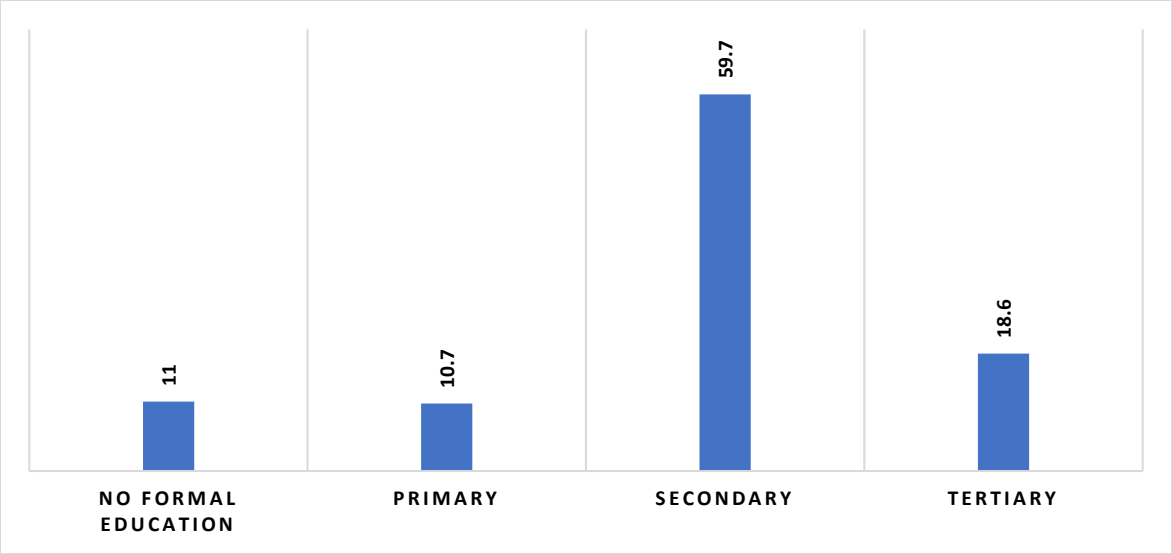

Figure 2: Distribution of Highest Education Level of the respondents.

From figure 2, it can be deduced that most of the respondents representing 59.7% had been educated up to secondary level. This was followed by those who had reached up to tertiary level. A lower proportion of the respondents had been educated up to primary level representing 10.7%.

Table 3. The Form of the Business of MSMEs

	Frequency	Percent	Cumulative Percent
Sole trader	87	30.0	30.0
Partnership	83	28.6	58.6
Co-operation	45	15.5	74.1
Limited liability company	39	13.4	87.6
Private business corporation	36	12.4	100.0
Total	**290**	**100.0**	

With respect to the forms of business for MSMEs businesses in cross border trading, most of the respondents were soler traders representing 30% of the total respondents, 28.6% of the respondent's indicated partnership as their form of business and minority of the respondents indicated private business corporation as their form of business representing 12.4%.

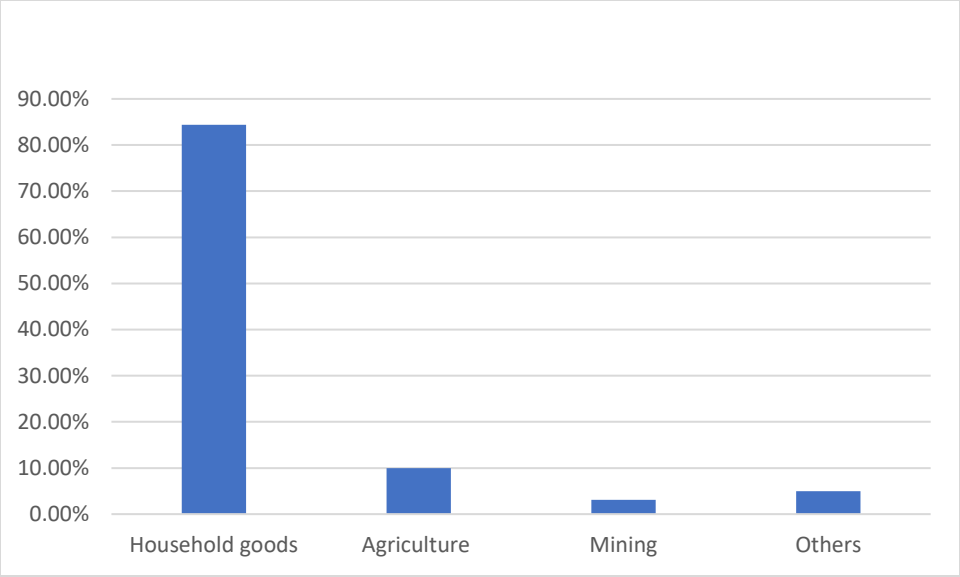

Figure 3: Distribution of Industrial Sector of the MSMEs Business.

According to the figure 3, majority of the MSMEs in cross border trading were in retail and wholesale industrial sector representing 81.4% of the total respondents. 10% of the respondents were in agriculture industrial sector. The 5% were in other businesses not specified. The lowest proportion of the MSMEs were in mining industrial sector representing 3.1% of the total respondents.

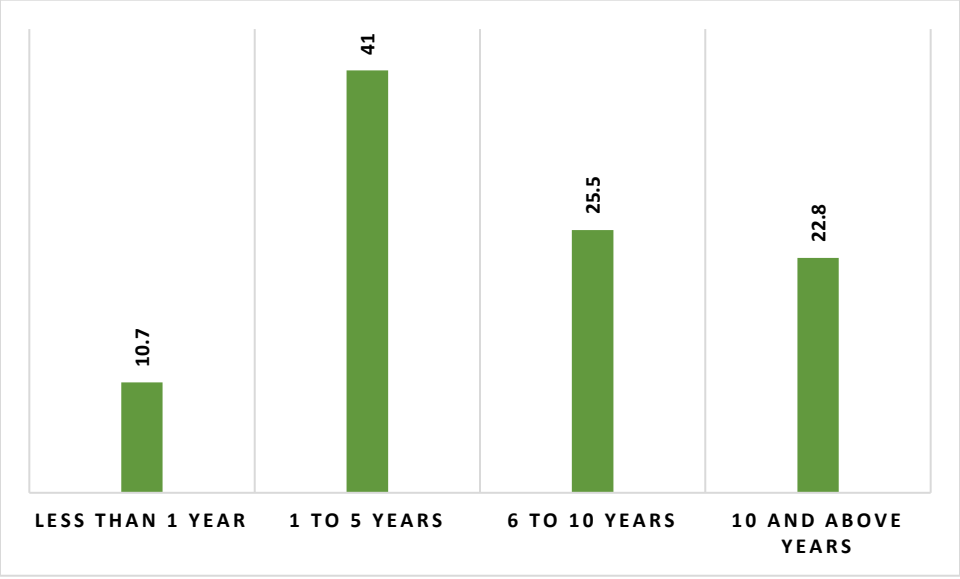

Figure 4: Duration of years of been in the Business.

From figure 4, it can be deduced that most of the respondents representing 41% have been in the business between 1 and 5 years. 25.5% of the respondents have been in the business between 6 and 10 years, 22.8% have been in the business for 10 and above years and only 10.7% have been in the business for less than one year.

4.2 Results and Research Findings

4.2.1 The uptake of DFS and its effect on the Operation of MSMEs in Cross-Border Trading

This section presents the results of the findings relative to the efficiency DFS on the operation of MSMEs in cross-border trading in Zambia. To assess this objective, data was gathered from respondents on access to financial and payment and Digital Financial Services in cross border trade.

The following show the responses on access to financial and payment which include source of start-up capital, account specifically for making and receiving payments, the distance to the nearest bank, bank agent or mobile money agent, the preferred method of making or receiving payments and security when carrying a lot of cash in doing business or general transactions.

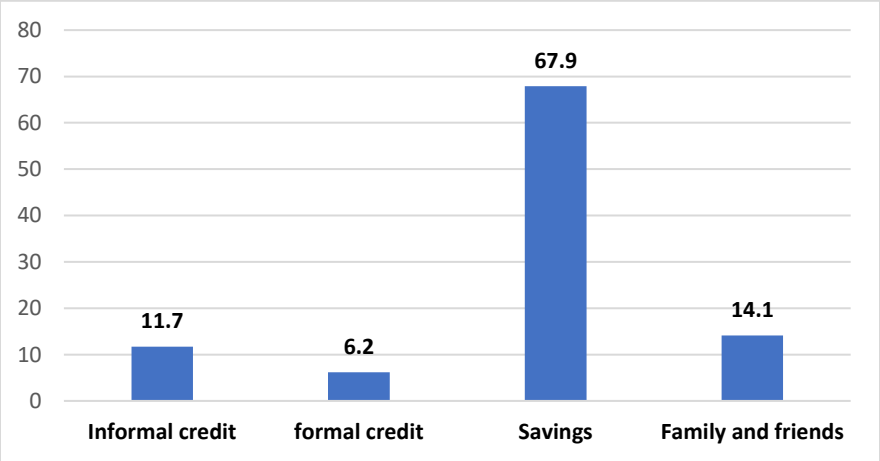

Figure 5: Source of Start Up Capital

The majority of respondents representing 67.9%, indicated that their source of capital was through their own savings, 14.1% indicated that they go fundings from family and friends 11.7% indicated

that they got from informal credit and minority of the respondents representing 6.2% indicated that they got from formal credit.

Table 4. An Account Specifically for Making and Receiving Payments?

Responses	Frequency	Percent
yes	234	80.7
no	56	19.3
Total	**290**	**100.0**

Respondents were asked whether they had an account specifically for making and receiving payments. Table 4 shows the responses, 80.7% of the respondents agreed that they had an account specifically for making and receiving payments while 19.3% of respondents did not have.

Table 5. The Nearest Bank, Bank Agent, or Mobile Money Agent

Distance	Frequency	Percent
Less than 1 Km	173	73.9
1 to 5 Km	42	17.9
5 to 10 Km	11	4.7
Over 10 Km	8	3.4
Total	**234**	**100.0**

Respondents were further asked on the distance of the nearest bank, bank agent or mobile money agent. Table 5 shows the nearest bank, bank agent or mobile money agent for the MSMEs business. Out of those who had account specifically for making and receiving payments, a majority representing 73.9% indicated that the distance is less than 1KM, 17.9% indicated that 1 to 5KM and the minority of the respondents representing 3.4 indicated over 10KM.

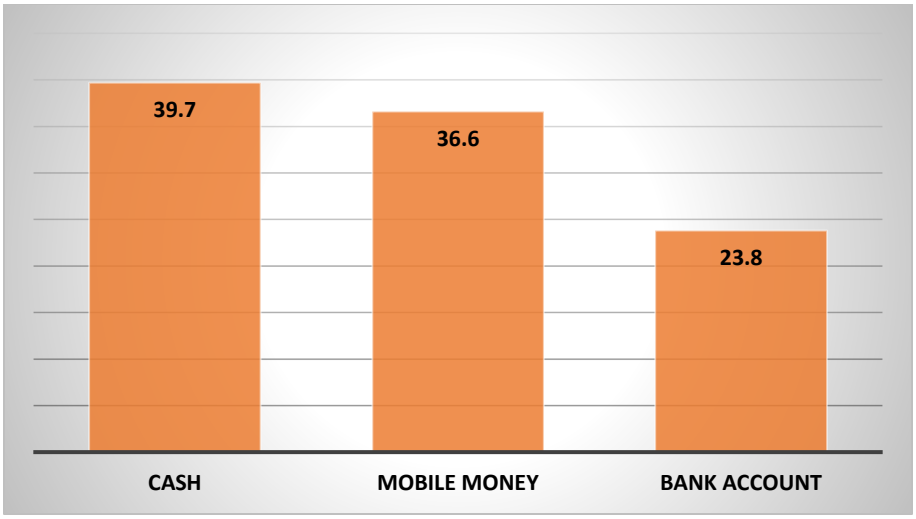

Figure 6: The Preferred Method of Making or Receiving Payments

Respondents were asked to indicate the preferred method of making or receiving payments. From figure 6 it can be deduced that majority of the respondents representing 39.7% preferred cash while 36.6% of the respondents preferred mobile money and 23.8% preferred bank account.

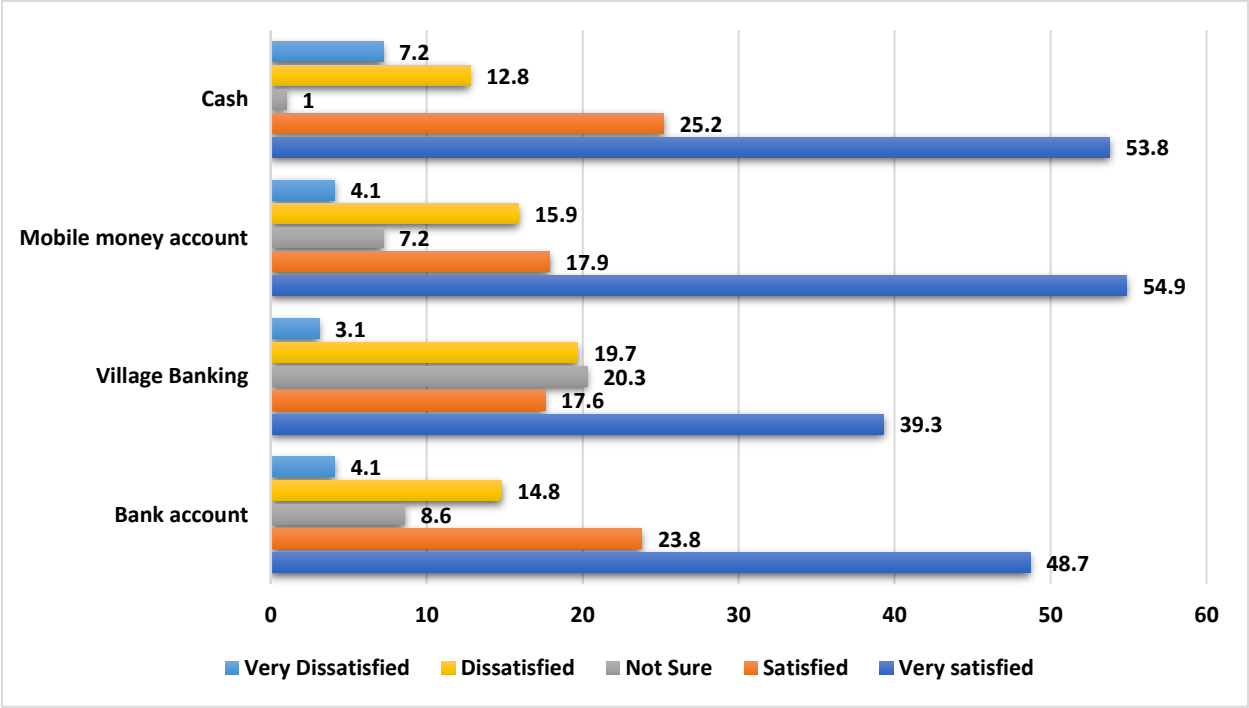

Figure 7: Experience with the Access to Financial Services and Payment Services

The figure shows the experience of MSMEs with the access to financial services and payment services. According to figure 7, majority of respondents representing 54.9% were very satisfied

with the mobile money account while 15.9% were dissatisfied and only 7.2% were not sure on mobile money account. On cash, 53.8 were very satisfied while 12.8% were dissatisfied and only 1% were not sure on cash. On banking account, 48.7 were very satisfied while 14.7% were dissatisfied and 8.6% were not sure on cash. Village banking, 39.3 were very satisfied while 19.7% were dissatisfied and interestingly 20.3% were not sure on village banking.

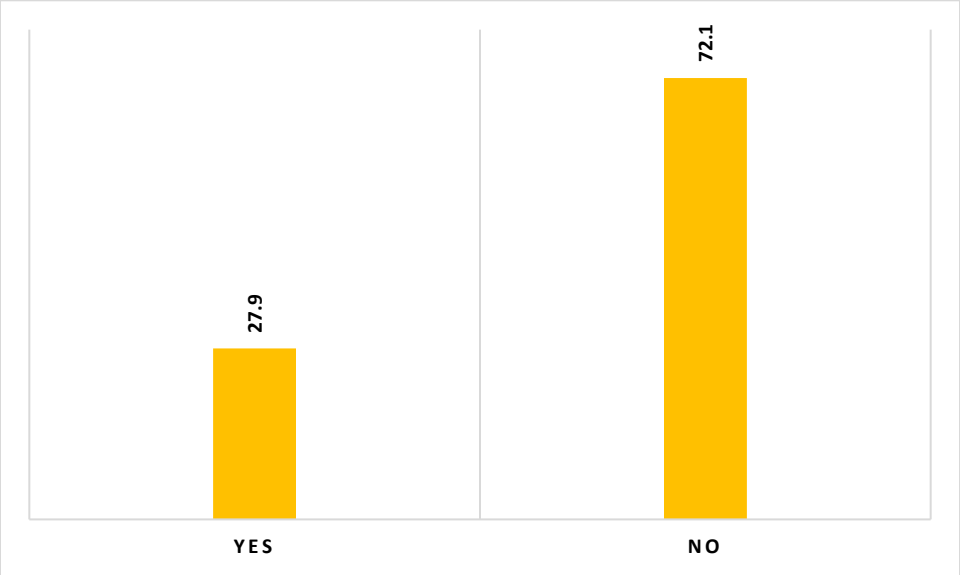

Figure 8: Feeling Secure Carrying a lot of Cash in Doing Business or General Transactions

Respondents were asked if they felt secure carrying a lot of cash in doing business or general transactions. Figure 8 shows the responses, according to the figure, the majority of the respondents representing 72.1% indicated no, implying that they felt insecure carrying a lot of cash in doing business or general transactions. On the other hand, 27.9% of respondents indicated yes, implying they felt secure.

The figure below shows the responses on Digital Financial Services in cross border trade and its effectiveness which included the use of digital platforms to engage in cross border trading, the importance of digital financial services in conducting business, consideration of digital financial services in the business and the experience and effectiveness of digital platforms in cross border trading.

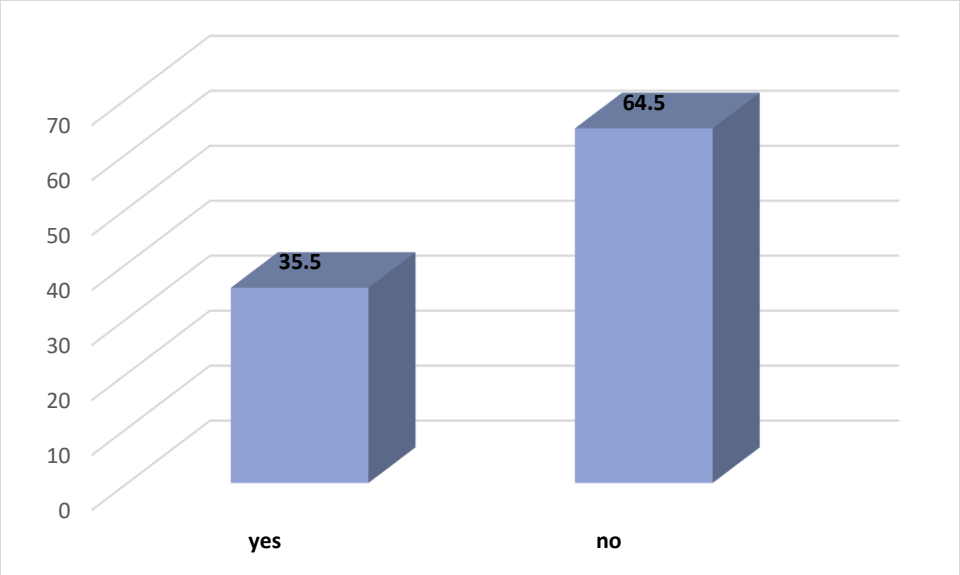

Figure 9: Use of Digital Platforms to Engage in Cross Border Trading

The figure 8 shows the responses on the use of digital platforms in cross border trading, 187 MSMEs representing 64.5% of the respondents said they do not use digital platforms to engage in cross border trading while 103 respondents representing 35.5% of respondents said they use DFS.

Table 6. The Importance of Digital Financial Services in Conducting Business

Responses	Frequency	Percent
YES	174	60.0
NO	116	40.0
Total	290	100.0

According to the table, most of the respondents representing 60% said yes that digital financial service is important in conducting business while 40% said no.

Table 7. Important to Consider Digital Financial Services in Your Business

Responses	Frequency	Percent
Not important	20	11.5
Important	30	17.2
Very Important	124	71.3
Total	174	100.0

Out of those who said yes from table 6, majority of the respondents representing 71.3% indicated that it is important to consider Digital Financial Services in their business and only 11.5 of those disagreed.

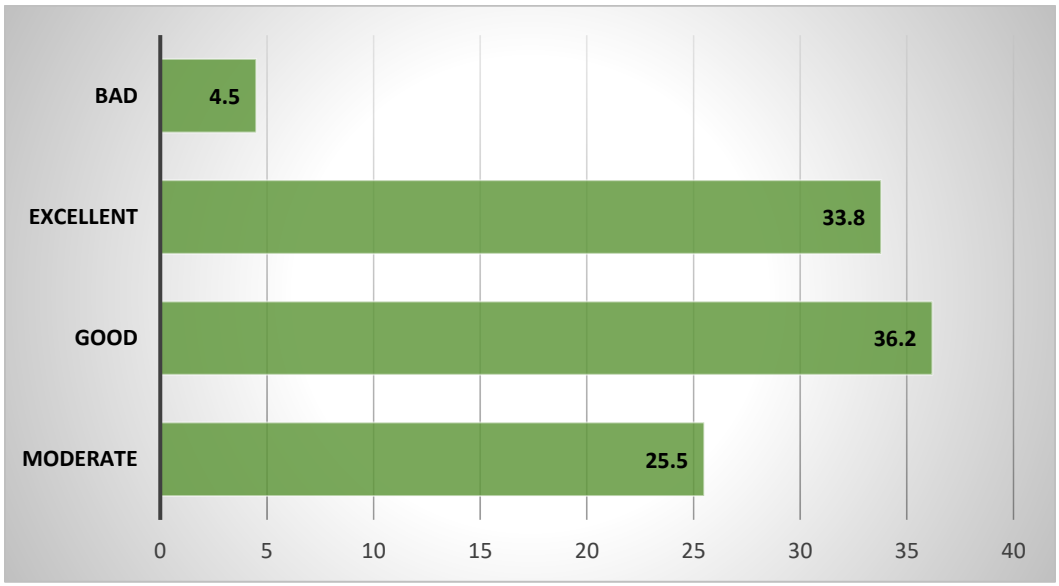

Figure 9: Experience with Digital Platforms in Cross Border Trading

Respondents were asked on their experience with digital platforms in cross border trading. Figure 9 shows that most of the respondents representing 36.2% had good experience with digital platforms in cross border trading, 33.8% had excellent experience and only 4.5% of the total respondents had a bad experience with digital platforms in cross border trading.

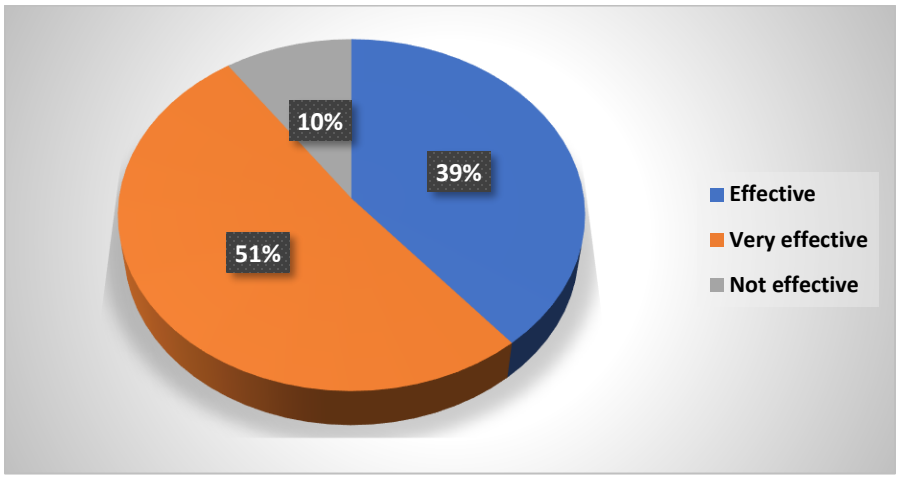

Figure 10: Effectiveness of Digital Services in Cross Border Trading

Further, respondents were asked on the effectiveness of the digital service in cross border trading. Figure 10 shows that majority of respondents representing 51% said it was very effective, 39% said it was effective and only 10% said it was not effective.

4.2.2 The Barriers of DFS on MSMEs in Cross-Border Trading

Table 8. Challenges MSMEs face when Using Digital Financial Services in Engaging in Cross Border Trading

	Number of Respondents	Percent
YES	89	30.7
NO	201	69.3
Total	290	100.0

Table 8 shows the responses on the occurrence of challenges MSMEs face when using digital financial services in engaging in cross border trading. According to the table, 201 of respondents, 69.3% said they did not face any challenges while 89 respondents representing 30.7% said they face challenges in using digital financial services in engaging in cross border trading.

Further, those respondents who said yes where asked to indicate the challenges faced in using digital financial services in cross border trading. The following were the responses.

- Most MSMEs cited lack of knowledge on Digital Financial Services, with fear of loss of money.
- Transactions costs were perceived to be high.
- Another challenge highlighted was the limitation on transaction amounts per day. Which tend to limit some business transactions. Delay of successful transaction completion to enable suppliers confirm orders.

With the responses from the MSMEs, the author interviewed the service providers which included the commercial banks Mobile Network Operators (Airtel and MTN Zambia) and Fintech companies. The interviewed was more skewed to establish specific products that had

been developed for cross boarder trading in their service provision. What was clear was that no service provider had a specific product for cross boarder traders, however, the products developed would encompass all MSMEs regardless of their form of business. The service provider(s) did indicate that most cross boarder traders are informal traders which has been difficult to trace their businesses and develop tailor made products that would enhance cross boarder trading. Following are some of the limitations that DFS providers faced:

- Some MSMEs are not registered hence do not have an identity to remit funds in the name of the firm but rather in their individual names".
- exchange rate movements,
- transaction limits,
- improperly identified and segmented market as the main challenges they face when promoting digital transactions in cross border trading.
- According to one the participants (MTN), "there is no platform that bring together cross border partners for facilitate this cross-border transaction and many MSMEs do not have confidence in the existing systems.

According to commercial banks and Mobile Network Operators the percentage of the transaction cost for service charge is minimal percentage of the principle but not exceeding K500 000 and others indicated 30% charge.

According to the Bank of Zambia (Financial Regulator), Zambia has made significant strides in advancing DFS. However, there are identified barriers to DFS on MSMEs in cross-border trading is inadequate infrastructure in rural Areas. The Bank of Zambia added that some remote areas may need quality network coverage. Other infrastructure related challenges include low cell phone penetration (As per Finscope 2020) and lack of electricity to charge phones remain a barrier to adoption of DFS". The Bank of Zambia further cited the concern of Cyber security as the barrier. According to the Bank of Zambia, "consumer awareness and lack of digital skills hinder digital financial services in cross border trading. Furthermore, the Bank indicated that "some fees levied by some financial service providers continued to be high".

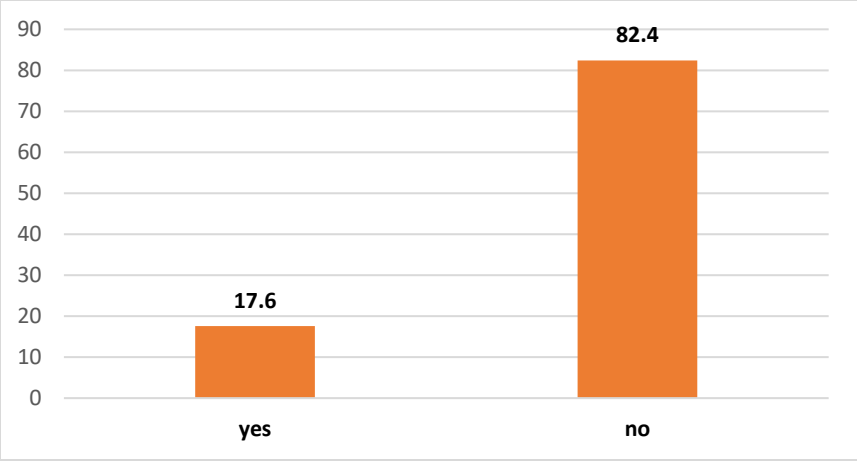

Figure 11: A Specific Approved Policy Relating to MSME Digital Financial Inclusion

The service providers were also asked if there is a specific approved policy relating to MSME digital financial inclusion. According to the figure 11, 82.4% said no there is no specific approved policy relating to MSME digital financial inclusion while 17.6% said yes.

. According to the results from the interview with Bank of Zambia, there are policies and regulations or government directives that are aimed at the promotion of Digital Financial Services (DFS) for MSMEs. According to the responses, the Bank of Zambia launched the National Payment Systems Act in 2007 and later launched the National Payment System Directive on Electronic Money Issuance 2018, which provide for the regulation and oversight of electronic payment systems, including digital financial services. The bank is also involved in various partnerships and collaborations with private sector actors and other stakeholders to support the development and uptake of DFS for MSMEs in cross-border trade.

Additionally, the Bank of Zambia initiatives that support MSMEs are part of the Bank's broader efforts to promote financial inclusion and support economic growth in the country". One example of such initiatives is the National Financial Inclusion Strategy (NFIS) which recognizes MSMEs as a key target group for financial inclusion interventions. The strategy aims to increase access and usage of DFS for MSMEs by enhancing the regulatory framework, promoting innovation and competition, improving financial literacy and consumer protection".

4.2.3 The Measures to Promote DFS for MSMEs to Increase Efficient Operation in Cross-Border Trading

To gather information on the measure to promote DFS for MSMEs to increase operation in cross border trading, MSMEs were asked on what measure should they felt should be put in place to promote digital financial services in cross border trade. The following were the responses:

The measure included:

- The MSMEs indicated that they needed training to enable them to appreciate the smartphone and digital platforms.
- Awareness from service providers on the products they can subscribe to enhance their operations as cross boarder traders.
- MSMEs indicated the need for service providers to improve on service delivery time for example the time international transfers take to be successful.

Further, the commercial banks and Mobile Network Operators were asked on the channels they use to promote DFS in cross border trading. Standard Chartered Bank indicated that "social media, radio, and face-to-face engagements with clients including road shows". Other respondents from mobile networks providers said, "social media, face to face, calls, referrals".

The bank of Zambia mentioned several measures that can mitigate the challenges earlier mentioned in the uptake of DFS. The following were the measures by the Bank of Zambia:

- As people migrate to Digital Financial Service, it is important that cyber security is also enhanced. The Bank has put in place a project team that has come up with cybersecurity guidelines.
- Awareness needs to be stepped up. The Bank of Zambia is working with the service providers to scale up awareness, including capacity building in digital skills in the customers so that they can effectively access and use digital financial services.
- There is need to increase the acceptance of mobile money for merchant payments hence the need to grow the ecosystem so that more electronic value can be circulating in the ecosystem and reduce the need to cash out.
- The Bank continues to use moral suasion and regulatory measures to make the transaction fees more efficient and affordable to customers. Further, technology-based solutions have

been able to aid reduction of some of these high costs. Service providers that have offered lower transactions fees have benefited from larger volumes and increased revenue. However, a lot more can still be done in the area by continuing to leverage technology.

The Bank of Zambia also indicate that "to enhance the participation of Zambian MSMEs in cross-border trade using DFS, the Bank has permitted regulated institutions to participate in various cross-border money transfer platforms including SWIFT, SADC – RTGS, COMESA REPSS, PAPSS, SADC – TCIB, Cross-Border Mobile Money remittances and permission of other money transfer operators such as Western Union, MoneyGram, and World Remit among others. The platforms facilitate for money transfers to pay or receive payments for goods or services".

The Bank of Zambia was further asked on what they are doing to promote DFS in cross border trading, the following were the responses:

- The National Financial System (NFS) has increased convenience; access and usage of financial services; increased innovation; enhance efficiency; and is expected to eventually reduce transaction costs.
- The NFS provides great opportunities for the country to innovate and for participants to be more competitive. The pathway to cross boarder digital payments brings with it similar benefits across the continent of Africa.
- The NFS is scalable and will go a long way in advancing payment systems in Zambia by expanding access points and providing for more innovations. The Bank is currently looking at integrating the NFS with the recently launched Pan African Payments and Settlements System (PAPSS), which will be especially beneficial to merchants who will be able to perform cross border payments instantly and settled in real time.
- As the payment system landscape increases, we are witnessing our mobile money operators and fast growing FinTechs come up with innovative digital solutions that cater for the market, inclusive of MSMEs.
- There are wallets specifically made for MSMEs for customer payments. The wallets are meant to create convenience in paying for goods with mobile money and to address the challenges faced by merchants, such as fraudulent reversals of payments.

4.3 Chapter summary

This chapter provided an insight into the levels of understanding the MSME's have relating to DFS. The study had 55% female and 45% male participants. It was important to understand the level of formal education received by the MSMEs, 59% had attended Secondary school and 18% of the total population of study had attained tertiary education while the 23% had either just attended primary school or no formal education at all. Most of the MSMEs in cross boarder trading were specialising in trading in household goods representing 81% while the rest were trading in agriculture, mining and other businesses. The study also revealed that most MSMEs (80.7%) have digital financial services accounts, However, only 64% have used those accounts inconsistently. Furthermore, the study revealed that there is low uptake of DFS because most MSMEs require capacity building in the DFS field, high transaction costs and lack of policy specifically for MSMEs in cross border trading. Therefore, cash remained the preferred method of carrying out transactions.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The chapter is based on the themes surrounding the research questions as well as the findings of the study. Chapter 5 presents the main results of the data collected from respondents in the field as it relates to the purpose and objectives of the study. For the results to be presented systematically, they were presented in line with the research objectives and were relate to the literature review.

5.1.1 The uptake levels of DFS on the Operation of MSMEs in Cross-Border Trading

To assess this objective, data was gathered from respondents on access to financial services such as loans, and payment digital payment systems in cross border trade. The study revealed that 67.9%, indicated that their source of capital was through their own savings and 14.1% indicated that they got fundings from family and friends, and minority 6.2% of the respondents indicated that they got from formal credit. This demonstrates the scarcity of external funding sources such as formal credit or equity, for the respondents, with most MSMEs getting their funding either from their own savings or family and friends. The drawback to this is that it takes time for MSMEs to accumulate sufficient savings to be able to scale-up their operations. As a result, although most of the respondents had been operating for more than five (5) years, they had relatively remained at a micro-level. As figure 4 shows that 41% of the MSMEs have been in the business between 1 and 5 years and 25.5% of the respondents have been in the business between 6 and 10 years, 22.8% have been in the business for 10 and above years and only 10.7% have been in the business for less than one year.

Similarly, in order to be able to participate in trade, a transaction account is a useful starting point. The MSMEs with accounts can trade with customers through e-commerce platforms by sending goods through a logistics company or agent with the customers depositing the money into an account from their place or country of residence. Of the respondents, 80.7% indicated they had a transacting account, a factor that was reflective of a high level of access to DFS amongst the MSMEs. Out of those who had account specifically for making and receiving payments, to access

financial services, 73.9% of the respondents travelled less than a kilometre to be served, while 17.9%, travelled between 1 - 5kms to get financial services. Implying accessing point for the digital financial service such as mobile money and bank transactions were less than a kilometre nearer and accessible to cross border traders. Although the respondents indicated that they had transaction accounts, cash was the preferred method of payment with, 39.7% of the MSMEs preferring cash, as opposed to 36.6% who preferred mobile money and 23.8% who preferred bank account.

In terms of satisfaction with their transacting accounts, the study revealed that 54.9% indicated that they were very satisfied with the services they were getting from their business mobile money accounts, 48.7% were at least satisfied with their bank accounts, while 53.8% were very satisfied with cash when doing transactions.

According to the Bank of Zambia (BOZ), the bank plays a role of an enabler in promoting and encouraging MSMEs to incorporate digital financial services (DFS) in their businesses. The BOZ revealed that "in Zambia, DFS has contributed significantly to the increase in financial inclusion. According to the FinScope Survey of 2020, financial inclusion of adults increased by 10.1 percentage points to 69.4% compared to 59.3% in recorded in 2015. This was largely driven by increased uptake of DFS, particularly mobile money, which surged to 58.4% in 2020 from 14.0% in 2015. This is consistent with reports from other countries where digital financial services have been seen to accelerate financial inclusion".

Despite all this increase in financial inclusion, the use of digital financial services in cross border trading is low. The study revealed that the majority (64.5%) of the respondents did not use digital platforms to engage in cross border trading while only about 35.5% of respondents used digital platforms to engage in cross border trading. On the other hand, most of the MSMEs 60% acknowledged the importance of digital financial service in conducting business. Respondents were asked on their experience with digital platforms in cross border trading. This study is in line with the study conducted by the UNCDF (2019) in 2015, which revealed that only 4% (334, 373) of Zambian adults had an active digital finance account. Despite having seen one of the earliest launches of mobile money services on the continent, the sector was stagnating. Mobile money was accused of being stuck in what was referred to at the time as the 'sub-scale trap;' namely, Zambia was too small a market and too geographically spread out to be a mobile money success story.

The study also releveled that most of the respondents (36.2%) had good experience with digital platforms in cross border trading, 33.8% had excellent experience and only 4.5% of the total respondents had a bad experience with digital platforms in cross border trading. The study also revealed majority of respondents representing 51% indicated that DFS was very effective and only 10% said it was not effective. This findings are constant with Liu and Youtang (2020) who revealed that the development of digital financial inclusion helps promote the sustainable growth of small and micro-businesses, particularly in private, high-tech industries, and competitive markets.

5.1.2 The Barriers affecting utilization of DFS on MSMEs in Cross-Border Trading

The findings show that most of the MSMEs did not face challenges in operation with DFS in cross border trading. According to the findings 69.3% did not face any challenges while 30.7% said they face challenges in using digital financial services in engaging in cross border trading.

Several challenges have been identified by the MSMEs from the findings. These included the following:

- lack of knowledge on Digital Financial Services with perceived security concerns such as loss of money.
- High transaction costs in cross border trading.
- lack of financial knowledge about alternative sources of funds and complexities in financial transactions.
- Transaction limits on mobile money that tend to limit business transactions for MSMEs.

These findings are consistent with the Joo and Grabel and Remund studies. According to Joo and Grabel (2000), entrepreneurs make inappropriate and ineffective decisions because of a lack of financial knowledge about alternative sources of funds and complexities in financial transactions. For effective decision-making, business people must have the adequate financial literacy to overcome financial barriers. Remund (2010) stated that Small and Medium Enterprises in developing economies are facing significant obstacles to sustainable performance due to a lack of knowledge, skills, attitude, and financing of their operations transparently and professionally. In terms of using digital platforms, it was noted that formal channels could rarely be used because of

high transaction costs, lack of knowledge on available DFS services, lack of digital skills, and perceived insecurity of DFS platforms.

Further, it was also revealed from the Commercial banks and Network providers that:

- Some MSMEs are not registered hence do not have an identity to remit funds in the name of the firm but rather in their individual names.
- Exchange rate movements, transaction limits, improperly identified and segmented market as the main challenges they face when promoting digital transactions in cross border trading.
- There is no platform that bring together cross border partners for facilitate this cross-border transaction and many MSMEs do not have confidence in the existing systems.

Results from Bank of Zambia revealed that there are several challenges that users of DFS including MSMEs face to access/uptake digital financial services. These included the following:

- Inadequate infrastructure in rural Areas. Other infrastructure related challenges include low cell phone penetration and lack of electricity to charge phones remain a barrier to adoption of DFS.
- Cyber security as the barrier.
- Consumer awareness and lack of digital skills hinder digital financial services in cross border trading. Further, constancy with the responses from MSMEs, the Bank also indicated that "some fees levied by some financial service providers continue to be high".

The study findings are in line with the study conducted by Mwila (2019) which revealed that ICTs are a major aspect of business operations, formally and informally with the major drivers happening to be the reduction in cost and ease of doing business. The major challenges were the expense at which ICTs come and the poor ICT infrastructure.

5.1.3 The Measures to Promote DFS for MSMEs to Increase Efficient Operation in Cross-Border Trading

Innovation in technology has enabled the storied revolution in DFS. Technology will therefore continue to be a key enabler for DFS to further grow and facilitate cross-border financial services. Adoption of easy-to-use, flexible, and scalable technology that can be harmonised at regional level

is hence indispensable. The study investigated the measures to promote DFS for MSMES to increase efficient operation in cross-border trading. These included the following:

- Capacity building of the cross border traders to enhance their skills for DFS users are confident in with DFS and be digitally & financially included.
- The MSMEs indicated the need for service providers to disseminate to MSMEs the type of services being offered that is relevant to the MSMEs cross border traders e,g. access to financial support.

These findings are consistent with the findings from the study by Vijaya and Glory Swarupa (2021). The results of that study revealed that there is a significant impact of Digital and Financial Literacy on MSME performance. The study concluded that Digital Financial Literacy is essential for the MSMEs to enhance access to finance, skill up-gradation, and impart the technology and marketing support that leads to inclusive growth of MSMEs in the country. This means that MSMEs need to have some form of training on digital financial services to be able to manage their business with digital platforms.

The study revealed that to enhance the participation of Zambian MSMEs in cross-border trade using DFS, the Bank of Zambia has permitted regulated institutions to participate in various cross-border money transfer platforms including SWIFT, SADC – RTGS, COMESA REPSS, PAPSS, SADC – TCIB, Cross-Border Mobile Money remittances and permission of other money transfer operators such as Western Union, MoneyGram, and World Remit among others. The platforms facilitate for money transfers to pay or receive payments for goods or services. The study further revealed that:

- As people migrate to Digital Financial Service, it is important that cyber security is also enhanced. The Bank has put in place a project team that has come up with cybersecurity guidelines that will be issued to the market in the first half of 2022.
- Awareness needs to be stepped up. The Bank is working with the service providers to scale up awareness.
- There is need to build digital skills in the customers so that they can effectively access and use digital financial services.

- There is need to increase the acceptance of mobile money for merchant payments hence the need to grow the ecosystem so that more electronic value can be circulating in the ecosystem and reduce the need to cash out.
- The Bank continues to use moral persuasion and regulatory measures to make the transaction fees more efficient and affordable to customers. Further, technology-based solutions have been able to aid reduction of some of these high costs. Service providers that have offered lower transactions fees have benefited from larger volumes and increased revenue. However, a lot more can still be done in the area by continuing to leverage technology.

The findings of the study revealed that the National Financial System (NFS) has increased convenience; access and usage of financial services; increased innovation; enhance efficiency; and is expected to eventually reduce transaction costs. The NFS provides great opportunities for the country to innovate and for participants to be more competitive. The pathway to cross boarder digital payments brings with it similar benefits across the continent of Africa. The NFS is scalable and will go a long way in advancing payment systems in Zambia by expanding access points and providing for more innovations. The Bank is currently looking at integrating the NFS with the recently launched Pan African Payments and Settlements System (PAPSS), which will be especially beneficial to merchants who will be able to perform cross border payments instantly and settled in real time. As the payment system landscape increases, we are witnessing mobile money operators and fast growing FinTechs come up with innovative digital solutions that cater for the market, inclusive of MSMEs. There are wallets specifically made for MSMEs for customer payments. The wallets are meant to create convenience in paying for goods with mobile money and to address the challenges faced by merchants, such as fraudulent reversals of payments.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents conclusions and recommendations of the study. In addition, the chapter offers directions for future research.

6.2 Summary findings

The chapter highlights the findings of the study following the data analysis. The study revealed that, most MSMEs acknowledged that Digital Financial Service (DFS) facilitates effectiveness in conducting business and those that had access to DFS have had a good experience with the digital platforms. However, majority of the MSMEs are lagging in adopting digital financial services (DFS) due to lack of awareness of the innovative lending options and digital financial platforms that may enhance the operations of their businesses and improve their business performances. The study further revealed that there are barriers/challenges that limit the MSMEs in utilizing digital financial Services (DFS). These include, lack of knowledge of the many advancements that have been in the Digital Financial Service (DFS) sector, high transaction costs, deliberate government policy targeting MSMEs in cross border trading and security concerns, Despite the sensitization that the Service providers of DFS are advancing, the channels of communication being used on product information which is mostly institution website is not accessed by the MSMSEs in cross border trading.

6.3 Conclusion

The objective of this study was to investigate the uptake of DFS by MSMEs and its effect on enhancement of operations in cross border trading through utilization of Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. The study's presentation, analysis, and conclusion were based on 300 respondents which included 290 registered MSMEs found in Lusaka that carry out cross-border trading, 1 member form Financial Regulators (Bank of Zambia) and Financial Service Providers and 3 Mobile Network Operators (Airtel and MTN Zambia) in Zambia (key informants). The data was analysed both qualitatively

and quantitatively. Qualitative data were analysed using content analysis. Descriptive statistical tools including graphs, charts, and tables were employed in the quantitative analysis. The discovered that there is scarcity of external funding sources such as formal credit or equity, for the MSMEs as most of them got their funding either from their own savings or family and friends. The drawback to this is that it takes time for MSMEs to accumulate sufficient savings to be able to scale-up their operations. Study discovered that the most MSMEs acknowledged that DFS in effective in conducting business and most of them had a good experience with the digital platforms.

The study concluded that MSMEs have access to DFS in cross border trading, but they preferred using cash when doing business. The study also found that MSMEs face challenges which hinder them to perform digital transactions these include, lack of knowledge on Digital Financial Services, the transaction costs, mobile money, and banks have high withdrawn costs, lack of financial knowledge about alternative sources of funds and transaction limits on mobile money are too low and tend to limit business transactions for MSMEs. The study found that several measures which included training on digital platforms and regarding their willingness to expand their digital skills, they expressed enthusiasm about the initiative.

In summary and in relation to the objectives of the study, it has been concluded that:

I. The uptake levels of DFS by MSMEs in cross-border trading in Zambia is low with study revealing only 35.5 % of MSMEs are utilizing DFS.
II. There are barriers in the uptake of DFS by MSMEs in cross-border trading in Zambia which include, lack of knowledge, high transaction costs, deliberate government policy targeting MSMEs in cross border trading and security concerns.
III. There are many initiatives that the government and the service providers can roll out targeted at the MSMEs to promote uptake of DFS.

6.4 Recommendations

(I) <u>Develop policies that support implementation of DFS targeted for MSME's in cross boarder trading.</u>

The financial Regulator in Zambia (Bank of Zambia) is encouraged to develop policies that are specific for MSMEs'. It is envisioned that once this is done, service providers such as commercial Banks and will develop products that are specific to MSMEs'. This may result

in lowering of transaction costs and more awareness to would be consumers (MSMEs). It is expected that this move will promote uptake of DFS by the MSMEs'. Some of the policies that may be considered include:

- Policies that promote interoperability across payment systems across borders.
- Policies that enhance transparency on transaction costs by the commercial banks.

(II) Building Capacity in Financial literacy for MSMEs'.

The government together with DFS providers to build the MSMEs' capacity in financial literacy. This may be achieved by deliberate development of financial literacy programs for MSMEs' in cross boarder trading. It is anticipated that this literacy will catalyse the uptake levels of DFS bu MSMEs' in cross boarder trading there by opening up markets across borders. This is expected to positively impact the operatons of cross borders traders in Zambia and improve on efficiencies in the supply chain.

(III) Development of programmes to support MSMEs' access to digital financial service

DFS providers to capacity building programs that develop MSMEs' technical skills in accessing DFS in order to strengthen usage of digital solutions.

(IV) Transaction limits and fees

It is recommended that transaction limits be increased from the current ZMW20, 000 on mobile Money service provider to around 50 000 In the same vain, transaction costs be lowered to at least less than 1% of the total transaction costs for Bank transaction and be standardised across service providers to ensure uniformity and fair competition among service providers. This will build confidence in the MSMEs' accessing DFS knowingly the exact transaction cost that they will incur.

(V) Data Security and Consumer Protection

While MSMEs may be happy to use DFS, there is need for their data to be protected by making their transactions secure. There has been a high number of reports made on scammers having access to Mobile money accounts.

To promote security, customer care service to report fraud or data insecurity should have a shorter resolving time as it was noted that in some cases, transactions would take up to a month

for reversals to be made resulting in loss of business. The recommendation to have transaction resolve within 24 hours in case of unsuccessful transaction.

(VI) Increase the acceptance of mobile money for merchant payments

hence the need to grow the ecosystem so that more electronic value can be circulating in the ecosystem and reduce the need to cash out.

6.5 Areas for further Research

- What is the role of the Ministry of Small Medium Enterprise Development in the uptake of Digital Financial Services by cross boarder traders? This may lead to development of positive policy instruments that promote uptake of DFS.
- What advancements have been made in common payment platforms for cross boarder traders and are these platforms being accessed by the cross border MSMEs?

REFERENCES

Acs, Z. J., Szerb, L. and Lloyd, A. (2017). *The Global Entrepreneurship Index*. Washington, DC: The Global Entrepreneurship and Development Institute.

Bank of Zambia. (2019). *State of the Digital Financial Services Market in Zambia, 2018*. Lusaka

Bidde C., Scfft K. A. (2015) *Mixed Methods of research*, Sage

COMESA Business Council (2020) *Business case report and policy framework for digital integrated regional common payment scheme for MSMEs*. Lusaka, Zambia.

Demirgüç-Kunt, A., L. Klapper, D. Singer, S. Ansar, and Jake Richard Hess. (2018). *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. Washington, DC: World Bank Group. Fast Company.

Drexler, A., Fischer, G., and Schoar, A. (2014). *Keeping it simple: Financial literacy and rules of thumb*. American Economic Journal: Applied Economics, 6(2).

Europran Investment Bank (2011) *Digital Financial Services in Africa: Beyond the Kenya Success Story*

Financial Capability and Inclusive Survey (2017). *Enhancing Financial Capability and Inclusion in Zambia: A Demand-side Assessment*. World Bank Group.

GSMA (GSM Association). (2019). *The Mobile Economy: Sub-Saharan Africa 2019*. London: GSMA. https://www.gsma.com/r/mobileeconomy/

Hilda, Thopacu (2021). *Developments in Paperless Trade: Implications for Zambia's Small-Scale Cross-Border Traders.* Policy Insights. African perspectives Global insights. University of the Witwatersrand, Johannesburg, South Africa.

International Finance Corporation (IFC) and Mastercard Foundation, (2018). *Digital Access: The Future of Financial Inclusion in Africa*. Report published by the IFC and Mastercard Foundation.

Kamal Gupta., Jatinder Kaur, (2014). *A study of Financial Literacy among Micro-Entrepreneurs in District Kangra*, IJRBM, Vol-2, Issue-2.

Lauer, Kate, and Timothy Lyman. (2015). *Digital Financial Inclusion: Implications for Customers, Regulators, Supervisors, and Standard-Setting Bodies*. CGAP Brief, World Bank Group, Washington, DC.

Liu Yang and Youtang Zhang (2020). *Digital Financial Inclusion and Sustainable Growth of Small and Micro Enterprises—Evidence Based on China's New Third Board Market Listed Companies.* School of Management, Wuhan University of Technology, Wuhan 430070, China.

Lusardi, A., Mitchell, O. S., and Curto, V. (2010). *Financial literacy among the young*. Journal of consumer affairs: official publication of the American Council on Consumer Interests.

Madan Nitin, (2020). *A Review of Access to Finance by Micro, Small and Medium Enterprises and Digital Financial Services in Selected Asia-Pacific Least Developed Countries.* Macroeconomic Policy and Financing for Development Division. United Nations ESCAP.

Manda, C. Floyd Mwansa, Sylivera Massawe, and Benjamin Mazzotta (2020). *How micro-and small enterprises (MSEs) leveraged informal financing and digital technology during the COVID-19 pandemic in Zambia*. Lusaka.

Neubauner B. E,; Witkop C. T ; Varpoo L. (2019). *How Phenomenoloical Assumptions can helo us learn from experience of others.*

Prasad, H., Meghwal, D. (2017). *Digital Financial Literacy*: A Study of Households of Udaipur. Global Journal of Advanced Research

Remund, D. L. (2010). *Financial literacy explicated*: The case for a clearer definition in an increasingly complex economy. Journal of Consumer Affairs.

Saunders, M., Lewis, P. and Thornhill, A. (2009). Research methods for business students. 5th ed. Essex: Prentice Hall.

Shuanglu, L.; Peipei, L. (2019). *Digital Financial Inclusion and Urban-rural Income Gap*. J. Cap. Univ. Econ. Trade 2019, 21.

The World Bank (2020). *Accelerating Digital Transformation in Zambia.* Digital Economy Diagnostic Report. International Bank for Reconstruction and Development. NW Washington DC.

Tsung E. W. K (2016) *The philosophy of Management Research*, Routledge

UNCDF (2019). *Growing Digital Financial Inclusion in Zambia*, UNDP

United Nations Capital Development Fund (UNCDF) and Bank of Zambia (BoZ) (2019). *State of the DFS Industry 2018, Launch presentation*: Zambia.

Venkatesh, V. (2000), "Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model", *Information Systems Research, vol. 11, pp. 342–365*

Appendix

4. Research Plan

- Activities will be done from October 2022 to March 2023: The table below illustrates the time scale.

Activities	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023
MOBILIZATION						
DATA COLLECTION						
DATA COMPILATION						
DATA REFINING						
REPORTING						

In summary, the researcher anticipates that the research will begin Ocyober 2022 and be concluded latest by January February 2023.

4.10 Proposed Budget

- The activity budget is summarized in the table below:

ITEM	ACTIVITY	ESTIMATED AMOUNT
01	MOBILIZATION	**K500.00**
02	DATA COLLECTION	**K2, 500.00**
03	DATA COMPILATION	**K500.00**
04	DATA REFINING	**K500.00**
05	REPORT PREPARATION/PRESENTATION	**K1000.00**
	ESTIMATED TOTAL	**K5, 000.00**

Questionnaire for MSMSEs

UNIVERSITY OF ZAMBIA

School of Social Sciences

Department of

My name is Nawina Imwiko a student at University of Zambia. This questionnaire has been developed to facilitate a study aimed enhancing operations in cross border trade through Digital Financial Service (DFS) on Micro, Small and Medium-sized Enterprises (MSMEs) in Zambia. You have been identified as a critical player in this field. Your input in this study would be most valuable.

I'm therefore requesting your assistance to fill the attached questionnaires by ticking where appropriate or filling in the required information on the spaces provided as honestly and precisely as possible. The information given will be handled confidentially and will only be used only for academic intention.

Section A: Background Information

Tick one appropriate answer

1. What is your age?
    a) Under 20
    b) 21- 30
    c) 31-40
    d) 41 and above
2. What is your gender?
    a) Male
    b) Female

3. What is your highest level of education?

    a) No formal education
    b) Primary
    c) Secondary
    d) Tertiary
4. What is the form of your business?
    a) Sole trader
    b) Partnership
    c) Co-operative
    d) Limited liability company

e) Private business corporation

5. In which industrial sector does your business belong?
   a) Agriculture
   b) Construction
   c) Mining
   d) Retail and wholesale
   e) Other specify…….
6. How long have you been in this business?
   a) Less than 1 year
   b) 1 to 5 years
   c) 6 to 10 years
   d) 10 and above years

Section B: Access to Financial and Payment

7. What was your source of start-up capital?
   a) Informal credit
   b) Formal credit
   c) Savings
   d) Family and friends
   e) Grants
   f) Other specify……..
8. Do you have an account specifically for making and receiving payments?
   a) Yes
   b) No

7a. If yes, how far is the nearest bank, bank agent or mobile money agent

   a) Less than 1 Km
   b) 1 to 5 Km
   c) 5 to 10 Km
   d) Over 10 Km

9. What is the preferred method of making or receiving payments?
   a) Cash

b) Mobile Money
c) Bank Account
d) Others Specify……

10. This explores your experience with the access to financial services and payment services, please tick (√) or cross (×) appropriately. On the scale 1=Very satisfied 2= Satisfied 3= Not Sure 4= Dissatisfied 5=Very Dissatisfied; how do you describe each one of the following services.

	1	2	3	4	5
Bank account					
Personal account					
Mobile money account					
Cash					

11. Do you feel secure carrying a lot of cash in doing business or general transactions?
    a) Yes
    b) No

Give a reason for your answer

……
……...

Section C: Digital Financial Services in Cross Border Trade

12. What do you know about Digital Financial Services?

……

……

13. Do you use digital platforms to engage in cross border trading?
    a) Yes
    b) No
14. Do you think digital financial services are important in conducting business?
    a) Yes
    b) No

    Give a reason for your answer

    ……

    ……
15. If yes, how important do you consider digital financial services in your business?
    a) Not important
    b) Insignificant
    c) Important
    d) Very important
    e) Extremely important
16. How has been your experience with digital platforms in cross border trading?
    a) Moderate
    b) Good
    c) Excellent
    d) Bad
    e) Very bad
17. How effective are digital services in cross border trading?
    a) Effective
    b) Very effective
    c) Not effective
18. This explores the efficiency of digital financial services in cross border trades; please tick (√) or cross (×) appropriately. On the scale 1=Strongly disagree 2= Disagree 3= Not sure 4=Agree 5=Strongly agree; how would you rate the following statements.

	1	2	3	4	5
Digital platforms have improved access to financial services for your business					
Digital Financial Services are important mechanisms for increasing financial inclusion					
Digital financial inclusion helps promote the sustainable growth of small and micro-enterprises					
Digital payment platforms are expensive for cross border business					
Digital payment platforms are affordable for cross border business					
Digital payments systems can improve annual turnover					
Digital business field is one of the important indicators of success					
Digital financial service is very effective in conducting cross border trades					
There is a significant impact of Digital financial services on cross border MSMEs performance					
Digital financial service for cross border trading has impacted your business					

19. Do you think cross border MSMEs are underrepresented in the digital financial services?
    a) Yes
    b) No
20. Is there a specific approved policy relating to MSME digital financial inclusion?
    a) Yes
    b) No
21. Do you face challenges using digital financial services in engaging in cross border trading?
    a) Yes
    b) No

If yes, what are the challenges?

……
……
……
……

22. What do you think should be done to curb the challenges identified above?

……
……
……
……

23. What measure should be put in place to promote digital financial services in cross border trade?

……
……
……..

THANK YOU FOR YOUR PARTICIPATION!!!

Interview guide for Commercial Banks and Mobile Network Operators

Interview Guide for Commercial Banks/ Mobile Network Operators (Key Informant)

Position of Key Informant..... Date of Interview.....

1. Do you provide digital financial services specific for MSMEs in cross border trades?
2. Do you have deliberate institutional policies that ensure that MSMEs incorporate digital payment systems in their business?
3. What channels do you use to promote the available Digital Financial Services.
4. What challenges do you face in promoting digital transactions for MSMEs for cross border trades?
5. Do you have a mechanism of knowing how many cross boarder traders use your Digital Financial Service?
6. Does your Digital Financial Services allow clients to transact across boarders (to a different service providers)
7. What percentage of the transaction cost is for service charge?
8. How secure is your Digital Financial Service?
9. What is the response time for grievance handling.

Thank you for your co-operation and information

Interview guide for Financial Regulator

Appendix 3: Interview Guide for Digital Financial Services Regulator (Key Informant)

Position of Key Informant..... Date of Interview.....

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1. Are there any policies and regulation or government directive that are aimed at promotion of Digital Financial Services (DFS) for MSMEs in cross border trade?
2. Do you play a role in ensuring that MSMEs incorporate digital financial systems in their business?
3. Do you conduct benchmarking activities on development of Digital Financial Services (DFS) against countries that are rated as high in provision of DFS (e.g. Kenya)
4. What areas do you focus on as a DFS regulator?
5. Are there any regulations or government initiative that are aimed at recognising digital trading in cross border trades?
6. What is your organisation doing to promote Digital Financial services for MSMEs in cross border trades?
7. What challenges do you face in promoting digital transactions for MSMEs in cross border trades?

Thank you for your co-operation and information