

**DIGITAL BANKING STRATEGY INFLUENCE ON GROWTH OF SIDIAN
BANK LIMITED IN KENYA**

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**PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF MASTER DEGREE IN BUSINESS ADMINISTRATION OF
MOUNT KENYA UNIVERSITY**

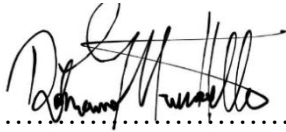
JULY 2025

DECLARATION AND APPROVAL

This project is my original work and has never been presented for any academic award in any institution.

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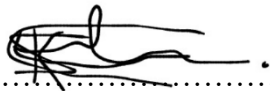
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Approval

This project is being submitted for examination with our approval as University supervisors

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DEDICATION

This research work is dedicated to my family and colleagues.



ACKNOWLEDGEMENT

I am thankful to God for granting me the prowess to complete this research and also genuinely acknowledge the invaluable intellectual assistance and guidance provided by my research supervisor, Dr. Stephen Warui, without whom I wouldn't have successfully completed this thesis.



ABSTRACT

Technology has become a key component of our lives today. Financial industry is one of the sectors that has adopted technology in a robust manner with most transactions being done through technological channels. However, the banks are still slow to adopt the fast-changing market. Some are yet to align their practices and services towards the digital end and if not fast enough, they might find themselves been pushed out of the market due to unsustainable business practices. In this regard, adoption of technology is a key growth driver. This study examined the influence of digital banking on Sidian Bank Limited's growth, particularly assessing the impact of digital banking adoption in growth of Sidian Bank Limited in Kenya, investigating the effectiveness of digital marketing strategies in promoting digital banking services and their contribution to the growth of Sidian bank limited in Kenya, and assessing how long-term maintenance cost of Sidian Bank's digital banking platforms affect the bank's revenue growth. Study hypotheses were formulated in line with the objectives and relevant literature was reviewed to focus on the study variables. The researcher adopted a descriptive research design to describe how digital banking elements contribute to the growth of Sidian bank Limited, Kenya, with bias on revenue growth. A census approach was used to engage all branch managers, operations managers, relationship managers, and digital banking personnel across Sidian Bank branches in Kenya. Data was collected through structured questionnaires and analyzed using descriptive and inferential statistics, including correlation and linear regression. Correlation analysis was used establish the strength and direction of the association between the variables while simple linear regression was used to measure the cause and effect association between them. The study was anchored on the Theory of the Firm, which posts that the way firms organize their activities in directly related to costs involved, and thus they exist to maximize profits. The findings indicated strong correlations between digital banking (mobile banking, online banking, card business) adoption, marketing of digital services, and operating and maintenance cost of digital banking platforms (independent variables) and revenue growth (dependent variables), suggesting that increased investment in these areas can drive significant revenue growth. In light of these findings, the researcher recommends aligning of strategies and digital transformation initiatives with Digital Economy Blueprint and other national digital finance policies to ensure competitiveness as well as prioritizing targeted digital marketing to accelerate digital adoption. Reports by the World Bank and Central Bank of Kenya on digital financial services provide a robust foundation for guiding Sidian Bank Limited and other financial institutions towards sustainable digital growth. Future researchers can explore longitudinal effects of digital adoption across multiple banks or assess effects emerging technologies like artificial intelligence (AI) and blockchain on digital banking and how they influence customer experience.

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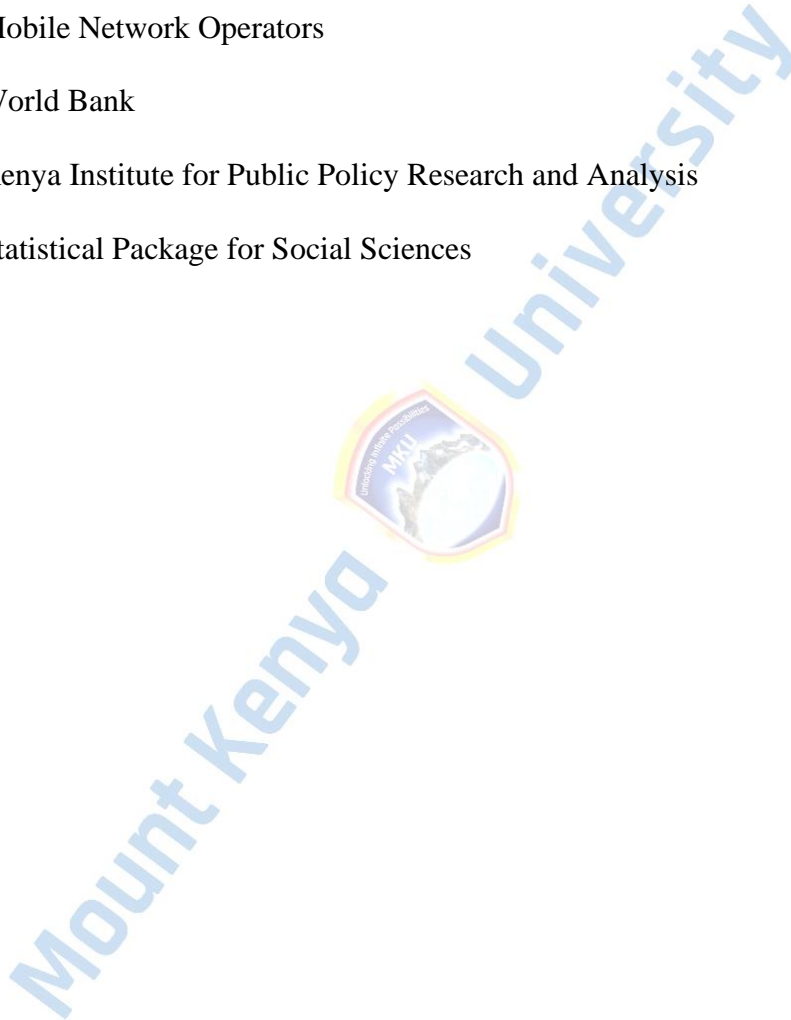
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LIST OF ABBREVIATIONS AND ACRONYMS

ATM	Automatic Teller Machine
CBK	Central Bank of Kenya
IFRS	International Financial Reporting Standards
ITU	International Communications Union
MNO	Mobile Network Operators
WB	World Bank
KIPPRA	Kenya Institute for Public Policy Research and Analysis
SPSS	Statistical Package for Social Sciences



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Since 1960s, there has been a tremendous advancement in the technological front. More so, with the subsequent invention of the internet in 1983 (Okunev, 2022). This has highly influenced the financial sector across the globe leading to a new frontier referred to as digital banking. Bergal (2016) defined digital banking as the art of moving online all the banking services that initially would only be accessible by visiting a physical branch.

Technological advancement is a key phenomenon across the globe such that it is practically in use in almost our day-to-day activities. It has revolutionized our lives in all aspects including agriculture, health industry, education, transport, financial industry and governments. A key aspect to note is that all these industries are interlinked at one time or another. They are inputs and outputs of the circle.

One key industry highly impacted by technology is the banking industry. It is key because it controls all the financial instruments necessary for growth. It facilitates means of exchanges, supports the population with credit facilities, and creates wealth for the owners. Bergal (2016) defined banks as entities which provide services and in return receive perquisites in different forms. We can trace modern banking in the middle (1400) in Italy where Bardi and Peruzzi started this great revolution. The mode of operation was archaic then, but the objectives of banking remain unchanged today.

Porkelsson (2018) shows that bank spending on digitization can grow to 519 billion dollars from 499 billion dollars the previous year. To evaluate the global look in the digital banking standing, the research focused on some key markets that define the uptake.

The United States recorded 157 million digital banking users in 2018 from 133 million users

in 2014. Among these, 57 million were in digital banking (Department, 2015). According to Merry (2018) in 2017 alone, the mobile banking users grew by 5%. PWC (2016) found that online and mobile cost 0.09 dollars and 0.19 dollars respectively per transaction as compared to 4 dollars per transaction on the traditional banking. India boasts a mobile banking penetration of 67%. Digital payments in India are projected to record an average growth rate of 20% for the next 20 years (Statista, 2019). From the year 2017, average number of customers using the digital payment modes increased from 240 million and expected to hit 400 million by the end of 2019. This represents a 66% growth in two years clearly indicating the strong adoption of these strategies. Average transaction value per user has also increased from 8.8 dollars in 2017 to 14.8 dollars in 2019 according to Bhalla (2019) report on debit card uptake in India. This signals a growth from 845 million in January to 930 million in February 2019. During the period Point of sale infrastructure recorded growth from 3.5 million to 3.7 million indication positive confidence in the business and user acceptability to the digital technology.

According to the Pickford (2018) through the last decade, internet banking in the United Kingdom has increased from 35% to 65%. Mariwec, (2019) also predicted mobile banking users to double between 2017 and 2023. According to the MORI (2018) at least 19% of the population in the United Kingdom used a contactless payment in 2018. In terms of the age brackets, the reports show that the usage of mobile banking was higher between the age 15-34 years standing at 49% while only 27% used at the age 35 and above. There was a regressive movement in the Brazil card usage from 28% in 2014 to 23% in 2017. According to Alves (2018) card transactions grew by 14% between January and June processing a total value of 175 billion dollars. This means that 34% of the Brazil family consumption was

transacted through a digital payment and is projected to hit 60% by 2025. Mori (2019) report to the Brazil Tech indicated that 40% of all bank transactions were made through mobile in 2018. At the same period, 2.5 billion payments were conducted through the channel out of which 860 million transactions were money transfers. The same year saw 2.5 million new mobile accounts opened as compared to 1.6 million the previous year. On the Money Transfer Service, Brazil receives 2.5 billion dollars yearly through the 16 different transfer platforms (Menito, 2018).

South Africa is one of the most diverse and integrated countries within the African continent. They boast of a robust banking industry both traditional and digital development. Recently there has been a mobile banking usage boom in the country according to the Naidoo (2018), the digital transactions volume grew from 32% in 2009 to 71% by the close of 2018. A suitable case is the Ned bank that launched its mobile banking app in 2017 and has been downloaded over a million times in less than 10 months. The usage as well grew from 26% to 61%. Another example is the Capitec bank that registered a 62% growth in the use of mobile banking application to 1.8 million customers. This resulted to a 25% growth in the transactions. On the card front according to Statista (2019), digital payments average at 11.4% growth yearly and were expected to hit 12.3 billion dollars by 2023 from 7.5 billion dollars in 2019. At the same period, mobile payments were projected to hit 2.1 billion dollars in 2023 from 212 million dollars in 2017. The primary driver for these results is transactions that are expected to grow by an average rate of 30% per year. Users are projected to grow to 45 million from 28 million in 2017 representing a 75% penetration rate. According to the GSMA (2018), Ghana is experiencing a tremendous rise in the mobile financial services. The Boston Consulting group estimates that by 2020, close to 25 million unbanked customers are

likely own mobile accounts in a country where only 25% of the population have a regular account. Since the introduction of Mobile money in Ghana in 2009, the channel had transacted a total of 35 billion dollars by 2017 according to the (Payments, 2018). At the same period, there were at least 19.7 million accounts representing an adoption rate of 48%. On the card front, credit card transactions totaled 70million Ghana dollars. PWC (2016) survey indicates the country could become cashless in the next 15 years.

According to the International Journal of Network Security and its applications (2013), mobile banking users were represented 58% of the population accounting for at least 30 million users. This generated at least 700 million transactions totaling 12 billion dollars. The key note about this market is that mobile money is highly driven by the agents. These translates to over 17000 with each transacting at least 30 transactions per day. This means that the agent outlets outnumber the traditional brick and mortar by 10:1. According to the Tanzania Communication and Regulation Authority, the ecosystem consists of the device manufacturers, banks, agents, merchants, retailers, payment networks, and mobile network operators (MNO). This shows that banks are fully in the middle for any digital adoption. Insight (2016) found out that two thirds of the adults in Tanzania know a mobile money agent within 1 kilometre of where they live while out of every 10 people who know about it, six actively use it. Across the sub- Saharan Africa, Digital banking is a long-term strategic focus for the banks. The area leads in development of mobile and internet banking globally accounting for 86% in deployment. The African banking revenues were projected to hit 129 billion dollars by 2022 while customer number were expected to hit 300 million the same year. This is a jump from 30 million customers in 2017 (Bank, 2017). The above information clearly indicates that the digital world is a big global issue attracting huge investments. The

curve has been on a steady rise as highlighted, and Kenya has not been left behind. Today's customer is becoming complicated and only through these interventions are the financial institutions able to compete and ensure continuity. The Kenyan market specifically has been a huge consumer of mobile banking strategies. To date, the industry has enormously grown with the landscape changing every day. The only way to remain relevant and competitive in the market is through adoption of fast changing technologies. A mixture of the various banking avenues provided by technology are known as Digital Banking

1.1.1 Adoption of technology in banking sector and Sidian Bank

The banking sector lagging behind in terms of technology adoption means failing to keep up with customer expectations. That's why technology adoption, particularly shifting to digital banking, has become the trendy phenomenon in banking industry. Digital banking strategy refers introduction and adoption of new instruments, services, and methods of managing routine operations with the aim to meet the changing needs of tech-savvy customers along ensuring banks remains competitive in the constantly evolving financial landscape. According to Leaven & Levin (2010), digital banking strategies enables banks to compete favorably, lowers their affinity to banking risks, and boosts their ability to manage risks, while increasing their ability to respond to customer needs satisfactorily and market changes adequately.

The financial industry has embraced technology, which has allowed bankers to think beyond traditional banking. Additionally, it has enabled rapid financial transactions across spatial boundaries and the precise recording and accounting of innumerable transactions. Digital banking strategies proved powerful in ensuring continuity during the Covid-19 pandemic era when most sectors were experiencing unprecedented crisis. Sidian Bank in particular has adopted online banking and mobile banking as a way to ensure financial inclusion and

provide convenient and efficient customer service. In the era of Smartphones and banks centralizing their core offering into digital platforms, Sidian Bank launched a full-fledge mobile app, Sidian VIBE, that it claims allows for fast, easy, and secure transactions. The online banking platform offered by Sidian Bank is accessible through a browser, allowing for 24/7 convenience.

1.2 Statement of the problem

Traditionally, banks growth has been sustained through lending. In return, they earn revenue from interest income and loan processing fees. However, this is no longer a lucrative business since the enactment of the Interest capping act by the Kenyan parliament in 2016 to a maximum of 14.5%. A rate that saw further fall to 13.5% in 2018 by the monetary committee as explained in the Cytonn (2019) report on the review of the interest rate cap. According to the KIPPRA (2018) Report, there was a growth in the non-performing loans from 13% in 2016 to 21% in 2018. This resulted to squeezing of the banks finances further as the profitability shrank from Ksh. 85 billion in 2016 to Ksh. 73 billion in 2017 across the industry. Passage of the International Financial Reporting Standard 9 (IFRS 9) which was implemented in January 2018 reduced banks interest income profits due to the increase in provisions expenses (Standard digital, 2018). Any provision results to expensing the income statement reducing the profits further. While the interest rate cap was repealed in November 2019 due to concerns that it constrained lending, particularly to small and medium-sized enterprises (SMEs), and negatively impacted credit access for higher-risk borrowers, the rise in non-performing loans took away a huge chunk of income, creating a need for the banks to look for other ways to bridge this gap.

This reduction in funded income made banks to target growth in the non-funded lines. One such alternative is the shift toward non-funded income through digital transformation,

including the launch of mobile and online banking services, digital lending, and integrated wealth management platforms. Despite this shift, the adoption of digital strategies remains uneven. Reports suggest that only about 10 out of 43 banks had developed comprehensive digital lending platforms by 2018, with tier-three banks facing more pronounced challenges due to limited capital, smaller market share, and resource constraints (Urban Kenyans, 2018). To gain insights into how digital banking strategy influences the growth of banks in this category, particularly generating revenue, this research focused on Sidian Bank Ltd., a representative tier-three bank which has digitized its products and services. The study sought to investigate the consumption of digital banking platforms by the customers and usage by the bank's staff in facilitating daily operations to determine how the integration of the digital banking helps drive growth through income generation and customer base growth. Sidian Bank has a wide reach across the country with over 40 branches. It has a well distributed customer segmentation including small traders and corporates. This diversity assisted in establishing more representative feedback to answer the research questions.

1.3 Purpose of the study

This study aimed to analyze the impact digital banking on the revenue growth of Sidian Bank Limited in Kenya.

1.4. Research objectives

This study assessed and established the following specific objectives.

- i. To evaluate the effect of digital banking adoption on growth of Sidian bank limited in Kenya.
- ii. To investigate the effectiveness of digital marketing strategies in promoting digital banking services and their contribution to the growth of Sidian bank limited in Kenya.
- iii. To evaluate the impact of the operational and maintenance costs of digital banking

platforms on Sidian Bank's revenue growth.

1.5 Research questions

The research aimed to answer the following research questions:

- i. How has adoption of digital banking contributed to the growth of Sidian bank limited in Kenya?
- ii. How effectively have digital marketing strategies promoted digital banking adoption and services and their contribution to the growth of Sidian bank limited in Kenya?
- iii. How do the operational and maintenance costs of digital banking platforms affect the revenue growth of Sidian Bank Ltd.?

1.6 Significance of the study

Since digital banking is transforming how people bank and transact globally, it is necessary to understand how it affects the financial institutions, government, consumers, and researchers in general. Banks target different market segments and niches hence not all digital banking strategies can work across.

1.6.1 Bank Managers

Every institution must understand their markets and chose the channels that best suit the customers and helps maximize their wealth creation. This study was designed to help the Sidian bank to be cognizant of the influence of the digital banking strategies on its growth. This can help the bank determine the most profitable channels that can assist in resource allocation, and consequently work to make strategic decisions, enhance customer satisfaction, and ensure the bank's competitiveness in a rapidly evolving financial landscape. The study can also guide Sidian Bank in evaluating the pricing strategy that is a key element in determining product consumption.

1.6.2 Government

Government is a key player in regulating the banking industry. This study aims to help establish if digital banking strategies are key growth drivers. This assists in making policies, which allow the institutions to thrive. Growth of income through these strategies, if they are effective, can ensure more tax revenue for the government.

1.6.3 Consumers

Consumers of digital banking channels are also stakeholders, as they are directly impacted by the adoption and integration of technology into banking services. Evaluation of various factors including pricing can help determine if the products they consume give them value for money. The study helps determine if the consumers have choice as there has not been conclusive research on this element of digital banking. This is mainly because it is a new development across the industry.

1.6.4 Other Researchers

Future researchers still have gaps to fill as this study gives them a key ingredient in trying to understand the actual place of these digital banking in future banking. The study informs other gaps that researcher may want to investigate as technological advancements and their adoption in the banking industry are bound revolutionize how the industry works.

1.7 Scope of the study

The research purpose is to establish how adoption and implementation of digital banking strategies affects the growth of Sidian Bank, Kenya. Sidian Bank has an extensive presence in Kenya, with over 40 branches and a vastly growing digital footprint. The study examined and evaluated the impact of digital banking methods on the growth of Sidian Bank Ltd., collecting data from selective staff from the head office and all branches across the country. Their views and understanding on whether they can see any change between pre and post

adoption of digital strategies in relation to the bank's growth assisted in establishing the level of influence year in year out. The key topics and strategies analyzed include mobile banking, card business, and money transfer business focusing on the transaction cost and theory of the firm theories. Financial services literature was used to analyze the impacts of digital strategies, how they are marketed, and their operation and maintenance costs on revenue growth, profit margins, and both customer acquisition and retention. Due to the geographical distance between individual Sidian Bank branches, the researcher took approximately six months to complete the study.

1.8 Study limitations

During the study, some setbacks may arise affecting the 100% accuracy of the findings. These include;

- i. Non-responsive respondents across the study group.
- ii. Computational errors arising from the magnitude of the data collected.
- iii. Inaccurate data provided by the respondents.
- iv. Inadequate resources may delay and limit the responds outreach.
- v. Failures by the data analysis systems.

1.9 Delimitations

Sidian bank limited is best suited for the study because it serves customers across different market segments. It caters for micro customers, small and medium enterprise (SME), High Net worth Individuals (HNI), and Corporates. The bank has also been in operation in the Kenyan market for a long time hence the data accumulated helped establish a trend and assist in future prediction. This aided by huge pool of the staff allowed having an adequate sample size authenticating the research findings.

The researcher shall analyze responses from the staff both at the headquarters and at the

branch level.

1.10 Assumptions of the study

During the study, the study assumed the following:

- i. Respondents gave genuine and representative feedback.
- ii. Timelines are adequate for both data collection and analysis.
- iii. Resources allocated were sufficient to facilitate a complete and conclusive study.

1.11 Operation definition of key terms

Term	Definition
Bank	Any institution regulated by the central bank, accepts deposits, offers withdrawals, and offers loan facilities. (Akrani, 2011)
Cards	Plastic cards offered by the banks to facilitate transactions at the Automated Teller Machines, Point of Sale and Online payments. They may be issued in the categories of debit cards, credit cards, and prepaid cards (BankRate, 2020)
Central Bank	The institution mandated by the government to regulate the banks. (Segal, 2020)
Digital banking	Refers to any method the customer use to access banking services with the assistance of technology other than visiting a physical branch (Bergal, 2016)
Mobile banking	Use of the mobile phone gadget to access the banking services. (Wisniewski, 2020)
Transfer services	This refers to the technological ways of moving funds. It Money includes M-pesa, MoneyGram, and Western union. (Johnson, 2012)

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed the past research work to avoid duplication and identify the available gaps through critical analysis. The information was derived from different material sources including online publications, books, journal, and magazines.

2.1 Empirical literature review

Digital banking is changing how financial services are offered to customers. Technology and consumer demands have pushed banks to adopt digital banking channels like mobile banking, online banking, and digital wallets. Vives (2019) noted the biggest challenge for banks in this era of disruption is to break free past comforts and accept the realities of the new digital market place. An era of technology had dawned, and the banks no longer wants to venture into the digital space but need to. Hari Prasad Josyula (2021) as well noted the future of banking involves integrating and coordinating the products and services of small players using technology into cohesive and coherent offerings that consumers can make sense of.

Gul, Mehmood Ali, et al. (2022) defines digital banking as the use of technology to streamline client transactions and get optimal benefits regarding availability and costs. To the banks, it results in reduced operation costs and enhanced services. On the other hand, Sharma (2017) defined digital banking as a way of leveraging in technology to deliver banking services. He took a bi approach whereby he defined digitalization regarding the bank and the customer. For the banks, digital banking promotes; efficiency, cost saving, competitiveness, agility and survival while to the customer, it promotes convenience, cost reduction and choices.

A study by Chen and Lin (2019) found that digital banking strategy boosts bank's efficiency and profitability. The study revealed that digital banking strategy in more impactful on

smaller banks enabling them to save expenses, enhance customer service, and broaden their customer base. Smith et al. (2018) analyzed the effect of digital banking on the fiscal growth of the banking sector. The analysis examined data from several banks in different countries and discovered digital banking adoption and revenue growth correlate. The results suggested that banks with higher levels of digital banking integration experienced higher revenue growth rates compared to their counterparts with lower digital banking adoption rates.

Introduction of digital developments in the banking industry indicate a shift in retail banks' functions. Combination of these digital channels is known as Omni channeling. As Nohumba, Nyambuya, & Nyambuya (2020) suggested the traditional banking is being replaced by an integrated channels approach allowing customers to conduct banking seamless across various digital platforms. This has allowed increase in the banks transactions, influencing the income lines positively and increased customer convenience, resulting to growth in customer satisfaction. This helps drive growth as digital banking strategy was found to have a positive impact on bank market share (Wang et al., 2020). Banks that have adopted digital banking strategies also have a wider range of digital banking products and services.

The Financial Brand (2018) concludes strategic implementation of digital banking can result to increasing revenue, decreasing costs, and improvement in customer experience. Joglekar (2017) second this on the paper Digital Transformation and Digital opportunities 2017-2021. He concluded that technology is the biggest differentiator of banks. Most of the traditional banks are now heavily gearing towards digitization and digitalization. Garcia and Martinez (2020) conducted a study on European banks to determine how digital transformation affects revenue growth. The study assessed the level of digitalization across various banking activities, such as payments, lending, and customer service, where the results of the study

indicated a positive correlation between digital transformation and revenue growth in European banks. The study emphasized the need for banks to prioritize digital initiatives to achieve sustainable revenue growth in a competitive market.

To achieve the required levels of digitization and digitalization, Lorentz (2019) defined digitalization as the way our life domains are structured around the digital infrastructure we interact with. This illustrates that for any bank to achieve the desired growth levels, they must get customers accustomed to the technology and adopt the bank's digital banking strategies. Kenyan banks have been introducing these channels across in the last decade. This is confirmed by the Central Bank of Kenya (2018) report on digital payments below.

Table 1: Digital Payments Report

YEAR	AGENTS	CUSTOMERS (MILLIONS)	MONTH
2018	205,745	47.6943	December
2018	206,312	46.2334	November
2018	211,961	45.4371	October

The report indicates that as at close of the year, close to 48 million people operated digital accounts in mobile making the market mature. This informs the need to study and find out whether this digitalization is leading to individual institutions growth. Kithinji (2017) during a digital strategy analysis on financial inclusion of Kenyan commercial banks and the effects of mobile, card, internet, and agency banking, the study results suggested that these services have greatly contributed to the increase of inclusion on the customers' end. On the banks end, the strategies have greatly contributed to the growth of the market share.

In a study conducted by Abayomi, Olabode et. al. (2019), it was discovered that several factors, including the education levels, age, and attitude of the clients, are integral to adopting digital banking. Customers' age was found to be a significant determinant, with younger

individuals using digital banking services compared to older individuals. Educational level was found to have a positive correlation with digital banking adoption, indicating that higher education was associated with higher adoption rates. The study also found out that there is need for more effort by the banks to ensure the large population still unbanked is brought on board.

Morangá (2018) conducted research on mobile banking strategies and performance of Kenya Commercial Bank Limited. It was discovered that mobile strategies had a significant effect on the improvement of banks performance. During evaluation of lending services, it was noted that lending had positively resulted to the increase and uptake of credit facilities. The study highlighted key services that were key drivers in adopting the strategy including Money Transfer Services (p2p), Bill payments, Credit facilities (mobile lending), and Savings.

According to Kiburu and Mungai (2022) study on the effect of digital banking approaches utilized by Equity bank Kenya, various challenges faced during the implementation of these strategies were established. These included inadequate resources to rollout the services, cyber security threats. This is a major challenge at the time when these services are routed via the internet. There is always a risk of interference that could easily cause loss of confidence by the customers. On the positive end, it was noted that implementation of the strategies had resulted to efficient service delivery, better decision making, and diversification.

Fredrick (2017) investigated how digitalization affects bank-customer relationships. The findings revealed that the key driver to all the digital services is the Internet. He noted that customers are demanding more because they have access to smartphones and the internet. When their needs are satisfied, it creates a base of growing the relationship.

2.1.1 Digital Banking Adoption

With the advent of the mobile phone, initial purpose was generally communication. However,

with advancements in technology, its capabilities and features have expanded greatly over the years, transforming it into an indispensable tool for various aspects of modern life. Mobile phones began to incorporate features such as internet connectivity, multimedia messaging (MMS), and various applications (apps) for tasks ranging from productivity to entertainment, becoming powerful handheld computers that offer a myriad of functionalities.

Over the years, banks have tapped into the opportunity turning the phone into a mobile bank, as part digital banking, which has proven to streamline banks operations and offer convenience, accessibility, and an array of innovative services to customers. With a simple phone application and access to internet, one can access the following services; check account status, transfer funds, take credit; open an account, and communicate with customer support. This in return results to customer convenience, reduction of cost, and enhanced security. Convenience and time-saving benefits have been consistently identified as significant motivators for consumers to adopt digital banking. Studies indicated that the ability to perform banking transactions anytime, anywhere, without visiting physical branches, was highly appealing to customers. Other critical factors influencing digital banking adoption include usefulness, ease of use, and security. A study by Pavithra & Geetha (2021) revealed that clients were more likely to adopt digital banking if the platforms offered user-friendly interfaces, intuitive navigation, and comprehensive functionality.

According to KPMG (2019) survey, at least 1.8 billion customers are projected to using mobile banking by 2025 from mere 0.8 billion in 2015. This indicates a huge rise of adoptability across the globe. This is well represented in the African continent where almost 80% of the population has a phone with 35% boasting of a mobile banking account. Kenya boasts significantly higher penetration rates across Africa mainly due to high investment in

mobile infrastructure and accelerated innovation resulting to at least 60% of the Kenyan population having a mobile account. With the new trend of globalization, different corners of the planet are being connected and interaction has become a key component. One factor of growth is exchange, which ensures demand is satisfied. Henceforth, millions of people are remitting fund to their families, purchase of commodities, humanitarian contributions, and gifts. This niche has attracted so many big and small players like Western union, PayPal, money gram, M-PESA, and Express money. These are key facilitators to the process, but they rely partly on digital banking to make the final exchange. According to the statista.com peer to peer exchange across the continents is expected to raise from \$65 billion to \$133 billion in 2022.

According to the Worldbank (2022), remittance flows to Sub-Saharan Africa grew by 6.1 percent in 2022, to \$52.9 billion, with remittance growth to Kenya standing at 8.5 percent. Banks should plug in to realize the commissions associated influencing their profitability as well as help in managing their liquidity, which is a non-profit item. The key money remittances avenues include Western Union, MoneyGram and M-Pesa.

Another key player and significant channel that ushered the era of digital banking is card business. Its sunrise could be traced to mid-1960s when the first Automatic Teller Machine (ATM) was installed. It revolutionized how customers could access their monies without human touch involvement. It allows for 24-hour access to funds including when the bank close. Over the years, the ATM has undergone many changes and functionalities increased as well. Giant card companies have emerged including; Visa, MasterCard, Union pay, and Verve. They are issuing various types of cards across the world e.g. debit card, virtual card, credit card and postpaid cards. In the recent days, money transfer services like *M-pesa* have

also started offering digital cards that can be integrated to banks. This growth of cards means that today's bank customers can withdraw funds, shop, online payments, and deposit without visiting an actual banking hall. It has greatly eliminated the need for cash while helping reshape digitalization of banking services. Statistically, there were 15.2 million cards in the Kenyan market at the end of 2017, with around 35,466 point of sales. Cumulatively card payments stood at 1.1 trillion Kenya Shillings the year according to the Central Bank of Kenya statistics. This shows that the market is ripe for all tiers of banks, including tier three, where Sidiya Bank Limited falls, to adopt card business, as it earns revenues from the transactions as well as retain customers in the fast-changing market. Based on the statistics, the market is still very young and proper identification of the gaps can assist accelerated growth of banks non-funded income.

With these good figures, adoption of these digital banking channels should lead to growth in transactional income as well expansion in customer base. (International Telecommunication Union).

2.1.2 Digital marketing strategies promoting digital banking

Digital marketing has become increasingly important in the banking sector, offering new opportunities for promoting digital banking services. The digital marketing strategies employed by banks to promote their digital banking services encompass a range of channels and platforms, including email marketing, social media marketing, and content marketing. Several studies examined the effect of digital marketing strategies in promoting digital banking and overall growth of banks.

Gupta et al. (2021), conducted a study examining how marketing via social media drives customer acquisition in the banking sector. They found that banks actively using social media platforms experienced a significant increase in customer acquisition rates compared to those

banks with minimal social media presence. Another study investigated the effectiveness of personalized email marketing campaigns in customer acquisition for banks. The findings revealed that personalized emails tailored to individual customer preferences and needs resulted in higher response rates and increased customer acquisition compared to generic email marketing campaigns.

Furthermore, it was discovered that implementing customer retention measures, such as customized incentives, loyalty initiatives, and proactive digital customer care, can significantly improve client's satisfaction. In a research by Chen et al. (2023) on the impact of loyalty programs on customer retention within the banking sector. The research revealed that banks that implemented loyalty programs offering exclusive prizes and incentives to consumers who use digital banking services had greater rates of customer retention compared to banks that did not provide such programs.

The primary indicators utilized to assess the efficiency of digital marketing efforts encompass website visits, conversions, click, customer engagement, and customer lifetime value (Melinevskiy et al., 2021). According to a post published by Ruler Analytics in 2022, 41% of web visits to the bank and other financial institutions' websites was from organic search. This mean banks with proper online presence have high chances of acquiring new customers. Another 24% of traffic came from paid search, highlighting the importance of banks being found for their keywords (whether that's organically or not).

A report by Statista revealed that in 2020, 61% of global online consumers accessed banking services through a mobile device. This underscores the importance of mobile marketing strategies for banks. Banks can utilize social media platforms to interact with clients and enhance brand recognition. According to a study conducted by Accenture, nearly half (48%)

of consumers are inclined to give greater thought to banking products or services that are suggested by their friends or contacts on social media. This pins the significance of social media and personalized marketing strategies in impacting customer experience and driving adoption of digital banking services

A case study on Sidian Bank Limited was also done to examine how quality management practices influence performance of commercial banks in Kenya. The study revealed that the Sidian is one of the commercial banks that has been continuously improving each part of their processes (Marius & Bett, 2023), including inclination to digital marketing strategies which has contributed to increased brand awareness, customer acquisition, and revenue growth. A research investigating digital marketing efforts found that the bank's targeted social media campaigns, particularly on platforms such as Instagram and LinkedIn, enhanced brand visibility and customer engagement, contributing to the bank's overall growth.

Email marketing continues to be a potent tool for banks. As per a research from the Financial Brand, banks' emails have an average open rate of approximately 22%. In addition, tailored emails have the potential to produce transaction rates that are six times greater than those of non-personalized emails. According to Campaign Monitor, personalized targeted email marketing campaigns can generate 4,200% ROI, showcasing the value of permission-based marketing. Overall, digital advertising is experiencing substantial growth in the banking industry. A report by eMarketer projected that digital ad spending by financial services firms, including banks, would reach \$24.06 billion in the US alone by 2023. With proven effectiveness in helping banks acquire and retain customers as well as drive adoption of digital banking, three tier banks in Kenya, including Sidian Bank Limited, can tap into digital marketing to effectively promote their digital banking services and grow their brand.

2.1.3 Digital Banking Maintenance Costs

With advancements in technology, especially mobile technology, digital banking has proven beyond doubt to be the backbone of modern financial services and integral to the operations of banks, providing customers with convenient and efficient banking services. However, ensuring the smooth functioning and long-term sustainability of these digital platforms require continuous maintenance and investment, which can affect banks' profit margins. Software development and maintenance costs, regular updates, system upgrades, and platform optimization are critical aspects of innovating and maintaining effective digital banking systems and platforms that operate smoothly and offer intuitive customer experience.

A study by Bhanushali (2023) highlighted the need for skilled software developers, testers, and quality assurance professionals to maintain and enhance the digital banking platform's functionality. The complexity of the platform, the frequency of updates, and the need for integration with new technologies influenced the software development and maintenance costs. Proper integration helps build trust among users as consumers are more likely to adopt digital banking services when they perceived them as secure and trustworthy. Several studies have emphasized the need for robust security measures, including encryption, authentication mechanisms, and intrusion detection systems, to safeguard customer data and prevent cyber threats. Investments in security technologies, employee training, and compliance with regulatory standards contribute to the overall maintenance costs.

Nonetheless, digital banking provides convenience and accessibility to customers and can streamline processes and automate transactions, which can save banks by lowering operational expenses related to rent, utilities, and maintenance because of reduced infrastructure (Jameaba, 2024). By automating transactions, digital banking help improve

operational efficiency while reducing labor cost and eliminate costs associated with printing, postage, and manual data entry. While there are upfront costs associated with implementing digital banking can be high, proper implementation and adoption can lead to reduced costs in long-term, helping the banks broaden their profit margin and allowing them redirect resources towards growth initiatives such as expansion into new markets or the creation of innovative offerings that can be integrated into the digital banking.

By offering comprehensive digital banking services, banks can cater to customers' needs without the requirement of face-to-face interactions at branches, leading to substantial cost savings. The adoption of self-service technologies, such as ATMs and interactive kiosks, further contributes to reducing physical infrastructure costs. These technologies enable customers to perform various banking transactions independently, reducing the need for staffed teller counters and associated expenses. Such self-service technologies not only enhance customer convenience but also deliver cost savings by automating transactional processes. Research has shown that customers increasingly utilize digital channels for sales inquiries, product research, and issue resolution, thereby reducing the reliance on physical branches and associated costs, which banks can tap into to reduce cost and still achieve desirable growth.

2.1.4 Research gaps

The main gap that exists is that in the technology industry such as digital strategies, all the previous research is historical. Hence, this study sought to establish the relevance of digital banking strategy on the current set up. It is driven by the fact that studies done as soon as last year might be irrelevant today due to the dynamic nature of the industry.

This research explored Sidian Bank limited, Kenya, as there are no previous studies of the bank. This provided an opportunity to compare the findings with the rest of the researchers

considered much of the previous findings focused on the tier 1 banks. Sidian bank, being a tier 3 bank assisted in understand the impact of the digital banking strategies across the small banks because they share a number of similar characteristics.

As explained in the critical review, there is an existing gap in the study of the money transfer services. Most researchers focus on the commonly established digital banking strategies including Mobile banking, card and internet. Money transfer has for a long time been neglected however it is a channel that transfers billions of dollars and a source of revenue to the banking fraternity in millions of shillings.

2.2 Theoretical Framework

2.2.1 Transaction cost theory

Pricing is a key factor in any successful firm. Ronald (1937) formulated a theory that justifies The Firm Theory. He explained that the growth size of a firm depends on the costs using price mechanism, stating that transactions and pricing are directly related. Using the Economic theory, Nagle, Seamans, et al. (2020) explained that reduction in price results to growth in demand. One key successful factor is setting up digital channels is pricing. On average the cost of ATM transaction is 30% the cost charged on the over-the-counter withdrawal. For the banks to grow their income they have to leverage on digital transactions. In a typical digital bank, 70% of the transactions are performed on the digital channels' platform dwarfing the 30% carried out on the traditional avenues. Ronald (1937) suggested that to achieve a proper transaction cost relationship we must look at the prices that can be reduced but not eliminated. This implies that no matter how cheap the channels are to the customer the aim of the firm is always profit maximization and hence they should not be free.

2.2.2 Theory of the firm

According to Robson (2018) the primary purpose for a firm existence remains to be profit

maximization. Ronald, (1937) defines a firm as relationships that exist when the direction of the resources is dependent on the entrepreneur. It implies that any resources allocated in the development of digital banking channels should ensure the firm is maximizing its profits. Critics have argued that a firm's existence and growth should not only be evaluated in terms of profits and whether it should be considered in short or long-term basis. Most firms that capital expenditure tend to be more profitable in the long term as opposed to those who do not. Digital banking investments are capital intensive and hence take a long time to be profitable. Finxtra (2019) on the study between digital assets and profitability per customer on top five banks in Europe found that most of the banks were offering their digital platforms free. This resulted to growth in number of customers but recorded losses in their financials. In order to reverse this ordeal, there are various key interventions and approaches suggested including, ceasing reliance on expensive third parties but develop in-house solutions to their digital needs and reprising their products to ensure the core function of the firm Robson (2018) is not lost. The question of whether digitalization is a profitable venture is still very relevant and it all depends on the strategies a bank uses coupled with its customer base.

2.3 Conceptual framework

Independent variable.

Dependent variables.

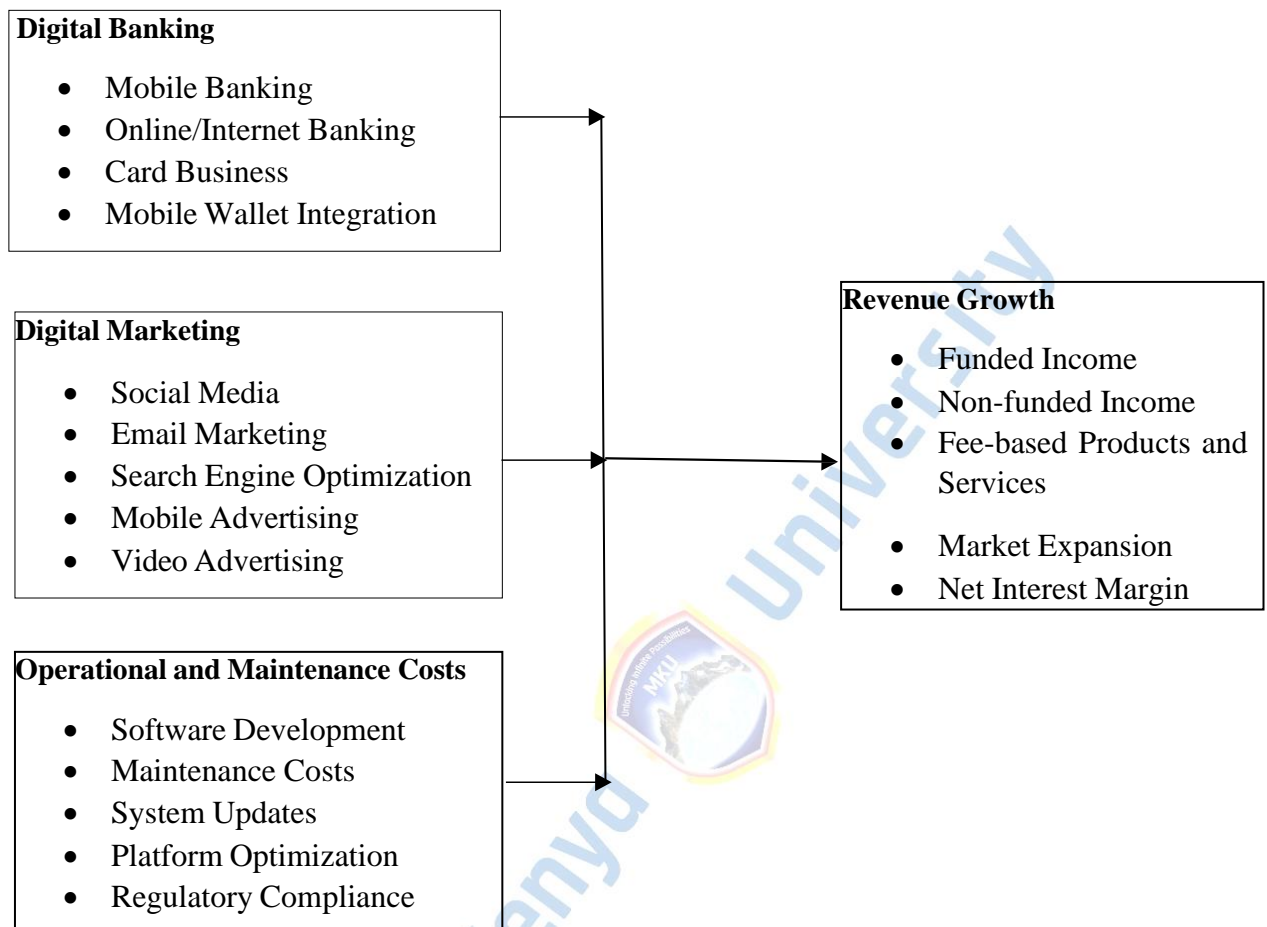


Figure 1: Conceptual Framework (Author, 2023)

2.4 Recap of Literature review

After study evaluation, they were all focused at establishing different relationship variables in the digital arena. As earlier discussed, this is an area, which is highly defined by the fast-changing technology. Innovations crop up daily hence factors affecting any digital strategy for example in 2016 might be obsolete today. Case scenario is some of the sighted studies done in 2016 whereby some of the Kenya banking regulations were not in place. Example of the interest capping law. Such a law altered the industry in a major way causing the banks to

adopt and more conservative approach to lending and resulted to diversification to focus more on the non- funded income lines.

The studies do not look at the quantitative effects of the bank's financial performance. They majorly focus on customer satisfaction, inclusivity and the banks relationship. Banks being business commercial entities are in the business of making profits and expanding the shareholders' wallet. Any strategy implementation should directly influence the above. This has not been fully evaluated hence not giving the clear picture at the key business objective. Profit maximization.

The studies have also not focused on all digital banking strategies. A key strategy, Money Transfer Services is missing in all these studies. This is a digital strategy that channels billions of dollars to the country. It plays a major role as almost all banks offer the channel.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter details various processes and methods that the researcher used in collection, analysis and presentation of the data. It covers methodology, research design, geographical area of study, target population, construction of research instruments, validity and reliability testing, methods of collecting data, proposed approach to analyze the collected data as well as research ethical and guiding principles.

3.1 Research methodology

Patel & Patel (2019) defined research methodology as a systematic, theoretical analysis using specific techniques to identify process and analyze data to information about a topic. Wallman (2017) defines research as the act of finding out in systematic way things that are unknown. McMeekin et al. (2020) describes methodology as the framework that research is conducted. The key point to note is that methodology should be the most appropriate to achieve the set objectives. This study used mixed methodology approach. Lim (2024) defines a quantitative research as a technique that categorizes study events into measurable groups that can be applicable to a broader population.

3.2 Research design

This refers to the approaches a researcher utilizes to effectively integrate different components of a research to ensure the research problem is addressed comprehensively (Asenahabi, 2019). This study employed the descriptive research design technique to evaluate how implementing a digital banking strategy affects the growth of Sidian Bank in Kenya.

3.3 Location of the study

Willie (2024) defined location of study as the geographical area and locality in which target

population is located. This study was carried out at Sidian bank Limited in Kenya and targeted staff at both the headquarters and branches.

3.4 Target population

Population is a combination of all elements that a researcher seeks to study (Willie, 2024). Also refers to a collection of samples that share a common characteristic that is of interest in a study. This study included the bank staff, particularly branch managers, operation managers, relationship managers, and personnel's in charge of digital banking in every Sidian Bank Kenya limited branch. It shall adopt the census approach, so a total of 172 designated personnel working at the different Sidian Bank branches and all the 7 members of senior management were issued with questionnaires. The data collected from the study was used to analyze digital banking strategy influence on growth of Sidian Bank Limited, Kenya.

3.5 Data Collection Instrument

This research used data collected from primary and secondary sources, where Sidian bank published financial statements served as the primary sources of the secondary data. Taherdoost (2021) described data collection as gathering information on targeted variables to answer research questions, test hypotheses, and query results. This study examines how digital banking methods affect Sidian Bank's Kenyan. For this study, a well- constructed questionnaire with questions, regarding demographic characteristics and digital banking strategies implemented in Sidian Bank's operations were used to collect data. The questions were quantified using a Likert scale. The questionnaire is based on Fife-Schaw's (2020) definition of a questionnaire as a tool for collecting data efficiently and robustly from a large pool of sampled participants before quantitative analysis.

3.6 Testing of validity and Reliability

3.6.1 Validity

Validity refers to how accurately the data collection tools measure the intended variables (Clark & Watson, 2019). To ensure the questionnaire's validity, both content validity and construct validity assessments were conducted. Content validity involves verifying that the data collection instrument construction fits the study context. To do this, four experts (two supervisors and two banking experts) were asked to review the questionnaire and confirm its relevance.

Construct validity, on the other hand, assess whether the questions in the tool can effectively measure the intended construct (Clark & Watson, 2019). To achieve this, the questionnaire was structured into different sections, with each section focusing on a specific objective. The researcher used Principal Component Analysis (PCA), specifically Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity, to test construct validity. The KMO test evaluated the adequacy of the sample size of items used to measure a particular study variable, while Bartlett's Test of Sphericity confirmed the retained research items measuring a given construct come from a population with equal variance.

3.6.2 Reliability

Reliability in research examines the uniformity of produced results to ensure appropriate representation of the target population (Andersson et al., 2024). The researcher analyzed the internal coherence of the 5-point Likert scale questionnaire to assess the study's reliability. Internal coherence was evaluated using Cronbach's alpha, where a measure exceeding 0.6 is deemed to be dependable and able to produce consistent outcomes.

3.7 Data Analysis

Data analysis turns field data into useful insights for informed decision-making. This study

with analyze the collected data to provide both descriptive and inferential statistic. Descriptive statistics revealed patterns in the feedback from respondents and trends in the data.

Inferential statistics involved correlation analysis and linear regression analysis between digital banking strategies and the growth of Sidian Bank Limited, Kenya. The strength and direction of the association between digital banking strategies and growth were measured using Pearson Correlation Coefficient, which ranges from -1 to +1. A coefficient approaching to 1 indicates a strong relationship, while values close to 0 indicate little or no relationship. The coefficient is acceptable when the significance level is less than 0.05.

Simple linear regression analysis measures the causal and effect relationship between digital banking strategies and growth of Sidian Bank Limited, Kenya. Linear regression is a technique that assesses the causal and effect relationship between an explanatory variable and a single response variable. If there is more than one explanatory variable, it is referred to as multiple linear regression. To predict the level of growth of Sidian Bank Limited, Kenya this study adopted the following model:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon;$$

Where β_0 is a intercept, β_1 is the coefficient, X_1 represents the independent variables; digital banking, digital marketing, and operating and maintenance costs of digital banking platforms in respective models, and ε is the error term in the model.

3.8 Ethical considerations

Ethical and guiding principles are an essential component of academic research, as they guarantee that the study is executed in a responsible and ethical way. The objective of ethical considerations safeguarding the anonymity, confidentiality, and general welfare of participants, guarantee the integrity and honesty of research, and preserve public confidence

in research (Hwang, 2023). This research was guided by the research principles stipulated by Mount Kenya University, Sidian Bank, and commercial banks. A copy of the research work was also submitted to Ethics Review Committee (ERC) of Sidian Bank for review and approval upon ensuring it meets the bank's ethical standard. National Commission for Science, Technology and Innovation (NACOSTI) requires that all studies conducted in Kenya be registered before they are conducted. The agency ensures that research conducted is of high quality and that it is conducted in a responsible and ethical manner. To meet the research authorization requirements, the researcher obtained written permit to conduct the study in the Sidian Bank headquarters and branches. In full awareness of the ethical guidelines for research involving human participants developed by NACOSTI, the researcher obtained written permit to carry out a study from the university and fully inform the participants about the research study, including its purpose, potential harm, and their right to withdraw from the study at any time.

Another key ethical consideration in academic research is confidentiality and privacy (Hwang, 2023). The researcher ensured that participants' information is stored in a confidential and secure way, and that participants' privacy was respected throughout the research process. This includes ensuring that participants' personal information is not shared with non-research participants and that data is securely stored from access by unauthorized persons. Additionally, researcher took measures to protect participants from potential harm and address any unexpected harms or risks that may arise during the research study. Overall, ethical considerations are essential in academic research, as they ensure that research is conducted in a manner that is respectful, responsible, and trustworthy.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter presents the findings of how digital banking influences the growth of Sidian Bank Limited, Kenya. Organization of this chapter is as follows; questionnaire return rate, validity and reliability of research instrument, respondents' demographic information, descriptive statistics, diagnostic tests, and hypothesis testing. The chapter provides a comprehensive analysis of the collected data and examines the extent to which individual independent variables affect revenue growth in Sidian Bank.

4.1 Questionnaire Return Rate

The participants of this research study included 172 designated staff at Sidian Bank branches and the 7 members of the bank's senior management. The researcher distributed questionnaires to all targeted participants via Google Forms, out of which 174 participants responded, indicating 97.2% return rate. The return rate is a critical metric for assessing the success of data collection efforts, as it indicates the extent of participant engagement and the effectiveness of the chosen data-gathering method. It also reflects participants disposition to contribute to the study, as there are several factors that impact response rates, such as relevance of a study to the participants (Dillman, Smyth, & Christian, 2014). The outstanding return rate for this study can be attributed to the relevance of the topic to the participants, clear instructions, convenience offered by Google Forms, and allowing the participants sufficient time to respond.

Table 2: Response Rate

Responses	Number	Percentage
Administered questionnaires	179	100.0%
Returned questionnaires	174	97.2%
Unreturned questionnaires	5	2.8%

Source: Field Data (2024)

4.2 Validity of the Research Instrument

Validity assesses how the data collection instrument adequately measures what it is intended to measure. Establishing the validity of a research instrument is crucial to ensure that the data collected is accurate, reliable, and relevant to the research objective, and since the selection of research variables is based on extensive review of theoretical and empirical literature, they questions are considered to cover all relevant aspects of the topic. The researcher consulted experts in digital banking and academic supervisors when developing the questionnaire, and incorporated their feedback to enhance the questionnaire's validity. To further ensure validity, the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's Test of Sphericity were performed to assess the sampling adequacy and determine whether the items come from populations with equal variances, respectively. The results of the tests were as presented below:

Table 3: Sampling Adequacy and Sphericity Test Findings

Variable	Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi- Square	Degre es of freedo m	p- value
Mobile Banking Services	0.760	731.737	15	<.001
Online Banking Services	0.834	2293.991	21	0.000
Card Business Services	0.819	1208.702	28	0.000
Digital Marketing	0.808	2287.524	21	0.000
Operation and Maintenance Costs	0.792	1168.446	15	<.001
Revenue Growth	0.965	3015.173	32	0.000

Source: Field Data (2024)

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy offers insights into the variance, helping to determine whether underlying constructs are appropriate for factor analysis. In this study, the KMO values ranged from 0.760 to 0.965, which are above the

commonly acceptable minimum threshold of 0.6, indicating a high suitability of the data for factor analysis. Additionally, Bartlett's Test of Sphericity produced significant results ($p < 0.05$), confirming that the correlation matrix differs significantly from an identity matrix, further supporting the use of factor analysis.

4.3 Reliability of Research Instruments

Reliability reveals the consistency and stability of a research instrument, indicating its ability to produce reliable and reproducible results when used under similar condition – A different researcher can use the same instrument to obtain same desired data as the original tool in the same target population. To gain insights into the reliability of the questionnaire used in this study, the researcher used Cronbach's alpha to test internal consistency. According to Bonett (2010), Cronbach's alpha coefficient (α) is the measure commonly used for computing reliability for internal consistence, where questionnaires contain Likert scale questions.

Table 4: Reliability of Study Instruments

Variables (Constructs)	Number of items	Cronbach's Alpha
Mobile Banking Services	8	0.813
Online Banking Services	6	0.932
Card Business Services	7	0.869
Digital Marketing	8	0.885
Operation and Maintenance Costs	6	0.755
Revenue Growth	9	0.800

Source: Field Data (2024)

Cronbach's alpha assesses how closely related a set of items are as a group. A Cronbach's alpha coefficient value of 0.7 is typically acceptable and indicated that 70% of the variance in the scores is reliable variance, which means that 30% is error variance. For this study, the reliability tests yielded Cronbach's alpha values between 0.755 and 0.932, suggesting a high level of consistency among the items, solidifying the confidence in the reliability of the questionnaire. This means the items of the questionnaire adequately measure the constructs.

4.4 Demographic Characteristics of the Respondents

The researcher sought to understand the demographic characteristics of the respondents as they shape the responses of participants and influence the overall outcome of a research study. Demographic data provide context to the main findings by offering insights into the background and diversity of the participants. Data representing demographic profiles of the study participants was collected, analyzed, and the following results were obtained.

Table 5: Distribution of Demographic Characteristics

		Frequency	Percent
Education	Higher Diploma	1	0.6
	Degree	164	94.3
	Master's degree	7	4.0
	PhD	2	1.1
Experience in Banking Industry	0-2 years	29	16.6
	3-5 years	56	32.2
	6-8 years	48	27.6
	more than 10 years	41	23.6

Source: Field Data (2024)

The information gathered from the participants as presented in table 5 above shows trends regarding the demographic characteristics of the respondents, particularly in terms of their educational background and experience in the banking industry. Majority of respondents, comprising 94.3%, hold a degree, indicating that most of the Sidian Bank employee have only bachelor's degree. 4.0% of the respondents have completed a master's degree, 1.1% have a PhD, and 0.6% hold a higher diploma. This suggest that majority of the participants have the knowledge needed to understanding intricate banking operations and digital technologies.

Further, the results show that 32.2% of the participants in this study have between 3 to 5 years of experience, 27.6% have between 6 to 8 years of experience, 23.6% have more than

10 years of experience, while about 16.6% have less than years in the banking industry. Participants' experience in the banking industry is diverse, with majority having over 3 years in the banking industry. This suggests that a larger proportion of the participants have knowledge needed to implement digital banking solutions and effectively address customer needs. However, there might be need to assess the participants' tech-savviness to ensure they have the technical skills and conceptual knowledge needed to effectively implement digital banking solutions while navigate the ever-changing banking landscape.

4.5 Descriptive Statistics

Descriptive statistics is a powerful tool that provides a summary of the data collected in a study, offering insights into the basic features of the data, which helps in understanding the variables under investigation. In this study, the researcher sought to understand how the building factors of digital banking strategy influence the revenue growth of Sidian Bank. Descriptive statistics was used to provide an overview of the overall structure of the responses.

4.5.1 Mobile Banking Services

Mobile banking offers a convenient method for managing personal and business finances, as it allows account holders to perform financial transactions and access banking services regardless of the location. The popularity of mobile banking services is fueled by the rapid growth of technology and widespread use of mobile phones. As smartphone usage continues to proliferate, the significance of mobile banking in enhancing customer engagement and satisfaction cannot be overstated, making it a vital driver of revenue growth. This study sought to understand how Sidian Bank mobile banking services have been adopted and whether they help generate revenue for the bank, and the following results were obtained.

Table 6: Mobile Banking Services

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
I am familiar with mobile banking services offered by Sidian Bank	173	0	0	0	1	1.02	0.303
	99.4%	0.0%	0.0%	0.0%	0.6%		
Mobile banking been successfully implemented at the branch	172	2	0	0	0	1.01	0.107
	98.9%	1.1%	0.0%	0.0%	0.0%		
The customers are aware and trained on how to use mobile banking.	100	51	23	0	0	1.56	0.717
	57.5%	29.3%	13.2%	0.0%	0.0%		
Majority of the customers have adopted and frequently use mobile banking services	125	49	0	0	0	1.28	0.451
	71.8%	28.2%	0.0%	0.0%	0.0%		
Mobile banking is well integrated with the overall branch operations	97	77	0	0	0	1.44	0.498
	55.7%	44.3%	0.0%	0.0%	0.0%		
The mobile banking platform effectively supports customer service and support functions.	148	26	0	0	0	1.15	0.358
	85.1%	14.9%	0.0%	0.0%	0.0%		
Fee-based services offered through the mobile banking platform are performing well and have shown significant growth potential	110	64	0	0	0	1.37	0.484
	63.2%	36.8%	0.0%	0.0%	0.0%		
Mobile banking has contributed to customer acquisition or retention efforts	118	56	0	0	0	1.32	0.496
	67.8%	32.2%	0.0%	0.0%	0.0%		
Total						1.26	0.427

Source: Field Data (2024)

From the results presented in Table 6 regarding Mobile Banking Services at Sidian Bank, an impressive 99.4% of respondents reported being familiar with the mobile banking services offered, indicating a strong awareness among customers. Only 0.6% expressed strong disagreement, suggesting that familiarity with these services is widespread.

When asked about the successful implementation of mobile banking at the branch, 98.9% of respondents agreed, with only 1.1% disagreeing, which further underscores the effective integration of mobile banking into the bank's operations.

The question of customer awareness and training revealed a more mixed response. While 57.5% strongly agreed that customers are aware and trained in using mobile banking, 29.3% agreed, indicating some level of uncertainty or room for improvement in training efforts. A notable 13.2% remained neutral, suggesting a lack of clarity on this issue.

In terms of adoption and frequent usage of mobile banking services, 71.8% of respondents affirmed that the majority of customers have embraced these services, while 28.2% agreed, reflecting a positive trend in service utilization.

On the integration of mobile banking with overall branch operations, 55.7% strongly agreed, and 44.3% agreed, revealing a mixed perception that highlights potential areas for enhancement in operational alignment.

Regarding the effectiveness of the mobile banking platform in supporting customer service functions, 85.1% of respondents strongly agreed, with 14.9% agreeing, indicating that the platform is largely meeting its intended purpose.

When discussing fee-based services offered through the mobile banking platform, 63.2% strongly agreed that these services are performing well, while 36.8% agreed, suggesting that while there is confidence in this area, there is also room for growth.

Lastly, 67.8% of respondents felt that mobile banking contributes to customer acquisition and retention efforts, with 32.2% agreeing, emphasizing the platform's role in the bank's strategic goals.

The aggregate mean for mobile banking is 1.26 with a standard deviation of 0.427, which reveals a largely positive perception of Sidian Bank's mobile banking services among customers. The predominantly positive results were in agreement with the findings of Pavithra & Geetha (2021) who, in their study on factors influencing customer's perception

for digital banking, found that digital banking is an effective and one of the most valuable tools for creating customer value. Their study established that majority feel satisfied using digital banking due to convenience, transaction speed, security, and connectivity, which are all key to adoption of digital banking channels.

4.5.2 Online Banking Services

Online banking services are a cornerstone of modern digital banking, fundamentally transforming how customers interact with their financial institutions. These services provide essential convenience and accessibility, allowing customers to manage their accounts, conduct transactions, and access financial products anytime and anywhere. As the demand for digital solutions continues to rise, the effectiveness of online banking services directly impacts customer satisfaction and retention, key drivers of revenue growth. This study sought to understand the implementation of online banking services by Sidian Bank to gain insights into how they could drive revenue growth. The analysis results were as presented below.

Table 7: Online Banking Services

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
I am familiar with the online banking services offered by Sidian Bank?	149 85.6%	25 14.4%	0 0.0%	0 0.0%	0 0.0%	1.14	0.352
Online banking has significantly impacted the revenue generation of the branch	170 97.7%	3 1.7%	0 0.0%	1 0.6%	0 0.0%	1.03	0.261
All Sidian Bank fee-based products and services are offered on the online banking platform	23 13.2%	41 23.6%	109 62.6%	1 0.6%	0 0.0%	2.51	0.727
Cross-selling and upselling have been integrated within the online banking platform	89 51.1%	83 47.7%	0 0.0%	2 1.1%	0 0.0%	1.51	0.566
There is collaboration with other business units (e.g.,	121	52	0	1	0	1.32	0.502

product development, marketing) to drive revenue growth through online banking	69.5%	29.9%	0.0%	0.6%	0.0%		
Online banking has contributed to Sidian Bank's customer acquisition or retention efforts	125	48	1	0	0	1.29	0.466
	71.8%	27.6%	0.6%	0.0%	0.0%		
Total						1.47	0.479

Source: Field Data (2024)

From the results presented in Table 7 concerning Online Banking Services at Sidian Bank, it is evident that there is a strong familiarity and positive perception among customers. A notable 85.6% of respondents reported being familiar with the online banking services offered, while 14.4% agreed but did not strongly affirm this, indicating a generally high level of awareness.

When examining the impact of online banking on revenue generation for the branch, an impressive 97.7% of respondents agreed that it has significantly influenced revenue. Only 1.7% expressed agreement without strong conviction, and 0.6% disagreed, suggesting that the majority perceives online banking as a crucial driver of financial success.

However, the responses regarding the availability of all fee-based products and services on the online banking platform presented a more mixed picture. Only 13.2% strongly agreed that all such products are available, while 23.6% agreed, and a substantial 62.6% remained neutral. This indicates a significant level of uncertainty or a lack of awareness about the comprehensive offerings available online.

The integration of cross-selling and upselling within the online banking platform also received positive feedback, with 51.1% strongly agreeing and 47.7% agreeing. This suggests that customers recognize efforts to enhance their banking experience through additional product offerings, although the presence of a small number of respondents (1.1%) who

disagreed indicates room for improvement.

Collaboration with other business units to drive revenue growth through online banking was affirmed by 69.5% of respondents who strongly agreed, with an additional 29.9% also agreeing. This reflects a strong belief in the importance of cross-departmental collaboration in maximizing the potential of online banking services.

Finally, regarding the contribution of online banking to customer acquisition and retention efforts, 71.8% of respondents strongly agreed, and 27.6% agreed, indicating a shared perception that online banking plays a vital role in attracting and retaining customers. The presence of 0.6% who remained neutral suggests a small degree of uncertainty about this aspect.

In the light of findings of Nohumba, Nyambuya, & Nyambuya (2020), which highlighted the need for banks to speedily adopt online banking platforms because of their greater efficiency, these results suggest that Sidian bank has been on the right direction in implementing online banking channels. This is supported by an aggregate mean of 1.47 with a standard deviation of 0.479. The online banking services offered by Sidian bank seem to taking the right direction, highlighting strong customer familiarity and perceived effectiveness in revenue generation and customer retention. Online. banking caters to the modern consumer needs and lifestyles in the light of globalization.

4.5.3 Card Business Services

Card business services are a vital component of digital banking, playing a significant role in enhancing customer experience and driving revenue growth. For Sidian Bank, offering a diverse range of card services—including debit, credit, and prepaid cards—enables the bank to cater to the evolving needs of consumers in a digitally driven economy. These services not only facilitate convenient transactions but also foster customer loyalty and engagement. The

integration of advanced features, such as contactless payments, rewards programs, and real-time transaction alerts, enhances the appeal of card services, thereby attracting new customers and encouraging existing ones to deepen their relationship with the bank. As customers increasingly rely on digital payments, the revenue generated from transaction fees, interest on outstanding balances, and ancillary services linked to card usage becomes increasingly significant. In this study, the researcher explored the elements of card business services offered by Sidian Bank and the findings were as documented below.

Table 8: Card Business Services

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Sidian Bank offers both physical (debit cards, credit cards, prepaid cards) and digital cards	97	26	0	51	0	2.03	1.319
	55.7%	14.9%	0.0%	29.3%	0.0%		
Revenue generated from card business compares favorably to other banking channels	95	54	24	1	0	1.60	0.744
	54.6%	31.0%	13.8%	0.6%	0.0%		
Card business effectively contributes to customer acquisition and retention	75	76	23	0	0	1.70	0.690
	43.1%	43.7%	13.2%	0.0%	0.0%		
Customers use card products at the branch frequently (patterns in card transaction volume or usage)	81	70	0	23	0	1.80	0.979
	46.6%	40.2%	0.0%	13.2%	0.0%		
There has been significant growth in revenue from the card business in the past 5 years	148	3	0	23	0	1.41	1.021
	85.1%	1.7%	0.0%	13.2%	0.0%		
The branch has experienced notable revenue growth from cross-selling or upselling efforts within the card business	122	29	23	0	0	1.43	0.716
	70.1%	16.7%	13.2%	0.0%	0.0%		
Sidian Bank fee-based products and services have been integrated into card business	71	102	1	0	0	1.60	0.503
	40.8%	58.6%	0.6%	0.0%	0.0%		
Total						1.65	0.853

Source: Field Data (2024)

The results presented in Table 8 regarding Card Business Services at Sidian Bank reveal a mix of positive perceptions and areas of concern among respondents. To begin with, 55.7% of respondents strongly agreed that Sidian Bank offers both physical and digital cards, while an additional 14.9% agreed. However, a notable 29.3% disagreed, indicating that there may be some confusion or lack of awareness about the full range of card offerings.

When it comes to revenue generation from the card business, 54.6% of respondents believe that it compares favorably to other banking channels, with 31.0% agreeing but not strongly. This suggests a generally positive outlook on the performance of the card business, though the 13.8% who remained neutral indicate some uncertainty regarding this comparison.

The effectiveness of the card business in contributing to customer acquisition and retention received mixed responses. 43.1% of respondents strongly agreed, and 43.7% agreed, which shows a divided opinion. The presence of 13.2% remaining neutral suggests that some respondents are unsure of the card business's role in these critical areas.

In terms of customer usage of card products at the branch, 46.6% strongly agreed and 40.2% agreed that customers use card products frequently, while 13.2% disagreed. This indicates a positive trend in card usage, although the disagreement points to a minority who may not share this view.

A significant highlight is found in the perception of revenue growth from the card business over the past five years. An impressive 85.1% of respondents strongly agreed that there has been significant growth, with a mere 1.7% agreeing without strong conviction. This suggests a strong belief in the card business's success in generating revenue.

Additionally, 70.1% of respondents acknowledged notable revenue growth from cross-

selling or upselling efforts within the card business, indicating effective strategies in this area. However, the 16.7% who agreed without strong conviction and 13.2% remaining neutral imply that there might still be room for improvement in these initiatives.

Lastly, regarding the integration of fee-based products and services into the card business, 40.8% strongly agreed, while 58.6% agreed, showing a positive perception of this integration. However, the presence of 0.6% who remained neutral suggests that some respondents may not fully understand how fee-based products relate to the card offerings.

In summary, the feedback on Card Business Services at Sidian Bank is largely positive, especially regarding revenue growth and the range of card offerings. However, areas such as customer awareness, the effectiveness of cards in acquisition and retention, and the understanding of fee-based product integration highlight opportunities for improvement and enhanced communication to better inform customers.

4.5.4 Digital Marketing

Digital marketing strategies have become essential tools for driving revenue growth in today's increasingly digital marketplace. These strategies not only enhance brand visibility but also enable targeted engagement with potential and existing customers. By leveraging digital channels such as social media, email marketing, and search engine optimization, banks can effectively reach their audience, promote their services, and foster customer loyalty. The impact of digital marketing on revenue growth is profound as well-executed campaigns can lead to increased customer acquisition, higher conversion rates, and improved customer retention. Data-driven insights also allow banks to tailor their marketing efforts to meet the specific needs and preferences of their target demographics, resulting in more personalized customer experiences. The researcher was interested in exploring the various digital marketing strategies employed by Sidian Bank to gain insights into their effectiveness in

driving revenue growth.

Table 9: Digital Marketing

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Digital marketing is essential for modern banks to stay competitive in the market	174	0	0	0	0	1.00	0.000
	100.0%	0.0%	0.0%	0.0%	0.0%		
Sidian Bank has properly adopted and integrated digital marketing strategies	122	51	1	0	0	1.30	0.474
	70.1%	29.3%	0.6%	0.0%	0.0%		
Sidian Bank utilizes common channels like Social Media, email marketing, and content marketing for its digital banking services and to engage with customers and prospects	70	80	24	0	0	1.74	0.688
	40.2%	46.0%	13.8%	0.0%	0.0%		
Sidian Bank uses blogs and articles to educate customers and prospects about its digital banking products and services	0	49	66	59	0	3.06	0.788
	0.0%	28.2%	37.9%	33.9%	0.0%		
The primary objective of Sidian Bank's digital marketing efforts is to increase brand awareness and acquire new customers	122	52	0	0	0	1.30	0.459
	70.1%	29.9%	0.0%	0.0%	0.0%		
Personalized digital marketing campaigns are more effective in driving customer engagement than generic ones	146	28	0	0	0	1.16	0.369
	83.9%	16.1%	0.0%	0.0%	0.0%		
Sidian Bank's digital marketing efforts have continuously yielded positively and helped Sidian Bank grow its revenue	122	51	1	0	0	1.30	0.474
	70.1%	29.3%	0.6%	0.0%	0.0%		
Sidian Bank has or is planning to integrate Artificial Intelligence (AI) and machine learning technologies into its digital marketing strategies	55	18	100	1	0	2.27	0.920
	31.6%	10.3%	57.5%	0.6%	0.0%		
Total						1.64	0.522

Source: Field Data (2024)

The results presented in Table 9 regarding Digital Marketing at Sidian Bank reflect a strong recognition of the importance of digital marketing strategies, alongside some areas of uncertainty that could be addressed to enhance overall effectiveness.

To begin with, an overwhelming 100% of respondents strongly agreed that digital marketing is essential for modern banks to remain competitive. This unanimous consensus underscores the critical role that digital marketing plays in the banking sector today.

When evaluating Sidian Bank's adoption and integration of digital marketing strategies, 70.1% of respondents strongly agreed, and 29.3% agreed, indicating a generally positive perception. However, the presence of 0.6% who remained neutral suggests that there may be some ambiguity about the extent of integration.

Regarding the utilization of common digital marketing channels such as social media, email marketing, and content marketing, the responses were somewhat mixed. While 40.2% strongly agreed and 46.0% agreed, a significant 13.8% remained neutral, indicating some uncertainty about how effectively these channels are being utilized to engage customers and prospects.

The use of blogs and articles for customer education presented a less favorable view. With 0% strongly agreeing and only 28.2% agreeing, a substantial 37.9% of respondents were neutral, and 33.9% disagreed. This indicates a possible gap in Sidian Bank's content marketing approach, suggesting that customers may not find educational resources as effective or accessible as needed.

When it comes to the primary objectives of digital marketing efforts, 70.1% of respondents strongly agreed that increasing brand awareness and customer acquisition are key goals, with

29.9% also agreeing. This alignment in understanding suggests that the bank is focused on critical metrics for success.

The effectiveness of personalized marketing campaigns was highlighted, with 83.9% of respondents strongly agreeing that these campaigns drive higher customer engagement than generic ones. This illustrates a strong belief in the value of tailored marketing efforts to enhance customer interaction.

Furthermore, 70.1% of respondents agreed that Sidian Bank's digital marketing initiatives have positively contributed to revenue growth, with 29.3% also supporting this view. This finding reinforces the perception that effective digital marketing can lead to tangible financial benefits.

However, the results regarding the integration of Artificial Intelligence (AI) and machine learning into digital marketing strategies revealed a more cautious stance. Only 31.6% strongly agreed that AI and machine learning are being integrated, while a significant 57.5% remained neutral. This suggests uncertainty or lack of awareness about the bank's future plans in this area, which could represent an opportunity for further development and communication.

In summary, while the Digital Marketing at Sidian Bank is largely taking a positive direction, particularly regarding its importance and effectiveness, there are notable areas for improvement. Enhancing customer education through content marketing, clarifying the integration of digital strategies, and exploring AI technologies could significantly strengthen Sidian Bank's digital marketing efforts and their overall impact on customer engagement and revenue growth.

While the findings reveal that Sidian Bank doesn't use blogs and articles to market its digital

banking products and services, the aggregate mean of 1.64 with a standard deviation of 0.522 indicate that the bank is actively using other channels to promote digital banking services and products. This is in agreement with Gupta et al. (2021) who in their study found that, social media, one of the flexible and interactive communication medium in the present digital era, enhances organic customer acquisition, but also the loyalty and purchase intention of banking consumers. Agreeing with the findings of Melinevskyi et al., (2021), the results of this study reveal that Sidian bank is using personalized marketing strategies to increase brand awareness and attract customer.

4.5.5 Operational and Maintenance Costs

The long term operational and maintenance costs are fundamental components of a bank's overall financial structure, significantly impacting its profitability and revenue growth. Effective management of these costs is crucial as they directly affect the resources available for investment in growth initiatives, technology upgrades, and customer service enhancements. High operational and maintenance costs can erode profit margins, making it challenging for a bank to achieve sustainable revenue growth. Due to intense competition and high regulatory demands in the banking industry, controlling operational and maintenance costs can lead to improved efficiency and productivity. Streamlining processes and adopting innovative technologies in banking can reduce unnecessary expenditures, allowing for reinvestment in key areas that drive revenue, such as marketing, product development, and customer engagement. The researcher was interested in understanding whether Sidian Bank has optimized its operation maintenance cost as one of the key elements that affects digital banking and draw insights into how the bank's long term operation and maintenance of digital platforms affects the banks revenue growth.

Table 10: Operational and Maintenance Costs

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Implementing automation and negotiating vendor contracts are effective strategies for optimizing operation and maintenance costs	94	79	1	0	0	1.47	0.512
	54.0%	45.4%	0.6%	0.0%	0.0%		
Sidian Bank has plans to shift towards cloud-based solutions and greater reliance on AI and automation to save on operationalization costs	1	73	99	1	0	2.57	0.519
	0.6%	42.0%	56.9%	0.6%	0.0%		
Compliance with regulatory requirements significantly impacts operation and maintenance costs for digital banking	145	28	0	1	0	1.18	0.427
	83.3%	16.1%	0.0%	0.6%	0.0%		
Sidian Bank is streamlining internal processes and consolidating technology platforms and vendors to reduce operation and maintenance costs of digital banking	147	27	0	0	0	1.16	0.363
	84.5%	15.5%	0.0%	0.0%	0.0%		
Sidian Bank benchmarks operation and maintenance costs against competitors to ensure cost competitiveness in digital banking	148	0	26	0	0	1.30	0.715
	85.1%	0.0%	14.9%	0.0%	0.0%		
Sidian Bank conducts lifecycle cost analysis for digital banking technologies and platforms	55	94	24	0	1	1.84	0.695
	31.6%	54.0%	13.8%	0.0%	0.6%		
Total						1.58	0.539

Source: Field Data (2024)

The results presented in Table 10 regarding Operational and Maintenance Costs at Sidian Bank highlight key perceptions about cost management strategies and their effectiveness in the context of digital banking. To begin, 54.0% of respondents strongly agreed that implementing automation and negotiating vendor contracts are effective strategies for

optimizing operation and maintenance costs, with an additional 45.4% agreeing. This positive feedback indicates a strong recognition of these strategies as essential tools for cost efficiency, though the presence of 0.6% who remained neutral suggests a small degree of uncertainty among some respondents.

However, the perceptions surrounding the bank's plans to shift towards cloud-based solutions and increased reliance on AI and automation were more mixed. Only 0.6% strongly agreed with this statement, while 42.0% agreed, and a considerable 56.9% remained neutral. This significant percentage of neutral responses indicates uncertainty or lack of awareness regarding the bank's strategic direction in adopting these modern technologies for cost savings.

The impact of regulatory compliance on operational and maintenance costs was overwhelmingly acknowledged, with 83.3% of respondents strongly agreeing and 16.1% agreeing. This indicates a strong belief that regulatory requirements significantly influence cost structures, highlighting the importance of compliance in financial planning.

When assessing efforts to streamline internal processes and consolidate technology platforms, a striking 84.5% of respondents strongly agreed that Sidian Bank is effectively pursuing these strategies to reduce costs. This consensus demonstrates a robust commitment to operational efficiency and suggests that such initiatives are well-recognized and appreciated by staff.

Additionally, 85.1% of respondents affirmed that Sidian Bank benchmarks its operation and maintenance costs against competitors. This practice is crucial for ensuring cost competitiveness in the digital banking landscape. The absence of disagreement in this area reinforces confidence in the bank's strategic approach to maintaining a competitive edge.

In contrast, the results regarding lifecycle cost analysis for digital banking technologies revealed a more divided opinion. While 31.6% strongly agreed and 54.0% agreed that such analyses are conducted, 13.8% remained neutral, and 0.6% disagreed. This suggests that while many recognize the importance of lifecycle cost analysis, there may be gaps in awareness or execution that could benefit from further emphasis.

The findings on the factors that influence Operational and Maintenance Costs at Sidian Bank is largely positive, particularly regarding the effectiveness of automation, regulatory compliance, and competitive benchmarking. This is in line with the findings of Bhanushali (2023) who insisted on the importance of software testing and quality control for effectiveness and compliance throughout the software life cycle. Since digital banking is dependent on software and computer programs, ensuring quality of those programs can streamline transactions and automate processes (Jameaba, 2024), giving bank customers confidence to use digital platforms and ultimately help the bank save on operation cost that come branches. However, uncertainty about the bank's plans for cloud-based solutions and AI integration, as well as mixed perceptions of lifecycle cost analysis practices, indicate areas for improvement.

4.5.6 Revenue Growth

Revenue growth is a critical indicator of any institution financial health and overall performance, reflecting its ability to generate income over time. For Sidian Bank, understanding the factors that drive revenue growth is essential for strategic planning and long-term sustainability. Revenue growth not only highlights the effectiveness of a bank's business strategies but also indicates its capacity to adapt to market changes, attract new customers, and retain existing ones. In an increasingly digital landscape, bank's revenue growth can be influenced by various factors, including the adoption of innovative

technologies, effective marketing strategies, and efficient operational management. In regard to revenue growth, the researcher was interested in analyzing these elements to gain valuable insights into how Sidian Bank can enhance their services, optimize costs, and ultimately drive profitability.

Table 11: Revenue Growth

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Sidian Bank's customer base and market share have significantly grown after digitization of the bank's services	150	1	23	0	0	1.27	0.681
	86.2%	0.6%	13.2%	0.0%	0.0%		
Digital banking has helped Sidian Bank explore new markets and consequently, led to significant revenue growth	150	0	24	0	0	1.28	0.692
	86.2%	0.0%	13.8%	0.0%	0.0%		
Digitization has led to creation of more and or diversifying products and services that generate revenue for Sidian Bank	100	74	0	0	0	1.43	0.496
	57.5%	42.5%	0.0%	0.0%	0.0%		
Sidian bank has occasionally implemented pricing adjustments across digital banking platforms to drive revenue growth	39	84	51	0	0	2.07	0.718
	22.4%	48.3%	29.3%	0.0%	0.0%		
Upselling and cross-selling efforts through digital platforms have led to significant revenue growth	73	101	0	0	0	1.58	0.495
	42.0%	58.0%	0.0%	0.0%	0.0%		
Loan portfolio aided by digital platforms has expanded and contributed significantly to revenue generation	98	24	52	0	0	1.74	0.893
	56.3%	13.8%	29.9%	0.0%	0.0%		
Digitalization of wealth management and investment services by Sidian Bank has contributed to revenue growth significantly	70	79	1	0	24	2.02	1.288
	40.2%	45.4%	0.6%	0.0%	13.8%		

Net Interest Margin of Sidian Bank has grown significantly with the introduction and adoption of digital banking	107	66	1	0	0	1.39	0.501
	61.5%	37.9%	0.6%	0.0%	0.0%		
Sidian Bank is consistently investing to further leverage digital banking for revenue growth	149	24	1	0	0	1.15	0.373
	85.6%	13.8%	0.6%	0.0%	0.0%		
Total						1.55	0.682

Source: Field Data (2024)

The results from Table 11 regarding Revenue Growth at Sidian Bank indicate a strong positive sentiment about the impact of digitalization on the bank's financial performance and market presence. 86.2% of respondents strongly agreed that Sidian Bank's customer base and market share have significantly expanded following the digitization of its services. This overwhelming consensus suggests that digitalization has been a key driver in attracting new customers and enhancing market share, with only a small fraction (0.6%) agreeing without strong conviction and 13.2% remaining neutral, indicating some uncertainty.

Similarly, 86.2% of respondents affirmed that digital banking has enabled Sidian Bank to explore new markets, leading to significant revenue growth. This repetition of the percentage reinforces the perception that digital initiatives are successfully facilitating market expansion.

When examining the creation and diversification of products and services as a result of digitization, 57.5% of respondents strongly agreed, and 42.5% agreed, highlighting a positive acknowledgment of the bank's innovative efforts. The absence of neutral or negative responses indicates a strong belief in the bank's ability to enhance its product offerings through digital means.

However, perceptions regarding the implementation of pricing adjustments across digital banking platforms were more varied. 22.4% strongly agreed, and 48.3% agreed, while 29.3% remained neutral. This suggests that while many recognize the strategy's potential, there is

uncertainty about the frequency or effectiveness of these pricing adjustments in driving revenue growth.

The effectiveness of upselling and cross-selling through digital platforms was viewed positively, with 42.0% strongly agreeing and 58.0% agreeing. This indicates a strong belief that these strategies contribute to significant revenue growth, reflecting confidence in the Sidian bank's marketing and sales initiatives.

Regarding the expansion of the loan portfolio aided by digital platforms, 56.3% strongly agreed, with 13.8% agreeing. However, a notable 29.9% remained neutral, suggesting that while there is recognition of growth in this area, some respondents may not fully understand the specifics of how digital platforms have contributed to this expansion.

The digitalization of wealth management and investment services received mixed feedback. While 40.2% strongly agreed and 45.4% agreed that these services have contributed to revenue growth, 13.8% strongly disagreed, indicating that there may be concerns or gaps in perception regarding the effectiveness of these digital offerings.

In terms of net interest margin, 61.5% of respondents strongly agreed that it has grown significantly with the introduction and adoption of digital banking, while 37.9% agreed. This suggests a strong belief that digital banking is positively affecting profitability metrics.

Finally, 85.6% of respondents affirmed that Sidian Bank is consistently investing to leverage digital banking for revenue growth. This strong agreement signals confidence in the bank's commitment to ongoing investment in digital initiatives, which is crucial for sustaining growth.

The findings relating to Revenue Growth at Sidian Bank are predominantly positive, with strong support for the impact of digitalization on customer acquisition, market expansion,

and product diversification. This is in agreement with Marius & Bett (2023) who, in their study on Total Quality Management Practice on the Performance of Commercial Banks: Case of Sidian Bank Kenya Limited, found that the bank has been in frontline when it comes to improving operation effectiveness and building customer relationship with aim of growing income through effective customer need fulfillment and in-depth understanding.

4.6 Correlations

The researcher employed the Pearson correlation coefficient (r) to determine the relationship between the variables. Pearson correlation coefficient (r) quantifies the relationship between two variables, where a higher coefficient indicates a stronger relationship. The coefficient assumes a linear correlation and causal relationship between the two variables, designating one as the independent and the other as the dependent variable. In this study, the researcher used correlation technique to establish the magnitude and direction of any relationship, association, or correlation between variables, and the results obtained were as presented in the table below.

Table 12: Correlations

		Digital Banking	Digital Marketing	Operational and Maintenance Costs	Revenue Growth
Digital Banking	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	174			
Digital Marketing	Pearson Correlation	.840**	1		
	Sig. (2-tailed)	.000			
	N	174	174		
Operational and Maintenance Costs	Pearson Correlation	.919**	.945**	1	
	Sig. (2-tailed)	.000	.000		
	N	174	174	174	

Revenue Growth	Pearson Correlation	.955**	.698**	.857**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	174	174	174	174

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2024)

The results presented in Table 12 show the correlations between Digital Banking, Digital Marketing, Operational and Maintenance Costs, and Revenue Growth at Sidian Bank. The correlation analysis provides valuable insights into the relationships among these variables, highlighting their interdependencies.

4.6.1 Digital Banking and Digital Marketing

The Pearson correlation coefficient between Digital Banking and Digital Marketing is 0.840, indicating a strong positive relationship. This suggests that as digital banking initiatives improve, digital marketing efforts also tend to strengthen. The significance level of 0.000 confirms that this correlation is statistically significant, implying that effective digital banking strategies are likely to enhance marketing outcomes.

4.6.2 Digital Banking and Operational and Maintenance Costs

The correlation between Digital Banking and Operational and Maintenance Costs is even stronger, with a coefficient of 0.919. This indicates a very high positive correlation, suggesting that improvements in digital banking are closely linked to optimized operational and maintenance costs. The significance level of 0.000 further supports the reliability of this relationship, indicating that investments in digital banking may lead to more efficient cost management.

4.6.3 Digital Banking and Revenue Growth

A robust correlation of 0.955 between Digital Banking and Revenue Growth underscores the critical role that digital banking plays in driving financial performance. This strong relationship, also statistically significant ($p < 0.01$), suggests that enhancements in digital banking capabilities are likely to result in substantial revenue increases.

4.6.4 Digital Marketing and Operational and Maintenance Costs

The correlation coefficient of 0.945 between Digital Marketing and Operational and Maintenance Costs indicates a very strong positive relationship. This suggests that effective digital marketing strategies may contribute to better management of operational costs, likely by attracting more customers and enhancing service efficiency. The significance level confirms the reliability of this finding.

4.6.5 Digital Marketing and Revenue Growth

The correlation between Digital Marketing and Revenue Growth is 0.698, which, while still strong, is lower than the correlations observed with Digital Banking. This indicates that while digital marketing is important for revenue growth, it may not be as directly impactful as digital banking initiatives. The significance level of 0.000 indicates that this correlation is also statistically significant.

4.6.6 Operational and Maintenance Costs and Revenue Growth

The correlation of 0.857 between Operational and Maintenance Costs and Revenue Growth suggests a strong positive relationship, indicating that effective management of operational costs can significantly enhance revenue growth. This finding highlights the importance of cost efficiency in driving overall financial performance.

Generally, the correlations in Table 12 reveal strong positive relationships among digital banking, digital marketing, operational and maintenance costs, and revenue growth at Sidian

Bank. The significant correlations indicate that improvements in digital banking and marketing strategies are closely linked to both operational efficiency and revenue enhancement. This analysis underscores the importance of integrated digital initiatives, as investments in these areas are likely to yield substantial benefits in terms of customer acquisition, cost management, and financial growth. Addressing these interconnections can help Sidian Bank strategically leverage its digital capabilities to maximize overall performance and grow its income.

4.7 Diagnostic Tests for Assumptions of Regression

Comprehending data distribution is crucial in ensuring the validity and reliability of the model's results. Diagnostic tests for assumptions evaluate key assumptions, including linearity, multicollinearity, and normality of residuals. When these assumptions are met, the regression model is more likely to produce accurate and reliable estimates, enhancing the confidence in the conclusions drawn from the analysis. Violations of these assumptions can lead to biased estimates, unreliable hypothesis tests, and ultimately, erroneous inferences. Therefore, conducting thorough diagnostic tests is essential for identifying potential issues before interpreting the results of a regression model.

4.7.1 Normality Test

Normality is one of the key assumptions of linear regression, as it influences the reliability of hypothesis tests and the accuracy of confidence intervals. When the residuals of a regression model are normally distributed, it suggests that the model appropriately captures the underlying relationships between the variables, which enhances the credibility of the inferences drawn from the analysis. If the normality assumption is violated, it may lead to inefficient estimates and affect the statistical significance of the predictors, potentially resulting in misleading conclusions. Therefore, evaluating the normality of residuals not only

ensures that the assumptions of regression are met but also contributes to the overall robustness and interpretability of the model. The researcher used both the Kolmogorov-Smirnov and Shapiro-Wilks tests for normality to assess if the sample was drawn from a normal population, and the findings were as below:

The hypotheses used were as follows:

H0: The data is normally distributed verses

H1: The data is not normally distributed

Table 13: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Digital Banking	.145	174	.070	.897	174	.000
Digital Marketing	.138	174	.054	.995	174	.000
Operational and Maintenance Costs	.086	174	.210	.918	174	.000
Revenue Growth	.123	174	.074	.912	174	.000

a. Lilliefors Significance Correction

Source: Field Data (2024)

The Kolmogorov-Smirnov test compares the empirical cumulative distribution function (ECDF) of a sample with the cumulative distribution function (CDF) of a theoretical normal distribution, while the Shapiro-Wilk test assesses how well the sample data fits a normal distribution by examining the correlation between the data and expected values from a normal distribution. Both tests were used to assess normality. At a 95% confidence level, a significance value greater than 0.05 indicates that the result is not statistically significant enough to reject the null hypothesis that the observed data follows a normal distribution. For this study, the finding of normality test show that there is no sufficient evidence to reject the null hypothesis, indicating that the data may be collected from a sample selected from a normally distributed population.

4.7.2 Linearity Test

The linearity assumption is crucial for regression analysis, positing that there exists a straight-line relationship between the independent and dependent variables. It underlies the validity of the regression model, influencing both the accuracy of predictions and the interpretation of the coefficients. Scatterplots were used to check the linearity of the data and the results of the analysis were as presented below.

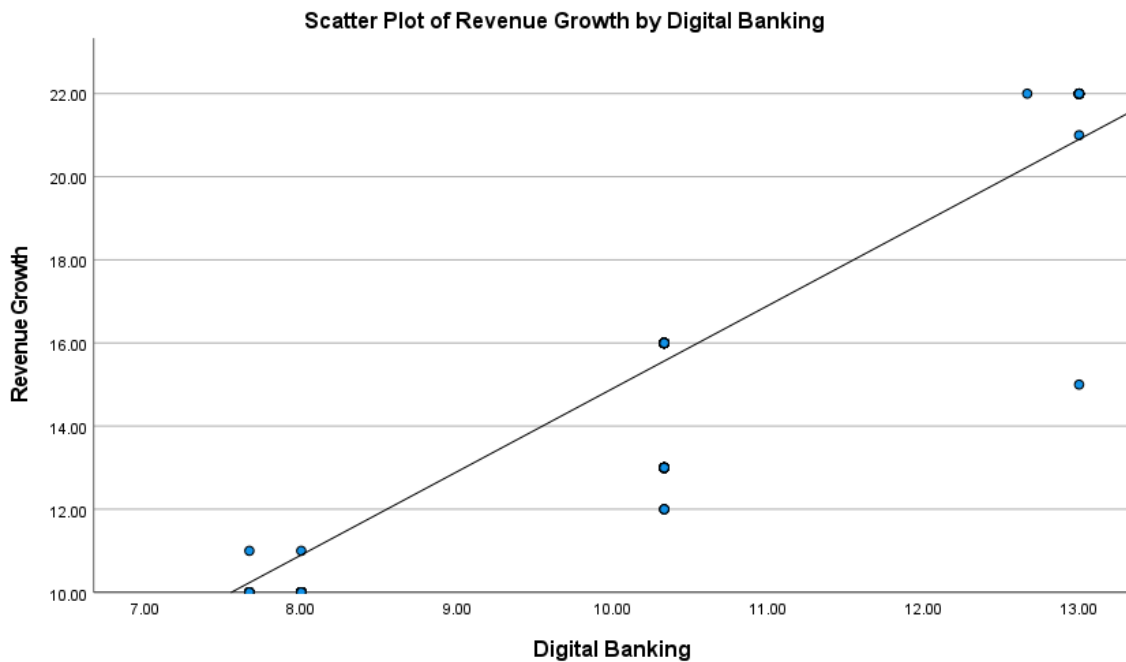


Figure 2: Scatter Plot of Revenue Growth by Digital Banking

The plot demonstrates a clear upward trend, indicating a positive correlation between Digital Banking and Revenue Growth. As the values for Digital Banking increase, there is a corresponding rise in Revenue Growth, suggesting that investments in digital initiatives are associated with enhanced financial performance. The line of best fit drawn across the scatter plot further reinforces the consistent pattern observed in the data, indicating that higher engagement in Digital Banking correlates with increased Revenue Growth. It is also noteworthy that a few outliers appear in the higher range of Digital Banking, indicating

instances of significantly higher Revenue Growth than might be expected based on the overall trend. However, these outliers warrant further investigation, as they may reveal unique strategies or market conditions that can be leveraged to drive income growth.

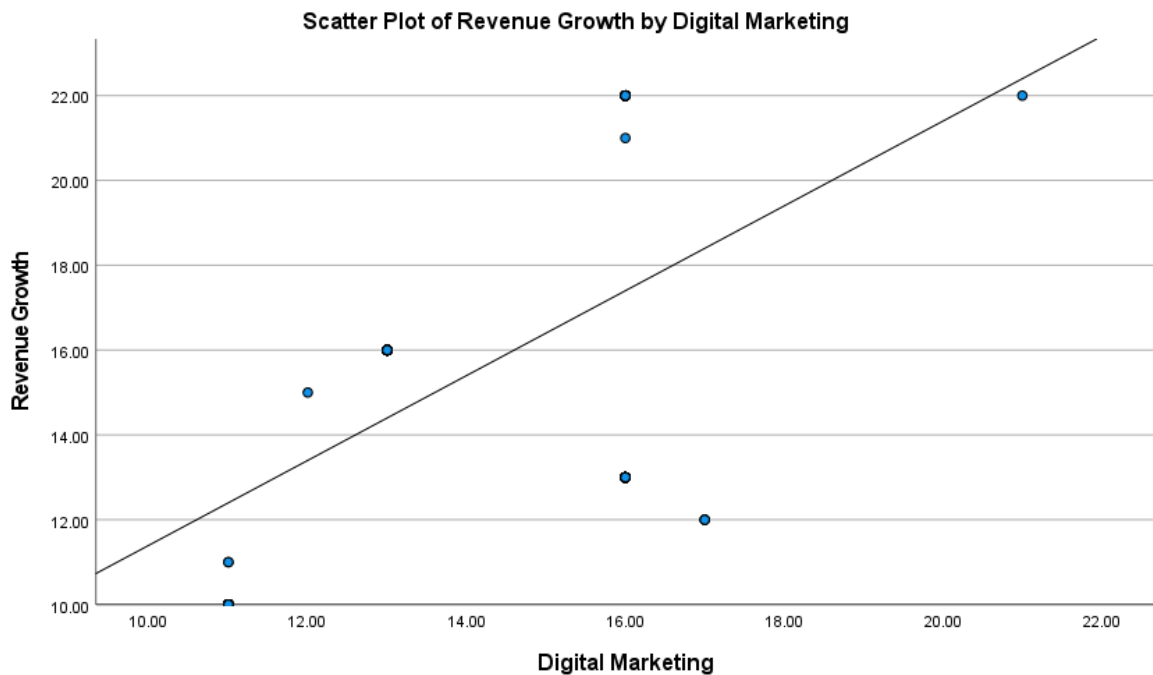


Figure 3: Scatter Plot of Revenue Growth by Digital Marketing

The plot demonstrates a clear positive correlation, indicating that as efforts in Digital Marketing increase, Revenue Growth tends to rise in tandem, which suggests that effective digital marketing strategies can significantly enhance an organization's financial performance. The line of best fit illustrates the overall trend, helping visualize the degree of correlation while serving as a predictive tool for estimating Revenue Growth based on planned Digital Marketing efforts.

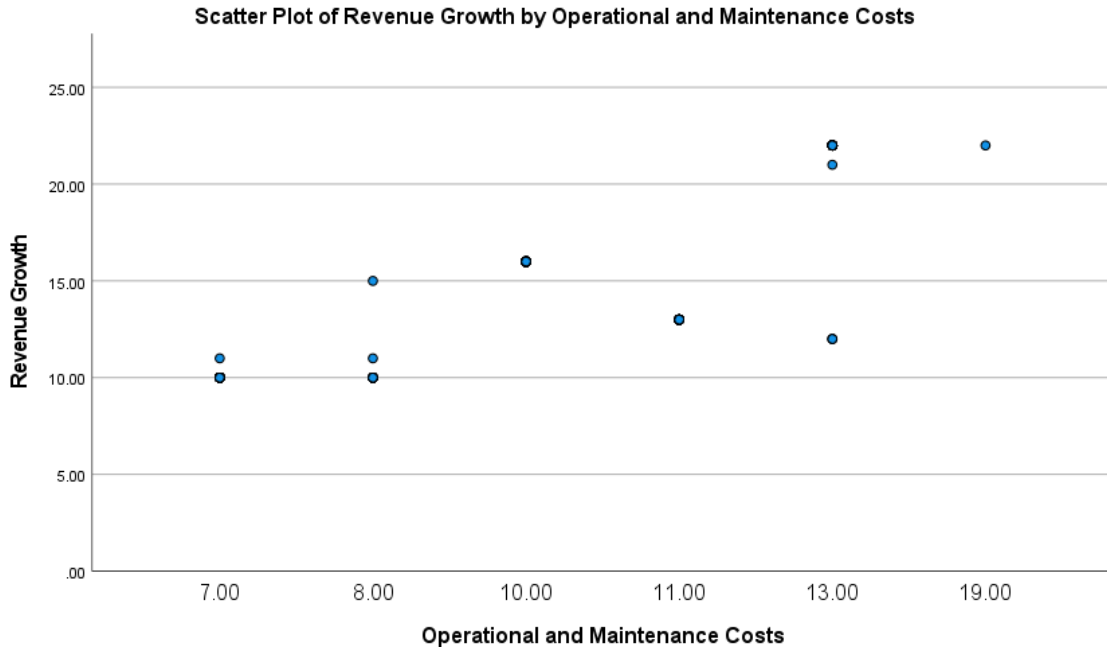


Figure 4: Scatter Plot of Revenue Growth by Operational and Maintenance Costs

The scatterplot illustrating the relationship between Operational and Maintenance Costs and Revenue Growth suggests more complex relationship between the two variables. The distribution suggests that there is a slight upward trend, indicating that as Operational and Maintenance Costs rise, there may be a corresponding increase in Revenue Growth. Observed outliers indicate that, in certain instances, increased operational spending can lead to significantly higher revenue, highlighting the potential for effective cost management strategies to yield substantial returns.

4.7.3 Multicollinearity

Multicollinearity occurs when two or more predicting variables in a regression model are linearly dependent, which makes it impractical to separate the effect of individual variables. When it occurs, it affects the analysis and limits how the inferences the researcher can make. Multicollinearity is detected using tolerance and variance inflation factor (VIF). Tolerance of less than 0.25 or a VIF greater than 10 is viewed as evidence of harmful multicollinearity.

This study used the SPSS to test for the presence multicollinearity and the results were as presented in the table below:

Table 14: Multicollinearity Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
		B	Std. Error	Beta	t		Tolerance	VIF
1	(Constant)	-7.894	.525		-15.043	.000		
	Digital Banking	2.237	.053	.955	42.208	.000	1.000	1.000
2	(Constant)	-6.004	.437		-13.755	.000		
	Digital Banking	2.931	.075	1.251	39.250	.000	.895	1.388
	Digital Marketing	-.659	.060	-.353	-11.069	.000	.895	1.388
3	(Constant)	-.903	.420		-2.151	.033		
	Digital Banking	2.178	.066	.930	32.772	.000	.749	2.729
	Digital Marketing	-1.491	.064	-.798	-23.329	.000	.902	2.797
	Operational and Maintenance Costs	1.385	.086	.757	16.095	.000	.854	1.521

a. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The multicollinearity results provide insights into the relationships between Digital Banking, Digital Marketing, and Operational and Maintenance Costs and their effect on the dependent variable, Revenue Growth. Multicollinearity occurs when independent variables are highly correlated, which can affect the stability and interpretability of regression coefficients.

In the first model, where Digital Banking is the predictor, the unstandardized coefficient for Digital Banking is 2.237, with a standardized coefficient (Beta) of 0.955, indicating a strong positive relationship with Revenue Growth. The t-value is 42.208, and the significance level (Sig.) is 0.000, confirming that this predictor significantly influences Revenue Growth. The collinearity statistics reveal a Tolerance value of 1.000 and a Variance Inflation Factor (VIF) of 1.000. Both values indicate no multicollinearity issues, as Tolerance values close to 1 and VIF values below 5 (or even 10) suggest that there is no significant correlation between the Digital Banking and Revenue Growth.

In the second model, both Digital Banking and Digital Marketing are predictors. The unstandardized coefficient for Digital Banking is 2.931, while the standardized coefficient (Beta) is 1.251. The significant t-value of 39.250 and a significance level of 0.000 confirm that Digital Banking continues to have a strong positive impact on Revenue Growth. The coefficient for Digital Marketing is -0.659, with a standardized Beta of -0.353. This indicates a negative relationship with Revenue Growth, and the t-value of -11.069 and significance level of 0.000 confirm its significance. However, the Tolerance and VIF values for both predictors are 0.895 and 1.388, respectively. The values indicate that there is no significant correlation between the variables.

The third model includes three predictors: Digital Banking, Digital Marketing, and Operational and Maintenance Costs. The unstandardized coefficient for Digital Banking is 2.178, with a standardized Beta of 0.930. The strong t-value of 32.772 and significance level of 0.000 indicate that Digital Banking remains a significant positive predictor of Revenue Growth. The coefficient for Digital Marketing is -1.491, with a standardized Beta of -0.798, suggesting a strong negative relationship with Revenue Growth. The t-value of -23.329 and significance level of 0.000 confirm this significance. The unstandardized coefficient for Operational and Maintenance Costs is 1.385, with a standardized Beta of 0.757 and a t-value of 16.095. This indicates a significant positive relationship with Revenue Growth. However, the Tolerance value drops to 0.749, and the VIF rises to 2.729 for Digital Banking, suggesting moderate multicollinearity. For Digital Marketing, the Tolerance is 0.902 and the VIF is 2.797, indicating a minimal risk of multicollinearity. Operational and Maintenance Costs show a Tolerance of 0.854 and a VIF of 1.521, which indicates no significant multicollinearity concerns.

4.8 Hypothesis Testing

4.8.1 Relationship between Digital Banking and Revenue Growth

Table 15: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 ^a	.912	.911	1.21160

a. Predictors: (Constant), Digital Banking

b. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The correlation coefficient (R) is 0.955, indicating a very strong positive relationship between Digital Banking and Revenue Growth. The R Square value is 0.912, which means that approximately 91.2% of the variability in Revenue Growth can be explained by Digital Banking. This high percentage suggests that Digital Banking is an excellent predictor of Revenue Growth.

Additionally, the Adjusted R Square value of 0.911 indicates that the model remains robust, even when accounting for the number of predictors. This adjustment confirms that the relationship between Digital Banking and Revenue Growth is significant without the risk of overfitting. The Standard Error of the Estimate is 1.21160, indicating that the predictions made by the model deviates from actual Revenue Growth by 1.21160, providing a measure of precision for the model's forecasts.

Table 16: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2615.217	1	2615.217	1781.524	.000 ^b
	Residual	252.490	172	1.468		
	Total	2867.707	173			

a. Dependent Variable: Revenue Growth

b. Predictors: (Constant), Digital Banking

Source: Field Data (2024)

The ANOVA table reveals important statistics about the model's overall significance. The regression sum of squares is 2615.217, showing the amount of variability in Revenue Growth that is explained by Digital Banking. In contrast, the residual sum of squares is 252.490, which reflects the variability in Revenue Growth not explained by the model.

The F-statistic is 1781.524, with a significance level (Sig.) of 0.000. This result indicates that the model is statistically significant, meaning that Digital Banking has a highly significant effect on Revenue Growth. The F-test confirms that the variability explained by the regression model is substantially greater than the unexplained variability, reinforcing the importance of Digital Banking in influencing Revenue Growth.

Table 17: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.894	.525		-15.043	.000
	Digital Banking	2.237	.053	.955	42.208	.000

a. Dependent Variable: Revenue Growth

Source: Field Data (2024)

Examining the coefficients provides further insight into the relationship. The constant (intercept) is 7.894, which indicates the expected value of Revenue Growth when Digital Banking is zero. While this value serves as a baseline, it is not directly interpretable in a practical context.

The coefficient for Digital Banking is 2.237, suggesting that for every unit increase in Digital Banking, Revenue Growth is expected to increase by approximately 2.237 units. This positive relationship indicates a strong and direct impact of Digital Banking on Revenue Growth. The standardized coefficient (Beta) of 0.955 further reflects the strength of this relationship, demonstrating that Digital Banking is a critical factor influencing Revenue

Growth.

$$\text{Revenue Growth} = 7.894 + 2.237 \text{ Digital Banking}$$

Lastly, the significance level for Digital Banking is 0.000, confirming that this predictor is statistically significant in explaining variations in Revenue Growth. The regression analysis indicates a very strong and significant relationship between Digital Banking and Revenue Growth at Sidian Bank. The high R Square value confirms that Digital Banking explains a substantial proportion of the variance in Revenue Growth, while the ANOVA results affirm the model's overall significance. The coefficients illustrate that increases in Digital Banking efforts are likely to lead to considerable revenue growth, highlighting the importance of investing in and enhancing digital banking capabilities to drive financial performance. Overall, these findings support the strategic focus on Digital Banking as a critical driver of revenue growth at Sidian Bank.

4.8.2 Relationship between Digital Marketing and Revenue Growth

Table 18: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.698 ^a	.487	.484	2.92568

a. Predictors: (Constant), Digital Marketing

b. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The Model Summary indicates a correlation coefficient (R) of 0.698, suggesting a moderate to strong positive relationship between Digital Marketing and Revenue Growth. The R Square value is 0.487, meaning that approximately 48.7% of the variability in Revenue Growth can be explained by Digital Marketing. This indicates that while Digital Marketing has a significant impact on Revenue Growth, there are other factors also contributing to this

variability.

The Adjusted R Square value is 0.484, which takes into account the number of predictors in the model. This slight adjustment indicates that the model remains fairly robust, affirming that Digital Marketing is a relevant predictor of Revenue Growth. The Standard Error of the Estimate is 2.92568, which shows the average deviation of the predicted Revenue Growth from the actual values, providing a measure of the model's predictive accuracy.

Table 19: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1395.450	1	1395.450	163.027	.000 ^b
	Residual	1472.257	172	8.560		
	Total	2867.707	173			

a. Dependent Variable: Revenue Growth

b. Predictors: (Constant), Digital Marketing

Source: Field Data (2024)

The ANOVA table presents key statistics regarding the overall significance of the regression model. The regression sum of squares is 1395.450, indicating the amount of variability in Revenue Growth that can be attributed to Digital Marketing. The residual sum of squares is 1472.257, reflecting the variability in Revenue Growth that is not explained by the model.

The F-statistic is 163.027, with a significance level (Sig.) of 0.000. This result demonstrates that the model is statistically significant, meaning that Digital Marketing has a meaningful effect on Revenue Growth. The high F-value indicates that the model explains a substantial amount of variability compared to the unexplained variability, reinforcing the importance of Digital Marketing as a driver of revenue.

Table 20: ANOVA^a

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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		B	Std. Error	Beta		
1	(Constant)	-3.197	1.358		-2.354	.020
	Digital Marketing	1.303	.102	.698	12.768	.000

a. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The coefficients section provides detailed insights into the relationship between the variables.

The constant (intercept) is 3.197, indicating the expected value of Revenue Growth when Digital Marketing is zero. While this value serves as a baseline, it is not directly interpretable in practical terms.

The coefficient for Digital Marketing is 1.303, suggesting that for every unit increase in Digital Marketing, Revenue Growth is expected to increase by approximately 1.303 units. This positive relationship indicates that effective Digital Marketing strategies can significantly enhance revenue. The standardized coefficient (Beta) is 0.698, reflecting the strength of this relationship in standardized units, which suggests that Digital Marketing is a substantial factor influencing Revenue Growth.

$$\text{Revenue Growth} = 3.197 + 1.303 \text{ Digital Marketing}$$

Furthermore, the significance level for Digital Marketing is 0.000, confirming that this predictor is statistically significant in explaining variations in Revenue Growth.

The regression analysis reveals a moderate to strong and statistically significant relationship between Digital Marketing and Revenue Growth at Sidian Bank. The R Square value indicates that Digital Marketing accounts for a considerable portion of the variance in Revenue Growth, while the ANOVA results affirm the model's overall significance. The coefficients illustrate that increases in Digital Marketing efforts are likely to lead to notable revenue growth, highlighting the importance of investing in and enhancing digital marketing strategies to drive financial performance. Overall, these findings support the strategic focus

on Digital Marketing as an essential component for revenue growth at Sidian Bank.

4.8.3 Relationship between Operational and Maintenance Costs and Revenue Growth

Table 21: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857 ^a	.734	.733	2.10504

a. Predictors: (Constant), Operational and Maintenance Costs

b. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The Model Summary reveals a correlation coefficient (R) of 0.857, indicating a strong positive relationship between Operational and Maintenance Costs and Revenue Growth. The R Square value is 0.734, meaning that approximately 73.4% of the variability in Revenue Growth can be explained by Operational and Maintenance Costs. This high percentage suggests that managing operational costs effectively is crucial for enhancing revenue.

The Adjusted R Square value is 0.733, which accounts for the number of predictors in the model, indicating that the model is robust and that Operational and Maintenance Costs are indeed a significant predictor of Revenue Growth. The Standard Error of the Estimate is 2.10504, which reflects the average deviation of the predicted Revenue Growth from the actual values, providing a measure of the model's precision.

Table 22: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2105.544	1	2105.544	475.166	.000 ^b
	Residual	762.163	172	4.431		
	Total	2867.707	173			

a. Dependent Variable: Revenue Growth

b. Predictors: (Constant), Operational and Maintenance Costs

Source: Field Data (2024)

The ANOVA table provides key statistics about the overall significance of the regression model. The regression sum of squares is 2105.544, showing the amount of variability in Revenue Growth that can be attributed to Operational and Maintenance Costs. In contrast, the residual sum of squares is 762.163, indicating the variability in Revenue Growth that is not explained by the model.

The F-statistic is 475.166, with a significance level (Sig.) of 0.000. This result demonstrates that the model is statistically significant, indicating that Operational and Maintenance Costs have a meaningful impact on Revenue Growth. The high F-value suggests that the model explains a substantial amount of variability compared to the unexplained variability, reinforcing the importance of managing operational costs to drive revenue.

Table 23: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.991	.702		-1.411	.160
	Operational and Maintenance Costs	1.567	.072	.857	21.798	.000

a. Dependent Variable: Revenue Growth

Source: Field Data (2024)

The coefficients section provides further detail about the relationship between the variables. The constant (intercept) is 0.991, indicating the expected value of Revenue Growth when Operational and Maintenance Costs are zero. While this value serves as a baseline, it is not directly interpretable in practical terms.

The coefficient for Operational and Maintenance Costs is 1.567, suggesting that for every unit increase in Operational and Maintenance Costs, Revenue Growth is expected to increase by approximately 1.567 units. This positive relationship indicates that effective management

of operational costs can significantly enhance revenue. The standardized coefficient (Beta) is 0.857, reflecting the strength of this relationship in standardized units. This high Beta value indicates that Operational and Maintenance Costs play a substantial role in influencing Revenue Growth.

$$\text{Revenue Growth} = 0.991 + 1.567 \text{ Operational and Maintenance Costs}$$

Furthermore, the significance level for Operational and Maintenance Costs is 0.000, confirming that this predictor is statistically significant in explaining variations in Revenue Growth. The regression analysis reveals a strong and statistically significant relationship between Operational and Maintenance Costs and Revenue Growth at Sidian Bank. The R Square value indicates that Operational and Maintenance Costs account for a considerable portion of the variance in Revenue Growth, while the ANOVA results affirm the model's overall significance. The coefficients illustrate that increases in effective management of operational costs are likely to lead to notable revenue growth. This highlights the importance of focusing on operational efficiency as a critical driver of financial performance. Overall, these findings support the strategic emphasis on Operational and Maintenance Costs as essential for enhancing revenue growth at Sidian Bank.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

The purpose of this study was to establish the impact of digital banking, its marketing, and costs associated with its operation and maintenance on the revenue growth of Sidian Bank Limited, Kenya. This chapter provides a summary of the findings, draws conclusions from the results, and proffer recommendations and suggestions for further study guided by the study results.

5.1 Summary of the Results

This research study was guided by objectives aligned with implementation and long-term maintenance of digital banking and how they influence the Sidian Bank's revenue growth. Data was collected using digital questionnaires and analyzed using SPSS Version 27. Regression models for digital banking elements, digital marketing of digital banking services, and long-term operational and maintenance cost of digital banking platforms were fitted to assess their impact on revenue growth in banks.

5.1.1 Relationship between Digital Banking and Revenue Growth

The evolution of digital banking strategies, particularly mobile banking, online banking, and the card business, has profoundly impacted the financial landscape, contributing significantly to revenue growth in the banking sector. Digital banking offers bank clients convenience of accessing banking services remotely, allowing them to manage their finances anytime and anywhere. The card business, while not entirely digital because one had to walk to an ATM, it plays a vital role in facilitating both online and offline purchases, which drives consumer spending and enhances loyalty through incentives.

A regression model analysis revealed a strong relationship between digital banking adoption and revenue growth. As customers increasingly engage with digital banking platforms, banks

experience enhanced transaction volumes and lower operational costs, leading to improved profitability. The findings indicate that the convenience and accessibility of mobile and online banking, coupled with the expanding card business, drive customer retention and attract new users. This shift toward digital channels not only enhances customer experience but also positions banks to capitalize on emerging market opportunities, ultimately fostering sustained revenue growth. The interplay between the characteristics of mobile banking, online banking, and the card business underscores the importance of digital banking as a catalyst for financial success in the modern banking environment.

5.1.2 Relationship between Digital Banking and Revenue Growth

The analysis results suggest that Sidian Bank employs comprehensive digital marketing strategies that effectively enhances customer engagement and brand visibility. By leveraging data analytics, the bank creates personalized marketing messages tailored to specific customer segments, ensuring that communications resonate with the intended audience and increase the likelihood of engagement. The Bank maintains a strong presence across multiple digital channels, including social media, email marketing, and search engine marketing, which allows it to reach a broader audience and enhances brand awareness among diverse customer demographics as well as interact with clients, promptly addressing inquiries and feedback. These approaches play a pivotal role in driving revenue growth at Sidian Bank. A regression model analysis indicates a significant positive relationship between effective digital marketing strategies and revenue performance. As customer engagement increases through targeted campaigns and multi-channel outreach, the bank experiences higher conversion rates and increased transaction volumes. Emphasis on content marketing helps attract new clients while retaining existing ones, ultimately contributing to sustained revenue growth. The proactive engagement with customers not only enhances brand loyalty but also

stimulates word-of-mouth referrals, further amplifying revenue potential. Generally, the results indicate that Sidian Bank's strategic digital marketing initiatives not only enhance customer experience but also significantly contribute to its financial success, demonstrating the critical role of digital marketing in driving revenue growth in the competitive banking landscape.

5.1.3 Relationship between Operational and Maintenance Costs and Revenue Growth

The findings on operational and maintenance costs associated with Sidian Bank's digital banking platforms reveal important insights into the bank's expenditure patterns. The average operational cost stands at a moderate level, indicating efficient resource allocation toward digital services. However, the variability in these costs is noteworthy, with a range that suggests some fluctuations based on specific initiatives or technological upgrades. A significant portion of the costs is attributed to ongoing maintenance and updates necessary to keep the digital platforms secure and user-friendly. This focus on maintaining high-quality digital services aligns with the bank's strategy of enhancing customer experience and engagement.

The operational and maintenance costs are intrinsically linked to Sidian Bank's digital marketing efforts and their impact on revenue growth. A regression model analysis underscores a significant positive relationship between investments in digital banking infrastructure and revenue performance. As Sidian Bank allocates resources to maintain and improve its digital platforms, it enhances service quality and customer satisfaction, which in turn fosters greater customer engagement. The regression analysis suggests that effective management of operational and maintenance costs can lead to increased customer acquisition and retention. By ensuring that digital banking services are reliable and efficient, Sidian Bank is likely to see higher transaction volumes and ultimately improved revenue outcomes.

5.2 Conclusions

Based on the findings of this study, the researcher concluded that digital banking, digital marketing strategies aimed at promoting digital banking, and the long-term operational and maintenance costs of digital banking platforms have a significant effect on bank's revenue growth. Proper allocation of resources and effective digital marketing of digital banking along implementation can help drive revenue growth for banks while ensuring customers enjoy streamlined banking services.

5.2.1 Relationship between Digital Banking and Revenue Growth

The results of this study revealed that mobile banking, online banking, and card business, which are integral segments of digital banking, enhance customer engagement, convenience, service offerings, and loyalty. This underscores the importance of these digital services in driving the bank's operational efficiency and customer engagement. The regression model analysis reveals a significant positive relationship between digital banking initiatives and revenue growth at Sidian Bank. As investments in digital platforms—such as mobile and online banking—intensify, the bank experiences higher transaction volumes and improved customer retention. This correlation highlights the critical role that effective digital strategies play in enhancing financial performance. By optimizing digital services and ensuring seamless user experiences, Sidian Bank not only meets customer expectations but also positions itself for sustained revenue growth in a competitive banking environment. The findings emphasize the necessity for ongoing investment in digital banking as a key driver of financial success.

5.2.2 Relationship between Digital Banking and Revenue Growth

The findings on digital marketing initiatives reveal a robust framework designed to enhance customer engagement and brand visibility and promote the bank's digital banking platforms and services. This emphasizes the importance of real-time engagement in fostering strong relationships with customers and demonstrates that the bank is effectively leveraging digital marketing tools to create meaningful connections with its audience, positioning itself as a competitive player in the financial sector. The fitted model illustrates a significant positive relationship between Sidian Bank's digital marketing efforts and revenue growth. As the bank invests in effective digital marketing strategies, it not only enhances customer engagement but also drives higher conversion rates and increased transaction volumes, indicating the role that digital marketing plays in attracting new customers and retaining existing ones, ultimately contributing to the bank's financial success. The findings reinforce the notion that strategic investments in digital marketing are essential for Sidian Bank to achieve sustained revenue growth in an increasingly competitive landscape.

5.2.3 Relationship between Operational and Maintenance Costs and Revenue Growth

The descriptive statistics of operational and maintenance costs for Sidian Bank's digital banking platforms provide a clear picture of the bank's financial commitment to maintaining high-quality services. The analysis reveals a balanced allocation of resources, with a significant portion dedicated to ongoing maintenance and necessary upgrades. Variations in costs indicate responsiveness to specific initiatives and technological advancements, reflecting the bank's strategic focus on enhancing customer experience and ensuring platform reliability. Overall, these findings show the importance of effectively managing operational and maintenance costs as a foundation for delivering exceptional digital banking services and maximizing on revenue growth. Investing in maintaining and improving digital banking

platforms enhances service quality and customer satisfaction, which in turn fosters greater customer engagement and retention. The findings suggest that effective management of these costs not only supports the delivery of reliable digital services but also leads to increased transaction volumes and overall revenue growth.

5.3 Recommendations

The findings of this study suggested that bank have invested in digital banking to provide convenience and boost customer satisfaction. However, in light of some of the gaps that need to be filled, the researcher recommends the following:

1. Banks to invest in advanced data analytic tools to better understand customer behaviors and preferences across digital banking platforms. This aligns with SDG 9 (Industry, Innovation, and Infrastructure) as it supports development of resilient infrastructure and promotes innovation through data-driven decision. The use of technology to streamline operations will allow banks to tailor services and marketing strategies to effectively and adequately address gaps in customer engagement and improve overall satisfaction, contributing to economic growth.
2. Banks need to expand the range of digital banking offerings, including personalized financial planning tools and more inclusive financial services, which empower individuals and promote sustainable economic growth (SDG 8). This expansion to meet diverse customer needs supports equitable access to financial products, fostering inclusivity as defined in Social Pillar of Kenya vision 2030.
3. Conduct regular assessments of operational and maintenance costs to identify areas where efficiencies can be gained. Implementing cost-saving technologies and practices can help manage expenses without compromising service quality, aligning with SDG 12 (Responsible Consumption and Production) and Economic Pillar of vision 2030.

4. The need to explore the effects of emerging technologies like artificial intelligence (AI) and blockchain, on digital banking, and how they can influence both customer experience and generation of revenue for financial institutions. These technologies support innovation (SDG 9) and can enhance service delivery, improve customer experience and drive revenue growth (Economic Pillar, vision 2030).

5. Researchers can investigate the effectiveness of different digital marketing channels in promoting digital banking services to inform how banks can maximize their campaigns for increased customer acquisition and transactions, which can yield more revenue (SDG 8). Campaigns can enhance access to financial services to underserved population, promoting equity and inclusivity in economic participation, aligning with Social and Economic pillars of vision 2030.

6. There is need for more research on how the rise of mobile payment solutions and increased use of cards are changing consumer behaviors and expectations in banking. The development of user-friendly mobile banking services that empower low-income earners reduces inequality (SDG 10) and contributes to inclusive economic participation.

REFERENCES

- Abayomi, O. J., Olabode, A. C., Reyad, M. A. H., Teye, E. T., Haq, M. N., & Mensah, E. T. (2019). Effects of demographic factors on customers' mobile banking services adoption in Nigeria. *International Journal of Business and Social Science*, 10(1), 63-77.
- Akrani, G. (2011). What is a bank? Introduction, Definition and Features of a bank.
- Alphonsine, N. (2017). Effect of Mobile Lending on the Financial Performance of Commercial Banks in Kenya. (Master's thesis, University of Nairobi).
- Alves, A. (2018, September 25). Cash transactions climb in Brazil as more abandon cash.
- Analysis, K. I. (2018). Interest rate cap two years on. Kenya Institute for Public Policy Research and Analysis. https://kippra.or.ke/kippra_publication/interest-rate-cap-twoyears-on/
- Andersson, M., Boateng, K., & Abos, P. (2024). Validity and Reliability: The extent to which your research findings are accurate and consistent.
- Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, 6(5), 76-89.
- Bank, E. I. (2017, November). Interim Report on Digital Financial Inclusion. Banking in Sub Saharan Africa.
- Bankrate. (2020). Debit card. Bankrate. <https://www.bankrate.com/glossary/d/debit-card/>
- Chen, P. F., & Lin, I.-C. (2019). Digital banking strategy and bank performance: Evidence from China. *Journal of International Financial Markets, Institutions and Money*, 62, 101080. <https://doi.org/10.1016/j.intfin.2019.07.002>
- Bergal, D. (2016, May 5). What is Digital Banking?
- Bhalla, T. (2019, February 9). Financial inclusion: PCI submits recommendations to RBI to

boost digital payments. YourStory. <https://yourstory.com/2019/02/financial-inclusionpci-recommendations-rbi-digital-payments>

Bhanushali, A. (2023). Ensuring Software Quality Through Effective Quality Assurance Testing: Best Practices and Case Studies. *International Journal of Advances in Scientific Research and Engineering*, 26(1).

Central Bank of Kenya. (2018). Central Bank of Kenya 2017 value of transactions.

Chen, X., Guo, S., Xiong, J., & Ye, Z. (2023). Customer engagement, dependence and loyalty: An empirical study of Chinese customers in multitouch service encounters. *Technological Forecasting and Social Change*, 197, 122920.

Clark, L. A., & Watson, D. (2019). Constructing validity: New developments in creating objective measuring instruments. *Psychological assessment*, 31(12), 1412.

Cohen, M. M. (2007). *Research methods in education* (6th ed.). Routledge. Cytonn. (2019). Review of the interest cap rate. Cytonn Investments.

Department, S. R. (2015, November 3). Number of US digital users. Statista. <https://www.statista.com/statistics/278414/number-of-digital-buyers-in-the-unitedstates/>

Epstein, S. (2015, December 1). Understanding digital banking. FinExtra Blog. <https://www.finextra.com/blogposting/10390/understanding-digital-banking>

Fife-Schaw, C. (2020). Questionnaire design. *Research methods in psychology*, 343-374.

Garcia, R., & Martinez, E. (2020). Digital Transformation and Revenue Growth: A Study of European Banks. *Journal of Business Research*, 112, 1-10.

George, K. S. (2022). Effect of Internet Banking on Profitability of Commercial Banks in Kenya: A Case of Kenya Commercial Bank. *International Journal of Academic*

- Research in Accounting, Finance and Management Sciences, 13(1), 86-94.
<https://doi.org/10.6007/IJARAFMS/v13i1/9748>
- Goforth, C. (2015). Statistical Consulting Associate. University of Virginia Library.
<https://doi.org/10.18130/V3JW0C>
- Golafshan, N. (2003). Understanding reliability and validity in qualitative research. The Qualitative Report, 8(4), 597-607. <https://nsuworks.nova.edu/tqr/vol8/iss4/6/>
- Golafshani, N. (2003). Understanding reliability and validity in research. The Qualitative Report, 8(4), 597-607.
- GSMA. (2018). State of the industry report on mobile money. GSMA.
<https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/02/2018-Stateof-the-Industry-Report-on-Mobile-Money.pdf>
- Gul, M. A., Imran, Z. K., Kalwar, M. A., Wadho, M. H., Khan, M. A., Raho, L. A., & Shaikh, S. A. The perception of online banking customers about internet services on its cost effectiveness, ease of use, easily availability and efficiency & effectiveness. International Research Journal of Modernization in Engineering Technology and Science, 4.
- Gupta, S., Nawaz, N., Tripathi, A., Muneer, S., & Ahmad, N. (2021). Using social media as a medium for CSR communication, to induce consumer–brand relationship in the banking sector of a developing economy. Sustainability, 13(7), 3700.
- Hari Prasad Josyula. (2021). THE ROLE OF FINTECH IN SHAPING THE FUTURE OF BANKING SERVICES. The International Journal of Interdisciplinary Organizational Studies, 16(1), 187–201.
- HWANG, H. J. (2023). The importance of anonymity and confidentiality for conducting

- survey research. *Journal of Research and Publication Ethics*, 4(1), 1-7.
- Insight, F. I. (2016, January). 2015 mobile money data. *Financial Inclusion Insight*.
<https://www.cgap.org/research/data/financial-inclusion-insights-2015-mobile-money-data>
- Jameaba, M. S. (2024). Digitalization, emerging technologies, and financial stability: challenges and opportunities for the Indonesian banking sector and beyond. *Emerging Technologies, and Financial Stability: Challenges and Opportunities for the Indonesian Banking Sector and Beyond* (April 26, 2024).
- Joglekar, N. (2017). Digital product management thinking: Integrating analytics, business model, coordination and design thinking. Senseshaping Ventures LLC.
<https://www.amazon.com/Digital-Product-Management-Thinking-Coordinationebook/dp/B0741RQM7R>
- Johnson, S. (2012, April 2012). Mobile money transfer-What does it mean for financial inclusion?
- Juma, J. O. (2014). Factors influencing adoption of digital banking services by customers in Kenya. University of Nairobi. <http://erepository.uonbi.ac.ke/handle/11295/75687>
- Kariuki, R. (2019). Analysis of digital strategies influence on the growth of Sidian Bank Limited, Nairobi County, Kenya. Nairobi.
- Kiburu, L., & Mungai, E. (2022). Equity bank: repositioning as a fintech. *Emerald Emerging Markets Case Studies*, 12(4), 1-37.
- Kimathi, L. (2018, August). IFRS 9: Impact on banks, customers and the economy. *Standard Digital*, 10.
- Kithinji, E. (2017). Effects of digital banking strategy on financial inclusion among

commercial banks in Kenya. Nairobi.

Lim, W. M. (2024). What Is quantitative research? An overview and guidelines. *Australasian Marketing Journal (AMJ)*, 1(1).

Mariwec, J. (2019). The growth of digital banking report, 1-18.

Marius Kajira Eliz, & Bett, S. (2023). Total Quality Management Practice on the Performance of Commercial Banks: Case of Sidian Bank Kenya Limited. *International Journal of Business Management, Entrepreneurship and Innovation*, 5(1), 93–105. <https://doi.org/10.35942/jbmed.v5i1.311>

McMeekin, N., Wu, O., Germen, E., & Briggs, A. (2020). How methodological frameworks are being developed: evidence from a scoping review. *BMC medical research methodology*, 20, 1-9.

Melinevskiy, A., Koberniuk, S., Bilousko, T., Vasiuta, V., & Strochenko, N. (2023). Digital marketing and its role in customer acquisition.

Merry, E. (2018, March 27). A closer look at survey measures. FED NOTES. Retrieved from <https://doi.org/10.17016/2380-7172.2163>.

Miller, J. K. (1986). Reliability and validity in qualitative research. Retrieved from <http://methods.sagepub.com/book/reliability-and-validity-in-qualitative-research>

MORI, I. (2018, May 15). How the digital banking revolution finally started. The Fintech Landscape in 2018.

Nagle, F., Seamans, R., & Tadelis, S. (2020). Transaction cost economics in the digital economy: A research agenda. Harvard Business School Strategy Unit Working Paper, (21-009).

Nohumba, I., Nyambuya, C., & Nyambuya, G. (2020). Integrating offline and online

- platforms for seamless banking experience. *Journal of Management & Administration*, 2020(1), 45-72.
- Okunev, R. (2022). History of the Internet, Search Engines, and More. *The Psychology of Evolving Technology: How Social Media, Influencer Culture and New Technologies are Altering Society*, 9-16.
- Patel, M., & Patel, N. (2019). Exploring research methodology. *International Journal of Research and Review*, 6(3), 48-55.
- Payments, D. T. (2018). Ghana Online Payments. Retrieved from <https://www.dtapayments.com/ghana-online-payments/>
- Pavithra, C. B., & Geetha, K. (2021). FACTORS AFFECTING CUSTOMERS'PERCEPTION TOWARDS DIGITAL BANKING SERVICES. *Turkish Journal of Computer and Mathematics Education*, 12(11), 1608-1614.
- Pickford, J. (2018, August 2018). Seven out of 10 people in UK now bank online. *Financial Times*.
Retrieved from <https://www.ft.com/content/569c3666-9dd6-11e8-ab77-f854c65a4465>
- Porkelsson, S. L. (2018). Digitisation in Consumer banking. *Gartner Research*, 4-96.
- PWC. (2016). They say they want a revolution. *Total Retail*, 1-32. Retrieved from <https://www.pwc.com/gx/en/retail-consumer/publications/assets/total-retail-globalreport.pdf>
- Rafael. (2018). Loan Apps in Kenya. *UrbanKenyans*. Retrieved from <https://urbankenyans.com/loanapps-in-kenya/>
- Ritson, N. (2011). Levels of Strategy. In *Strategic Management* (p. 19). Ventures Publishing.
- Robson, G. (2018). TO PROFIT MAXIMIZE, OR NOT TO PROFIT MAXIMIZE: FOR

FIRMS, THIS IS A VALID QUESTION. *Economics and Philosophy*, 35(02), 307–320.

Ronald. (1937). *Nature of the Firm*.

Sampling Procedures. (2012). Kenya Projects Organization.

Segal, T. (2020, March 16). What Is a Central Bank?

Sharma, G. (2017, April 26). What Is Digital Banking? *Venture Skiew Blog*.

Shevlin, R. (2015). *The Smarter Bank*. Searching Finance Ltd.

Smith, J., Johnson, A., & Brown, L. (2018). The Impact of Digital Banking on Revenue Growth: Evidence from a Cross-Country Analysis. *Journal of Banking and Finance*, 45, 1-12.

Standards for Educational and Psychological Testing. (1985). American Educational Research Association.

Statista. (2019). Digital Payments in India. Retrieved from <https://www.statista.com/outlook/296/119/digital-payments/india>

Taherdoost, H. (2021). Data collection methods and tools for research; a step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), 10-38.

Vives, X. (2019). Digital disruption in banking. *Annual Review of Financial Economics*, 11(1), 243-272. <https://doi.org/10.1146/annurev-financial-100719-120854>

Wang, Y., Wen, Q., & Guan, J. (2020). Digital banking strategy and bank market share: Evidence from China.

Willie, M. M. (2024). Population and target population in research methodology. *Golden Ratio of Social Science and Education*, 4(1), 75-79.

Wisniewski, M. (2020, January 31). 5 key benefits of mobile banking in 2020. Bankrate.

Retrieved from <https://www.bankrate.com/banking/checking/benefits-of-mobile-banking/>

World Bank. (2018). Record high remittances to low- and middle-income countries in 2017.



APPENDICES

Appendix I: Letter of Consent

Title of Study: Digital Banking Strategy Influence on Growth of Sidian Bank Limited, Kenya
Principal Investigator: Robert Kariuki, Mount Kenya University

Purpose of the Study: This study aims to assess how the adoption of digital banking has impacted the growth of Sidian Bank. The results may contribute to understanding the role of digital strategies in banking growth.

Procedures: If you agree to participate, you will be asked to fill in a questionnaire. This will take approximately 15 minutes of your time.

Risks and Discomforts: There are no known risks associated with this research.

Benefits: While there may be no direct benefits to you, the results of this study may help improve understanding of digital banking strategies.

Confidentiality: All information collected will be kept strictly confidential. Data will be stored securely and only the researcher will have access. Results will be reported in a way that preserves individual confidentiality.

Voluntary Participation: Your participation is entirely voluntary.

Questions about the Research: If you have questions about the study, please contact:

Name: Robert Kariuki

Email: robertomuriithi@gmail.com or **Phone:** +254 737 347916

For questions about your rights as a research participant, please contact: pgscoordinator-nrb@mku.ac.ke

Consent: I have read and understood the above information. I agree to participate in this study.

Signature: _____ Date: _____

Appendix II: Questionnaire

I am Robert Kariuki, a student at Mount Kenya University pursuing a master's degree in Business Administration. I intend to conduct a research on the impact of digital banking strategy on the growth of Sidian bank, which is part of the requirement for the degree. This questionnaire and the information gathered are for the purpose of the academic research only. Please respond to the questions with utmost honesty and to the best of your knowledge.

Do you consent to proceed? Yes No

SECTION A: DEMOGRAPHIC INFORMATION

1. What is your highest level of education?

Certificate Diploma Higher Diploma Degree Master's degree PhD.

2. How many years have you worked in the banking industry?

0-2 years 3-5 years 6-8 years More than 10 years

3. What category does your bank fall?

i. Tier 1 ii. Tier 2 iii. Tier 3 iv. Tier 4

SECTION B: DIGITAL BANKING

i) Mobile Banking Services

How much do you agree with the following statements regarding Mobile Banking Services in Sidian Bank? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
I am familiar with mobile banking services offered by Sidian Bank					
Mobile banking been successfully implemented at the branch					
The customers are aware and trained on how to use mobile banking.					

Majority of the customers have adopted and frequently use mobile banking services					
Mobile banking is well integrated with the overall branch operations					
The mobile banking platform effectively supports customer service and support functions					
Fee-based services offered through the mobile banking platform are performing well and have shown significant growth potential					
Mobile banking has contributed to customer acquisition or retention efforts					

ii) Online Banking Services

How much do you agree with the following statements regarding Online Banking Services in Sidian Bank? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
I am familiar with the online banking services offered by Sidian Bank?					
Online banking has significantly impacted the revenue generation of the branch					
All Sidian Bank fee-based products and services are offered on the online banking platform					
Cross-selling and upselling have been integrated within the online banking platform					
There is collaboration with other business units (e.g., product development, marketing) to drive revenue growth through online banking					
Online banking has contributed to Sidian Bank's customer acquisition or retention efforts					

iii) Card Business Services

How much do you agree with the following statements regarding Card Business Services in Sidian Bank? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 =

Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
Sidian Bank offers both physical (debit cards, credit cards, prepaid cards) and digital cards					
Revenue generated from card business compares favorably to other banking channels					
Card business effectively contributes to customer acquisition and retention					
Customers use card products at the branch frequently (patterns in card transaction volume or usage)					
There has been significant growth in revenue from the card business in the past 5 years					
The branch has experienced notable revenue growth from cross-selling or upselling efforts within the card business					
Sidian Bank fee-based products and services have been integrated into card business					

SECTION C: DIGITAL MARKETING

How much do you agree with the following statements regarding digital marketing in Sidian Bank? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
Digital marketing is essential for modern banks to stay competitive in the market					
Sidian Bank has properly adopted and integrated digital marketing strategies					
Sidian Bank utilizes common channels like Social Media, email marketing, and content marketing for its digital banking services and to engage with customers and prospects					
Sidian Bank uses blogs and articles to educate customers and prospects about its digital banking products and services					
The primary objective of Sidian Bank's digital marketing efforts is to increase brand awareness and acquire new customers					
Personalized digital marketing campaigns are more effective in driving customer engagement than generic ones					
Sidian Bank's digital marketing efforts have continuously yielded positively and helped Sidian Bank grow its revenue					

Sidian Bank has or is planning to integrate Artificial Intelligence (AI) and machine learning technologies into its digital marketing strategies					
--	--	--	--	--	--

SECTION D: OPERATIONAL AND MAINTENANCE COSTS

a) What are the primary operational costs associated with maintaining digital banking services?

- Hardware procurement and maintenance []
- Employee salaries and training []
- Regulatory compliance expenses []
- Software licensing fees []
- Security infrastructure costs []
- Customer support and service costs []

b) What are the main maintenance costs related to digital banking platforms and technologies?

- Software updates and upgrades []
- Data storage and management []
- Third-party vendor support fees []
- System maintenance and monitoring []
- Bug fixes and troubleshooting []
- Technology obsolescence mitigation []

c) How much do you agree with the following statements regarding the operation and maintenance costs of digital banking of Sidian Bank Revenue? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
Implementing automation and negotiating vendor contracts are effective strategies for optimizing operation and maintenance costs					
Sidian Bank has plans to shift towards cloud-based solutions and greater reliance on AI and automation to save on operationalization costs					
Compliance with regulatory requirements significantly impacts operation and maintenance costs for digital banking					
Sidian Bank is streamlining internal processes and consolidating technology platforms and vendors to reduce operation and maintenance costs of digital banking					


Sidian Bank benchmarks operation and maintenance costs against competitors to ensure cost competitiveness in digital banking					
Sidian Bank conducts lifecycle cost analysis for digital banking technologies and platforms					

SECTION E: SIDIAN BANK REVENUE GROWTH.

How much do you agree with the following statements regarding the growth of Sidian Bank Revenue? Tick appropriately where 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree.

Statement	1	2	3	4	5
Sidian Bank’s customer base and market share have significantly grown after digitization of the bank’s services					
Digital banking has helped Sidian Bank explore new markets and consequently, led to significant revenue growth					
Digitization has led to creation of more and or diversifying products and services that generate revenue for Sidian Bank					
Sidian bank has occasionally implemented pricing adjustments across digital banking platforms to drive revenue growth					
Upselling and cross-selling efforts through digital platforms have led to significant revenue growth					
Loan portfolio aided by digital platforms has expanded and contributed significantly to revenue generation					
Digitalization of wealth management and investment services by Sidian Bank has contributed to revenue growth significantly					
Net Interest Margin of Sidian Bank has grown significantly with the introduction and adoption of digital banking					
Sidian Bank is consistently investing to further leverage digital banking for revenue growth					

Appendix III: ERC certificate


Mount Kenya University

REF: MKU/ISERC/4099 Date: 07 August 2024
TO: ROBERT MURIITHI KARIUKI
REG: MBA/2027/62432

Dear Sir/Madam,

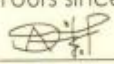
RE: DIGITAL BANKING STRATEGY INFLUENCE ON GROWTH OF SIDIAN BANK LIMITED IN KENYA


This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2971**. The approval period is **07/08/2024 - 06/08/2025**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including informed consents, study instruments, MTA will be used
- ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
- vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC


MOUNT KENYA UNIVERSITY
ETHICS REVIEW COMMITTEE
P. O. Box 342 - 01000,
THIKA

Appendix IV: Introduction letter from MKU



DIRECTORATE OF GRADUATE STUDIES

MBA/2017/62432

16th August, 2024

*National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA*

Dear Sir/Madam,


RE: ROBERT MURIITHI KARIUKI - REGISTRATION NO. MBA/2017/62432

The purpose of this letter is to introduce the above named student who is pursuing **Master of Business Administration** in the department of **Accounting and Finance** in the school of **Business and Economics**.

The title of the research is **"Digital Banking Strategy Influence on Growth of Sidian Bank Limited in Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **August, 2024 and October, 2024**.

Any assistance accorded to the student will be highly appreciated.


Thank you.


Dr. Samuel W. Karenga, PhD
Director, Graduate Studies
Enc.

Appendix V: NACOSTI research license

Republic of Kenya
National Commission for Science, Technology and Innovation
Ref No: **307384**

RESEARCH LICENSE




This is to Certify that Mr.. Robert Muriithi Kariuki of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Bungoma, Busia, Embu, Isiolo, Kajiado, Kakamega, Kericho, Kiambu, Kirinyaga, Kisii, Kisumu, Kitui, Laikipia, Machakos, Makueni, Meru, Mombasa, Nairobi, Nakuru, Nyeri, Tharaka-Nithi, Uasin-Gishu on the topic: Digital Banking Strategy Influence on Growth of Sidian Bank Limited in Kenya for the period ending : 05/September/2025.

License No: **NACOSTI/P/24/39521**

307384
Applicant Identification Number

Walter Mwangi
Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
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THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
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The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
 - v. Adversely affect the environment
 - vi. Adversely affect the rights of communities
 - vii. Endanger public safety and national cohesion
 - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
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5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
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15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

Appendix VI: Turnitin report

ROBERT MURIITHI KARIUKI-THESIS

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