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TITLE: An investigation into the impact of digital banking platforms on bank performance in the Zimbabwean banking industry.

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GSM MBA DISSERTATION

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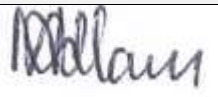
NDHLOVU	**NYARADZO**	

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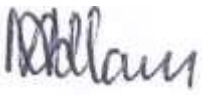

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Glory be to God most high.

DEDICATION

I dedicate this dissertation to my sons Freeman jnr. and Munesuishe.

ABSTRACT

The aim of this study was to investigate the impact of digital banking platforms; POS banking, mobile banking, internet banking and app banking, on bank performance in Zimbabwe. The study used a positivist paradigm, explanatory design, deductive approach and a survey strategy. Primary data which employed in answering the research questions were collected from a sample of 200 respondents drawn from four selected banks operating in Harare. The data were collected using a questionnaire survey and was analysed using AMOS. Findings showed that POS banking, mobile banking and app banking have positive and significant indirect (via service quality), direct and total impact on bank performance whilst internet banking has no impact on bank performance. Besides, the findings revealed that service quality does not moderate the impact of digital banking platforms on bank performance in Zimbabwe.

The study contributed positively to the extant literature and the body of knowledge on the impact of digital banking platforms on bank performance from a Zimbabwean point of view. Nevertheless, the methodological limitation relating to the use of the quantitative cross-sectional data need to be addressed in future research through the use of a mixed method approach. The research contributed a conceptual framework for assessing the impact of digital banking platform on bank performance in which service quality was employed as an intervening variable. Besides, the study delivered a valid and reliable research instrument for exploring digital banking platforms and bank performance. The study recommended that policies should be made that result in the government offering loans to banks that seek to undertake digital technology innovations at a low cost to incentivise banks to borrow from the government and come up with new digital banking innovations. It was suggested that future study should explore the contribution of digital banking platforms being offered by banks on organisational performance in different sectors of the economy.

Key words: Digital Banking Platforms, Point of Sale Banking, Bank Performance, Internet Banking, Mobile Banking, App Banking, Service Quality

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ABBREVIATIONS AND ACCRONYMS

AMOS	-	Analysis of Moment Structures
ATM	-	Automated Telling machine
ECB	-	European Central Bank
EFT	-	Electronic Funds Transfer
IDT	-	Innovation Diffusion Theory
IT	-	Information Technology
KMO	-	Kaiser-Meyer-Olkin
MBT	-	Mobile Banking Technology
MLE	-	Maximum Likelihood Estimation
OECD	-	Organisation for Economic Co-operation and Development
PC	-	Personal Computer
PCA	-	Principal Component Analysis
PIN	-	Personal Identification Number
POS	-	Point of Sale
RBV	-	Resource-Based View
RBZ	-	Reserve Bank of Zimbabwe
ROA	-	Return on Assets
ROE	-	Return on Equity
RTGS	-	Real Time Gross Settlement
SEM	-	Structural Equation Modelling
SMEs	-	Small to Medium Enterprises
SMS	-	Short Message Service
TAT	-	Technological Acceptance Theory
UZ	-	University of Zimbabwe

CHAPTER 1 INTRODUCTION

1.0 Introduction

The increased level of competition and globalisation within the banking industry, coupled with technological progressions has made banks alter their banking approach (Bach, Starešini´c, Omazi´c, Aleksi´c and Seljan, 2020; Rajeshkumar, 2020). The technological progressions and the need to remain competitive whilst at the same time improving performance within the banking industry has resulted in the emergence of innovations, like digital banking platforms, which have completely revolutionised and transformed the banking system the world over. Financial institutions are designing and implementing different digital banking platforms which are offering convenience to customers whilst at the same time offering banks an opportunity to improve on their performance (Kombe and Wafula, 2015; Mujahed, Ahmed and Samikon, 2020). The success in the use of different digital banking platforms has been escalated by the rapid mobile phone and internet penetration rates across the whole world (Muchiri, 2018). The banking public can now perform banking transactions on different digital banking platforms that banks are innovating. This situation has offered flexibility and convenience to the banking public as they no longer have to visit their banks and perform transactions of their choice (Bach et al., 2020; Rajeshkumar, 2020).

Extant evidence suggests that the digital banking platforms being designed and implemented by banks have a significant impact on bank performance (Atieno, 2018; Dzombo, Kilika and Maingi, 2017; Harelimana, 2017). Atieno (2018) and Harelimana (2017) show that financial institutions struggle to achieve effectiveness, efficiency, relevancy in the market and financial viability. Point of sale (POS) banking, internet banking, mobile banking, automated telling machine (ATM) banking, telephone banking, personal computer (PC) banking and app banking are considered as digital banking platforms driving efficiency, effeteness, relevance and financial viability in the banking sector (Atieno, 2018; Kombe and Wafula, 2015; Mavaza, 2019). This implies that the digital banking platforms being designed and implemented by banks have an influence on bank performance. Thus, the different digital banking platforms being innovated and used in the banking industry are not only meant to offer flexibility and convenience to the banking public but are also intended to improve bank performance (Chindudzi, Maredze and Nyoni, 2020; Dzombo et al., 2017; Kathuo, Rotich and Anyango, 2015).

This chapter introduces the entire study and explores the background to the research area, research problem, objectives, questions and hypotheses. Besides, the chapter also outlines the rationale of the research, the scope of the study and then present an outline of the dissertation.

1.1 Background

The digitalisation of financial services has become paramount as banks are striving to innovate and adopt improved and even more effective and efficient methods of providing financial services to their clients (Agboola, Awobajo, Oluwatobi, Akinbode, Fagbohun, Esse, Segun-Adeniran, Asaolu and Betek, 2019). Most banking activities are now being conducted on different digital banking platforms that are being innovated by banks (Chindidzi et al., 2020; Kathuo et al., 2015). Digital banking refers to the use of electronic and telecommunication networks to offer a broad range of value-added financial products and services to the banking public (Chindidzi et al., 2020). Thus, digital banking platforms relate to the channels through with digital banking is conducted. The common digital banking platforms being used in the banking industry includes POS banking, internet banking, mobile banking, ATM banking, telephone banking, PC banking and app banking (Atieno, 2018; Kombe and Wafula, 2015; Mavaza, 2019). These digital banking platforms have completely revolutionised the banking system and are influencing the performance of banks globally (Kombe and Wafula, 2015; Mujahed et al., 2020). Bank performance refers to the ability of banks to achieve their set targets or goals and can be measured using several indicators (Harelimana, 2017).

Banks spearhead economic development and, as a result, their performance is critical to the functioning of economies (Said and Tumin, 2011). When bank performance improves, then the economy of a country can also be expected to perform well. Besides, Nazaritehrani and Mashali (2020) indicate that bank performance guarantees the success and growth of these financial institutions, hence the importance of having well-performing banks. Profitability is the bank performance indicator that is mostly looked at when assessing or measuring the extent to which banks are performing (Atieno, 2018; Chidudziet al., 2020; Kathuo et al., 2015). The digital banking platforms being used to offer financial services to the banking services are cost-effective and as such, they have a significant impact on bank profitability (Nazaritehrani and Mashali, 2020).

The internet is packed with extant literature on the impact of digital banking platforms on bank performance. Nazaritehrani and Mashali (2020) explored the development of electronic banking channels and bank performance in developing countries. These authors used internet banking, ATMs, mobile banking, telephone banking and POS banking as electronic banking platforms or channels used by banks while the market share was used to measure bank performance. Their findings revealed a positive and significant effect of internet banking, telephone banking and POS banking on market share while mobile banking was revealed to have a negative effect on market share. Kathuo et al. (2015) explored the impact of mobile banking financial performance of banks in Kenya focusing on mobile banking products of electronic funds transfer (EFT), bill payments and order for cheque books and bank statements. The authors measured the financial performance of banks using return on assets (ROA) and return on equity (ROE). Kathuo et al. (2015) went on to reveal a positive and significant impact between mobile banking products and the financial performance of Kenyan commercial banks.

Atieno (2018) explored the impact of mobile banking on bank performance in Kenya and revealed that mobile banking has a positive and significant impact on bank performance. Harelimana (2017) explored the impact of mobile banking on the financial performance of banks in Rwanda. The author focused on mobile banking products namely EFT, bill payment, mobile money and order for cheque books and bank statements whilst the financial performance was measured using ROE and ROA. All the mobile banking products were found to have a positive impact on bank financial performance. In another study, Agboola et al. (2019) examine the effect of digitalisation on the performance of banks in Nigeria and revealed a positive effect of the digitalisation process on the performance of commercial banks.

A close inspection of the above mentioned empirical studies reveals several gaps in the literature that need to be filled. Studies by Atieno (2018), Kathuo et al. (2015) and Harelimana (2017) explored the impact of mobile banking on bank performance. While mobile banking is one of the digital banking platforms that banks are using, Atieno (2018), Kathuo et al. (2015) and Harelimana (2017) did not explore the impact of other digital banking platforms like app banking, internet banking and POS banking. Furthermore, Atieno (2018), Kathuo et al. (2015) and Harelimana (2017) focused on the profitability of banks and did not look at other performance measures like customer

satisfaction, customer retention, cost reduction and the quality of services which are critical bank performance measures. The study by Nazaritehrani and Mashali (2020) managed to explore the impact of digital banking platforms like internet banking, ATMs, mobile banking, telephone banking and POS banking on market share but did not look at how these digital banking platforms impact other bank performance measures like customer satisfaction, customer retention, cost reduction and the quality of services offered by banks. This shows that there is a dearth of literature concerning the impact of digital banking platforms on bank performance, especially from a Zimbabwean perspective. This study seeks to investigate the impact of digital banking platforms namely POS banking, internet banking, mobile banking and app banking on bank performance measures such as profitability and service quality within the Zimbabwean banking industry.

The Zimbabwean banking sector is heavily contested and banks compete fiercely for customers (Mavaza, 2019). Banks in the country strive to capture and retain a high market share, satisfy and retain their customers, reduce their operation costs, improve profitability and also improve the quality of services they offer to customers (Chindidzi et al., 2020; Mavhiki, Nyamwanza and Shumba, 2015). The growth, success and survival of banks in Zimbabwe have been hinged on market share, customer satisfaction and retention, cost reduction, improvements in profitability and also improvements in the quality of services offered to customers. The swift technological progressions have seen banks in the country digitalising most of their operations. New banking innovations like internet baking, POS banking, app banking and mobile banking have been made and these digital platforms have completely revolutionised the banking industry. The use of several digital banking platforms in the country has been escalated by cash shortages which hit the country since 2015 which saw the whole country relying on the use of plastic money (Mavhiki et al., 2015).

While digital banking has been widely embraced in the country, the shift to digital banking is posing a serious threat to the functionality of banks in Zimbabwe (Chindidzi et al., 2020). The Reserve Bank of Zimbabwe (RBZ) (2017) highlighted that banks in the country were struggling to process digital payments for both local and international payments due to the vast increase in physical Real Time Gross Settlement (RTGS)

requests. This is because banking systems can accommodate precise transaction limits or volumes before being maintained to permit additional transactions to be processed. Resultantly, an upsurge in transaction failure has been on increase (Chindidzi et al., 2020). Transaction failure often results in customer dissatisfaction, increased costs and the perception that services offered by banks are of low quality. Chindidzi et al. (2020) highlighted that even though banks in Zimbabwe are experiencing increasing transaction failure across digital banking platforms mainly as a result of increased transaction volumes the banks are processing, banks' profits have been on the increase for the past five to 10 years.

Mago and Chitokwindo (2014) examined the impact of mobile banking on financial inclusion, Mavhiki et al. (2015) and Mbawa (2013) explored the impact of mobile banking on traditional banking practices in Zimbabwe, Mavaza (2019) looked at electronic banking adoption in Zimbabwe while Chindidzi et al. (2020) examined the impact of digital banking on the performance of Zimbabwean commercial banks. This shows a dearth of the empirical literature on the impact of digital banking platforms on bank performance in Zimbabwe besides the banks in the country widely offering banking services through digital banking platforms like app banking, POS banking, internet banking and mobile banking. Given that digitalisation attracts a huge capital investment (Agboola et al., 2019), the impact of digital banking platforms on bank performance in Zimbabwe has not been explored. It is against this general background the researcher seeks to investigate the impact of digital banking platforms namely app banking, POS banking, internet banking and mobile banking on bank performance measures like profitability and service quality within the Zimbabwean banking industry.

1.2 Research Problem

The Zimbabwean banking industry plays a significant role in economic growth and development. The industry is heavily contested and banks in this industry strive to capture and retain a high market share, satisfy and retain their customers, reduce their operation costs, improve on profitability and the quality of services they offer to customers (Chindidzi et al., 2020; Mavhiki et al., 2015). The swift technological progressions have seen banks in the country digitalising most of their operations in an attempt to improve on bank performance. New banking innovations like internet baking, POS banking, app

banking and mobile banking have been made and these digital platforms have completely revolutionised the banking industry. The use of the different digital banking platforms in the country has been escalated by cash shortages that hit the country since 2015 which resulted in a shift to the use of plastic money (Mavhiki et al., 2015).

The shift to digital banking is posing a serious threat to the functionality of banks in Zimbabwe. Banks in the country are struggling to process digital payments for both local and international transactions due to a vast increase in physical RTGS requests since banking systems can accommodate precise transaction limits or volumes before being maintained to permit additional transactions to be processed (RBZ, 2017). Resultantly, banks have witnessed an upsurge in transaction failure which often results in customer dissatisfaction, increased costs and the perception that services offered by banks are of low quality (Chindidzi et al., 2020). Even though banks are experiencing increasing transaction failure across digital banking platforms due to increased transaction volumes the banks are processing, banks' profits have been increasing in the past five to 10 years.

The dearth of literature on the impact of digital banking platforms on bank performance in Zimbabwe shows that there has been no attempt to investigate whether the digital banking platforms being used by banks to offer banking services to customers enhance bank performance. Given the liquidity crisis facing Zimbabwe and transaction failure which has been on the rise since the shift to digital banking, it is crucial to investigate whether digital banking platforms enhance bank performance. The study is also timely because the Zimbabwean banks have been forced to digitalise because of the liquidity crisis. Therefore, this study seeks to investigate the impact of digital banking platforms namely app banking, POS banking, internet banking and mobile banking on bank performance within the Zimbabwean banking industry. Profitability is used as a bank performance measure while service quality is employed as a moderating variable.

1.3 Research Objectives

1.3.1 Major Research objective

The broad objective of this study is to investigate the impact of digital banking platforms on bank performance within the Zimbabwean banking industry.

1.3.2 Specific Objectives

To achieve the broad research objective, the study specifically seeks:

To assess the impact of POS banking on bank performance in Zimbabwe.
To assess the impact of mobile banking on bank performance in Zimbabwe.
To assess the impact of internet banking on bank performance in Zimbabwe.
To assess the impact of app banking on bank performance in Zimbabwe.
To assess the extent to which service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe

1.4 Research Questions

1.4.1 Major Research Question

The main research question is: What is the impact of digital banking platforms on the performance of banks in Zimbabwe?

1.4.2 Specific Research Questions

The specific research questions are:

What is the impact of POS banking on bank performance in Zimbabwe?
What is the impact of mobile banking on bank performance in Zimbabwe?
What is the impact of internet banking on bank performance in Zimbabwe?
What is the impact of app banking on bank performance in Zimbabwe?
Does service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe?

1.5 Research Hypotheses

The propositions that the study seeks to test are as follows.

H_0 POS banking has no impact on bank performance in Zimbabwe.
H_1 POS banking has a positive impact on bank performance in Zimbabwe.

H_0 Mobile banking has no impact on bank performance in Zimbabwe.
H_2 Mobile banking has a positive impact on bank performance in Zimbabwe.

H_0 Internet banking has no impact on bank performance in Zimbabwe.
H_3 Internet banking has a positive impact on bank performance in Zimbabwe.

H_0 App banking has no impact on bank performance in Zimbabwe.

H_4 App banking has a positive impact on bank performance in Zimbabwe.

H_0 Service quality does not moderate the impact of digital banking platforms on bank performance.

H_5 Service quality moderates the impact of digital banking platforms on bank performance

1.6 Justification of the study

This research is of value to the banking industry in Zimbabwe. The study findings will highlight the extent to which digital platforms namely POS banking, internet banking, app banking and mobile banking are enhancing bank performance. The study by Agboola et al. (2019) which examined the effect of digitalisation on the performance of banks in Nigeria revealed a positive effect of the digitalisation process on the performance of commercial banks. Hence, highlighting the extent to which digital banking platforms enhances bank performance will permit banks in Zimbabwe to appreciate digital banking and invest more in digital banking processes. Besides, the study findings will reveal how digital banking platforms banks are implementing contributes towards reducing operational costs, improving profitability and improving the quality of services banks offer to customers. Atieno (2018), Kathuo et al. (2015) and Harelimana (2017) who all explored the impact of mobile banking on bank performance indicated that the digitalisation of banking services helps banks to lower their operational costs and improve on profitability and also improve on the quality of services banks offer to clients.

The findings of this research will also be of great value to the business community and the general public. The digital banking platforms innovated and implemented by banks are aimed at increasing the speed of financial transactions (Nazaritehrani and Mashali, 2020) and the smooth flow of business transactions (Chindidzi et al., 2020; Mavaza, 2019). In this case, the study findings will enable the business community and the banking public to see how they can take advantage of the several digital banking platforms banks in the country are offering so that they can transact quickly without necessarily visiting bank premises thereby saving travelling costs.

Also, the findings of this study will contribute empirical literature on the impact of digital banking platforms on bank performance to the body of knowledge and from a Zimbabwe perspective. This will go a long way in bridging the identified literature gaps in which the study revealed that there is a dearth of the empirical literature on the impact of digital banking platforms on bank performance from a Zimbabwean perspective. The research will also contribute empirical results that other academicians who might be interested in expanding this study can compare their findings with. The University of Zimbabwe (UZ) can also publish this research and it will act as a source of reference to similar studies. The study will also suggest areas for future research that other scholars within the same research area can focus on.

1.7 Scope of the study

The study is being conducted in Harare where there is a hive of banking activities and where the head offices of banks that will participate in the study are situated. The research is confined to four commercial banks namely Stanbic Bank, CABS, FBC and CBZ. The study is being conducted over six months stretching from November 2020 to the end of April 2021. The four commercial banks represent the unit of analysis for this study. The study will draw participants from the management and customers of the four commercial banks that will participate in the study since these are believed to be the ones possessing information that will permit the researcher to answer the research questions and achieve the research objectives. Hence, this grade of stakeholders is believed to facts and evidence about the impact of digital banking platforms on bank performance.

1.8 Dissertation Outline

This dissertation comprises five chapters which are outlined below.

1.8.1 Chapter 1: Introduction

This chapter introduced the entire research and it explored the background to the research area and the problem statement. The chapter then outlined the major and specific research objectives, major and specific research questions, research propositions, justification or rationale of the study and the scope of the study. Besides, the chapter also outlined the structure of the dissertation.

1.8.2 Chapter 2: Literature Review

This chapter reviews and criticises extant theoretical and empirical literature on the impact of digital banking platforms on bank performance in Zimbabwe citing literature gaps the research seeks to close. The chapter starts by providing definitions of key research terms; digital banking platforms, bank performance and the Zimbabwean banking industry. It then discusses extant theories in the research area of digital banking platforms and bank performance underpinning the study focusing on the strengths and weaknesses of the theories in explaining the research area. Also, the chapter presents and outlines the conceptual framework developed from the reviewed extant literature and the gaps revealed during the literature review.

1.8.3 Chapter 3: Research Methodology

This chapter explains and validates the methodology used in the study as well as the methods employed in gathering and analysing data for the research. Specifically, the chapter explores the research philosophy, research design, research approach and the research strategy used in the study. The chapter also explores the population, sample size, sampling techniques, selection of respondents, research instruments, data analysis tools and validity and reliability of the data. Also, the chapter explores ethical considerations for the study.

1.8.4 Chapter 4: Data Analysis and Presentation of Results

This chapter presents, analyses and discusses the findings of the study. The study is quantitative and as such, data collected are analysed using the Analysis of Moment Structures (AMOS). The study findings are presented on tables. The chapter presents statistical tests like reliability tests, factor analysis, normality tests and cross-tabulation tests. Besides, correlation analysis and regression analysis are performed and findings presented and discussed in this chapter. Also, the chapter compares the primary study findings with extant findings that are provided in the literature and then present an in-depth discussion of the results in line with the research objectives.

1.8.5 Chapter 5: Conclusions and Recommendations

This chapter concerns study conclusions and recommendations. The chapter makes some conclusions and recommendations in line with the key research findings. The conclusions and recommendations are guided by the study results from the analysed primary data to

facilitate generalisations to be made. The chapter summarises and concludes the attainment of the research aim, objectives and makes sure that all the research questions are answered. Also, the chapter outlines the limitations encountered during the study and proposes areas for future research in the area of digital banking and bank performance.

1.9 Chapter Summary

This chapter introduced the entire research and it explored the background to the research area and the problem statement. The chapter then outlined the major and specific research objectives, major and specific research questions, research propositions, justification or rationale of the study and the scope of the study. Besides, the chapter also outlined the structure of the dissertation. The next chapter concerns literature review.

CHAPTER 2 LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature on the impact of digital banking platforms on bank performance. Specifically, it reviews literature related to the nature and role of digital banking platforms and their contributions to bank performance. The chapter endeavours to synthesise literature from research within the study area. It examines the theory underpinning the concepts of digital banking and bank performance, inclusive of the different digital banking platforms and dimensions of bank performance. The chapter begins by exploring the definition of digital banking and its concept, showing how Zimbabwean banks innovate and use different digital banking platforms to improve their performance.

In terms of digital banking platforms namely POS banking, internet banking, mobile banking and app banking, the chapter deliberates on their conceptualisation, value or benefits and challenges within the banking sector. Besides, the chapter provides a discussion of commonalities and contradictions within digital banking and bank performance and then presents a discussion of key or major variables and dimensions of the study. Lastly, the chapter provides a synthesis of literature and outlines the conceptual framework showing the study variables and the direction of the relationships between the variables.

2.2 Explanation for the search strategy for the literature

It was discovered during literature search that the great part of existing literature on digital banking mostly focused on its adoption by banks and also on the financial performance of banks. There is a dearth of empirical literature on digital banking platforms and bank performance especially for Zimbabwe. The majority of the studies focused on digital banking platform of mobile banking and little attention has been given to other digital banking platforms like internet banking, POS banking and app banking

besides these digital banking platforms being widely used in the banking sector of late. Concerning bank performance, most of the extant literature explores the financial performance of banks focusing mainly on the profitability of banks which in most cases was measured using ROA and ROE. Other performance measures such as cost reduction and quality of services offered by banks have not been widely researched. As a result, this research relied on literature related to digital banking, electronic banking and mobile banking in the banking sector and also within other several forms of businesses like small to medium enterprises (SMEs), bank performance and organisational performance within other forms of businesses. The study focused on the impact of digital banking platforms namely POS banking, internet banking, mobile banking and app banking on bank performance measures namely bank profitability, cost reduction and quality of services.

The literature for the study was reviewed from past studies that explored digital banking, mobile banking, bank performance, bank reputation and organisational performance within the banking sector and also from other different types of organisations like SMEs. These past studies were mainly in the form of journals that the researcher downloaded from search engines like Research Gate, Electrochemical Society, Multidisciplinary Review-Journal, Strategic Journals, Springer Open, Modern Research Publications, Growing Science and Global Journals. Leading researches within the area of digital banking, electronic banking, mobile banking, bank performance and organisational performance were used as sources of references in this study. This research investigates the impact of digital banking platforms on bank performance within the Zimbabwean banking industry.

2.3 Definition of phenomena

2.3.1 Digital banking

There is a plethora of definitions of digital banking. Lumpkin and Schich (2020: 30) define digital banking as a variety of bank initiatives that make extensive use of information technology (IT) to provide retail banking services inclusive of current and deposit accounts, credit cards, loans as well as financial advice to customers. Rajan and Saranya (2018: 306) view digital banking as a broad or generic term that is used to indicate the development of banking services and delivery of banking products and services to bank customers through electronic channels. It is also known as electronic

banking (e-banking), home banking, cyberbanking or virtual banking where several banking activities or transactions can be performed from anywhere (Rajan and Saranya, 2018). According to Agboola et al. (2019), digital banking refers to the provision of banking products and financial services to customers through several electronic banking tools innovated by banks. Chindudzi et al. (2020) view digital banking as the use of electronic and telecommunication networks to offer a broad range of value-added financial products and services to the banking public.

While the above-mentioned definitions of digital banking put across by different authors seem to be different, they converge. It is clear from the cited definitions that digital banking refers to the provision of banking products and services through electronic channels innovated by banks. Extant literature shows that digital banking has completely revolutionised and transformed the banking system the world over (Mujahed et al., 2020). Bach et al. (2020) and Rajeshkumar (2020) note that the development of digital banking has been necessitated by the increasing level of competition and globalisation within the banking industry. Muchiri (2018) notes that digital banking has been escalated by the rapid mobile phone and internet penetration rates across the world. According to Kombe and Wafula (2015), digital banking has allowed the banking public to perform banking transactions on different digital banking platforms.

2.3.2 Digital banking platforms

Digital banking platforms relate to the channels through which digital banking is conducted (Rajan and Saranya, 2018). They are tools, channels or platforms through which banking services are now being offered to customers (Wewege, Lee and Thomsett, 2020). The internet is packed with a variety of digital banking platforms that are being used by banks to offer banking products and different financial services to customers. Such platforms include ATMs, POS, internet banking, application services or app banking, mobile banking, PC banking and telephone banking (Atieno, 2018; Kombe and Wafula, 2015; Lumpkin and Schich, 2020; Mavaza, 2019; Moghni, Nassehifar and Nategh, 2020; Rajan and Saranya, 2018). These digital banking platforms have replaced the old traditional banking systems. In all the digital banking platforms, customers can access their financial accounts and receive the financial services they require mostly without an intermediary. This explains why Moghn et al. (2020) explain that within the

digital banking literature, digital banking platforms are also termed “direct banking”. One can directly access financial services without visiting the bank premises.

The development of digital banking platforms has been necessitated by swift IT progressions (Bach et al., 2020; Kombe and Wafula, 2015). The IT progressions have resulted in drastic changes in the financial sector’s service environment by introducing multi-channels that encompass both online and offline communication (Bach et al., 2020). The multi-channels have limited the physical interaction between bank employees and customers. Thus, the increasing use of digital banking platforms by customers is evidence to suggest the decreasing importance of the physical interaction between bank employees and bank clients. Resultantly, the traditional banking system is gradually changing in the direction of disrupted communications and direct transactions owing to the increasing use of the digital banking platforms banks are innovating, implementing and offering clients to use to access financial services.

Authors like Bach et al. (2020) indicate that digital banking platforms are a new radical innovation within the banking sector. The integration of mobile communication technology, banking products and financial services is resulting in the provision of flexible financial services, prompt response to bank clients and provision of time optimisation (Afshan and Sharif, 2016). Besides, Malaquias and Hwang (2016) highlight that the digital banking platforms are providing independent services to bank clients, decreasing bank operation costs and increasing efficiency and effectiveness of bank transactions. Thus, there is a close connection between the different digital banking platforms being used within the banking sector and bank performance (Atieno, 2018; Dzombo et al., 2017). This study seeks to investigate the impact of digital banking platforms on bank performance within the Zimbabwean banking industry.

2.3.3 Origins of digital banking

There is no consensus concerning the exact date when digital banking started. According to Wewege et al. (2020), the origins of digital banking started with the branch-based banking model which remained unchanged and unchallenged for over 500 years. Kagan (2020) notes that banks started experimenting with online banking around the 1980s. By that time, the internet had not yet been popular and resultantly online banking did not materialise. This shows that digital banking started in 1980 when online banking

experiments were conducted and failed mainly due to the low internet coverage globally. The rise of and increased internet penetration rate in the mid-1990s resulted in banks taking advantage of it and online banking was fully launched (Kagan, 2020; Wewege et al., 2020). Since the mid-1990s, there has been a stable increase of digital banks across the entire world. According to Kagan (2020), banks started establishing websites and that was the beginning of web banking and other digital banking platforms like telephone banking and banking by email (email banking) were later innovated and implemented.

The timeline of digital banking shows that Monte Dei Paschi di Siena, the world's oldest bank was founded in 1472 and it consisted of branches, cheques and paper money or currency that it operated that way and remained unchanged for over 500 years (Kagan, 2020). Wewege et al. (2020) mentioned that the first bank mainframe was established by the Stanford Research Institute in 1953 and it processed cheques for the clients of the Bank of America. In 1966, the Barclays Bank of the United Kingdom launched the first debit card and in 1994, the Stanford Federal Credit Union became the first financial institution within the United States to offer internet banking to all its clients (Wewege et al., 2020). Owing to the rapid mobile and internet penetration rates across the globe, financial innovations have been on the increase. The development of mobile telecommunication provided an opportunity for banks to offer financial services to their clients through mobile phones (Mujahed et al., 2020).

Owing to the stiff competition that started growing within the financial or banking sector, many banks started adapting and implementing digital banking. Commercial banks started seeing the advantages of digitalising their operations and offering services to clients virtually. According to Kagan (2020), the key advantages that led to the adoption and acceptance of digital banking in the banking sector is because digital banking saves time and the physical risks associated with the traditional banking system. Under digital banking, financial transactions can be completed in a few minutes whilst someone is at home or anywhere where there is a mobile network. Digital banking does not require too much paperwork when compared to the traditional banking system. Therefore, banks adopting and accepting digital banking were able to save costs in the form of reduced paperwork costs (Wewege et al., 2020). Bach et al. (2020) also mention that digital banking does not require a bank to have many branches. As the traditional banking system was associated with too many branches as a result of too much paperwork, banks

adopting digital banking were able to reduce the number of their branches, reduce the number of their employees and thus reduce their operational costs significantly.

Kagan (2020) also indicates that customers were quick to accept digital banking owing to the convenience it offered them. There was no need for customers to make trips to the bank branches and make financial transactions that they could perform in the comfort of their homes. Another reason why digital banking was quickly accepted by bank customers was that clients felt safe to conduct financial transactions online where they could not be robbed unlike under the traditional banking system where people were robbed at AMTs whilst withdrawing funds.

According to Wewege et al. (2020), banks that accepted digital banking started growing fast, increasing their market share significantly, reducing their operational costs, recording high profits, satisfying their customers and earning a good reputation in the financial market. Such banks were preferred by clients to banks that were offering traditional banking. Philcher (2020) shows that in a study that was conducted in 2016, 67% of bank customers indicated that they preferred to interact with their financial institutions virtually, 57% indicated that they preferred to interact with their banks in-person at a branch, 55% over smartphones, 52% at the ATM and 26% over the phone. This indicates that bank customers no longer prefer to visit their bank branches and make a financial transaction which explains why digital banking is gaining popularity and is being used by customers often when compared to the traditional banking system. This is supported by Bhutani and Wadhwani (2018) who note banks offering digital banking services to their clients are growing in numbers globally. Hence, many banks are shifting from the traditional banking system and going digital.

Pilcher (2020) highlighted that digital banking is being exacerbated by the increasing mobile and internet penetration rates which are set to see mobile transactions increased by over 121% whilst bank branches set to drop by 36% between 2017 and 2022. The rising mobile transactions are also set to see banking interactions on desktop and laptop devices decrease by 63% between 2017 and 2022 (Wewege et al., 2020). Resultantly, Pilcher (2020) predicts that in the next five years, 88% of all retail financial institutions will have completely digitalised their operations with the majority of transactions being conducted on mobile phones.

2.3.4 Key characteristics of digital banking platforms

Several attributes characterise digital banking platforms. Harrison and Farley (2016) identified several traits or characteristics that define the best digital banking platforms. They tracked the banking industry's progress in developing and delivering digital banking platforms based on the eight characteristics and recommended that finance executives and treasurers should contemplate the eight key characteristics in the context of their organisation's offerings. The first key characteristic of digital banking platforms is that the platforms provide secure mobile banking technology (MBT) that conveys information and insights to tablets and smartphones (Harrison and Farley, 2016). Banks understand that mobility is very relevant to corporates. Resultantly, they are diverting much of their effort in innovating different mobile apps, features and technologies that are secure and can be used by clients to access financial information over their mobile phones. Consequently, digital banking platforms provide secure MBT that conveys information and insights to tablets and mobile phones.

The second key characteristic of digital banking platforms is that they "facilitate unified, fully integrated payment-initiation workflows" (Harrison and Farley, 2016). Digital banking platforms facilitate corporates and individuals to initiate payments to any payee or beneficiary in any payment type via a single and unified application (Rajeshkumar, 2020). According to Agboola et al. (2019), the new integrated workflow involves a search component that permits firms and individuals to view their complete payment history for any payee in a short time. The third key characteristic of digital banking platforms is that they "use common credentials, and offer a single point of entry for all functions" (Harrison and Farley, 2016). Digital banking platforms were once limited in their functionality owing to the difficulty in integrating legacy systems. However, many digital banking platforms have dashboards which are becoming the aggregation point for key information from across banks' financial systems, customers' accounts and direct communication channel.

The fourth key characteristic of digital banking platforms is that they "provide high assurance authentication and authorization" (Harrison and Farley, 2016). Thus, digital banking platforms have robust authentication and authorisation which are important when it comes to security. If this was not the case, corporates and the banking public could not

have accepted the use of such platforms. Authentication and authorisation offer security to corporate and individual customers using digital banking platforms. These fundamental security aspects ensure that none have access to the digital banking platform other than the owner or those authorised to use the platform. Thus, no one can access one's financial information through digital banking platforms since they all have key security features which restrict access from none owners. For instance, one needs a Personal Identification Number (PIN) to withdraw money from an ATM, requires a PIN to use a mobile banking platform and require authentication and authorisation to conduct telephone banking or email banking. These authentication and authorisation mechanisms protect the accounts of users.

Digital banking platforms deliver high levels of automation facilitating file imports, delivery of account information and other functions. This is prevalent in digital banking platforms that are designed for use by corporates for instance business online applications and retail online applications which deliver information to users in the form of searchable data that can be manipulated by corporate users. The sixth key characteristic of digital banking platforms is that they "offer payment authorisation and customised alerts on payments, balance levels or other events flagged by users" (Harrison and Farley, 2016). Many digital banking platforms offer some important alerts whenever one performs a transaction. For instance, when uses mobile banking in Zimbabwe, there is a stage when one is asked to authorise or confirm that you are about to make the payment and also after the payment, a Short Message Service (SMS) is sent detailing the payment transaction made, details of the beneficiary and the balance remaining in the accord. This acts as an important alert to the user. Most digital banking platforms are connected to the mobile number of the user and whenever a payment is made, an SMS alert is also sent to the mobile number informing about the payment transaction.

The seventh key characteristic of digital banking platforms they support self-service and give users the aptitude to self-enrol (Harrison and Farley, 2016). All digital banking platforms can be used by bank clients 24/7. This offers clients convenience and flexibility in performing financial transaction anywhere and at any time of the day. One can use internet banking at the time of the day and even during the night when bank facilities are closed and clients can also use mobile banking at the time of the day to perform a wide range of transactions which range from balance inquiry, EFT and bill payment among a

variety of other financial transactions (Dzombo et al. 2017; Harelimana, 2017; Rajan and Saranya, 2018). All these transactions can be performed without the assistance of bank employees, hence digital banking platforms support self-service. Thus, digital banking platforms provides round-the-clock access to financial services (Galazova and Magomaeva, 2019), hence enabling international banking regardless of differences in time zones.

2.3.5 Global perspective on digital banking platforms

The digitalisation of financial services has become paramount as banks are striving to innovate and adopt improved and even more effective and efficient methods of providing financial services to their clients (Agboola et al., 2019). As most banking activities are now being conducted on different digital banking platforms that are being innovated by banks, Kathuo et al. (2015) note that the financial performance of the implementing banks has been on the increase since then. Global economies have witnessed a radical shift from conventional banking to digital banking (Rajan and Saranya, 2018). Digital banking is transforming economies into cashless societies since the conventional or traditional banking system is now considered expensive and cost-inefficient. In India, Rajan and Saranya (2018) showed that the innovation, implementation and use of digital banking platforms like internet banking, ATM banking, POS terminals, mobile banking and digital applications have offered banks an opportunity to improve their performance. The authors also note that clients are preferring the use of digital banking platforms to conventional banking due to flexibility and easy accessibility to financial services the platforms offer.

Moghni et al. (2020) note that digital banking is a new paradigm in the financial market created by technology where platforms like mobile banking, ATM banking, POS banking, application services, internet banking and telephone banking are being used to offer financial services to customers. The authors highlighted that the use of the different digital banking platforms has resulted in banking being able to improve their performance, satisfy their customers and own a good reputation in the market. Besides, the digital banking platforms have facilitated banks to lower operational costs, improve the quality of financial services offered to customers and create a diverse and sustainable financial outlook (Moghni et al., 2020).

The Organisation for Economic Co-operation and Development (OECD) (2020) highlights that digital banking has lowered the financial intermediation costs in lending, payment systems and financial advising and has resulted in the innovation of better products (digital banking platforms) for customers. Digital banking platforms are said to be driving efficiency in the banking sector. Bank efficiency is being driven in several ways. According to OECD (2020), digital banking platforms are reducing the need for personnel like loan officers and bank tellers, and also reducing the need for extended branch networks since the banking public now uses their mobile cell phones for banking. Besides, OECD (2020) also indicates that digital banking platforms are allowing banking institutions to increase financial inclusion by opening doors to financial services for the less developed nations, the once unbanked segments of the nation's population and also SMEs that appear to be currently underserved by banks. The SMEs in several developing country in most cases fail to meet the criteria for banks for loan application since they do not get their accounts audited.

Zalloum et al. (2019) note that in Jordan, there is increased use of digital banking platforms due to their ease of navigation, level of personalisation, information quality and rewards associated with the use of several digital banking platforms. In Iran, Valahzaghard and Bilandi (2014) indicated that electronic banking platforms like ATMs banking and POS banking do not have a meaningful impact on bank profitability while Pin Pad (an electronic tool for conducting smartcard-based transactions) has a significant positive impact on bank profitability. Still, in Iran, Nazaritehrani and Mashali (2020) assessed the impact of innovative banking channels like internet banking, ATM banking, mobile banking, telephone banking and POS banking on bank market share. These researchers revealed that digital banking platforms like POS banking, internet banking and telephone banking affect banks' market share whilst mobile banking and ATM banking do not affect the market share of a bank.

From a global perspective, the digital banking platforms that banks are innovating are influencing their performance. While studies show mixed results concerning the impact of the digital banking platforms on firm performance which in most cases researchers measured as profitability, most of the literature shows a positive impact of digital banking platforms on bank performance. This research seeks to investigate the impact of digital

banking platforms on bank performance from a Zimbabwean perspective and see if the empirical results deviate or converges to those from a global perspective.

2.3.6 Regional perspective of digital banking platforms

The innovation, growth and use of digital banking platforms have transformed the financial sectors of many African economies (Agboola et al., 2017; Agboola et al., 2019). The region started using digital banking in the 90s, a time this new banking system diffused slowly mainly due to low internet and mobile penetration rates across the region (Agboola et al., 2017). The increased internet and mobile penetration in the region around in early 2000 saw banks in Africa starting adopting and implementing digital banking platforms that other banks across the globe were implementing. While international banks in the region were the first ones to try digital banking, national banks remained confined to the traditional banking systems mainly due to the need to maintain their traditional financial model of services (Agboola et al., 2019).

According to Agboola et al. (2019), the digitalisation of Nigerian banks has allowed clients to pay bills which is the dominating factor on a person's average banking errands. Thus, the different digital banking platforms being used by banks in Nigeria are facilitating individuals to make payments without necessarily visiting bank branches. The authors also indicated that the digital banking platforms that clients are using are less expensive, offer flexibility and convenience to clients. Besides, the use of such platforms has made it possible to cut their operational costs since digital banking platforms offer self-service to clients who in turn will not require the services of bank tellers or loans officers. The reduced operational cost is being translated into improved profitability (Magatef and Tomalieh, 2015). The widely used digital banking platforms that are turning Nigeria into a cashless economy are mobile banking, internet banking ATM banking, POS banking and application banking (Agboola et al., 2019). These digital banking platforms are contributing positively to the performance of banks in Nigeria.

Kombe and Wafula (2015) who explored the effects of internet banking on financial performance within Kenyan banks viewed internet banking as one digital banking platform that saves time and improves the quality of financial transactions. Their findings, however, contradict most research that conclude that internet banking helps to reduce costs. Thus, Kombe and Wafula (2015) are of the view that digital banking platforms do

not help banks to lower their operational costs as purported by many authors who have explored the impact of digital banking on bank performance.

Muchiri (2018) views digital banking platforms as an innovation that is allowing banks to increase their customer base. This is in line with the OECD (2020) which highlighted that digital banking platforms are a financial inclusion strategy that has resulted in banks being able to reach the once unbanked. According to Muchiri (2018), the adoption of mobile banking; one of the popular digital banking platforms in Kenya, was mainly due to its ease of use, cost-effectiveness and convenience. From Muchiri (2018)'s perspective, digital banking platforms are adopted by SMEs in Kenya because they are cost-effective, easy to use and offer convenience in that there is no need to visit bank branches and conduct financial transactions. The author also noted that banks have managed to increase their customer base due to the use of digital banking platforms like mobile banking. This is in line with several authors who also show that digital banking platforms have allowed banks to increase their customer base. Hence, from an African perspective, digital banking platforms influence bank performance.

2.3.7 Zimbabwean perspective on digital banking platforms

The Zimbabwean banking sector is dominated by many banks that compete fiercely in the financial market (Chindudzi et al., 2020). The RBZ (2020) indicates that there are 13 commercial banks, five building societies and one savings bank to make a total of 19 banking institutions in Zimbabwe. These banks serve individual clients, SMEs, large corporates and other diverse institutions in the country (Maswaure and Choga, 2016). Banks in Zimbabwe are investing strongly in ICT since the early 1990s when digital banking platforms started to be used in the country. Digital banking in the country was witnessed in early 1990 when CABS and Standard Chartered Bank installed AMTs (Rabson and Shiri, 2015). This marked the beginning of ATM banking in the country. Other digital banking platforms like telephone banking, email banking, internet banking, POS banking, electronic funds transfer systems, app-based banking and mobile banking later found their way into the country (Chindidzi et al., 2020). According to Maswaure and Choga (2016), digital banking platforms were facilitated through the retail banking and electronic banking divisions that were set by banks to precisely provide and develop virtual products in line with the state of the banking technologies.

Maswaure and Choga (2015) are of the view that digital banking platforms like ATMs, POS, internet banking and telephone banking have a profound impact on bank operations. The researchers believe that these modern banking platforms require fewer workers, unlike traditional or conventional banking where too much paperwork required a lot of employees. Hence, the reduction in the number of employees allows banks to cut or reduce their operational expenses thereby improving the bank operations. Maswaure and Choga (2015) also of the view that digital banking platforms have decongested banking halls. Queues are no longer seen in banking halls since bank clients are transacting virtually. Resultantly, several banks in the country have since then closed several branches. This has also resulted in banks being able to save costs and improve on their different performance outcomes like profitability.

Robson and Shiri (2015) opine that digital banking platforms have completely transformed the banking and financial industry in Zimbabwe. The authors noted that the use of the different digital banking platforms in the banking sector improves business efficiency, quality of services, market share and subsequently increases the profitability of banks. Digital banking platforms have been widely accepted and are being used by Zimbabweans mainly due to economic challenges like liquidity crisis which saw the whole country turning to plastic money (Mavhiki, Nyamwanza and Shumba, 2015). This resulted in Zimbabwe being a cashless society. Despite the adoption and wide use of digital banking platforms being a result of the economic challenges the country is facing, Robson and Mago (2016) indicate that digital banking platforms are providing convenience to clients since they no longer make unnecessary banking errands. Besides, these banking platforms are safe and robberies at ATMs have been decreasing swiftly. Also, Robson and Mago (2016) think that digital banking platforms are helping banks to cut operational costs, increase revenue and improving the quality of financial services offered to the general banking public.

According to Chindudzi et al. (2020), banking making use of digital banking platforms in Zimbabwe is likely to have a competitive edge over their competitors. The authors believe that digital banking platforms provide more avenues for income generation since they generate income from non-interest sources. Besides, owing to the easy accessibility of these platforms and also their convenience to customers, banks have managed to attract more customers and increase their market share (Chindudzi et al., 2020). Digital banking

entails the implementation of core banking systems that aid banks to reduce manual tasks and transaction processing time. This entails that the full implementation of digital banking platforms implies that banks have reinvented their business operation systems. Chindudzi et al. (2020) highlight that this leads to greater efficiency. Thus, the use of digital banking platforms leads to improved efficiency. The use of these platforms reduce errors which result in improved branch productivity. Hence, digital banking platforms have an impact on several bank performance indicators from a Zimbabwean perspective.

2.3.8 Bank performance

The concept of bank performance has been defined by several authors. Performance is a term that refers to the achievement or accomplishment of precise tasks (Rengasamys, 2012). According to Harelimana (2017), bank performance refers to the ability of banks to achieve their set targets or goals and can be measured using several indicators (Harelimana, 2017). Rengasamys (2012) views bank performance as the reflection of how the resources of a financial institution or a bank are utilised in a way that permits it to accomplish its goals and objectives. Thus, a bank is said to be performing well in the market provided it is able to meet and surpass its set targets and objectives. The term 'bank performance' also means the adoption of different indicators that are indicative of a bank's current position and the extent of its aptitude to attain the desired objectives or set goals (Rengasamys, 2012). According to the European Central Bank (ECB) (2010), bank performance refers to the ability of banks to generate sustainable profits. Abdullai and Micheni (2018) view bank performance as the assessment of progress banks make towards attaining pre-set goals as well as data regarding the efficiency with which inputs are transformed into goods and services.

According to Rahman (2016), bank performance relates to the aptitude of financial institutions to achieve their financial goals. Other researchers like Sarker, Islam and Rahman (2015) define bank performance as the financial position of banks concerning efficiency, investment ratios and profitability. While the above definitions of bank performance might appear different, they converge. It is clear from the definitions that bank performance relates to the ability of financial institutions to meet and surpass their set goals. Central to the above definitions of bank performance is profitability. The ECB (2010) mentions that profit is the first line of defence of banks and this explains why most definitions of bank performance involve something that has to do with profitability. On

searching about bank performance, the majority of the results also points to the profitability of banks. This entails that profitability is the key performance measure of banks. Authors like Abdullai and Micheni (2018) highlight that without profit, banking institutions cease to exist; something which signals that profit is the lifeblood of banks. This is why the ECB (2010), Sarker et al. (2015) and Rahman (2016) used profitability in their definitions for bank performance.

The ECB (2010) explains that profit reinforces the capital base of a bank which then further improves banks' future profitability provided the retained earnings are reinvested back into the bank operations. Generally, losses erode the capital base of a bank and as a result, Rahman (2016) believes that when banks make losses, debt and equity holders might be at risk. The ECB (2010) notes that since the majority of banks strive to create and maintain value and wealth for bank owners, the ROE must be greater than the cost of equity since doing so entails that banks are creating shareholder value. Leverage, efficiency, risk-taking and earnings are major aspects that are driving bank performance. Almost every bank can generate earnings. Resultantly, the volatility and composition of the earnings need to be factored in when assessing bank performance. Abdullai & Micheni (2018) argue that efficiency mirrors banks' ability to generate streams of revenue from their assets and then make a profit out of the generated revenue. The ECB (2010) notes that leverage operates as a multiplier and it improves banks' outcomes in the upswing but can also result in bank failure which can emanate from infrequent and unanticipated bank losses.

Rahman (2016) notes that when measuring bank performance, researchers and practitioners make use of traditional, market-based as well as economic indicators. These broad classes of bank performance are different. The traditional bank performance measures include ROA, ROE, the cost to equity ratio and also interest margin among other indicators or measures (Sarker et al., 2015). Thus, the traditional bank performance indicators measure bank profitability. No matter which traditional performance indicator one uses in assessing bank performance, the bottom line is that that indicator will be assessing bank profitability. The ECB (2010) underscores that the economic bank performance measures consider the creation of shareholder value and the measures or indicators seek to assess the economic outcomes that banks generate from utilising their assets. The risk-adjusted return on capital and also the economic value added are the most

widely employed indicators of bank economic performance (ECB, 2010). The market-based bank performance measures typify how capital markets value an organisation's activities. Indicators like price-earnings, total share return as well as credit default swap are the market-based performance measures employed to measure bank performance.

Traditional, market-based and economic bank performance indicators all measures the financial performance of banks. There are also other non-financial bank performance measures like bank reputation, competitiveness and quality of services. Bach et al. (2020) indicated that digital banking has a positive impact on bank reputation. The authors believe that digital banking platforms are safe and simple and that bank client perceive them to deliver quality financial services. The majority of studies on digital banking platforms focused on the adoption of different digital banking platforms while other studies looked at the impact of digital banking on the financial performance of banks. In Zimbabwe, there is a dearth of the empirical literature on the impact of digital banking platforms on bank performance measures like profitability, cost reduction and quality of services. This study seeks to investigate the impact of digital banking platforms like POS banking, mobile banking, internet banking and app-based banking on bank performance measures like profitability, cost reduction and quality of services.

2.4 Presentation and discussion of the major theoretical frameworks and models

The purpose of this research is to investigate the impact of digital banking platforms on the performance of banks in Zimbabwe. The majority of previous studies that looked at the impact of digital banking on bank performance indicate that the Technological Acceptance Model which was initially developed by Davis (1981) and the Innovation Diffusion Theory propounded by Rodgers (1960) aids to understand the acceptance and usage of technological innovations. These theories have been popular by researchers like Agboola et al. (2019), Chindudzi et al. (2020), Harelimana (2017), Kathuo et al. (2015), Kombe and Wafula (2015) and Rajeshkumar (2020) who all examined digital banking and bank performance underpinned their studies on these two technological acceptance and usage theories. Since this research is also attempting to investigate how the acceptance and usage of digital banking platforms are contributing to bank performance in Zimbabwe, the two theories are therefore relevant to the study. The study is therefore underpinned by the Technological Acceptance Theory and the Innovation Diffusion

Theory. These two technological acceptance and usage theories are discussed in the following subsections.

2.4.1 Technological Acceptance Theory

The Technological Acceptance Theory (TAT) was propounded by Davis (1981). According to Chindudzi et al. (2020), the TAT is an IT system that models how institutions and their clients come to adopt and utilise a new technological innovation. The theory proposes that before the acceptance and usage of new technological innovation, institutions and customers firstly take into consideration the "perceived ease of use" and "perceived usefulness" of new technological innovation (Safeena, Kammani and Date, 2014). Chindudzi et al. (2020) underscore that perceived ease of ease and perceived usefulness are key components of the TAT which have an immediate influence on acceptance and usage of digital banking. The interaction between perceived usefulness and perceived ease of use can be illustrated with the aid of a diagram as shown in Figure 2.1 below.

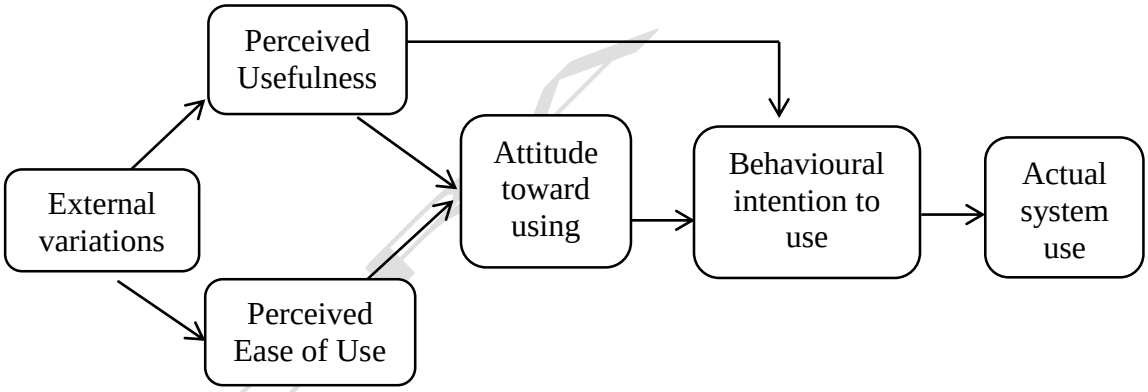

Figure 2. 1: Technological Acceptance Theory
Source: Chindidzi et al. (2020)

Abdullai and Micheni (2018) and Magboul & Abbad (2018) believe that institutions and customers tend to accept and use a technological innovation that presents benefits to them. Thus, for them to accept and use innovation in the market, the technological innovation should be easy to use and also be useful to them and as purported by Chindidzu et al. (2020) and Safeena et al. (2014), perceived ease of use and perceived usefulness influences the adoption, acceptance and usage of technological innovation. Perceived usefulness relates to the degree to which institutions and their customers think that the acceptance and utilisation of technological innovation can improve their activities

(Abdullai and Micheni, 2018). In the market, institutions perceive a technological innovation to be useful provided it can improve performance outcomes. Similarly, customers believe that technological innovation is useful if it can improve the conduct of business transactions. Within the banking sectors, financial institutions and bank customers perceive that digital banking platforms are useful since they offer flexibility and convenience to customers and improve bank performance. Thus, the adoption and use of digital banking platforms in the banking sector follows the perceived usefulness of these platforms by both the banks and their clients.

Perceived ease of use refers to the extent to which institutions think that the acceptance and usage of technological innovation will not require too much effort and that customers will not struggle to use the innovation (Chindudzi et al., 2020). The adoption and wide usage of digital banking platforms across the world follow the perceived ease of use of these platforms. The platforms are not complicated to use which explains their wide usage in the banking sector. Perceived ease of use has a bearing on efficiency. If customers adopt the use of complicated new technology, then this will negatively impact the operational efficiency of institutions. Thus, institutions and customers accept and use a new technology that is easy to use and often reject those that are complicated. The wide usage of digital banking platforms entails that the different platforms are easy to use. The above discussion indicates that perceived ease of use and perceived usefulness are the key components of the TAT which influences customers' behaviour and intention to accept and utilise a technological innovation as shown in Figure 2.1. Chindudzi et al. (2020) highlight that these two factors together with behaviour and intentions to accept and use new technology are the basis of the TAT and have an impact on the actual usage of innovation.

2.4.2 Innovation Diffusion Theory

The Innovation Diffusion Theory (IDT) was founded by Rodgers (1960). Chindudzi et al. (2020) and Kombe and Wafula (2015) underscore that the IDT attempt to explain and describe the mechanism of how technological innovations in this case the digital banking systems are successfully accepted and used. It is a technological model that explains how, why and the rate at which an innovation diffuse or spreads within the targeted community. According to Kathuo et al. (2015), the IDT affirms that institutions like banks engage in the diffusion of innovation to gain competitive advantage, reduce costs

and protect their strategic positions in the market. Rogers (2010) mentions that the diffusion of an innovation is influenced by four elements; innovation, social systems, communication channel used and time. Researchers agree in the literature that not all technological innovations are adopted and used even if they considered to be good, they might take a long time for them to be adopted and utilised (Chindudzi et al., 2020; Kathuo et al., 2015; Kombe and Wafula, 2015). Resistance to change might be a hindrance to the diffusion of innovation even though it might not the innovation, it will slow down its adoption (Chindudzi et al., 2020).

The rate of acceptance and use of technological innovation depends on how an institution perceives its relative advantages, triability, compatibility, observability and complexity (Chindudzi et al., 2020; Kathuo et al. 2015). This in agreement with Rodgers (2010) who underscored that for a technological innovation to be adopted, it should possess relevant advantages, should be compatible with business operations, should not be complex, and should give room for implementers to try and observe it. When an innovation offers more relative advantages when compared to existing systems, the rate of adoption of the innovation will be very fast (Kombe and Wafula, 2015). Rodgers (2010) noted that the relative advantages of innovation might be its ability to improve the economic profitability of institutions, the ability to lower operational costs and also its ability to save time and effort when compared to existing systems. Complexity refers to the ease of use of the innovation whilst triability relates to whether the innovation offers organisations an opportunity to experiment with it and get an experience of the innovation (Rodgers, 2010). Rodgers (2010) defined observability as the extent to which the usability and the results of the new technological innovation can be observed by other potential adopters. For an innovation to be adopted, it must be compatible with existing business operations.

Authors like Chindudzi et al. (2020), Kathuo et al. (2015) and Kombe and Wafula (2015) concurs that if an innovation does not have relative advantages, is complex, cannot be experimented and is not compatible with the existing business operations, then it will not be adopted. Thus, the successful adoption of digital banking platforms by Zimbabwean banks follows the relative advantages of the platforms, ease of use, triability, observability and also their compatibility of the existing business operations. This makes the IDT relevant to the study.

2.5 Importance of digital banking platforms to the banking industry

Digital banking platforms play a crucial role in the banking industry. Chindudzi et al. (2020) mention that internet banking, POS banking, telephone banking, ATM banking and mobile banking provide advantages of low costs and a high return to banks. However, in the context of developing countries like Zimbabwe where there is a lack of well-developed telecommunication infrastructure, there is non-realisation of the cost-effectiveness and financial performance associated with digital banking (Chindudzi et al., 2020; Mazana, Rupere and Kabanda, 2016). This implies that Zimbabwean banks ought to have a significant investment in technological infrastructure if the country is to benefit in terms of improved bank performance and cost-effectiveness associated with digital banking.

Even though Zimbabwean banks are not fully benefiting from digital banking platforms owing to limited technological infrastructure, Chindudzi et al. (2020) indicate that the digital banking platforms are contributing to the profitability or ROA of banks in the country. The platforms are aiding banks to generate more revenue, reduce operational costs and improving bank operational efficiency. In terms of cost reduction, several studies on digital banking underscore that digital banking has resulted in banks demanding fewer employees; a situation that has resulted in the closure of other branches since digital banking platforms offer self-service. Banks now require limited services of bank tellers and loan offers since most digital banking platforms can perform the tasks that were once performed by these types of employees. Thus, operational costs of banks have been declining due to the use of digital banking platforms. The cost reductions have contributed positively to the profitability of banks (Abdullai and Micheni, 2018; Rahman, 2016).

The study by Mehmood, Nisar and Rehman (2015) in Pakistan shows that digital banking help banks to reduce costs which permits them to attain improved profits. Nazaritehrani and Mashali (2020) revealed a positive and significant effect of internet banking, telephone banking and POS banking on market share. Atieno (2018) revealed that mobile banking has a positive and significant impact on bank performance in Kenya. Harelimana (2017) revealed a positive association between mobile banking and the financial performance of banks in Rwanda. Agboola et al. (2019) revealed a positive effect of the

digitalisation process on the performance of commercial banks in Nigeria. In another study, Kathuo et al. (2015) revealed a positive and significant impact between mobile banking products and the financial performance of Kenyan commercial banks.

In Zimbabwe, Chindudzi et al. (2020), Mazana et al. (2016) and Robson and Shiri (2016) show that banks that have adopted digital banking have improved their performance through improved efficiency and productivity. Findings regarding the contribution of digital banking to bank performance from a Zimbabwean perspective do not deviate from the regional and global literature. However, there is a dearth of empirical literature concerning the impact of digital banking platforms on bank performance in Zimbabwe. This study seeks to investigate the impact of digital banking platforms on bank performance in Zimbabwe.

2.6 Commonalities and contradictions in digital banking

Most of the commonalities and contradictions within digital banking and bank performance stem from the several theories that researchers use to explain these concepts. This section discusses the Transaction Cost Innovative Theory, Constraint-Induced Financial Innovation Theory, and the Resource-Based View theory.

2.6.1 Transaction Cost Innovative Theory

Niehans (2006) postulated the transaction cost innovative theory. According to Kombe and Wafula (2015), the theory advocates that the principal factor of financial innovation is the reduction of transaction costs. This indicates that the innovation of different digital banking platforms is aimed at reducing costs from a transaction cost innovative theory's point of view. This is in agreement with the TAT and IDT which all show that financial innovations like digital banking platforms are adopted owing to their relative advantages which in this case is cost reduction. Chindudzi et al. (2020) highlight that digital banking as a new financial innovation has resulted in banks being able to lower their operational costs. This cost reduction is further stimulating financial innovation within the banking sector and improving the quality of financial services offered to the banking public.

2.6.2 Constraint-Induced Financial Innovation Theory

Banks aim to maximise their profits and it is for this sole purpose why they engage in financial innovation. This is supported by Kombe and Wafula (2015) who cite that profit

maximisation is the major reason for financial innovation by banking institutions. This is also in line with the Constraint-Induced Financial Innovation Theory which points out that the purpose of profit maximisation of banks is the main reason behind financial innovation. The contradiction between the Constraint-Induced Financial Innovation Theory and the transaction cost innovative theory is that Constraint-Induced Financial Innovation Theory focuses on profit maximisation as the cause for financial innovation whilst the transaction cost innovative theory is centred on the need to reduce costs as the reason behind financial innovation. However, there is a commonality between the two theories. Cost reduction will result in profit maximisation whilst profit maximisation can be achieved through reducing transaction costs.

The Constraint-Induced Financial Innovation Theory articulates that some restrictions can be encountered in pursuing profit maximisation such as unfavourable policy and organisational management (Kombe and Wafula, 2015). These restrictions act as an incentive for firms to come up with innovative products to boost profits. When innovating, institutions will pay attention to the relative advantages of the innovation and make it compatible with existing business operations so that the acceptance of diffusion of the innovation will be easy. By talking about acceptance and diffusion of the innovation, the Constraint-Induced Financial Innovation Theory taps into the TAT and IDT which indicates a commonality among the theories.

2.6.3 Resource-Based View Theory

Chidudzi et al. (2020) underscore that the Resource-Based View (RBV) theory was founded by Wernerfelt in 1984. The theory emphasises the importance of company resources and their impact on organisational performance. The RBV theory explains how organisations in this case banks can gain a competitive advantage over rival banks by innovatively delivering superior value to clients, paying maximum attention to identifying unique resources and utilising them optimally to their benefit. Mwiti (2016) highlights that this can only be achieved provided the firms can gather resources and utilise them optimally to their advantage. This theory views the several assets that institutions have as inputs to their production processes (Chindudzi et al., 2020). Thus, the performance of organisations is consequently primarily determined by the capacity of the resources they have. From an RBV's perspective, digital banking platforms banks are innovating can be regarded as bank assets that have an impact on bank performance.

2.7 Discussion of key variables and dimensions

2.7.1 Point of Sale banking and bank performance

Point of sale banking is regarded as a prevalent digital banking platform in which an electronic device is used for debit, master, visa or credit card transaction at retail locations like hotels, restaurants and shops (Nazaritehrani and Mashali, 2020). POS banking refers to the use of POS terminal and other systems like virtual sales point, computers and different electronic mobile devices to process card payments (Abdullai and Micheni, 2018). Automated Telling Machines are also considered POS machines since these machines permit bank customers to withdraw funds from their accounts using their bank cards. According to Nazaritehrani and Mashali (2020), POS banking allows bank customers to perform financial transactions the whole day.

The study by Nazaritehrani and Mashali (2020) revealed that POS banking has a positive and significant impact on bank market share in Iran. Abdullai and Micheni (2018) revealed that POS banking has a positive impact on bank performance. The study by Chindidzi et al. (2020) revealed that digital banking platforms like POS banking have a positive impact on bank performance in Zimbabwe. Owing to the positive relationships between POS banking and different bank performance measures revealed by different researchers, the study hypothesises that:

H_0 POS banking has no impact on bank performance in Zimbabwe.

H_1 POS banking has a positive impact on bank performance in Zimbabwe.

2.7.2 Mobile banking and bank performance

According to Nazaritehrani and Mashali (2020), mobile banking refers to a service that is offered by financial institutions which permit clients to benefit from using their mobile phones devices (any type of phone) to conduct banking transactions like EFT, saving money and bill payment. It is a way of managing financial services through a mobile phone. The use of mobile phones in administering financial services has resulted in an improvement in the quality of financial services to customers (Harelimana, 2017). Several studies indicate a positive impact of mobile banking on several bank performance measures.

The study by Harelimana (2017) revealed a positive impact of mobile banking on the financial performance of commercial banks in Rwanda. Bach et al. (2020) showed that mobile banking has a positive impact on bank reputation. Rajeshkumar (2020) revealed that the adoption of mobile banking has been associated with improvements in bank performance. Mago and Chitokwindo (2014) revealed a positive association between mobile banking and financial in Zimbabwe. In another study, Muchiri (2018) revealed that mobile banking has increased the customer base of SMEs in Kenya. Kathuo et al. (2015) also revealed a positive impact of mobile banking on the financial performance of banks in Kenya. Atieno (2018) revealed a positive effect of mobile banking on bank performance in Kenya. Since the majority of the studies show a positive impact of mobile banking on different bank performance measures, the study hypothesised that:

H_0 Mobile banking has no impact on bank performance in Zimbabwe.

H_2 Mobile banking has a positive impact on bank performance in Zimbabwe.

2.7.3 Internet banking and bank performance

Authors like Abdullai and Micheni (2018) defined internet banking as referring to an internet portal through which bank customers can utilise to perform different banking transactions which range from the payment of bills to making investments. From this definition, it can be noted that the existence and dissemination of bank information on websites do not amount to internet banking. Nazaritehrani and Mashali (2020) argue that the innovation of internet banking has materialized as a strategic resource for attaining increased efficiency, reduction of costs and control of operations. Internet baking has managed to replace the traditional labour-intensive banking process with automated systems. This has successfully permitted banks to lower operational costs (Abdullai and Micheni, 2018). The achievement in reducing costs by banks through internet banking has resulted in improvements in productivity and profitability (Chindudzi et al., 2020). Thus, internet banking has aided banks to support and improve their operations and administration.

Several studies on digital banking revealed a positive relationship between internet banking and several bank performance measures. Nazaritehrani and Mashali (2020) revealed a positive impact of internet banking and bank market share in Iran. Chindudzi et al. (2020) established a positive influence of internet banking on bank performance in

Zimbabwe. Kombe and Wafula (2015) showed that internet banking is instrumental in reducing bank operational costs, improving bank efficiency and quality of financial services in Kenya. Moghni et al. (2020) showed that internet banking has a positive impact on the quality of financial services offered by banks in Iran. Owing to the positive impact of internet banking and different banking performance measures, the study hypothesised that:

H_0 Internet banking has no impact on bank performance in Zimbabwe.

H_3 Internet banking has a positive impact on bank performance in Zimbabwe.

2.7.4 App banking and bank performance

Several studies that have looked at digital banking and bank performance included app banking as a form of mobile banking. While this is true, there is a growing demand in the use of applications that banks are designing and allowing their customers to download from App Stores on the internet (Ali, Gallivan and Sangari, 2019). As a result, there is a need to find the contribution of app banking to bank performance. According to Basole and Karla (2012), mobile apps are becoming a key player in generating value for business organisations. The designing, implementation and adoption of applications in banking are helping banks to improve their performance (Ali et al., 2019). Thus, app banking is contributing positively to bank performance. In Zimbabwe, all banks have specific banking apps that one can found on App Store. Banks are earning additional streams of incomes when their customers download these banking applications. Besides, the apps allow customers to perform banking transactions without necessarily visiting the branch of a bank. Thus, these apps are helping customers to save time, travel costs and are also offering flexibility and convenience since financial transactions can be performed using these apps anywhere and at any time. However, there is a dearth of empirical literature concerning the impact of app banking. Since Ali et al. (2019) highlighted that mobile banking applications contributes to bank performance, this research hypothesised that:

H_0 App banking has no impact on bank performance in Zimbabwe.

H_4 App banking has a positive impact on bank performance in Zimbabwe.

2.8 Literature synthesis and conceptual framework

2.8.1 Empirical literature review and critique

This section reviews previous empirical researches undertaken by different researchers on digital banking in the banking sector. Specifically, the section looks at the context, methodology, gaps and shortcomings in the previous researches. This analysis will then provide the basis for the methodology of this research and the research instrument that will be employed to collect primary data for the study.

Nazaritehrani and Mashali (2020) explored the development of electronic banking channels and bank performance in developing countries. These authors used internet banking, ATMs, mobile banking, telephone banking and POS banking as electronic banking platforms or channels used by banks while the market share was used to measure bank performance. The researchers used self-administered questionnaires to collect data from a sample of 182 branch managers. The collected data were analysed using Analysis of Moment Structures (AMOS). Descriptive statistics such as percentages and frequencies were used to describe the characteristics of the variables while correlation analysis and regression analysis were employed to establish the impact of digital banking platforms on market share. These authors revealed a positive and significant effect of internet banking, telephone banking and POS banking on market share while mobile banking was revealed to have a negative effect on market share. The researchers went on to conclude that digital banking has a positive impact on bank performance.

Chindudzi et al. (2020) explored the impact of digital banking on the performance of banks in Zimbabwe. Unlike Nazaritehrani and Mashali (2020), Chindudzi et al. (2020) employed variables like online customer deposits, online banking transactions, internet banking expenditure and internet fees and commissions to measure digital banking in Zimbabwe whilst bank performance was measured using ROA. The researchers used a sample size of 40 branches in Zimbabwe and employed secondary data which covered the period 2013 to 2017 which they collected from annual financial reports and publications of the banks they examined. The authors used descriptive statistics, regression analysis and correlation analysis as statistical data analysis tools. Their findings revealed that digital banking has a positive impact on bank performance in Zimbabwe through increased online customer deposits and bank transactions. Even though Chindudzi et al. (2020) used different digital banking variables from Nazaritehrani and Mashali (2020), all

these researchers made the same conclusion that digital banking has a positive impact on bank performance.

In another study, Valahzaghard and Bilandi (2014) explored the impact of electronic banking on bank profitability and market share in Iran. ATM banking, POS banking and Pin Pad were used electronic banking platforms in the study. Data for the research was collected through a questionnaire survey from a sample of 16 banks. Regression was employed to establish the effects of electronic banking platforms on profitability and market share. Findings revealed that Pin Pad had a meaningful impact on bank profitability whilst ATM banking and POS banking did not have a meaningful impact on profitability. All the platforms were also revealed not to have a meaningful impact on bank market share. These findings are against those of Nazaritehrani and Mashali (2020) who revealed a positive and significant impact of POS banking on market share.

The above empirical studies on digital banking show a dearth of empirical studies that have explored the impact of digital banking platforms on bank performance. Only studies by Nazaritehrani and Mashali (2020) and Valahzaghard and Bilandi (2014) managed to explore the impact of digital banking platforms on bank performance. However, these researchers did not use similar variables which makes the comparison of results very difficult. Other studies in the study area focused on a particular digital banking platform and the majority of the studies precisely looked at mobile banking. The above empirical review also shows that there is scant literature on the impact of digital banking platforms on bank performance since the study by Chindudzi et al. (2020) did not focus on digital banking platforms. Also, the previous studies did not attempt to find the extent to which service quality moderates the impact of digital banking on bank performance. This study seeks to close these literature gaps and investigate the impact of digital banking platforms on bank performance in Zimbabwe and test the following hypothesis.

H_0 Service quality does not moderate the impact of digital banking platforms on bank performance.

H_5 Service quality moderates the impact of digital banking platforms on bank performance.

2.8.2 Conceptual framework

During the literature review, it was discovered that POS banking, mobile banking, internet banking and app banking are the main digital banking platforms that are being used in the banking sector in Zimbabwe. These have been used as digital banking platforms; independent variables, for this research. In terms of bank performance, literature highlighted that profitability is the key bank performance measure being influenced by digital banking platforms. The study measures bank performance; the study dependent variable, through profitability. Service quality is introduced as an intervening or moderating variable that moderates the relationship between digital banking platforms and bank performance. The conceptual framework linking the dependent and independent variables in this study is outlined in Figure 2.2 below.

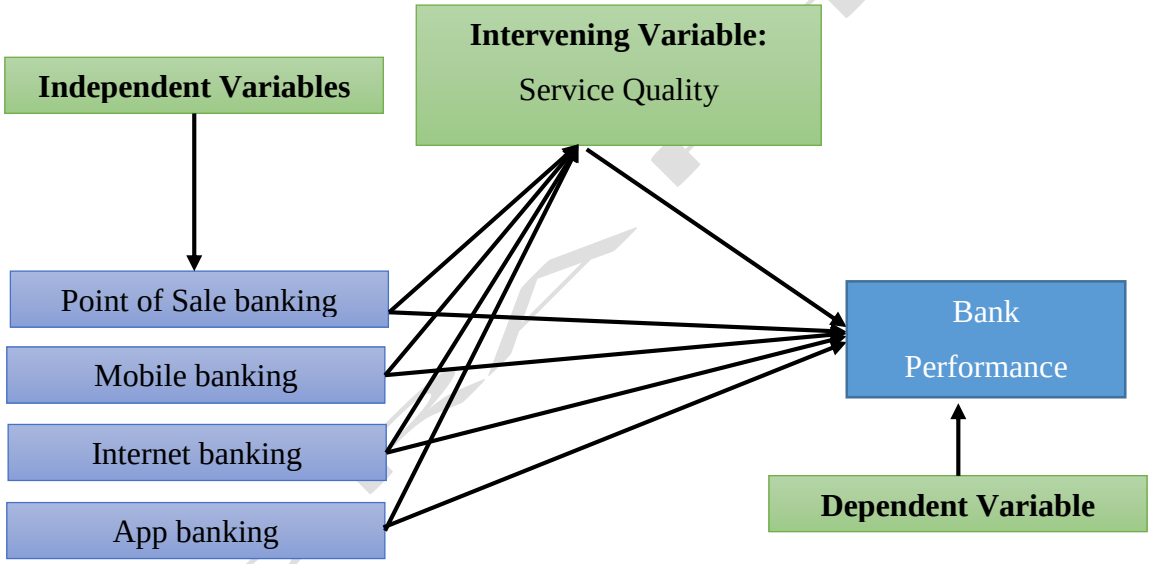

Figure 2. 2: Conceptual framework

2.9 Chapter conclusion

The chapter reviewed both theoretical and empirical literature on the impact of digital banking platforms bank performance. It started by explaining the literature that was searched from the internet and then defined the key research concepts. The chapter reviewed the literature on the global, regional and Zimbabwean perspectives on digital banking platforms and also on bank performance. It then reviewed the literature concerning the TAT and IDT which are the two technological innovation theories that aided the researcher to explain the acceptance and usage of digital banking platforms in the Zimbabwean banking industry. The chapter also reviewed the literature on the

importance of digital banking platforms to the banking industry, commonalities and contradictions in digital banking platforms, presented a discussion on key study variables, provided a critical review of the empirical literature and outlined the conceptual framework of the study. The next chapter concerns research methodology.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines and justifies the methodology applied in investigating the impact of digital banking on bank performance in Zimbabwe. The chapter starts by restating the research aim, objectives, major questions and research hypotheses. The chapter then explains and justifies the research philosophy, approach and strategy used in the study. It then outlines and justifies data collection techniques employed, the research instrument used to gather primary data for the study focusing on the development of the research instrument and pilot-testing it to test the applicability of the proposed data collection plans. Besides, the chapter looks at the study population, sample size, sampling methods, data gathering, processing and analysis; research limitations, validity and reliability as well as ethical considerations.

3.2 Recap of research aim, study objectives, research questions and hypotheses

3.2.1 Research aim

The aim of this research was to investigate how digital banking platforms namely: POS banking, mobile banking, internet banking and app banking, influence bank performance within the banking industry in Zimbabwe.

3.2.2 Research objectives

The broad objective of this study was to investigate the impact of digital banking platforms on bank performance within the Zimbabwean banking industry. To achieve the broad research objective, the study specifically sought:

To assess the impact of POS banking on bank performance in Zimbabwe.
To assess the impact of mobile banking on bank performance in Zimbabwe.
To assess the impact of internet banking on bank performance in Zimbabwe.
To assess the impact of app banking on bank performance in Zimbabwe.
To assess the extent to which service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe.

3.2.3 Research questions

The main research question was: What is the impact of digital banking platforms on the performance of banks in Zimbabwe? The specific research questions were:

What is the impact of POS banking on bank performance in Zimbabwe?
What is the impact of mobile banking on bank performance in Zimbabwe?
What is the impact of internet banking on bank performance in Zimbabwe?
What is the impact of app banking on bank performance in Zimbabwe?
Does service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe?

3.2.3 Research hypotheses

The hypotheses that the study tested were set out as follows.

H_0: POS banking has no impact on bank performance in Zimbabwe.
H_1: POS banking has a positive impact on bank performance in Zimbabwe.

H_0: Mobile banking has no impact on bank performance in Zimbabwe.
H_2: Mobile banking has a positive impact on bank performance in Zimbabwe.

H_0: Internet banking has no impact on bank performance in Zimbabwe.
H_3: Internet banking has a positive impact on bank performance in Zimbabwe.

H_0: App banking has no impact on bank performance in Zimbabwe.

H_4: App banking has a positive impact on bank performance in Zimbabwe.

H_0: Service quality does not moderate the impact of digital banking platforms on bank performance

H_5: Service quality moderates the impact of digital banking platforms on bank performance

3.3 Research design

Creswell (2014) talks of three designs that can be used in research namely the descriptive design, the exploratory design and the explanatory design. This research adopted and used the explanatory research design. Creswell (2014) mentions that the explanatory design aids researchers to establish cause and effect relationships between study variables. The main objective of this research is to investigate the impact of digital banking platforms on bank performance. Thus, it is clear from the study aim that the research sought to investigate the cause and effect relationship between digital banking platforms and bank performance. The specific objectives of the research were to investigate the impact of the digital banking platforms namely POS banking, mobile banking, internet banking and app banking on bank performance. This also shows that the research was centred on exploring the cause and effect relationships between the research variables which justifies why the explanatory design was adopted and used.

Besides, the explanatory research design permitted the research to make use of hypotheses in explaining the impact of digital banking on bank performance. The study required quantitative data to answer the research questions, test the research hypotheses and achieve the research aim and objectives. Quantitative data was collected through quantitative data collection methods. The collection of quantitative data was made possible by the explanatory design the research adopted and used.

3.3.1 Research philosophy

Saunders, Lewis and Thornhill (2016) mention four different research philosophies that can be used in research namely: the interpretivist, pragmatism, realism and positivist philosophies. This study used the positivist research philosophy. The choice of the positivist research paradigm in this research followed that the researcher wanted to get the truth about the impact of digital banking platforms on bank performance in the banking

sector in Zimbabwe. The truth about the impact of digital banking platforms on bank performance was obtained through facts and evidence which were gathered from managers of banks used in this research through a questionnaire. This indicates that the research was based on objectivity and helps to explains and justifies why the positivist research paradigm was employed. Since the study was quantitative, the research found it applicable to use the positivist paradigm where objectivity is considered the main concern. Besides, the choice of the positivist paradigm followed its compatibility with the explanatory design, deductive research approach and the survey strategy the study adopted and used. The adoption and use of the explanatory research design, deductive research approach and the survey strategy meant that the study was to employ the positivist research philosophy owing to the compatibility among these four. Also, the positivist paradigm permitted the generalisation of the study results since the research findings were empirically proven.

3.3.2 Research approach

Saunders et al. (2016) mention that the two approaches that can be followed in research relate are the deductive research approach and the inductive research approach. This research used the deductive approach. The deductive approach is also referred to as the quantitative approach by Creswell (2014). This approach was used in the study because it permitted the researcher to quantify the relationships between digital banking platforms; the study independent variables, and bank performance; the study dependent variable. The study adopted existing theories; the TAT and IDT, which explains that the adoption and use of a technological-based innovation like digital banking platforms, follows the perceived ease of use and perceived usefulness of the innovation. Hypotheses were then formulated after the adoption of existing theories. The study prepositions were employed to quantify the relationships or associations between digital banking platforms and bank performance. Thus, the research applied the funnel approach in which it started from the general and then narrowed down to the specific which is consistent with the deductive approach. Besides, the deductive approach is compatible with a positivist research philosophy, explanatory design and a survey strategy. Since the research used the positivist research philosophy, explanatory research design and the survey strategy, it followed that the deductive approach was considered the most appropriate for the study owing to the compatibility among these four.

3.3.3 Research strategy

Since the research used the positivist philosophy, explanatory design and the deductive approach, the survey strategy was considered the most appropriate. The survey was in the form of self-administered questionnaires that were sent to the management of the four commercial banks in Zimbabwe that had their head offices in Harare. The survey strategy was used because it comes along with quantitative data collection tools like questionnaires which in this case were used to collect primary data for the research. The strategy permitted the research to collect voluminous and rich data which were easy to quantify economically. Also, the survey strategy is common under the positivist paradigm, explanatory design and deductive research approach. Since this research employed the positivist paradigm, explanatory design and the deductive research approach, the survey strategy was therefore considered the most appropriate.

3.4 Methods of data collection

Quantitative data collection techniques were employed in collecting primary data for this research. The primary data that was used in investigating the impact of digital banking platforms on bank performance were collected through a self-administered questionnaire survey. A self-administered questionnaire survey was employed because it was easy to manage, enabled the researcher to collect data and analyse it at low cost. Besides, the self-administered questionnaire survey reduced the researcher's interference with the research participants something very important under an explanatory study.

3.5 Research instrument

A self-administered questionnaire was used as a research instrument in this study. The following subsections explain how the self-administered questionnaire was developed and also how the researcher pilot-tested the developed questionnaire before the collection of actual data that were used to investigate the impact of digital banking platforms on bank performance.

3.5.1 Questionnaire development

The study employed an adaptive approach in developing the questionnaire that was then administered to solicit data from managers of commercial banks. Through this approach,

questions were constructed using information or statements that were extracted from the literature concerning a study variable. There is a vast literature on the concepts of digital banking and bank performance. Different researchers have said much about the relationship between different digital banking platforms and bank performance. The statements regarding the relationships between the different digital banking platforms and bank performance were then used to construct items that characterised each and respective study variable. The self-administered questionnaire comprised five sections. The first section was an invitation letter addressed to the participants which invited them to take part in the study. The second section looked at demographic characteristics of participants whilst the third and fourth sections looked at digital banking platforms and bank performance respectively. The fifth section looked at service quality. The third, fourth and fifth sections comprised items whose responses were measured on a 5-point Likert scale. On the Likert scale, a rating of 1 indicated 'strongly disagree' whilst a rating of 5 indicated 'strongly agree'. The questionnaire items were kept simple, short and precise in an attempt to ensure and enhance the validity and reliability of the questionnaire in measuring the research constructs.

3.5.2 Pilot testing

The researcher pilot-tested the developed questionnaire to a sample of 12 managers who were randomly picked from the four commercial banks that participated in this study. Pilot-testing was undertaken to check on the validity and reliability of the questionnaire and also to ensure that the same results could be achieved despite the questionnaire being administered repeatedly. Thus, pilot-testing promoted the validity and reliability of the research instrument. It also allowed the researcher to check on the practicability of the proposed data collection and analysis plans. Besides, during pilot-testing, questions that were not clear to participants were identified and these were restructured whilst jargon discovered was removed and questionnaire items were reconstructed. This shows that the pilot test also facilitated refining the data collection and analysis procedures. This made sure that the developed questionnaire truly measured digital banking platforms and bank performance.

3.6 Population and sampling techniques

3.6.1 Population

The population of this study was made up of employees of Stanbic Bank, CBZ, FBC Bank and CABS working in the following departments: finance, IT, personal and business banking and corporate and investments banking. Employees working in the mentioned departments were believed to be ones possessing information on how POS banking, mobile banking, internet banking and app banking impact bank performance. Personal information collected from Stanbic Bank, CBZ, FBC Bank and CABS show that these four Zimbabwean commercial banks have a combined total of 400 employees working in the mentioned departments in Harare Central Business District. Therefore, the study population was 400 employees.

3.6.2 Sample size

The sample size for this research was determined using the formula outlined below which was originally provided by Slovin.

$$n = \frac{N}{(1+Ne^2)}$$; Where: n = sample size, N = population and e = degree of precision

For the study, N = 400 and e = 0.05. Using the above formula, the sample size was calculated as follows:

$$n = \frac{400}{[1+(400 \times 0.05^2)]}$$

= 200 participants

Data used to investigate the impact of digital banking platforms on bank performance in Zimbabwe was collected from a sample size of 200 respondents.

3.6.3 Sampling methods

The stratified simple random probability sampling method was employed in this research to pick participants from the four departments for each bank that participated in this research. The study population was classified into four distinct strata; IT departing, finance department, personal and business banking and corporate and investment

banking. After stratification, names of individual employees within these bank departments were obtained from the relevant authorities from each respective bank. The researcher made a list of names using the payroll as a sample frame. The names were randomly picked until the required sample size of 200 respondents was attained. The stratified simple random sampling technique ensured that respondents within each stratum had the same chance of being picked up and take an active role during the study. The sampling method was also used because it was easy to initiate, less time-consuming and was cheap to administer.

3.7 Questionnaire administration

The researcher hand-delivered the research questionnaires to participants. Since the researcher had compiled a list of names of those who were selected to participate in the study, the questionnaires were hand-delivered to the selected individuals in each bank. The researcher hand-delivered all the research questionnaires to all the participants in a single day and collected them after three days. It was perceived that the more days it would take before questionnaires are collected, the more they might get lost or even tear off. The study was undertaken when the Covid-19 pandemic travel restrictions were relaxed in the country as businesses were operating as usual. The questionnaires were hand-delivered to the participants whilst adhering to the Covid-19 guidelines and protocols regarding social distancing, hand sanitising and wearing of a face mask covering the mouth and the nose to prevent contracting or spreading the Covid-19 virus.

3.8 Data analysis

3.8.1 Data treatment

The number of variables was reduced to six; four explanatory, one intervening and the dependent variable. This was done by finding the average score of each respondent per category of questions. Each of the six questions under digital platforms, service quality and bank performance were averaged, respectively, per respondent.

3.8.2. Estimation model

This study used Structural Equation Modelling (SEM) to test the hypotheses. Figure 3.1 below demonstrates the relationships between variables that were tested. Arrows denoted by p1 to p4 show the relationship between the various digital banking platforms and the

quality of service they are associated with, while p5 is the direct relationship between service quality and bank performance. The *p*s show the indirect relationship between digital banking platforms and bank performance, via service quality. The Ds represent the direct relationship between digital platforms and bank performance. The study seeks to test the strength of these relationships.

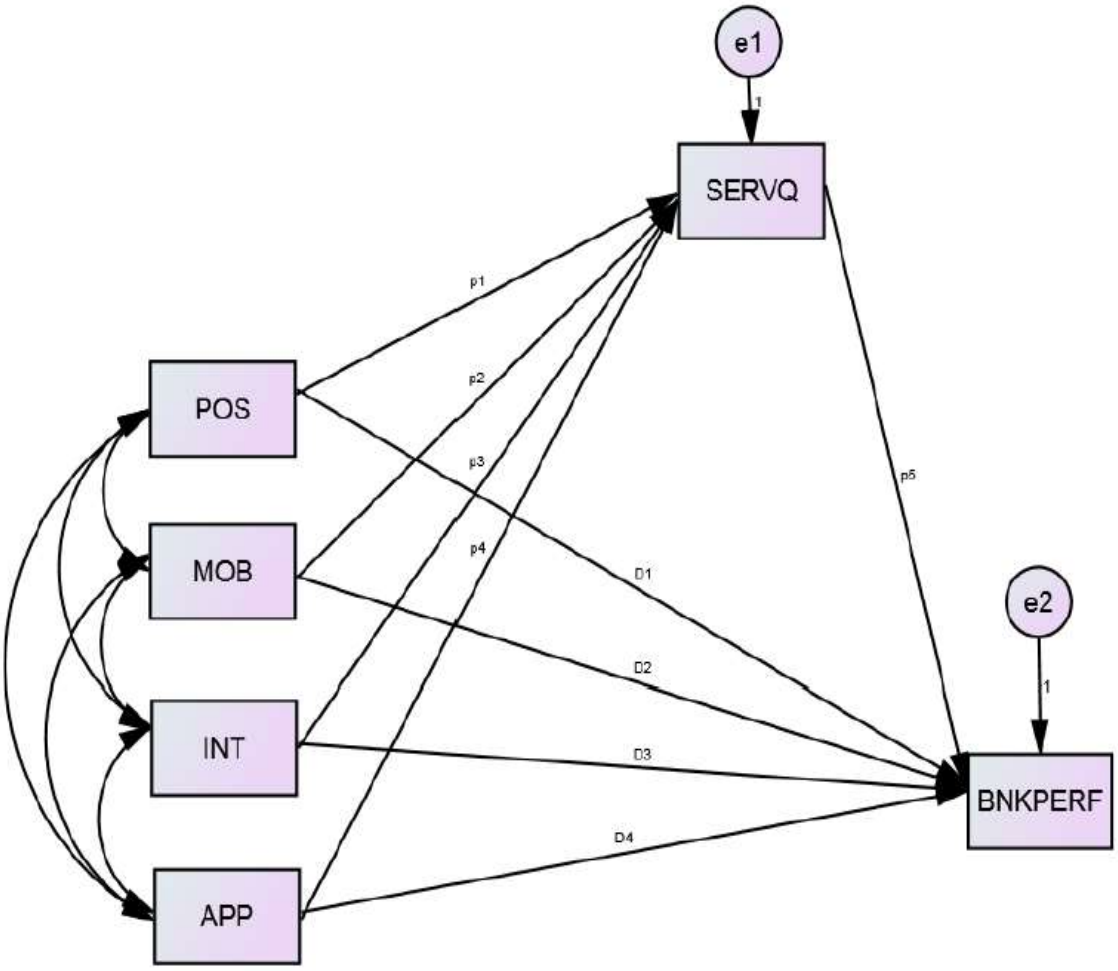

Figure 3. 1: Structural Equation Model analysis framework

Maximum likelihood estimation (MLE) is the standard estimation approach in most SEMs. MLE assumes multivariate normality. Violation of this assumption can lead to inflated chi-square test values, which can result in the rejection of a plausible candidate model. Secondly, it can also lead to the underestimation of standard errors (bias), which

can yield incorrect inferences when testing model parameters (path coefficients, covariance among factors or residuals).

Before the MLE was performed, data was tested for both univariate and multivariate normality. For univariate normality test, the null hypothesis is that the distribution does not depart from normality, hence the critical z-value should be within the range [-1.96 < C.R < 1.96]. West et al. (1995) concluded that a kurtosis value of greater than 7 shows departure from normality, while Kline (2011) argue that kurtosis of a range of 8 to 20 shows extreme kurtosis and skewness of greater than 3 show more extreme levels of skew. Bentler (2005) argues that multivariate kurtosis values of greater than 5 depart significantly from multivariate normality.

The analysis will also provide correlations between the explanatory variables to help detect the presence of multicollinearity, which can lead to biased estimators.

The study will also test the significance of the indirect and total effects of digital platforms on bank performance. This section looks at the indirect (via service quality) impact and total impact of the use of digital platforms on bank performance. The indirect effect of each independent variable is a product of its unstandardized β estimate with the moderating variable (service quality) and the β estimate between service quality and bank performance. For example, for point of sale, its indirect effect on bank performance is p1*p5, for mobile banking, it is p2*p5 etc. The total effect of the dependent variable is the sum of its direct and indirect effects.

3.9 Research limitations

3.9.1 Limited time

The study time was very short. Resultantly, the researcher had to balance school work, family and work. The researcher had to use weekends doing school work to make sure that the research was a success. Besides, all off-days at work were also used to do the research.

3.9.2 Limited access to respondents

Access to the study participants was not easy. The respondents who took a leading role in the research were very busy since the research was conducted during the time Covid-19 restrictions imposed by the government were relaxed and business was beginning to take shape. The researcher had to explain the purpose of the study and its value to participants so that they would spare a few minutes and answer the questionnaires.

3.9.3 Limited existing literature

There was limited literature concerning the impact of digital banking platforms on bank performance which made it difficult for the researcher to make a local comparison of research findings. To overcome this limitation, study findings were compared with literature across the globe.

3.10 Validity and reliability

3.10.1 Validity

The researcher undertook several steps to ensure the validity of the data. The pilot test which was conducted by the researcher ensured the developed questionnaire measured what it was intended to measure. Data was collected from a large sample size of 200 participants. This promoted data validity and also ensured the generalisation of findings to the whole banking sector in Zimbabwe. The questionnaire items were constructed using information or statements that were extracted from existing literature and this ensured content validity. The administered questionnaire was presented to a research expert who checked several issues that included the use of jargon, sequence of questions and whether the questions measured what they were supposed to measure. This enhanced the face validity of the research questionnaire. Besides, factor analysis was conducted in which factor loadings were used to validate that POS banking, mobile banking, internet banking and app banking were the digital banking platforms that had an impact on bank performance.

3.10.2 Reliability

The researcher undertook several steps to ensure the reliability of the data. The pilot test ensured the reliability of the research instrument since the findings obtained during the pilot test did not deviate from those obtained during the actual data collection. Thus, the

findings were consistent. The researcher tested for internal consistency reliability using Cronbach's alphas. A Cronbach's alpha of 0.7 was adopted from literature and this was employed as a benchmark under which the Cronbach's alphas of the research variables were then measured against.

3.11 Ethical considerations

Ethical considerations observed in this research related to voluntary participation. None of the participants was coerced to participate in the study. The research minimised the risk of physical or emotional harm to respondents by avoiding the use of sensitive, discriminating or offensive language in the questionnaire. The deceptive practice of respondents was reduced by promising anonymity, confidentiality and privacy of both the identities of participants and their responses. The study minimised plagiarism by citing all work that was not original ideas of the researcher using the Harvard referencing system.

3.12 Chapter conclusion

This chapter outlined and justified the methodology applied in investigating the impact of digital banking on bank performance in Zimbabwe. The chapter started by restating the research aim, objectives, major questions and research hypotheses. The chapter then explained and justified the research philosophy, approach and strategy used in the study. It then outlined and justified data collection techniques employed, the research instrument used to gather primary data for the study focusing on the development of the research instrument and pilot-testing it to test the applicability of the proposed data collection plans. Besides, the chapter looked at the study population, sample size, sampling methods, data gathering, processing and analysis; research limitations, validity and reliability as well as ethical considerations. The next chapter concerns data presents, analyses and discusses the study findings.

CHAPTER 4 DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter analyses and discusses the findings of this research. The chapter starts by presenting and discussing the questionnaire response rate and the descriptive statistics on demographic information of respondents. It then presents and discusses the descriptive statistics on digital banking platforms, service quality and bank performance. The chapter then presents and discusses statistics tests namely factor analysis, reliability test, normality tests, correlation analysis and regression analysis. Lastly, the chapter discusses the study findings based on objectives.

4.2 A discussion of the response rate

Primary data used to answer the study questions, test research hypotheses and achieve the research objectives were collected using self-administered questionnaires. Table 4.1 below presents the questionnaire response rate achieved by this study.

Table 4. 1: Questionnaire response rate

Total Administered	Total Collected	Total Unusable	Total Usable	Response Rate
200	115	18	97	48.5%

Source: Survey Data (2021)

A total of 200 questionnaires were administered to employees of CABS, CBZ, FBC Bank and Stanbic Bank in Harare working in the finance, IT, personal and business banking and corporate and investment banking departments. The researcher managed to collect a total of 115 questionnaires after a period of three days. Of the 115 collected questionnaires, 18 were either not fully completed or had a page missing and these were considered unusable. Hence, the study was left with a total of 97 usable questionnaires which made a response rate of 48.5%. The subdued response rate was attributed to the Covid-19 pandemic. Some of the participants who were administered with the questionnaires were not reporting for work when the researcher collected the questionnaires since they were working from home during that week. Participants had pressure at their places of work and resultantly some of them could not fully completed the questionnaires. All these aspects led to the subdued questionnaire response rate.

In similar studies, Okiro and Ndungu (2013) sent a total of 98 questionnaires and collected 64 usable questionnaire which made a response rate of 65.3%. Bach et al. (2020) administered a total of 500 questionnaires and managed to collect 154 usable questionnaire which made a response rate of 30.8%. Thus, the questionnaire response rate of 48.5% was not out of range from the response rates achieved by previous studies in the same research area. Resultantly, this response rate ensured that there was enough data to investigate the impact of digital banking platforms on bank performance in Zimbabwe.

4.3 Descriptive statistics

4.3.1 Demographic characteristics of participants

The study collected the gender, level of experience, educational level and the departments in which participants to this research worked in. The descriptive statistics concerning these demographic characteristics are presented and discussed below. Table 4.2 below presents the gender distribution results of respondents.

Table 4. 2: Gender distribution results of participants

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	51	52.6	52.6	52.6
	Female	46	47.4	47.4	100.0

	Total	97	100.0	100.0

Source: Survey Data (2021)

Table 4.2 shows that 51 (52.6%) of the research participants were male whilst 46 (47.4%) were female. Data used to investigate the impact of digital banking platforms on bank performance was collected from an almost equal number of males and females within the banking sector. This is very crucial considering that males and females might have different perceptions about the impact of digital banking platforms on bank performance. Thus, the collection of data from males and females facilitated the study to have a balanced analysis of the study problem. Table 4.3 below presents the level of experience of respondents.

Table 4. 3: Level of experience

Level of Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	12	12.4	12.4	12.4
	5-10 years	21	21.6	21.6	34.0
	10-15 years	36	37.1	37.1	71.1
	> 15 years	28	28.9	28.9	100.0
	Total	97	100.0	100.0	

Source: Survey Data (2021)

Table 4.3 highlights that 12 (12.4%) of the respondents had less than five years of experience, 21 (21.6%) had five to 10 years of experience, 36 (37.1%) had 10-15 years of experience and 28 (28.9%) had more than 15 years of experience working in the banking industry. A similar study by Kombe and Wafula (2015) collected data from 41.9% respondents who had over six years of experience in the banking industry. Another study by Atieno (2018) used data which was collected from 60.8% of the participants who had over four years working experience in the banking sector. The experience level of participants who took an active role in this research is consistent with existing literature. It shows that 87.6% of the data used to investigate the influence of digital banking platforms on bank performance in Zimbabwe was collected from individuals with over

five years of experience in the banking sector. These people have seen the designing, implementation and use of different digital banking platforms in the Zimbabwean banking industry. This shows that data for the research was collected from the relevant people and as a result, the findings of this study can be depended and relied upon.

Table 4.4 shows the educational qualifications held by participants who responded to this study. A total of 11 (11.3%) of the participants had diplomas, 44 (45.4%) had honours degree, 23 (23.7%) had master's degrees and 19 (19.6%) had other qualifications which were not specified. These educational qualification results show that data for the study were collected from participants who were educated enough to understand and answer the questions that harbored the research subject in the questionnaires. Thus, data for the research can be relied upon. A similar study by Atieno (2018) collected data from majority of participants who had diplomas, honours degrees and master's degrees. Thus, the collection of data from participants with diplomas, honours degrees and master's degrees was consistent with existing literature.

Table 4. 4: Educational qualifications results of participants

Educational Qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	11	11.3	11.3	11.3
	Honours degree	44	45.4	45.4	56.7
	Master's degree	23	23.7	23.7	80.4
	Other	19	19.6	19.6	100.0
	Total	97	100.0	100.0	

Source: Survey Data (2021)

Table 4.5 below presents the departments that respondents who participated in this research worked in.

Table 4. 5: Department that respondents worked in

Department					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Finance	11	11.3	11.3	11.3
	Information Technology	20	20.6	20.6	32.0

	Personal and Business Banking	31	32.0	32.0	63.9
	Corporate and Investment Banking	35	36.1	36.1	100.0
	Total	97	100.0	100.0	

Source: Survey Data (2021)

Table 4.5 indicates that 11 (11.3%) of the participants worked in the finance department, 20 (20.6%) worked in the information and technology department, 31 (32%) worked in the personal and business banking department and 35 (36.1%) worked in the corporate and investment banking department. These results show that data was collected from individuals who worked in the departments where digital banking services are widely used. Thus data was collected from relevant individuals with the knowledge regarding the influence of digital banking platforms on bank performance in Zimbabwe.

4.3.2 Digital banking platforms, service quality and bank performance

Descriptive statistics like mean, standard deviation, range, mode, median and variance were computed for POS banking, mobile banking, internet banking, app banking, service quality and bank performance. Table 4.6 below presents the descriptive statistics on these study variables.

Table 4. 6: Descriptive statistics for the study variables

Descriptive Statistics							
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Internet banking	97	.833	3	5	4.02	.181604	.033
Point of sale banking	97	1.167	3	5	4.18	.224701	.050
App banking	97	1.167	3	5	4.27	.218713	.048
Service quality	97	1.333	3	5	4.29	.217194	.047
Mobile banking	97	1.000	3	5	4.39	.187949	.035
Bank performance	97	1.000	3	5	4.52	.193727	.038
Valid N (listwise)	97						

Source: Survey Data (2021)

For all the study variables, the minimum response rate was 3 (3 = neutral) and the maximum response rate was 5 (5 = strongly agree). For internet banking, the mean response was 4.02. This mean was close to the rating of 4 (4 = agree) and it implied that all the respondents on average agreed to the items that characterized internet banking. POS banking had a mean response of 4.18 which implied that on average, all the participants agreed to the items that characterized POS banking. App banking had a mean

of 4.27. This mean response indicated that on average, all the participants agreed to the items that characterized app banking. For mobile banking, mean = 4.39 and it implied that on average all the participants agreed to the items that characterized mobile banking. Service quality had a mean response of 4.29. This mean indicated that on average, all the participants agreed to the items that described the service quality of banks in Zimbabwe. Lastly, the mean response for bank performance was 4.52. This mean value was close to a rating of 5 implying that on average all the respondents strongly agreed with items that described the performance of banks in Zimbabwe.

4.4 Factor analysis

Before conducting factor analysis, data was firstly tested for sampling adequacy using the Kaiser-Meyer-Olkin (KMO). Table 4.7 below presents the KMO sampling adequacy results. The Table shows a KMO value of 0.680. The KMO values that are between 0.5 and 0.7 are usually satisfactory to conduct factor analysis. Thus, the KMO value of 0.680 highlights that it was possible to proceed and perform factor analysis. This was confirmed by the Bartlett's test of Spherricity of 0.000 ($p < 0.001$) which highlighted that the correlation between the research variables were not close to zero.

Table 4. 7: KMO sampling adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.680
Bartlett's Test of Sphericity	Approx. Chi-Square	160.375
	Df	15
	Sig.	.000

Source: Survey Data (2021)

Principal Component Analysis (CPA) was employed to generate the factor loading for the research variables. The questionnaire items were reduced to six variables: point of sale banking, mobile banking, internet banking, app banking, service quality and bank performance. Table 4.8 presents the rotated component matrix showing the factor loadings (Pearson correlation coefficients) for the study variables.

Table 4. 8: Factor loading for the study variables

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
Point of sale banking	.950					
Mobile banking		.951				
Internet banking			.994			
App banking				.986		
Service quality					.952	
Bank performance						.749
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 6 iterations.						

Source: Survey Data (2021)

The above Table shows the items that described point of sale banking had a factor loading of 0.950, those for mobile banking had a factor loading of 0.951, those for internet banking had a factor loading of 0.994, those for app banking had a factor loading of 0.986 whole those for service quality and bank performance had factor loading of 0.952 and 0.749 respectively. All the independent variables had factor loadings which were above 0.7 and this validated that they had an impact on bank performance.

4.5 Reliability tests

The reliability test was conducted using Cronbach's alphas. Table 4.9 below presents the Cronbach's alphas for the study variables.

Table 4. 9: Cronbach's alphas

	N	No. of items	Cronbach's Alpha
Point of sale banking	97	6	.783
Mobile banking	97	6	.769
Internet banking	97	6	.802
App banking	97	6	.794
Service quality	97	6	.764
Bank performance	97	6	.811

Source: Primary Data (2021)

All the study variables had six items. Table 4.9 shows Cronbach's alphas of 0.783, 0769, 0.802, 0.794, 0.764 and 0.811 for point of banking, mobile banking, internet banking, app banking, service quality and bank performance respectively. These Cronbach's alphas

were above 0.7 meaning the internal consistency of the data employed in investigating the impact of digital banking platforms on bank performance in Zimbabwe was very good. As a result, other academicians who might be interested in expanding this research might use the instrument employed in this research since it was able to generate reliable data.

4.6 Test for normality

All the four explanatory variables have critical ratio values within the accepted range of univariate normality, that is, -1.96 < C.R < 1.96. This is also supported by skewness values of less than 3 and kurtosis values of less than 7 (West et al., 1995; Kline, 2011). Results show that the distribution does not depart from normality. Table 4.10 below shows the test for normality results.

Table 4. 10: Test for normality

Variable	min	Max	Skew	c.r.	kurtosis	c.r.
APP	3.667	4.833	-.089	-.359	-.022	-.044
INT	3.500	4.333	-.337	-1.355	-.359	-.721
MOB	3.833	4.833	.025	.101	.135	.272
POS	3.500	4.667	-.183	-.736	.485	.975
SERVQ	3.667	5.000	.534	2.149	1.264	2.541
BNKPERF	3.833	4.833	-.567	-2.280	1.039	2.088
Multivariate					7.697	3.868

APP = App banking, INT = Internet banking, MOB = Mobile banking, POS = Point of sale banking, SERQ = Service quality, BNKPERF == Bank performance

Source: Survey Data (2021)

4.7 Correlation analysis

Table 4.11 below shows correlations between explanatory variables. Correlation between the four explanatory variables is very low, less than 0.50 and also negative. The explanatory variables do not present the problem of multicollinearity.

Table 4. 11: Correlations between explanatory variables

			Estimate
POS	<-->	APP	.205
MOB	<-->	APP	.244
INT	<-->	APP	-.017
POS	<-->	INT	-.142
MOB	<-->	INT	.119
POS	<-->	MOB	.401

Source: Survey Data (2021)

4.8 Regression analysis

Unstandardized estimates, that is, the β coefficients in the regression model, and standardised weights, which show the change in the standard deviation of the dependent variable to changes in the standard deviation of the independent variable, are presented in Table 4.12 and Figure 4.1 below, respectively. Table 4.12 shows that the relationship between service quality and the following variables: point of sale, mobile banking and App banking was significant ($p<0.05$). This relationship was, however, not significant with internet banking. The relationship between service quality and bank performance was significant too ($p<0.05$)[1]. Finally, only one explanatory variable, internet banking, did not have a significant relationship with bank performance ($p>0.05$).

Table 4. 12: Unstandardized regression estimates

			Estimate	S.E.	C.R.	P	Label
SERVQ	<---	POS	.218	.098	2.234	.026	p1
SERVQ	<---	MOB	.210	.118	1.787	.074	p2
SERVQ	<---	INT	.094	.111	.850	.396	p3
SERVQ	<---	APP	.241	.093	2.601	.009	p4
BNKPERF	<---	SERVQ	.244	.057	4.254	***	p5
BNKPERF	<---	POS	.269	.056	4.770	***	D1
BNKPERF	<---	MOB	.244	.067	3.621	***	D2
BNKPERF	<---	INT	.104	.063	1.660	.097	D3
BNKPERF	<---	APP	.320	.054	5.929	***	D4

Source: Survey Data (2021)

Figure 4.1 below shows that when the rating of point of sale, mobile banking, internet banking and APP banking goes up by 1 standard deviation, the rating of service quality goes up by 0.226, 0.182, 0.079 and 0.243 standard deviations, respectively. When the rating of service quality increases by 1 standard deviation that of bank performance increases by 0.275 standard deviations.

[1] **In** the column labelled 'P', **three stars**, '***', means the p-value is less than .001.)

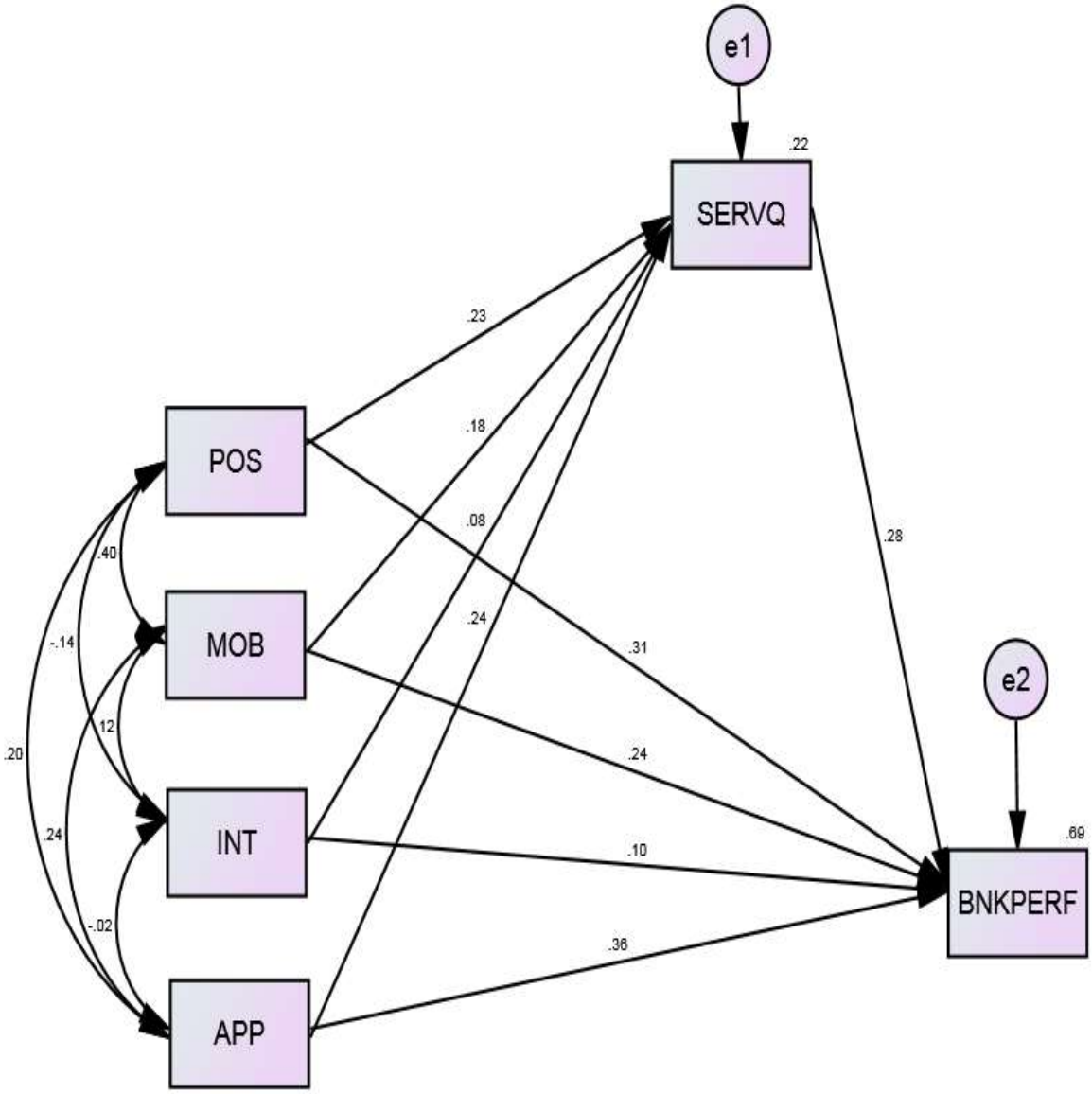

Figure 4. 1: Standardised β coefficients

Source: Survey Data (2021)

Likewise, the direct relationship between bank performance and independent variables, shows that when the rating of point of sale, mobile banking, internet banking and APP banking goes up by 1 standard deviation, the rating of bank performance goes up by 0.313, 0.237, 0.098 and 0.363, respectively.

Table 4. 13: Standardised weights

			Estimate
SERVQ	<---	POS	.226
SERVQ	<---	MOB	.182
SERVQ	<---	INT	.079
SERVQ	<---	APP	.243
BNKPERF	<---	SERVQ	.275
BNKPERF	<---	POS	.313
BNKPERF	<---	MOB	.237
BNKPERF	<---	INT	.098
BNKPERF	<---	APP	.363

Source: Survey Data (2021)

The R-squared statistic shows that 22% variation in service quality is explained by the four digital banking practices and that 69% of variation in bank performance is explained by the total effect of the use of the four digital platforms and the perceived quality of service offered by these platforms.

4.8.1 Indirect and total impacts of digital platforms on bank performance

Table 4.14 below shows both indirect and total effects of digital platforms on bank performance. It also tests the significance of these effects. The β estimate of indirect effect (via service quality) of point of sale, mobile banking, internet banking and APP banking was 0.053, 0.051, 0.023 and 0.059, respectively. All the indirect effects were significant, except for internet banking.

The β estimate of the total effect of point of sale, mobile banking, internet banking and APP banking was 0.322, 0.295, 0.127 and 0.379, respectively. All the total effects were significant, except for internet banking.

Table 4. 14: Indirect and total effects

Parameter	Estimate	Lower	Upper	P
IndPOS	.053	.004	.136	.034
IndMOB	.051	.000	.121	.048
IndINT	.023	-.024	.085	.312
IndAPP	.059	.021	.122	.002
TEPOS	.322	.181	.453	.001
TEMOB	.295	.127	.500	.002
TEINT	.127	-.010	.279	.070
TEAPP	.379	.252	.520	.001

Source: Survey Data (2021)

4.8.3 Conclusion on hypotheses

H_0: POS banking has no impact on bank performance in Zimbabwe.

H_1: POS banking has a positive impact on bank performance in Zimbabwe.

Conclusion: Reject null hypothesis

H_0: Mobile banking has no impact on bank performance in Zimbabwe.

H_2: Mobile banking has a positive impact on bank performance in Zimbabwe.

Conclusion: Reject null hypothesis

H_0: Internet banking has no impact on bank performance in Zimbabwe.

H_3: Internet banking has a positive impact on bank performance in Zimbabwe.

Conclusion: Accept null hypothesis

H_0: App banking has no impact on bank performance in Zimbabwe.

H_4: App banking has a positive impact on bank performance in Zimbabwe.

Conclusion: Reject null hypothesis

H_0: Service quality does not moderate the impact of digital banking platforms on bank performance

H_5: Service quality moderates the impact of digital banking platforms on bank performance

Conclusion: Comparing direct effect, indirect effect and total effect gives the same conclusion that only internet banking has no impact on bank performance. The study

accept the null hypothesis that service quality does not moderate the impact of digital banking platforms on bank performance in Zimbabwe.

4.9 Discussion

4.9.1 The impact of POS banking on bank performance in Zimbabwe

The inferential statistics showed that when looking at the direct relationship between POS banking and bank performance in Zimbabwe, when the rating of POS banking increases by 1 standard deviation, the rating of bank performance goes up by 0.313. This indicates a direct positive impact of POS banking on bank performance in Zimbabwe. Similarly, when looking at the indirect impact of POS banking on bank performance through service quality, the findings show that when the rating of point of sale increases by 1 standard deviation, then service quality will go up by 0.226. Then when service quality goes up by 1 standard deviation, bank performance will go up by 0.275.

For the indirect relationship, POS banking has a β of 0.053 and a p-value of 0.034. This shows that POS banking has a positive and significant indirect (via service quality) impact on bank performance in Zimbabwe. For the total effect, POS banking has a β of 0.322 and a p-value of 0.001. This indicates that POS banking has a positive and significant total impact on bank performance in Zimbabwe. Since both the indirect and total effects of POS banking on bank performance were positive and significant, the study rejected the null hypothesis that POS banking has no impact on bank performance in Zimbabwe.

The findings by this study that POS banking has a positive and significant impact on bank performance is consistent with existing literature. In Iran, Nazaritehrani and Mashali (2020) revealed that POS banking has a positive and significant impact on bank market share. The study by Abdullai and Micheni (2018) revealed that POS banking has a positive impact on bank performance. Here in Zimbabwe, the study by Chindidzi et al. (2020) revealed that digital banking platforms like POS banking have a positive impact on bank performance. Therefore, the finding that POS banking has a positive and significant impact on bank performance in Zimbabwe is consistent with existing literature to a larger extent.

4.9.2 The impact of mobile banking on bank performance in Zimbabwe

The inferential statistics showed that when looking at the direct relationship between mobile banking and bank performance in Zimbabwe, when the rating of mobile banking increases by 1 standard deviation, the rating of bank performance goes up by 0.237. This indicates that a direct positive impact of mobile banking on bank performance in Zimbabwe. Similarly, when looking at the indirect impact of mobile banking on bank performance through service quality, the findings show that when the rating of point of sale increases by 1 standard deviation, then service quality will go up by 0.182. Then when service quality goes up by 1 standard deviation, bank performance will go up by 0.275.

For the indirect relationship, point of sale banking has a β of 0.051 and a p-value of 0.048. This shows that mobile banking has a positive and significant indirect (via service quality) impact on bank performance in Zimbabwe. For the total effect, mobile banking has a β of 0.295 and a p-value of 0.002. This indicates that mobile banking has a positive and significant total impact on bank performance in Zimbabwe. Since both the indirect and total effects of mobile banking on bank performance were positive and significant, the study rejected the null hypothesis that mobile banking has no impact on bank performance in Zimbabwe.

The above results are in line with existing literature. Harelimana (2017) revealed a positive impact of mobile banking on the financial performance of commercial banks in Rwanda. Bach et al. (2020) showed that mobile banking has a positive impact on bank reputation in Croatia. Rajeshkumar (2020) revealed that the adoption of mobile banking has been associated with improvements in bank performance in India. Mago and Chitokwindo (2014) revealed a positive association between mobile banking and financial performance of banks in Zimbabwe. In Kenya, Muchiri (2018) revealed that mobile banking has positive impact on the market share of SMEs whilst Atieno (2018) and Kathuo et al. (2015) revealed a positive impact of mobile banking on bank performance and the financial performance of banks respectively.

4.9.3 The impact of internet banking on bank performance in Zimbabwe

The inferential statistics showed that when looking at the direct relationship between internet banking and bank performance in Zimbabwe, when the rating of internet banking

increases by 1 standard deviation, the rating of bank performance goes up by 0.098. Similarly, when looking at the indirect impact of internet banking on bank performance through service quality, the findings show that when the rating of point of sale increases by 1 standard deviation, then service quality will go up by 0.079. Then when service quality goes up by 1 standard deviation, bank performance will go up by 0.275.

For the indirect relationship, point of sale banking has a β of 0.023 and a p-value of 0.312. This shows that internet banking has a positive and insignificant indirect (via service quality) impact on bank performance in Zimbabwe ($p>0.05$). For the total effect, internet banking has a β of 0.127 and a p-value of 0.070. This indicates that internet banking has a positive and insignificant total impact on bank performance in Zimbabwe ($p>0.05$). Since both the indirect and total effects of internet banking on bank performance were positive and insignificant, the study accepted the null hypothesis that internet banking has no impact on bank performance in Zimbabwe.

The above findings do not corroborate existing literature. Nazaritehrani and Mashali (2020) revealed a positive impact of internet banking and bank market share in Iran. Chindudzi et al. (2020) established a positive influence of internet banking on bank performance in Zimbabwe. Kombe and Wafula (2015) showed that internet banking is instrumental in reducing bank operational costs, improving bank efficiency and quality of financial services in Kenya. Moghni et al. (2020) showed that internet banking has a positive impact on the quality of financial services offered by banks in Iran. Hence, the finding of this study that internet banking has no impact on bank performance in Zimbabwe is not supported by existing literature.

4.9.4 The impact of app banking on bank performance in Zimbabwe

The inferential statistics showed that when looking at the direct relationship between app banking and bank performance in Zimbabwe, when the rating of app banking increases by 1 standard deviation, the rating of bank performance goes up by 0.363. Similarly, when looking at the indirect impact of internet banking on bank performance through service quality, the findings show that when the rating of point of sale increases by 1 standard deviation, then service quality will go up by 0.243. Then when service quality goes up by 1 standard deviation, bank performance will go up by 0.275.

For the indirect relationship, point of sale banking has a β of 0.059 and a p-value of 0.002. This shows that app banking has a positive and insignificant indirect (via service quality) impact on bank performance in Zimbabwe. For the total effect, app banking has a β of 0.397 and a p-value of 0.001. This indicates that app banking has a positive and insignificant total impact on bank performance in Zimbabwe. Since both the indirect and total effects of app banking on bank performance were positive and significant, the study rejected the null hypothesis that app banking has no impact on bank performance in Zimbabwe. These findings were supported by Ali et al. (2019) who highlighted that mobile banking applications contributes to bank performance.

4.9.5 The extent to which service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe

The study revealed that the digital banking platforms namely: POS banking, mobile banking and app banking had positive and significant indirect effects on bank performance. Internet banking had a positive and insignificant effect on bank performance. Concerning the total effect of digital banking platforms on bank performance, POS banking, mobile banking and app banking have a positive and significant effect on bank performance. However, internet banking has a positive and insignificant impact on bank performance. Comparing the direct effect, indirect effect and total effect of internet banking on bank performance, it can be concluded that internet banking has no impact on bank performance. Resultantly, the study accepted the null hypothesis that service quality does not moderate the impact of digital banking platforms on bank performance in Zimbabwe.

4.10 Chapter conclusion

The chapter presented, analysed and discussed the findings of this study. Findings show that the digital banking platforms namely: POS banking, mobile banking and app banking have a positive and significant direct, indirect and total impact on bank performance. However, the findings also revealed that internet banking has no impact on bank performance and also that service quality does not moderate the impact of digital banking platforms on bank performance in Zimbabwe. The next chapter concludes the study and provides policy and managerial level recommendations.

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter looks into the achievement of research aims, objectives and conclusions. It highlights the theoretical, methodological and empirical contribution of the research. The chapter outlines policy and managerial level recommendations and the extent to which the findings of the study can be generalised. Also, the chapter delineates the limitations encountered in this research and then proposes areas for future research.

5.2 Achievement of research aim and objectives

The study aimed to investigate the impact of digital banking platforms on the performance of banks in Zimbabwe. The specific objectives of the study were to assess the impact of POS banking on bank performance; to assess the impact of mobile banking on bank performance; to assess the impact of internet banking on bank performance; to assess the impact of app banking on bank performance and to assess the extent to which service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe. This section discusses the level of achievement of the research aim and objectives.

The first research objective was to assess the impact of POS banking on bank performance. The findings revealed positive and significant indirect, direct and total effects of POS banking on bank performance. Resultantly, the study rejected the null hypothesis (H_0) that POS banking has no impact on bank performance and accepted.

The second research objective was to assess the impact of mobile banking on bank performance. The research findings revealed positive and significant indirect, direct and

total effects of mobile banking on bank performance. This resulted in the study rejecting the null hypothesis (H_0) that mobile banking has no impact on bank performance.

The third research objective was to assess the impact of internet banking on bank performance. The research findings showed positive and insignificant indirect, direct and total effects of internet banking on bank performance. The study accepted the null hypothesis (H_0) that internet banking has no impact on bank performance.

The fourth research objective was to assess the impact of app banking on bank performance. The research revealed positive and significant indirect, direct and total effects of app banking on bank performance. The study rejected the null hypothesis (H_0) that app banking has no impact on bank performance.

The last research objective was to assess the extent to which service quality moderates the impact of digital banking platforms on bank performance. Using either indirect, direct or total effects, internet banking appeared to have no impact on bank performance. Thus, by comparing the indirect, direct and total effects, the study revealed that service quality does not moderate the relationship between digital banking platforms on bank performance.

5.3 Conclusion

5.3.1 The impact of POS banking on bank performance in Zimbabwe

The study concluded that POS banking has a positive and significant impact on the performance of banks in Zimbabwe. This conclusion was reached following the rejection of the null hypothesis (H_0) that POS banking has no impact on bank performance. The conclusion is supported by the positive and significant indirect, direct and total effects of POS banking on bank performance the study revealed.

5.3.2 The impact of mobile banking on bank performance in Zimbabwe

The study concluded that mobile banking has a positive and significant impact on the performance of banks in Zimbabwe. The conclusion was made following the rejection of the null hypothesis (H_0) that mobile banking has no impact on bank performance.

Besides, the conclusion is consistent with the study findings which showed positive and significant indirect, direct and total effects of mobile banking on bank performance.

5.3.3 The impact of internet banking on bank performance in Zimbabwe.

The study concluded that internet banking has no impact on bank performance in Zimbabwe. This conclusion was made following the acceptance of the null hypothesis (H_0) that internet banking has no impact on bank performance. The conclusion is supported by the study findings positive and insignificant indirect, direct and total effects of internet banking on bank performance the study revealed.

5.3.4 The impact of app banking on bank performance in Zimbabwe

The study concluded that app banking has a positive and significant impact on bank performance. The conclusion was reached following the rejection of the null hypothesis (H_0) that app banking has no impact on bank performance. Besides, the conclusion is supported by the research findings which showed positive and significant indirect, direct and total effects of app banking on bank performance.

5.3.5 The extent to which service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe.

The study concluded that service quality does not moderates the impact of digital banking platforms on bank performance. This conclusion was reached after comparing direct effect, indirect effect and total effect which gives the same conclusion that only internet banking has no impact on bank performance. This led to acceptance of the null hypothesis that service quality does not moderate the impact of digital banking platforms on bank performance in Zimbabwe.

5.4 Answer to research questions

5.4.1 What is the impact of POS banking on bank performance in Zimbabwe?

Study findings show positive and significant indirect, direct and total effects of POS banking on bank performance ($p<0.001$). The results show that POS banking has a positive and significant impact on bank performance in Zimbabwe.

5.4.2 What is the impact of mobile banking on bank performance in Zimbabwe?

Study findings show that the indirect, direct and total effects of mobile banking on bank performance are positive and significant ($p<0.001$). The results reveal that mobile banking has a positive and significant impact on bank performance in Zimbabwe.

5.4.3 What is the impact of internet banking on bank performance in Zimbabwe?

The study results show that the indirect, direct and total effect of internet banking on bank performance are positive and insignificant ($p>0.05$). The results indicate that internet banking has no impact on bank performance in Zimbabwe.

5.4.4 What is the impact of app banking on bank performance in Zimbabwe?

The study findings revealed that indirect, direct and total effects of app banking on bank performance are positive and significant ($p<0.001$). The findings show that app banking has a positive and significant impact on bank performance in Zimbabwe.

5.4.5 Does service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe?

The study findings show that a comparison of indirect effects, direct effects and total effects of digital banking platforms on bank performance shows that internet banking has no impact on bank performance. These findings show that service quality does service quality moderates the impact of digital banking platforms on bank performance in Zimbabwe.

5.5 Contribution

5.5.1 Theoretical contribution

The study assessed the impact of digital banking platforms on the performance of banks in Zimbabwe. Thus, the research positively contributed to the extant literature and to the body of knowledge on the impact of digital banking platforms on ban performance from a Zimbabwean point of view. The study contributed to theory by introducing service quality as an intervening variable on the relationship between digital banking platforms and bank performance. None of the reviewed studies had done this. The study highlighted that the digital banking platforms namely: POS banking, mobile banking and app banking

have a positive and significant impact on bank performance whilst internet banking has a no impact on bank performance. The null hypotheses that POS banking has no impact on bank performance, mobile banking has no impact on bank performance and that app banking has no impact on bank performance were rejected. This resulted in the study concluding that POS banking, mobile banking and app banking are the three digital banking platforms that have a positive and significant impact on bank performance in Zimbabwe.

5.5.2 Methodological contribution

The study used a questionnaire to gather primary data from employees of selected banks operating in Harare. Factor analysis and reliability tests demonstrated that the research instrument was valid and reliable in measuring digital banking platforms and bank performance. Thus, the research instrument demonstrated a high degree of construct validity and reliability as evidenced by factor loadings that were above 0.7 which the study obtained through PCA and also the Cronbach's alphas that were above 0.7 which were obtained through reliability analysis. The high factor loadings validated that POS banking, mobile banking, internet banking and app banking were the digital banking platforms that have an impact on bank performance in Zimbabwe whilst the high Cronbach's alphas showed good internal consistency of the collected data. Owing to the validity and reliability of the research instrument, fellow academicians who might interested in expanding this research by further exploring the impact of digital banking platforms on performance of firms can utilise the questionnaire that was employed in this research. This is because the instrument managed to generate valid and reliable data.

5.5.3 Empirical contribution

To the knowledge of the researcher, this was the first study to introduce service quality as moderating variable on the impact of digital banking platforms on bank performance in Zimbabwe. Besides, this was also the first study to assess the impact of app banking on bank performance in Zimbabwe and most probably in the Southern Africa since the researcher failed to locate literature on the app banking within the region. Resultantly, the research contributed a conceptual model comprising of digital banking platforms namely: POS banking, mobile banking, internet banking, app banking, as independent variables, service quality as a moderating variable and bank performance as the dependent variable.

This model highlighting the direct and indirect effects on bank performance is shown on Figure 5.1.

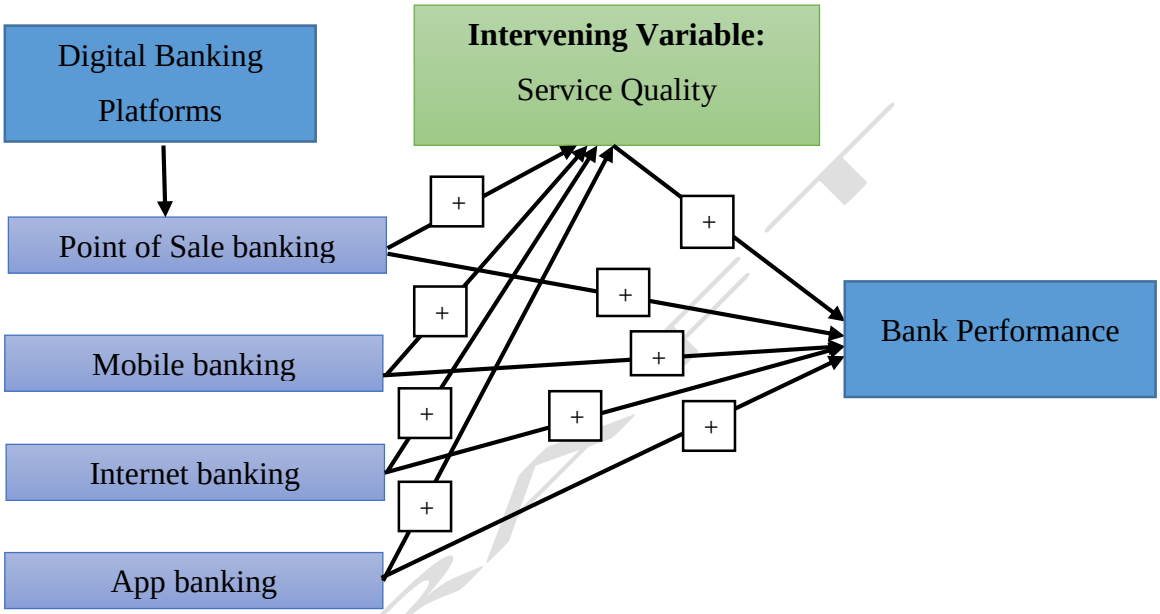

Figure 5. 1: Conceptual model contributed by the study

5.6 Policy recommendations

The study made following policy level recommendations.

5.6.1 Promote the use of digital technology in the banking sector

Policies should be made that promote the use of digital banking platforms in the banking industry by the banking public. Such policies would result in more usage of the digital banking platforms and this will increase bank performance in Zimbabwe. The promotion can be in the form of low charges in the use of POS banking, mobile banking, internet banking or app banking by the government. This will see the banking public increasing their utilisation of these digital banking platforms.

5.6.2 Offer low cost loans for digital technology innovation to banks

Policies should be made that result in the government offering loans to banks that seek to undertake digital technology innovations at a low cost. This will incentivise banks to borrow from the government and come up with new digital banking innovations. Such loans will also result in banks being able to improve the quality of their existing digital banking platforms at a low cost. The end result will be the provision of high quality digital banking platforms to bank customers.

5.7 Managerial recommendations

5.7.1 Reduce transaction costs on all digital banking platforms

Management of banks in Zimbabwe should reduce the transaction costs on all their digital banking platforms. This might see an increase in the use of digital banking platforms since customers will be transacting at a low cost. The increase in the use of digital banking platforms will also result in banks being able to improve on their performance.

5.7.2 Improve the service quality of digital banking platforms

The management of banks in Zimbabwe should improve the service quality of digital banking performance. Customers are very much concerned about the service availability whenever they intend to use digital banking platforms. An improvement in service quality of the digital banking platforms might encourage customers to use the digital banking platforms whenever they want to perform financial transactions of their choice. This will increase the usage of digital banking platforms and in turn improve bank performance.

5.8 Generalisation of findings

The study findings are supported by existing literature. The research established that POS banking, mobile banking and app banking have a positive and significant impact on bank performance in Zimbabwe. Extant literature shows that Abdullai and Micheni (2018), Chindidzi et al. (2020) and Nazaritehrani and Mashali (2020) revealed that POS banking has a positive impact on bank performance. Atieno (2018), Harelimana (2017) and Rajeshkumar (2020) revealed a positive impact of mobile banking on bank performance. Ali et al. (2019) who highlighted that mobile banking applications contributes to bank performance. This shows that the findings of this research concerning the positive impact

of POS banking, mobile banking and app banking on bank performance is consistent with existing literature. As a result, the findings of this research can be generalised elsewhere.

5.9 Research limitations

This research relied on quantitative data to investigate the impact of digital banking platforms on bank performance. A questionnaire survey was employed as a quantitative data collection instrument. Collaborating quantitative data with qualitative data could have been more enlightening since this could have resulted in deeper study findings. However, the study timeline was very short and also given that the research was conducted in the COVID-19 pandemic, collaboration of quantitative data with qualitative data was unrealistic and impractical. To ensure the accuracy and dependability of the study results, several statistical tests were conducted before data was analysed.

5.10 Areas for future research

The study investigated the impact of digital banking on bank performance in Zimbabwe. It is suggested that future study should explore the contribution of digital banking platforms being offered by banks on organisational performance in different sectors of the economy to facilitate the comparability and generalisation of findings from a Zimbabwean point of view.

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Appendix 1: Research Questionnaire

Section A: Invitation letter to participate in the study

GRADUATE SCHOOL OF MANAGEMENT

DISSERTATION TITLE: An investigation into the influence of digital banking platforms on bank performance in the Zimbabwean banking industry.

Dear Sir/Madam

I am a Master's in Business Administration (MBA) student with the Graduate School of Management (GSM) at the University of Zimbabwe. As part of the fulfilment of this program, I am required to carry out the above-titled research. I do hereby invite you to participate in the above-titled study. I can assure you that this research is purely for academic purposes and any information that you will provide in this questionnaire will treated as private, confidential and anonymous. Hence, none of the questions requires any personal information. Kindly complete all questions in this questionnaire by ticking the option that best represents your intended response.

For any inquiries, please contact the director of the GSM on the following email address: info.uzgsm@gmail.com or the researcher on email…nyaradzondhlovu2@gmail.com....and cell numbers: …0773394633…….

Thank you for your cooperation and participation.

Yours sincerely

Nyaradzo Ndhlovu

Section B: Demographic information of participants

(Please tick the most appropriate)

1. Gender a. Male ☐ b. Female ☐

2. Level of experience a. less than 5 years ☐ b. 5-10 years ☐

c. 10-15 years ☐ d. above 15 years ☐

3. Educational qualification a. Diploma ☐ b. Honours Degree ☐

c. Master's Degree ☐ d. Other…….

4. Department a. Finance ☐ b. Information Technology ☐

c. Personal and Business Banking ☐

☐

d. Corporate and Investment Banking

Section C: Digital Banking Platforms

Please indicate the extent to which you agree with the following items that characterise digital banking platforms being used by your bank. Rate your responses using the following ratings:

1 = Strongly Disagree; **2** = Disagree; **3** = Neutral; **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
	Point of Sale Banking (POSB)					
POSB1	Customers of my bank use point of sale banking to make different payments.					
POSB2	The innovation of point of sale banking has seen more customers opening bank accounts with my bank.					
POSB3	My bank has sold many point of sale machines across different sectors in the country so that customers can make payments using their cards.					
POSB4	Customers of my bank can inquire about their account balances at any point of sale machine using their cards.					
POSB5	My bank has witnessed an upsurge in point of sale transaction volumes.					
POSB6	The performance of my bank is increasing as a result of point of sale banking.					
	Mobile Banking (MOBB)					
MOBB1	My bank offers mobile banking services to its customers.					
MOBB2	Customers of my bank have linked their bank accounts to their mobile phones.					
MOBB3	Customers of my bank are accessing their bank accounts using their mobile phones.					
MOBB4	The innovation of mobile banking by my firm has seen many customers opening bank accounts to enjoy transacting whilst in the comfort of their homes.					
MOBB5	The customers of my bank have successfully accepted mobile banking.					
MOBB6	Mobile banking is improving the performance of my bank.					
	Internet Banking (INTB)					
INTB1	My bank offers internet banking to its customers.					
INTB2	Many customers make payments through internet banking.					
INTB3	Customers are making electronic funds transfers through internet banking.					
INTB4	Internet banking has been greatly accepted as a digital banking platform by many customers of my bank.					
INTB5	My bank has seen an upsurge in internet transaction volumes as a result of internet banking.					

INTB6	Internet banking is improving the performance of my bank.					
	App Banking (APPB)					
APPB1	My bank has innovated applications that customers can download on the App Store and install on their mobile phones to access their financial accounts.					
APPB2	My bank is generating additional revenue from app downloads.					
APPB3	Many customers of my bank have accepted and are using app banking.					
APPB4	My bank's app-based banking transaction volumes are increasing.					
APPB5	Customers are transferring funds to other accounts using app banking.					
APPB6	The performance of my bank is increasing as a result of the acceptance and use of app banking by customers.					

Section D: Bank Performance

Please indicate the extent to which you agree with the following items characterising the performance of your bank. Rate your responses using the following ratings:

1 = Strongly Disagree; **2** = Disagree; **3** = Neutral; **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
BKPM1	Operational costs of my bank are decreasing as a result of the acceptance and usage of digital banking platforms by customers.					
BKPM2	My bank is recording increased profits due to the use of digital banking platforms by customers.					
BKPM3	The quality of services offered by my bank is improving due to the acceptance and use of digital banking platforms by customers.					
BKPM4	The use of digital banking platforms has decongested the banking halls of my bank.					
BKPM5	The innovation of digital banking platforms has improved the operational efficiency of my bank.					
BKPM6	The innovation, acceptance and use of digital banking platforms have improved the performance of my bank.					

Section E: Service Quality

Please rate how your customers perceive the digital banking services that your bank offer.

Rate your responses using the following ratings:

1 = Strongly Disagree; **2** = Disagree; **3** = Neutral; **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
SEQU1	The digital banking services that my banks offers to its customers are of high quality.					
SEQU2	Customers of my bank perceive digital banking services that my banks offer to be of high quality.					
SEQU3	There are no complaints regarding the quality of digital banking services that my bank offer to customers.					
SEQU4	Customers always find the digital banking services offered by my bank readily available whenever they want to use them.					
SEQU5	There are no service disruptions on the digital banking services offered to customers by my bank.					
SEQU6	The improved profitability of my bank is as a result of high quality digital banking services that my bank offers to its customers.					

THANK YOU!!!!!!!!!