



DIGITAL CREDIT AND PERFORMANCE OF COMMERCIAL BANKS LISTED ON THE NAIROBI SECURITIES EXCHANGE, KENYA

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ABSTRACT

The purpose of this study was to establish how digital credit adopted by commercial banks listed on the Nairobi Securities Exchange, relate to the performance of these banks over the past five years between 2018- 2022 in the challenging business environment of pre, during and post Covid-19 pandemic, industry tight regulations and tough micro-economic environment. The study was based on technology acceptance theory. The study adopted correlational research design to test the relationship between variables of study. The target population for the study was the 11 commercial banks listed on the Nairobi Securities Exchange with a population of 1044 senior managers. The sample size of 88 respondents was selected using stratified random sampling. The sample size was arrived at by use of Fisher, Laing, and Stoeckel's formula. The study used both primary and secondary data. Primary data was collected by use of questionnaires that were administered to 88 senior management employees from sampled from across the branch network of the eleven commercial banks listed on the Nairobi securities. Secondary data was obtained using document analysis guide from documented financial statements published by the listed banks on NSE, CBK journals, media circulations, newsletters and internal circulars. The research instruments were checked by three experts to determine the construct validity of the research instrument. Pilot testing was done to determine the accuracy of the research instrument while reliability of the research instrument was done using split-half method and the results compared by spearman's' brown prophecy formulae. Data collected from the study was analyzed using descriptive and inferential statistics. In descriptive statistics, the study used frequencies, mean and standard deviation while in inferential statistics the study used simple regression model. The findings of the study revealed that Digital credit($R=.836^a$; $R^2=.673$; $\theta=.914$; $p=.000, <0.05$) had a statistically significant positive relationship with performance of commercial banks. The study concluded that digital credit significantly influenced the performance of commercial banks listed on the Nairobi Securities Exchange. It was therefore recommended that there is a need to enhance app-based loan service, STK-based loans, and partnerships with mobile network operators in terms of accessibility, user experience, and risk management. Coupling advanced data analytics tools with AI in assessing creditworthiness, banks can speed up the application and approval processes so that loans can be instantly disbursed. Strategic partnerships could lead to more coverage, especially in unserved and underserved areas, although the terms and conditions under this partnership must be transparent to the customers for building trust.

Keywords: Digital credit, Performance of Commercial Banks, Nairobi Securities Exchange

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BACKGROUND

The financial performance of commercial banks is critical to the performance of the economy since banks are the main money suppliers for both individuals and institutions. In recent years, banks have developed innovative products and offered a wide range of services to improve their financial performance which is the ultimate goal of banks (Otieno & Ndede, 2020). Organizational performance focuses on analyzing an organization's output against its set goals and objectives (Kerubo, 2018). A bank's performance has implications for the organization's health and ultimately its survival. In a competitive market environment, financial institutions seeking to improve performance cannot simply rely on quality but also change (Khalid, Islam, & Ahmed, 2019).

Banks have in the recent past shifted from traditional banking to branchless mode of banking since it offers new opportunities for banks to provide added convenience to their existing customers in both developed and developing countries to reach a large population of unbanked customers in emerging markets (Mugodo, 2016). Commercial banks have embarked on enhanced digitization putting e-banking at the forefront with a view of improving their network base, reducing personnel costs, competing favorably with their peers, and to improve on performance. The assimilation of digital technology in finance services provision has today enabled consumers (businesses and individuals) to transact independently of banking hours and locations including account inquiries, payments settlements, account deposits, and funds transfer. This has enabled a cashless global market in which no-need-for-hard-cash to conduct business transactions such as payments and receipts have been created thus transforming banking operations globally (Beyero, 2015).

Kuusisto (2017) asserts that digital credit is considered to provide great efficiency when habits and work processes are changed to accommodate possible efficiency improvements. On the other hand, digital credit policies will surely cause

changes in normal work patterns and procedures. Digital credit in the banking sector has brought about Internet banking and mobile banking, which has turned into the single greatest channel right now for reaching customers and for customers to be able to deal with their banking errands themselves (Mayowa et al., 2019).

Globally, the financial and banking sectors are growing faster than previously and hence digital credit is at a vital position in how to acquire a gain on the market advantage against the rivaling banks (Gartner, 2016). Digital credit in banks means the implementation of IT to traditional banking so that customers can do all kinds of transactions over the Internet using mobile phones or any other electronic medium. Because of the competition between Fin-Tech companies, tech companies, and financial institutions, lots of banks are adopting these technologies to acquire new customers (Kumar, 2020). Digitization strategies in conjunction with financial technologies enable all types of banks to collect funds in greater quantities and at lower costs than they could elsewhere. (Ray, Muhana & Barney, 2015).

The digital transformation in commercial banks is the integration of digital technology into all banking areas, fundamentally changing the way commercial banks operate and provide value to customers such as developing financial and banking software, digital banking, mobile banking solutions, fintech, etc., able to meet the demand of customer about the interest rate liberalization, big data, mobile finance, risk management, internet finance and customer relationship management (Ortaköy & Özsürünç 2019; Chen & Zhang 2021). The COVID-19 pandemic made 2020 a difficult year for the banking and financial sector worldwide. However, the pandemic also played a key role in enhancing digital transformation faster for all industries, including the financial and banking sectors. The “work from home” movement forces us to change the new ways of working and requirements to new digital services, such as the ability to access financial

support quickly. (Do, Pham, Thalassinou, Eleftherios & Hoang, 2022).

In Vietnamese commercial banks, the interaction between digital transformation and the size of the bank had a positive effect on the performance of Vietnamese commercial banks. The larger the scale of commercial banks, the more digital transformation will positively impact the performance of these commercial banks. Or the effectiveness of digital transformation depends on the size of commercial banks, (Do, et al., 2022). It is easier for larger banks to adopt new technology because of the necessary resources, skills, commitment, and the proper understanding of technical digital opportunities (Giotopoulos, Kontolaimou, Korra & Tsakanikas, 2017).

While European banks are struggling with profitability (Statista, 2019), the overall online banking penetration in the Euro area was at a bare level of 61% in 2019, and some of its most advanced economies situated themselves even below this average, such as Germany with 50% (Statista, 2021). Banks suffered a client exodus towards alternative options of banking, whereas COVID-19 led companies to focus on their digital transformation strategies and accelerated the adoption of digital media (Statista, 2020). Traditional banking is described as an approach based on physical interaction with customers, hence in person and through branches of the bank. Direct banking involves digital channels that are directly accessed by customers without the intervention of bank employees (Filotto, Caratelli, & Fornezza, 2021).

Based on the Microsoft Asia Digital Transformation story, 90% of Indonesian business leaders agreed that every organization needs to transform into a digital business (Karnadi, 2017). Among the businesses, financial institutions are the top riskiest businesses that are undergoing disruption after the hospitality, retail media, and entertainment industries (Bradley, 2015). In Asia, especially emerging countries such as India, the Philippines, or Indonesia, people prefer to have financial services from banks and through physical branches for

security reasons and cultural reasons. However, the percentage of the population that cannot be reached is still high (Hie, 2019).

In the African continent, the digital credit impact on the financial sector can easily be attributed to the number of people using Internet banking to settle their bills because it is the major factor for the average people's banking errands (Pohjola, 2015). The trail of digital credit in the commercial banking and financial sector in Africa is heavily impacting cost-saving potential and also creating fresh revenue sources (Olanrewaju, 2014). Barclays Bank Africa was one of the pioneer banks to see the potential in digital credit and advanced banks after they moved to the web. Their clients presently visit the bank's halls two times each month all things considered, and for the remainder of the days they use digital solutions 18 times each month (Deutsche Bank, 2016).

In Nigeria, the impact of digital credit on Nigerian financial institutions can undoubtedly be associated with the measure of individuals utilizing Internet banking and mobile banking services to pay their bills, which is a dominating factor in an average person's banking errands (Mayowa et al., 2019). Digital credit in Nigerian commercial banks have brought about new models of businesses, that is new ideas with regards to development and improvements in various areas, from mobile banking to financial transactions and internet banking. The performance of an organization can be measured by how well customers are satisfied with products and services that are being offered as a result of persistent patronage (Khadka & Maharjan, 2017).

Concept of Digital Credit

Digital credit products differ from traditional forms of credit, using smart and feature phone technology or web platforms to register, score, approve, and distribute loans to borrowers. In a rising number of low-and middle-income countries, digital credit is an increasingly prominent source of borrowing. Digital lenders can leverage non-traditional data (e.g. mobile phone usage data) instead of financial

histories for credit assessment and deliver consumption credit via widely-spread mobile money networks (Parlance & Mußhoff, 2021). Despite the obvious potential of the easy-to-access consumption credit, it is far from being agreed that digital credit invariably enhances welfare. The ease of access itself, in combination with potentially financially inexperienced borrowers, might induce credit take-up that leads to overborrowing, default and vicious circles of debt. Over the past few years, digital credit in Kenya has diversified to encompass differing business models that span a variety of regulatory classifications, some which would fall under the definition of the formal, some under the semi-formal credit market.

World over, digital financial services continue to expand and replace the delivery of traditional banking services to the customers through innovative technologies to meet the growing complex needs and globalization challenges. In recent years, the digital banking industry has come up with nearly 85% of digital platforms innovations, showing that access to banking is progressing in the emerging markets (Mageto & Wekesa, 2023). At the global level, the proportion of adults with an account with a financial institution or mobile money service rose from 51% in 2011 to 69% in 2017 (Parlance & Mußhoff, 2021). This trend of cashless transactions has been accelerated by the onslaught of a global pandemic.

According to FinAccess (2021) evidence suggests that digital payments in particular have expanded as a result of the COVID19 emergency and this has helped to accelerate digital financial inclusion. A 2016 report by the McKinsey Global Institute estimated that digital credit alone could boost the annual GDP of all emerging economies by \$3.7 trillion by 2025 due to productivity gains of businesses and governments.

In China, digital financial inclusion has accelerated the emergence of financial inclusions through household consumption such as online shopping and digital payments (Li, Wu, & Xiao, 2020). Digital platforms have enabled dramatic bounds in

financial inclusion, with support from public policy and regulation (Hua & Huang, 2020; Luohan Academy, 2019). Ant Group (1.3 billion users) and Tencent (900 million users) offer low-cost payments, credit, insurance and savings products to hundreds of millions of users, leveraging their parent groups' activities in e-commerce and social media, respectively. In lending, empirical evidence suggests that big tech lending has helped to overcome local credit supply frictions and increase credit access for small firms (Hau et al., 2020). Big tech credit has also reduced the need for costly collateral, and hence the relationship between lending and asset prices (Gambacortas, 2020).

In Sub-Saharan Africa, mobile money platforms played a particularly crucial role in increasing access, using telecommunications networks to offer low-cost payments and other financial services by phone to large numbers of users. Mobile money platforms have proliferated across Africa, and a growing ecosystem of Fintech platforms and incumbent financial institutions use mobile money networks to reach their customers (CGAP, 2020). The ITU (2016) Focus Group report show that despite the benefits of digital financial services many countries in the developing world still face considerable challenges in attaining merchant acceptance of digital payments.

Concept of Performance

An organization's performance involves identifying outcomes that it wants to achieve, forming coherence of action stages, the intention of carrying out those plans, and determining whether the outcomes can be seen through effective service delivery, ensuring customer demands, and improving productivity (Henri, 2014). Organizational performance is a gauge of how effectively managers use the available resources to gratify customers and accomplish organizations' goals (Fuentes et al., 2020). Nganga (2014) purports that organizational performance is an act of measuring the output of a certain procedure, and then changing the procedure to increase output, efficiency, or effectiveness of the procedure.

Banking Industry in Kenya

According to Singh, Darwish & Potočnik (2016), organizational performance encompasses specific areas of firm outcome such as financial performance (profits, return on assets, return on investment), product market performance (sales, market share), and shareholder return (total shareholder return, economic value added). Estimating the performance of a firm is not direct for companies with multiple targets of consumer protection, productivity, and aptitude to be familiarized with changing backgrounds, employee fulfillment, enlargement, and social accountability. Organizational performance focuses on analyzing an organization's output against its set goals and objectives (Kerubo, 2018). It involves measuring the actual output or results of an organization against its intended output. The analysis focuses on three main outcomes namely; shareholder value performance, financial performance, and profitability (Parmar, Keevil, & Wicks, 2019)

To better understand and improve the performance of an organization, Universalia in collaboration with the International Development Research Centre (IDRC), came up with a comprehensive frame for organizational performance assessment (OPA) referred to as the Institutional and Organizational Assessment Model (IOA). In the IOA model, performance is defined in terms of the organization's effectiveness (mission fulfillment), efficiency (accuracy, timeliness, value of service and program delivery), ongoing relevancy (the extent to which an organization adapts to changing conditions and its environment) and financial viability. The model also presents an approach to assessing the three underlying forces that drive performance: the capacities of an organization, its external environment, and its internal context or motivation. Thus, organizational performance needs to be examined using multiple pointers like effectiveness, competence, customer contentment, and financial force based on the firm (IDRC, 2002). Some of these pointers have been utilized in this study.

Kenyan banks particularly commercial banks have had to adapt to the changes in the global market in an attempt to keep up with the trends and changing consumer needs. This has also been fueled by the effects of globalization. To succeed, the commercial banks have been forced to adopt digital credit (Mwangi, 2015). Mutua (2022) noted that commercial banks in Kenya have adopted Internet banking including ATMs, mobile banking, and Internet banking where customer can access their accounts on their personal computers. Mobile banking offers millions of people a potential solution in emerging markets that have access to a cell phone yet remain excluded from the financial mainstream. It can make basic financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the bank's overheads and transaction-related costs.

The Kenyan banking sector has various available digital strategies that can be adopted to boost performance. A bank is said to be performing when its adopted digitization strategies can be measured using certain metrics. The ability of a bank to collect funds from customers at the lowest possible expense is the lifeblood of its financial services (Maiyo, 2022). The performance of banks in the wake of the new millennium improved significantly as opposed to the periods before the adoption of the most relevant and timely technology for the various services. Further, commercial banks that adopted electronic banking for their various banking activities despite the initial costs, later on, performed better and operated at a competitive advantage as compared to those banks that resisted electronic banking due to the initial accompanying costs (Daniel, 2019). Ahmed (2019) states that financial innovations have been used by commercial banks as formidable strategic variables to outstrip any form of competition thus becoming an effective means by which banks can improve their performance while simultaneously being able to maintain their effectiveness in the market.

Nairobi Securities Exchange

Nairobi Securities Exchange (NSE) was founded in 1954 and has established itself over more than 6 decades as a leading African Exchange based in Kenya, one of the fastest economies in sub-Saharan Africa. NSE offers a world-class trading facility for local and international investors looking to gain exposure and Africa's economic growth. NSE is involved in the listing of both equity and debt securities. NSE demutualized and self-listed in 2024. NSE is playing a vital role in the growth of the Kenya's Economy by encouraging savings and investment, as well as helping local and international companies access cost-effective capital. NSE operates under the jurisdiction of the Capital Markets Authority of Kenya. (www.nse.co.ke)

The Nairobi Securities Exchange 20 Share Index is a major stock market index that tracks the performance of the 20 best-performing companies listed on the Nairobi Securities Exchange. The companies are selected based on weighted market performance for 12 months based on market capitalization, number of shares traded, number of deals, and turnover. The NSE20 is a major stock market index that tracks the performance of large companies based in Kenya. The Nairobi 20 decreased 12 points or 0.71% since the beginning of 2023, according to trading on a contract for difference that tracks this benchmark index from Kenya (<https://tradingeconomics.com/kenya/stock-market>)

Nairobi Securities Exchange has a total of 62 listed companies categorized as follows: seven(7) agricultural companies, One(1) Automobile and accessories company, Twelve(12) banking institutions, twelve(12) commercial & services companies, five(5) construction & allied companies, four(4) energy & petroleum companies, six(6) insurance companies, five(5) investment companies, 1(one) investment & services company, eight(8) manufacturing & allied companies, one(1) telecommunication company and one (1) exchange-traded fund(cdskenya.com). The 12 commercial

banks listed on the NSE are Absa Bank Kenya plc, Stanbic Holdings Ltd, I&M Holdings Ltd, Diamond Trust Bank Kenya Ltd, Housing Finance Group Ltd, Kenya Commercial Bank Group Ltd, National Bank of Kenya, NCBA Group Ltd, Equity Group Holdings Ltd, Standard Chartered Bank Ltd, Cooperative Bank of Kenya and Bank of Kigali whose representative office in Kenya has since been shut down.

Statement of the Problem

Digital payments have the potential to expand inclusive access to financial services (Aziz & Naima, 2021). Through Fintech providers, digital finance has positive effects for financial inclusion in emerging and advanced economies, and the convenience that digital finance provides to individuals with low and variable income is often more valuable to them than the higher cost they will pay to obtain such services from conventional regulated banks (Ferrata, 2019).

In Kenya, the use of financial services including mobile banking increased to 44.1 percent in 2021 from 40.8 percent in 2019. This is attributed to the increased usage of mobile banking accounts, whose proportion rose to 34.4 percent in 2021 from 25.3 percent in 2019 (CBK, 2022). Despite great strides, the financial performance of commercial banks has plummeted over the last five years (CBK, 2022). For instance, Equity Bank has witnessed 97 percent of its transactions outside the branches, with more than 513 million over the mobile banking app, and 80 million transactions through agents. Kenya Commercial Bank (KCB) transactions is now 90 percent digitally assisted (CBK, 2020). Absa Bank Kenya has rolled out contactless payment solution with the launch of a new vertical card in 2021.

However, despite these digital credit platforms the growth of commercial banks has continued to shrink. In 2019, medium sized banks recorded a decrease in their market share to 17.10% from 21.22% in December 2018 and customer deposits fell to KSh 623 billion from KSh 713 billion in 2018 (CBK, 2020). Further, Automated Teller Machines (ATMs) decreased by 70 machines to 2,459 in

December 2020 from 2,529 in December 2019 (CBK, 2022)

Reviewed empirical studies (Kumar et al., 2021; Li et al., 2023; Mageto & Wekesa, 2023) have revealed a positive relationship between digital credit and performance. On the other hand, other studies (Masolo & Wanjohi, 2021; Le, Ngo & Nguyen 2023; Almasa & Muathe, 2021) showed mixed or negative relationship between digital credit and performance of banks. Most studies have also recommended that banks need to adopt all the main digital credit to achieve improved performance while others have recommended further studies. Therefore, this study sought to answer the question of the nature of the relationship between digital credit and performance of the commercial banks listed on the Nairobi Securities Exchange.

Research Question

What is the relationship between digital credit and performance of commercial banks listed on the Nairobi Securities Exchange, Kenya?

Research Hypothesis

Ha₁. There is a significant relationship between digital credit and the performance of commercial banks listed on the Nairobi Securities Exchange, Kenya

LITERATURE REVIEW

Theoretical Framework

This study was informed by technology acceptance theory that helped the researcher to explain the relationship between digital credit practices and the performance of commercial banks listed on the NSE, Kenya. Originally, the Technology Acceptance Theory was proposed by Davis (1986) in his doctoral thesis and has been broadly recommended as a concept to describe the predictor of technology acceptance as well as the attitudes and behaviors of end users in using information technology. TAM was derived from the Theory of Reasoned Action as Davis sought to understand why information technology was often rejected by individuals. The Technology Acceptance Model by Davis (1989) is

one of the most influential models of technology acceptance, with two primary factors influencing an individual's intention to use new technology: perceived ease of use and perceived usefulness. TAM has been gradually developed into other versions, TAM 2 (Katesh & Davis, 2000), TAM 3 (Venkatesh & Bala, 2008), and the latest version called Universal Theory of Acceptance and Use of Technology (Venkatesh et al., 2003).

To improve the working environment in their organization, most firms are adopting technology as posited by Cracknell (2004). Technology has also been known to help reduce costs and increase efficiency in organizations. The more employees recognize that the systems will make their tasks easier to perform; the higher the probability that they will use it and accept the new technology as being useful as described by Dillom & Morris (1996). Technology Acceptance Model concentrates on dealing with acuties and not practicalities. The model suggests that decisions of manner, place, and time for utilizing technology are the prerogative of the user. According to Davis (1989), technology requires a positive attitude, and the organization should also have a main objective towards adopting it.

Technology Acceptance Theory assumes that when users perceive that a type of technology is useful and easy to use, they will be willing to use it. Consequently, the theory assumes that the more employees recognize that the systems will make their work easier to perform, they will readily use and accept the technology as being useful (Dillon & Morris, 1996). This assumption negates the fact that most innovations are company rules that guide the behavior of the employees and the use of technology.

This theory is relevant for this study as it helps explain how adoption of the digital credit practices in banks has impacted performance. This theory renders itself amenable to the current study because it expounds on how a user accepts information technology and utilizes it within an organization. The acceptance of digital credit is

largely dependent on the ease of use and perceived usefulness as proposed by TAM. Performance is affected by acceptance through efficiency which is affected by the attitude and perception people have on technology adoption.

Conceptual Framework

The conceptual framework is meant to describe the relationship between research variables. The independent variable was the digital credit practices

whereas the dependent variable was the performance of Commercial Banks listed on NSE that was measured by Return on Asset (ROA), Asset Quality, Loan book value and liquidity. Digital credit practices were measured by three indicators namely app-based loans, Sim Tool Kit (STK) based loans, and Mobile Network Operator (MNO) based loans offered through partnerships.

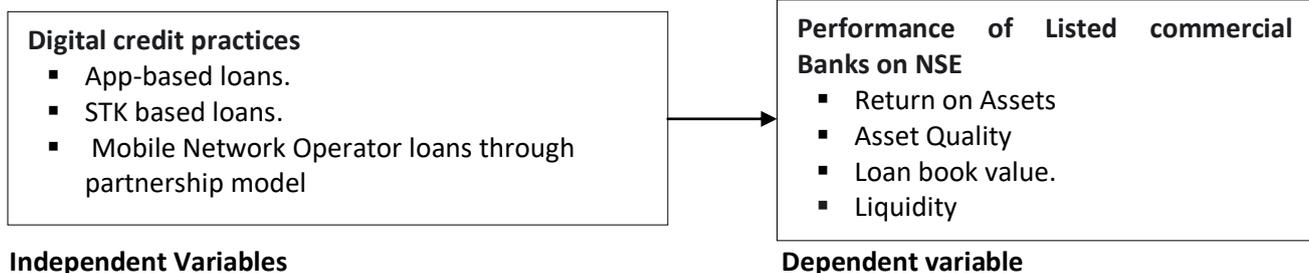


Figure 1: Conceptual Framework

Source: Adapted from Kahuhu (2020).

Literature Review

Digital credit products are rapidly emerging in the digital financial services (DFS) market as a new, innovative form of accessing electronic money. Digital credit products differ from traditional forms of credit, using smart and feature phone technology or web platforms to register, score, approve, and distribute loans to borrowers. The Consultative Group to Assist the Poor (CGAP) identifies three unique features that differentiate digital credit products from other DFS or loan services that include digital credit loans can be applied for, approved, and disbursed remotely (often without any brick-and-mortar infrastructure), approval is automatic (minimizing the time and number of steps between registration and the distribution of loans), and approval is instant (often in less than 72 hours).

Research by the International Financial Corporation (IFC) and McKinsey & Company suggests digital credit products have the potential to expand credit to borrowers who would otherwise not be served by the formal financial system, allowing for unbanked and/or low-income populations to access loans and credit. Digital credit

scoring is a technology that allows instantaneous loan approvals and disbursements—often backed by alternative data. Data collected from digital channels can be used to evaluate and rank potential borrowers to determine their likelihood of repaying a loan. Digital credit is a recent innovation that raises hopes of improving credit access in developing countries (Johnen, Parlasca & Mußhoff, 2021).

A study was carried out in India by Kumar, Sharma & Mahdavi (2021) that sought to find out the role of machine learning technologies for digital scoring in rural finance in India. The scope of the study was to highlight the various AI-ML-based methods for credit scoring and their gaps currently in practice by banking or non-banking institutions. The study employed systematic literature review methods in which existing research articles were empirically reviewed in an attempt to identify and compare the best fit AI-ML-based model adopted by various financial institutions worldwide. The main purpose of the study is to present the various ML algorithms highlighted by earlier researchers that could be fit for a credit assessment of rural borrowers, particularly those who have no or inadequate loan

history. The study findings revealed that speed and accuracy in the loan decision-making process are the two critical aspects for the success of any banking institution. The study further revealed that existing works of the literature recommend hybrid or AI-ML-based methods for credit scoring, though the real challenge for financial institutions is to implement this at the ground level with the adequate blending of traditional plus digital methods. The study, however, relied on secondary data only. There is a need for further study to include data collected from primary sources.

Another study was carried out by Li, Chen, and Shaopeng (2023) on digital finance, green technological innovation, and energy-environmental performance: evidence from China's regional economies. The study explored the impact of digital finance on energy-environmental performance in China. The sample of 402 listed in the out industry in the China A-share market from 2014 to 2020 were research samples. The results showed that digital finance significantly improves China's energy-environmental performance, which remains robust after a series of tests. The results further revealed that digital finance affects pure technical efficiency rather than scale efficiency and that digital finance has a greater stimulus effect on energy-environmental performance where credit and capital markets are more immature. The study, however, failed to establish the elements of digital finance that impacted the energy-environment performance and did not establish the providers of the digital finance. There is a need for further study to establish the study variables.

A study on Fintech credit, bank regulations, and bank performance: a cross-country analysis by Le, Ngo, & Nguyen (2023) sought to investigate whether fin-tech credit influences bank performance, considering the moderating impact of bank regulations by using an aggregate dataset of 73 countries from 2013 to 2018 to examine the nexus between fin-tech credit, bank regulations and bank performance. The conventional ordinary least square regression with fixed effects estimator was

used to investigate the factors affecting the growth of digital credit. The data on digital credit were primarily obtained from the database provided by the Cambridge Centre for Alternative Finance, covering 101 countries from 2013 to 2019. The data was extracted from an Index database deposited at the Basel Institute on Governance, covering 110 nations between 2012 and 2021. The study findings revealed that fin-tech credit tends to reduce bank profitability, while improving bank risk-related performance and that as fin-tech grows, it competes with banks and takes some share of profits, but it also benefits banks in terms of stability. The study findings further revealed that the impact of fin-tech credit on bank performance may depend on the degree of banking regulation and that fin-tech credit would impose a more positive influence on bank stability as more stringent banking regulation is present. The study revealed a negative relationship between fin techs and bank performance and recommended further study.

In Africa, Carlson (2018) carried out a study on dynamic incentives in credit markets: an exploration of repayment decisions on digital credit in Africa. The purpose of the study was to explore the impact of dynamic incentive schemes on borrower behavior in the digital credit market. Data for the study was obtained from a digital lender active in Africa since 2015. The lender used a smartphone application ("app") platform as an interface, thus restricting the sample of potential borrowers to those with access to a smartphone. The researchers' dataset contained detailed information on application, borrowing, and repayment decisions as well as loan characteristics for all loans made between March 2015 and September 2017. The study employed quasi-experimental variation in the lender's progressive lending policies - holding constant their policy of full exclusion of defaulters - to estimate the causal impact of dynamic incentives on borrower behavior. The results of the study showed that giving an exogenously larger loan to new borrowers leads to a higher rate of default on

the first loan, consistent with positive moral hazard and repayment burden effects, but no change in a borrower's overall probability of default. The study restricted the collection of data to respondents who owned smartphones only. There is a need for further study to expand it to all possible users of digital credit.

Another study by Björkegren, Blumenstock, Folajimi, Mauro & Nair (2022) on How Instant loans can lift subjective well-being: A randomized evaluation of digital credit in Nigeria. The study population was a random sample of new customers on a popular digital credit platform in Nigeria. The study sought to show how auto-approved loans for applicants with low credit scores – increased borrowing and affected other financial behaviors of applicants and how increased access to loans affected several pre-specified indices of welfare. While most effects are statistically insignificant, there are large and significant improvements in subjective well-being. The research findings revealed that the uptake of digital loans across the developing world suggests a pent-up demand for consumer credit and that increasing access to digital loans can improve subjective well-being among applicants, measured after an average of three months. The study focused on the impact of digital credit on well well-being of consumers leaving a gap in the impact of the performance of digital credit providers.

In South Africa, Iwara (2022) carried out a study on a digital informal credit system for student Entrepreneurship promotion in higher learning - the case of South Africa. The study examined the formation, function, motivation, merit, and demerit of the online version of the informal credit system with the hope of providing a comprehensive picture of the concept's implementation. Qualitative data was gathered primarily from 31 rural-based university students involved in the initiative. A descriptive research design was adopted. The results of the study revealed that its formation and operation are anchored on digital knowledge, resources, and platforms. Students' motive for

involvement is centered on their desire to mobilize business resources, market products and exchange entrepreneurial ideas with people of different cultures using online platforms. The study recommended Policies and structural arrangements that can formalize the operations of student digital informal credit initiatives for entrepreneurship promotion. The study however failed to incorporate the elements of digital credit and its relationship with performance.

A study was also carried out by Mutabaruka & Eveque (2021) on the Effectiveness of credit management systems on micro-credit performance: a case study of East Africa Commercial Banks and mobile operators. This research sought to assess the effectiveness of credit management principles and their impact on loan performance for a specific type of loan "microcredit". The case study was microcredit in East Africa especially provided by commercial banks in partnership with mobile network operators. The research's target sample was East African commercial banks in conjunction with mobile operators providing online microcredit to mobile money subscribers and commercial banks 'customers. The study findings revealed that it the better suitable for technology-based credit to avoid making human resources expensive and that Credit scoring needs different data sources to catch applicants' behavior and probability of failing to honor the contract. The study, however, failed to link the micro-credit to the performance of the providers and hence the need for further study to gain more knowledge on the study variables.

In Tanzania, Benson and Watson, (2022) carried out a study on digital financial services and financial inclusion in Tanzania. The study sought to examine the Influence of digital financial services in enhancing financial inclusion in Tanzania. The main objective of this study was to identify digital services offered by Microfinance Institutions in Arusha. The study adopted a descriptive research design. The study used a sample size of 60 respondents who were selected through simple random sampling from Heritage Microfinance

Limited, Amani Microfinance Ltd, FINCA Microfinance Ltd, and Bayport Financial Services. Data was collected using questionnaires and the data was analyzed with the aid of the Statistical Package of Social Scientists Program (SPSS). The study unveiled that online account registration, internet banking, online loan processing, mobile banking, and agency banking are the digital financial services offered by Microfinance Institutions in Arusha. The study findings further revealed that digital financial services positively enhance financial inclusion in Tanzania. Further, the study recommended that a bigger context in terms of geographical scope like the East African Region be conducted using the same variables to assess whether the findings will be the same across the different economies.

Another study was conducted by Mugume & Bulime (2022) on post-COVID-19 recovery for African economies: Lessons for digital financial inclusion from Kenya and Uganda. The study examined the drivers of digital financial inclusion as a pathway for financing post-COVID-19 recovery. The study used secondary data from household phone surveys conducted in Uganda and Kenya between August and September 2020 by the Innovation for Poverty Action, Uganda Communications Commission, and the Competition Authority of Kenya under the Consumer Protection Initiative. Data was collected from the respondents (household heads) based on the randomized digit dial sampling technique from 830 and 793 mobile money users in Uganda and Kenya, respectively. In this sampling criteria, telephone numbers were drawn randomly from a pool of telephone databases provided by the MNOs. The findings of the study showed that digital financial inclusion is higher in middle-aged male digital users with more SIM cards registered in their names. The study mainly focused on financial inclusion and adopted a randomized digit dial sampling technique but failed to relate to performance.

In Kenya, Masolo & Wanjohi (2021) conducted a study on digital credit and financial performance of

selected commercial banks in Kenya. The specific objective of the study was to determine the impact of mobile network-based loans, website-based loans, and app-based loans on the financial performance of selected commercial banks and to investigate the moderating role of bank size on the association between digital credit and financial performance. The findings of the research revealed a positive and significant relationship between the independent variables mobile network operator-based loans, website-based loans, and app-based loans was positive and significant. The study also revealed that also revealed a positive significant relationship between mobile network operator-based loans and website-based loans and financial performance while app-based loans did not have a significant relationship. The study recommended commercial banks come up with strategies that will see an increased use of mobile network operator loans and website based.

Another study was also done by Almasa & Muathe (2021) on mobile credit and performance: experience and lessons from micro and small enterprises in Kenya. The specific objective of the study was to determine the effect of accessibility, the effect of cost, and the effect of mobile credit loan amount, and the effect of regulation on the performance of micro and small enterprises. The research adopted an explanatory research design with the target population being the MSEs in Nairobi City County, Kenya. The researcher employed descriptive and inferential statistics. The study found that the accessibility of mobile credit, the loan amount, and the regulation have a significant positive effect on performance, while the cost of mobile credit has a significant negative effect on the performance of micro and small enterprises. The study concluded that mobile credit is an essential source of credit for micro and small enterprises. The study revealed mixed study findings and thus recommended further study.

Elsewhere, Masolo (2022) did a study on digital credit and the financial performance of selected commercial banks in Kenya. The main objective of

the study was to determine the impact of mobile network-based loans, web-based loans, and app-based loans on the financial performance of selected commercial banks and to investigate the moderating role of bank size on the association between digital credit and financial performance. The study adopted the longitudinal and explanatory non-experimental study designs. The study findings revealed a significant relationship between mobile operator-based loans, web-based loans, and the performance of commercial banks in Kenya. The findings revealed that bank size was however found negatively and insignificantly moderate the relationship between digital credit and financial performance. The study recommended that commercial banks should come up with strategies that increase the use of mobile operator loans and website-based loans and main platforms used in digital credit. The study revealed mixed findings and thus a need for further study.

METHODOLOGY

This study adopted a positivism research paradigm. This paradigm was used because it offered the researcher an opportunity to propose a hypothesis that can be proved or disapproved using statistical data analysis. The findings from a correlational study enabled the researcher to determine whether or not and the degree to which two variables change together. In this study, all the 12 Commercial Banks listed on the Nairobi securities exchange comprised the target population of the study. The accessible population for the study were the 11 commercial banks listed on the Nairobi securities exchange. In this study, the population of interest comprised of the senior management level bank employees distributed across the branch network of the 11 Commercial Banks listed on the Nairobi Securities Exchange. According to the documented banks' financial reports, there were 1044 senior managers distributed across the branch network of the banks listed on NSE. The senior management employees were chosen because they are believed to have more in-depth information on digital credit adopted by their respective

commercial banks due to their vital role in strategy formulation, execution, and monitoring. The study made use of Fisher, Laing, and Stoeckel's (1983) formula to arrive at the sample size. Fisher, Laing, and Stoeckel's (1983) formula is used when the target population is large. The sampling formula and sample size calculation was as below:

$$n = Z^2 * p * q (N / e^2 (N - 1) + Z^2 * p * q)$$

Where:

n = the required sample size

P = proportion of population with the required characteristics of the study

q = proportion of population without the required characteristics of the study (1-P)

N = Total sampled population

e = accuracy level required. Standard error = 0.1

Z = Z value at the level of confidence of 95% = 1.96

Since the total population is N = 1044 and assuming a margin of error of 0.1,

$$\text{Then } n = 1.96^2 * 0.5 * 0.5 (1044 / (0.1^2 * 1043) + 1.96^2 * 0.5 * 0.5)$$

$$n = 0.9604 (1044 / (2.6025 + 0.9604))$$

$$n = 0.9604 (1044 / 11.3904)$$

$$n = 0.9604 (91.6561), n = 88.03$$

Therefore, using Fisher, Laing and Stoeckel formula, the desired sample size of the study was 88 respondents. The study adopted stratified random sampling to pick a sample of 88 respondents from the target population. Stratified random sampling, according to Kothari (2010) produces more accurate estimates of overall population variables and guarantees that an illustrative sample is collected from a mixed population. Stratification aimed to reduce standard error by providing some control over variance. Random sampling frequently minimizes the sampling error in the population. This in turn increases the precision of any estimation methods used (Cooper & Schindler, 2003). Stratified random sampling was used because of the senior managers being in various sub partitions being the respective banks. To pick a fair representation, Kothari (2010) emphasizes the importance of using a sample frame.

Table 1: Sampling Frame

Name of the bank	Number of senior Managers	Sample size	Percentage %
Absa Bank Kenya plc	85	7	8.1
Cooperative Bank of Kenya	193	16	18.5
Diamond Trust Bank Kenya Ltd	84	7	8
Equity Group Holdings Ltd	191	16	18.3
HF Group Ltd,	22	2	2.1
I&M Holdings Ltd	49	4	4.7
KCB Group Ltd	191	16	18.3
National Bank of Kenya	85	7	8.1
NCBA Group Ltd	72	6	7
Stanbic Holdings Ltd	30	3	2.9
Standard Chartered Bank Ltd	42	4	4
Total	1044	88	100

The study therefore targeted 88 respondents comprising of the senior management level employees distributed across the 11 banks listed on the Nairobi securities exchange based on the banks branch network.

A research instrument refers to any tool that may be used to collect or obtain data, measure data and analyze data that is relevant to the subject of research. A structured questionnaire was used in this study to obtain primary data from respondents. Primary data, according to Louis et al., (2007) is information that is unique to the issue at hand. The questionnaire was designed on a Likert Scale, ranging from " 1= Strongly disagree, 2= Disagree, 3=Neutral, 4=Agree and 5=Strongly agree". The questionnaire was divided into several sections: Section A focused on key demographic characteristics of the respondents, Section B focused on mobile banking, Section C on internet banking, Section D focused on digital credit and Section on payment cards. The questionnaire was administered to all the managers sampled from the target population and depending on the information the researcher wishes to gather. The questionnaire was used because, according to Kothari (2006) the data gathered by questionnaires is free of prejudice and cannot be influenced by the researcher. As a result, correct and reliable data will be collected.

Secondary data was obtained by document analysis guide from documented financial statements published by the listed banks on NSE, CBK journals, Kenya bankers' association annual reports and annual banking survey reports. The document analysis guide sought to gather information on the Return on Asset, Outstanding loan Book, Asset quality and Liquidity for all the 11 banks Listed on the NSE. The secondary data was useful to supplement primary data and eabled the researcher to gather more information from documented sources. Use of secondary data also helped to enhance the focus of primary data collection to identify additional information collected and research gaps that needed to be addressed.

The study adopted both simple regression model below to show the extent to which digital credit related with the performance of commercial Banks Listed in the Nairobi Securities Exchange. Simple regression models was appropriate because according to Gatignon, (2014) multiple regression determines the influence of a single dependent variable. The model's simple regression below was used to test hypothesis.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where.

Y=Performance

X₁= Digital Credit

ε= Error term

β_0, β_1 = beta coefficients

Assumptions of Regression Model

The multiple regression model has several assumptions. First, regression model assumption is multivariant Normal. The model assumes all variables to be multivariate normal. Multiple linear regression assumes that the residuals of the model are normally distributed. Normality was tested using the Kolmogorov-Smirnov (K-S) test. In the

Kolmogorov-Smirnov (K-S) test Kolmogorov-Smirnov (K-S) test (K-S) test, the null hypothesis presumes normal distribution of data, whereas the alternative hypothesis presumes that the data is not distributed normally. Subsequently, normal distribution is indicated by a significance level > 0.05. The results of the normality test are shown in table 2.

Table 2: Normality Test

	Kolmogorov-Smirnova ^a		
	Statistic	df	Sig.
Digital Credit	.081	63	.142

The data in table 3 show that the significance values are greater than 0.05. This provides confirmation of normal distribution in the data.

Secondly, linear regression assumes that there is little or no multicollinearity in the data. Multicollinearity occurs when the independent variables are too highly correlated with each other, and this may ruin the results of multiple regression (Cooper &Schindler, 2006). Multicollinearity is delineated as the situation where correlation

between independent variables is more than 0.8. In such an instance, the standard errors of the model are inflated, which results to false coefficients of the variables. The values are considered unreliable in predicting the association between the independent and dependent variables. Multicollinearity was tested using the Variance Inflation Factor (VIF) method where VIF values less than 10 were accepted. The findings are shown in table 3.

Table 3: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	VIF
Digital Credit	0.353	3.744

Dependent Variable: Performance of Commercial Banks

The multicollinearity results shown in table 3 reveal that the VIF values were all less than 10, which gives the indication that they were within the threshold, hence no multicollinearity.

Thirdly, the model also assumes that all variables are normally distributed, and independent variable is dependent. The simplest way to determine if this assumption is met is to perform a Durbin-Watson test, which is a formal statistical test that tells whether or not the residuals (and thus the

observations) exhibit autocorrelation. A histogram of the residuals (errors) in the model can be used to check that they are normally distributed. Autocorrelation was tested in the study using the Durbin Watson method whereby a value greater than 2 is an indication of autocorrelation. Alternatively, values between 1.5 and 2.0 are an indication of no autocorrelation in the data. The results of the autocorrelation test are presented in table 4.

Table 4: Autocorrelation Test

Durbin Watson
1.739

The result shown in table 5 reveals a value of 1.739 which falls in the threshold between 1.5 and 2.0. This implies that there was no autocorrelation problem in the data hence it was suitable for a regression model.

The fourth assumption of regression model is homoscedasticity. Homoscedasticity means the variances of the residuals are similar across the groups and that the residuals have constant variance at every point in the linear model. When

this is not the case, the residuals are said to suffer from heteroscedasticity. When heteroscedasticity is present in a regression analysis, the results of the regression model become unreliable. Heteroscedasticity was tested in this study using the Breusch Pagan method. In this method, the absence of heteroscedasticity is indicated when the significance value of the probability chi square is more than 0.05. The results of the heteroscedasticity test are as shown in table 5.

Table 5: Heteroscedasticity Test

Breusch Pagan / Cook-Weisberg Test for Heteroscedasticity

Ho: Constant Variance

Variables: Fitted values for Performance

Chi ² (1)	7.50
Prob > Chi ²	0.070

The result in table 6 indicates that the Prob > Chi² value was greater than the threshold, hence the null hypothesis of constant variance was not rejected. Consequently, the results indicate that the data was suitable for regression analysis.

Regression model also assumes that the relationship between X and Y must be linear and that there is a linear relationship between each predictor variable and the response variable. To determine if this assumption, scatter plot of each predictor variable and the response variable were created to visually see if there is a linear relationship between the two variables. The points in the scatter plot roughly fell along a straight diagonal line, indicating existence of a linear

relationship between the variables. In case there could be no linear relationship between one or more of the predictor variables and the response variable, then a nonlinear transformation to the predictor variable such as taking the log or the square root, add another predictor variable to the model or drop the predictor variable from the model would apply.

FINDINGS

Digital Credit Practices of Commercial Banks

The study sought to determine the effect of digital credit on the performance of commercial banks. The respondents were provided with statements to which they indicated their level of agreement or disagreement. The results are as shown in table 6.

Table 6: Digital Credit and Performance of Commercial Banks

	Mean	Std. Dev.	Skewness	Kurtosis
Our bank has developed a robust digital credit scoring engine that enables the bank to digitally score clients and offer them digital loans	4.53	.563	-.678	-.567
Our bank has established a strong partnership with the telecoms to provide our clients with digital credit solutions	4.34	.739	-1.140	1.488
Our bank has a well-established digital lending department to handle all emerging digital lending issues	4.31	.639	-.382	-.649
Most of our clients prefer digital credit solutions as opposed to the traditional loan offerings through physical bank branches	4.34	.718	-.623	-.815
Our clients can access digital credit with ease using several channels as and when they require and at their convenience	4.44	.664	-.772	-.457
The uptake of digital credit by our clients has enabled the bank to reach more clients	4.48	.642	-.868	-.266
Our bank earns commissions and interest from digital credit	4.64	.574	-1.360	.935
The uptake of digital credit solutions has been increasing over the years	4.73	.512	-1.795	2.493

Source: Survey Data (2024)

The data presented in table 6 revealed that respondents were in agreement that digital credit had an effect on the performance of commercial banks. The respondents agreed that their bank had developed a robust digital credit scoring engine enabling the banks to digitally score clients and offer digital loans (M = 4.53; Std. Dev. = .563; Skewness = -.678; Kurtosis = -.567). There was also agreement that the banks have established strong partnerships with telecoms to provide clients with digital credit solutions (M = 4.34; Std. Dev. = .739; Skewness = -1.140; Kurtosis = 1.488). The respondents also agreed that the banks have well established digital lending departments to handle all emerging digital lending issues (M = 4.31; Std. Dev. = .639; Skewness = -.382; Kurtosis = -.649). The respondents further agreed that most clients prefer digital credit solutions as opposed to traditional loan offerings through physical bank branches (M = 4.34; Std. Dev. = .718; Skewness = -.623; Kurtosis = -.815). Additionally, the respondents agreed that

clients can access digital credit with ease using several channels as and when required and conveniently (M = 4.44; Std. Dev. = .664; Skewness = -.772; Kurtosis = -.457). The respondents agreed that the uptake of digital credit by clients has enabled the banks to reach more clients (M = 4.48; Std. Dev. = .642; Skewness = -.868; Kurtosis = -.266). The respondents also agreed that the banks earn commissions and interest from digital credit (M = 4.64; Std. Dev. = .574; Skewness = -1.360; Kurtosis = .935). Lastly, the respondents agreed that the uptake of digital credit solutions has been increasing over the years (M = 4.73; Std. Dev. = .512; Skewness = -1.795; Kurtosis = 2.493).

Performance of Commercial Banks

The study analyzed the banks' performance indicators which included the return on assets, outstanding loan book, asset quality and liquidity. The results of the document analysis are as shown in table 7.

Table 7: Performance of Commercial Banks

Year	Performance Item	Equity	BANKS									
			KCB	I&M	Coop	NCBA	Absa	DTB	Stanbic	Stanchat	NBK	HF
2018	Return on Assets	5.77	5.33	4.20	4.42	-	3.43	3.34	3.38	3.94	-	-
	OLB(Kes Millions)	231,026	434,360	7,535	257,606	-	186,984	152,287	155,498	133,166	66,153	49,215
	Asset Quality	7.39	6.91	14.62	11.24	-	7.44	7.25	10.70	16.27	47.58	27.09
	Liquidity	44.6	28.94	36.05	37.53	-	43.60	49.77	40.97	51.80	50.36	16.76
2019	Return on Assets	5.49	5.12	5.12	4.71	2.62	3.39	3.24	2.87	3.88	-	-
	OLB(Kes Million)	290,564	469,872	244,395	281,516	244,395	205,304	155306	163,858	144,482	60,678	45,822
	Asset Quality	9.01	7.4	12.23	11.07	12.49	6.58	8.30	11.81	13.88	41.49	26.88
	Liquidity	41.72	29.8	38.91	41.00	46.40	47.02	50.15	38.40	49.73	52.29	18.49
2020	Return on Assets	2.42	3.29	3.83	3.57	2.83	2.21	1.32	2.04	2.35	0.26	-
	OLB(Kes Millions)	341,572	533,274	247,508	304,802	247,508	221,010	163,811	173,359	139,525	55,539	45,047
	Asset Quality	12.54	12.53	12.34	16.99	14.54	7.74	12.05	14.44	16.01	47.60	23.97
	Liquidity	54.25	29.01	35.00	43.25	51.90	56.63	52.92	41.28	46.41	36.05	20.75
2021	Return on Assets	5.31	5.11	3.58	4.11	6.15	3.65	1.47	3.00	3.81	1.01	-
	OLB(Kes Millions)	407,373	575,741	250,471	331,112	250,471	249,638	170,007	198,391	145,627	67,046	42,295
	Asset Quality	8.71	16.01	10.55	13.08	16.33	7.94	15.97	11.34	15.99	39.59	8.68
	Liquidity	58.17	33.16	50.14	44.11	62.31	48.81	54.58	37.15	43.22	49.69	21.01
2022	Return on Assets	4.74	5.44	3.98	5.06	8.0	4.38	2.01	3.43	4.78	-	0.19
	OLB	458,599	676,648	270,100	373,484	270,100	301,717	191,056	253,950	159,083	83,851	43,601
	Asset Quality	7.73	19.08	9.89	14.01	13.07	7.46	14.74	11.21	14.19	22.06	19.47
	Liquidity	49.85	32.24	32.68	42.71	49.59	41.03	49.17	23.43	39.41	44.26	33.11

Source: Document analysis Data (2024)

The data presented in table 8 above, most banks maintained a good return on assets over the period of study. However, National Bank of Kenya and Housing Finance bank reported negative or low

return on assets. Most banks recorded growth in the loan book value. However, housing finance bank struggled to grow the loan book over the period of study. Most banks recorded a deterioration of the

asset quality over the period of study with the highest deterioration being recorded in years 2021 and 2022. The results also showed that most banks maintained the desired liquidity.

Regression Analysis

Multi-regression and bivariate regression analysis were used in determining the linear association between the dependent and independent variables in the study. Null hypothesis was tested through the regression model to determine the association between the dependent variable (performance) and the predictor (digital credit).

The hypothesis of the study was:

HO₁. There is no significant relationship between digital credit and the performance of commercial banks listed on the Nairobi Securities Exchange, Kenya.

A bivariate regression analysis was used in testing the hypothesis as shown in table 9. The independent variable was digital credit whereas the dependent variable was performance.

Table 8: Digital Credit and Performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.836 ^a	0.673	0.069	0.70732

a. Predictors: (Constant), Digital Credit

Table 9 shows R as the correlation coefficient between predicted and observed values of performance and was 0.836, R² which was the coefficient of determination shows the extent that digital credit explains performance. The R² of 67.3% indicates the proportion of performance change that is explained by digital credit. The findings

reveal that digital credit strongly predicts the performance of commercial banks.

Further, the regression model's overall significance (goodness of fit) was tested at significance level of 5% using F-Test (ANOVA). The findings are as shown in table 9.

Table 9: Digital Credit and Performance F-Test (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	55.486	1	55.486	162.334	.000
Residual	34.267	63	.533		

a. Dependent Variable: Performance

b. Predictors (Constant) Digital Credit

The findings shown in table 9 revealed an F statistic of 162.334 and a P Value of 0.000 at a level of significance of 5%. The null hypothesis was rejected since the P Value for the F Statistic was < 0.005. The findings reveal that the model was acceptable giving the implication that the relationship between digital credit and performance was positive and linear.

In addition, table 9 shows the regression slope of coefficients of the influence of internet banking on financial performance. The hypothesis was tested using the t-statistic on significance of slope coefficient (β) at 5% significance level.

Table 9: Digital Credit and Performance Regression Coefficients

Variable	B	Coefficients Std. Error	Beta	t	Sig.
(Constant)	0.695	.284		4.116	.003
Digital Credit	0.914	.066	0.836	14.668	.000

a. Dependent Variable: Performance

The findings in table 9 revealed a t value of 14.668 and $P = 0.000$, which indicates that β was statistically significant, as the t-statistic and p value was low and <0.005 . The linear regression model of internet banking was $Y = \beta_0 + \beta_1 X_1 + \varepsilon$ which becomes $P = 0.695 + 0.914 X_1$. Thus, the hypothesis that there is no significant relationship between digital credit and performance of commercial banks listed on the Nairobi Securities Exchange, Kenya was rejected.

Discussions of the Findings

The study also sought to determine the effect of digital credit on the performance of commercial banks. The respondents were further provided with Likert scale statements to which they indicated their level of agreement or disagreement. From the findings of the descriptive statistics, the respondents agreed that digital credit had an effect on the performance of commercial banks. The multiple regression analysis revealed that a unit increase in digital credit led to a 0.914 increase in performance of commercial banks in Kenya. The study's findings agreed with various other studies. Kumar, Sharma & Mahdavi (2021) revealed that due to digital credit, speed and accuracy in the loan decision-making process are the two critical aspects for bank performance. Benson and Watson, (2022) indicated that online account registration, internet banking, online loan processing, mobile banking, and agency banking are instrumental services that can improve bank performance. Masolo & Wanjohi (2021) revealed a positive significant relationship between mobile network operator-based loans and website-based loans and financial performance. Almasa & Muathe (2021) found that the accessibility of mobile credit, the loan amount, and the regulation have a significant positive effect on performance of commercial banks. Masolo (2022) revealed a significant relationship between mobile operator-based loans, web-based loans, and the performance of commercial banks. However, the

findings disagreed with Le, Ngo, & Nguyen (2023), who indicated that digital credit tends to reduce bank profitability.

CONCLUSIONS AND RECOMMENDATIONS

The research question sought to establish the relationship between digital credit and performance of commercial banks. The findings revealed that digital credit had a positive and significant relationship with the performance of commercial banks. Therefore, the study concluded that digital credit practices comprising app-based loans, STK-based loans and mobile network operator loans through partnership models significantly influence the performance of commercial banks in Kenya.

In the relationship between digital credit and performance of commercial banks in Kenya, if commercial banks are to improve performance in digital credit offerings, there is a need to enhance app-based loan service, STK-based loans, and partnerships with mobile network operators in terms of accessibility, user experience, and risk management. Coupling advanced data analytics tools with AI in assessing creditworthiness, banks can speed up the application and approval processes so that loans can be instantly disbursed. Strategic partnerships could lead to more coverage, especially in unserved and underserved areas, although the terms and conditions under this partnership must be transparent to the customers for building trust. To reduce the risk, banks should develop a strong monitoring system that can monitor and manage defaults in real-time. For users' greater satisfaction, the apps interface must be upgraded and checked on various mobile devices for its compatibility. Informed borrowing decisions are enabled with easy access to financial literacy resources, and this will eventually improve the repayment rate and customer loyalty.

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