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ABSTRACT

The purpose of the study was to investigate the effect of digital finance platform on financial performance of commercial banks in Mombasa County. The study adopted cross-sectional descriptive survey research design. The target population was Standard Chartered bank, Equity Bank, KCB Bank, Sidian Bank, Bank of India, Bank of Baroda and I&M Bank which were feted as the best banks in digital and service efficient banks. Thus the unit of observation was the seven commercial banks which received the Think Business Banking Award in 2021 in Mombasa County. The study employed stratified and purposive sampling to select the respondents for the study. The Cochran's formula was used to calculate a representative sample 83 respondents. Two sets of data was collected, that is, primary and secondary data. Consequently, two instruments were used to collect the stated data. These were a research questionnaire and a secondary data collection sheet respectively. Pilot test was conducted on data collection tools to establish validity and reliability. On data analysis, descriptive statistics and inferential statistics was employed to analyze collected data. Statistical Package for Social Science (SPSS) was the data analysis tool. Analyzed data was presented by use of frequency and descriptive tables. The findings indicated that the bank has expanded point of sale terminals in all populated urban areas enabling accessibility and it has provided adequate security around the point of sale terminals. The results also showed that the point of sale terminals are available whenever needed hence reliable and the bank has enhanced 2 step authentication on all transactions thus protecting customer data. The bank has expanded point of sale terminals in all populated urban areas enabling accessibility. Regression results revealed that point of sale terminals, mobile wallets, internet banking and automated money machines has significant positive effect on financial performance of commercial banks. The study concludes that the bank banking apps are downloadable for free and the mobile wallet for the bank is easy to install and use. The study concludes that the bank's mobile wallet allows customers to use the services while offline. Also mobile wallets provides capability to customer of retrieving transactions statements. The study recommends that the management of commercial banks should build presence in the internet by providing internet based banking services. This would make the banks' services accessible throughout by a wider majority of customers anywhere.

Key Words: Point of Sale Terminals, Internet Banking, Mobile Wallets, Automated Money Machines

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INTRODUCTION

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 (Van Der Boor, 2017). 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 (Ferrata, 2019). This trend of cashless transactions has been accelerated by the onslaught of a global pandemic. According to Global Findex (2021) evidence suggests that digital payments in particular have expanded as a result of the COVID-19 emergency and this has helped to accelerate digital financial inclusion. A 2016 report by the McKinsey Global Institute estimated that digital finance 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 and 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, 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 (CCAF, 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.

In Kenya, overall access to formal financial services and products continues to grow, since the 2006 baseline Survey, where access to formal financial services and products was 26.7 percent. Formal access has since then expanded to 83.7 percent in 2021 from 82.9 percent 2019. This growth is on account of financial technology and innovations especially in mobile money and mobile banking. Access through informal providers only has reduced from 6.1 percent in 2019 to 4.7 percent in 2021. Those excluded from accessing any form of financial services providers increased from 11 percent in 2019 to 11.6 percent in 2021, is partly explained by the effects of the evolving COVID-19 pandemic that adversely impacted on households' livelihoods and firms' earnings and employment.

The Central Bank of Kenya (CBK) in collaboration with the Kenya National Bureau of Statistics (KNBS), and Financial Sector Deepening (FSD) Kenya launched the 2021 FinAccess Household Survey Report on December 15, 2021. The report revealed remarkable growth in financial inclusion at national level, with about 84 percent of the adult population accessing formal financial services in 2021 compared with 27 percent in 2006, when the first FinAccess Household Survey was conducted.

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, 2021). 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 finance 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 supervision report, 2020). Further, Automated Teller Machines (ATMs) decreased by 70 machines to 2,459 in December 2019 from 2,529 in December 2018.

Several studies have been conducted on digital finance and financial performance. Lenka and Barik (2018) empirical investigation found significant positive correlation between internet, mobile phones and financial performance of banks in Southern Asia. A study by Prema (2020) on digital finance and financial performance concludes that the digital finance (internet banking, mobile banking, mobile wallets (apps), credit card and debit card has a significant impact on financial performance. Locally, Bett and Bogonko (2017) researched on the relationship between digital finance technologies and profitability of banking industry in Kenya. Nzyoka (2020) investigated mobile money services on financial inclusion among SMEs in Mavoko Sub-county and revealed a significant positive relationship. Musango (2019) researched on mobile banking services and financial inclusion among commercial banks in Nairobi County and established that financial inclusion had been influenced by Money banking services. On the contrary, an investigation by Midika (2018) observed that that digital finance does not have a significant effect on financial inclusion in the banking sector in Kenya. Also Senou (2019) study on digital finance found a negative relationship between internet usage, mobile phone and financial performance.

But existing scholarly attention has too often focused on the consumer end of financial inclusion and in addition, has produced mixed findings (Midika, 1018; Senou, 2019) found no significant effect while Bett and Bogonko (2017); Nzyoka, 2020; Musango, 2019 found a positive effect between digital finance and financial performance. The inconclusive results from the prior relevant literature motivated a study to addresses the empirical paucity in the Kenyan context by holistically studying the digital finance platform on financial performance of commercial banks in Mombasa County, Kenya.

Objectives of the Study

The general objective of the study was to investigate the digital finance platform on financial performance of commercial banks in Mombasa County. The specific objectives were;

- To determine the effect of point of sale terminals on financial performance of commercial banks in Mombasa County.
- To establish the effect of internet banking platform on financial performance of commercial banks in Mombasa County.
- To explore the effect of mobile wallets on financial performance of commercial banks in Mombasa County.

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- To establish the effect of automated money machines on financial performance of commercial banks in Mombasa County.

The study tested the following research hypothesis

- **$H0_1$:** There is no significant effect of point of sale terminals on financial performance of commercial banks in Mombasa County.
- **$H0_2$:** There is no significant effect of internet banking platform on financial performance of commercial banks in Mombasa County.
- **$H0_3$:** There is no significant effect of mobile wallets on financial performance of commercial banks in Mombasa County.
- **$H0_4$:** There is no significant effect of automated money machines on financial performance of commercial banks in Mombasa County.

LITERATURE REVIEW

Theoretical Review

Financial Intermediation Theory

Financial intermediation theory was introduced by Gurley and Shaw in 1960 which they based on the agency theory and theory of informational asymmetry. Financial intermediation is a process which involves surplus units depositing funds with financial institutions who then lend to deficit units (Mutua, 2016). This theory is an anchor to all the variables for the study. According to Scholtens and Wensveen (2015), the role of the financial intermediary is essentially seen as that of creating specialized financial commodities. They emphasize that these financial commodities are created where there are market imperfections. They implied that the financial commodities were created whenever an intermediary find that it can sell them for prices which will cover all relevant costs of production as well as opportunity costs. For this case, commercial banks acts as financial intermediaries and employs digital banking technology to widen their network to obtain cheaper deposits which they can then lend at a higher interest rate to obtain favorable returns. Numerous markets are characterized by informational differences between buyers and sellers which create market imperfections.

Transaction Cost Economics Theory

Hicks and Niehans, who advocated and argued that the main characteristic of financial success is the ability to reduce transaction costs that respond to technological advancement and contribute to a reduction in transaction costs, laid out the theory in their ground-breaking concept of transaction cost guidance from 1983. While assuming that money-related technologies reduce the cost of transaction making, the capacity to lower transaction costs helps to financial innovation and financial service upgrading.

According to Coase (2016), institutions have transaction costs that make it more cost-effective for enterprises to coordinate and carry out business procedures through a corporate hierarchy than to rely only on the free market. According to Coase (2016), there are a number of other costs associated with market trading, even though the theory suggests that operating through consumer relationships where the price function defines exchange is typically more effective than through the hierarchy of an enterprise where managerial authority is preeminent. These could include the price of gathering and analyzing data, negotiating with, monitoring, and implementing rivals over whom one has no direct authority, for instance.

Innovation Diffusion Theory

This theory was introduced by Rogers in 1962 to explain how new inventions are diffused among users over a period of time (Liu & Li, 2016). Mahajan and Peterson (1985) defined an innovation as any idea, object or practice that is perceived as new by members of the social system and defined the diffusion of innovation as the process by which the innovation is communicated through certain channels over time among members of social systems. Diffusion of innovation theory attempts to explain and describe the mechanisms of how new inventions in this case internet and digital banking is adopted and become successful (Clarke, 2015). This theory is an anchor to the first independent and

variables which explains access to digital banking as well as the turnaround time of e-banking services.

According to Dillon and Morris (1996); Rogers (1983 &2003), the factors which influence the diffusion of an innovation include; relative advantage, compatibility, triability, observability and complexity therefore, the rate of adoption of new innovations will depend on how an organization perceives its relative advantage, compatibility, triability, observability and complexity. He further stated that resistance to change may be a hindrance to diffusion of innovation although it might not stop the innovation it will slow it down. If an organization in Kenya observes the benefits of mobile and internet banking they will adopt these innovations given other factors such as the availability of the required tools. Adoption of such innovations was faster in organizations that have internet access and information technology departments than in organizations without the internet and technology.

Conceptual Framework

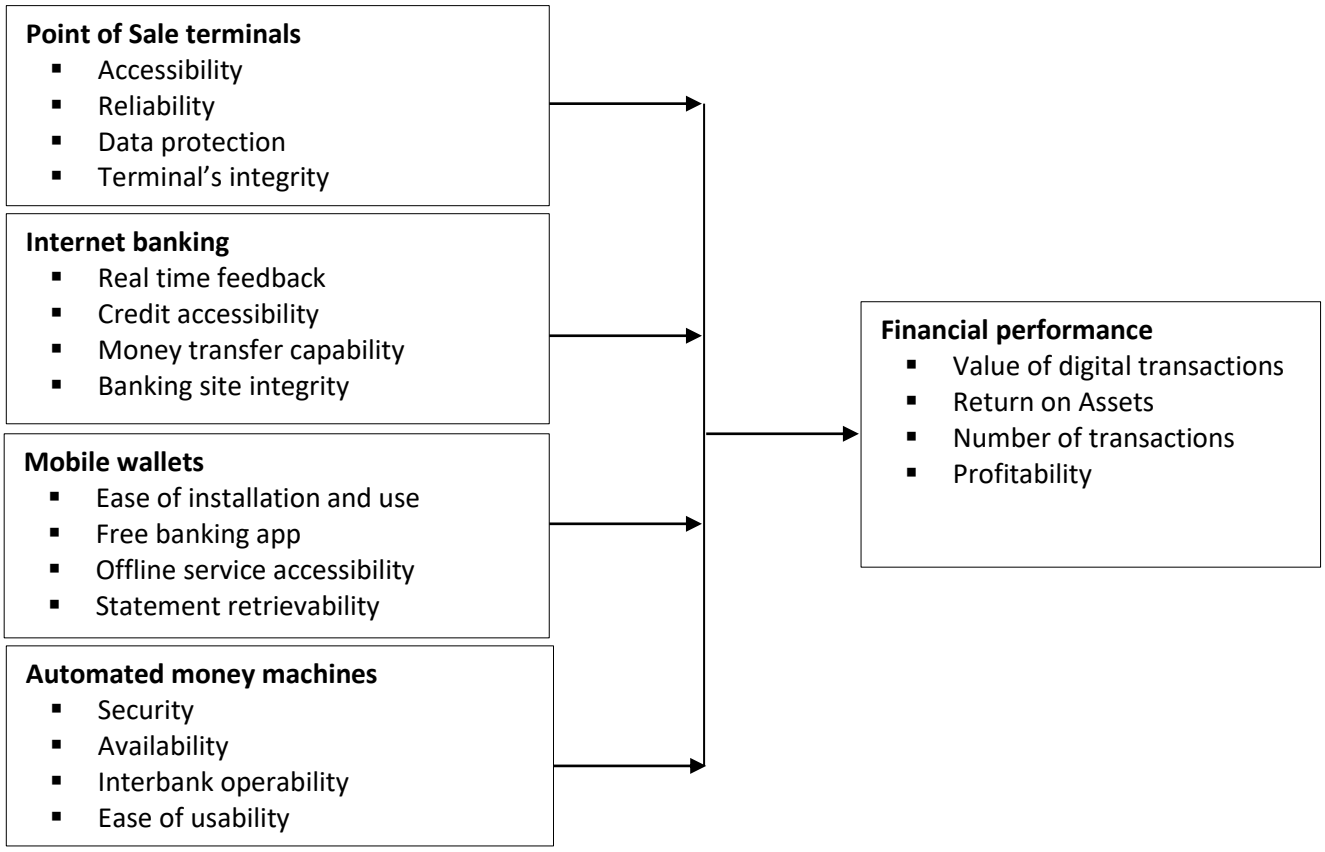

Figure 1: Conceptual Framework

Review of Literature on Variables

Point of Sale Terminals

In this system users are issued with electronic cards which can be slotted into special electronic machines in order to effect payments. At the centre of such payment system are the Point of Sales (POS) terminals. These are to be deployed across commercial points in the country. These POS terminals thus deployed will serve like the Automatic Teller Machines (ATM). In this case, upon completing a transaction and the value ascertained, the amount is entered into a POS terminal into which the electronic card has been slotted. The cash equivalent of the amount is transferred from the payer's account into the account of the payee automatically. Users are issued with a card (the

electronic purse). The electronic purse is topped up using revaluation terminals. There are different types of terminals: coin & note, credit card and payroll deduction terminals. The cards are simply inserted into the revaluation terminal and certain programmed instructions are followed, and money is added onto the electronic purse. This can then be used to pay for goods/services by inserting them into the POS terminals. When the card is inserted into the POS, and the transaction amount entered, the reader reads the amount and is quickly deducted from the e-purse (the card).

The introduction of Personal Identification Numbers (PIN) and chip-embedded payment cards as a result of increased financial digitalization has increased the use of point-of-sale (POS) devices, which are used to process transactions using ATM (debit/credit/other) cards. Both the volume and the value of transactions have increased as a result of the widespread use of POS terminals. In direct proportion to the adoption of cutting-edge technology, it is anticipated that the need for POS machines would continue to rise.

Internet Banking

Internet banking is the use of internet and telecommunication networks to deliver a wide range of value added products and services to bank customers (Steven, 2016). Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Olorunsegun, 2016). Siyanbola (2016) puts it that internet banking involves conducting banking transactions on the internet using electronic tools such as the computer without visiting the banking hall.

Through the use of a system that allows individuals to perform banking activities at home or from their offices or over the internet. Internet banking through traditional banks enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan applications (Muteteri, 2016). Customers can access account information at any time, day or night, and this can be done from anywhere. Internet banking has improved banking efficiency in rendering services to customers (Karuik, 2015). Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour intensive methods with automated processes thus leading to higher productivity and financial performance (Malhotra, 2017).

Mobile Wallets

Mobile wallets/applications are typically small pieces of software embedded on a SIM card or available over a mobile network. A customer can use an inexpensive mobile to send value to someone else. To change this digital value into cash, a user simply visits a retail agent who verifies the user's identity and makes the switch. In this way, money can cross enormous distances at the speed of a text message. Kenya's mobile phone financial services have integrated with the banking sector to form a robust digital mobile banking ecosystem and have yielded varied value-added products and services. Mobile money transfer services have continued to gain popularity since their introduction in 2007. Based on end period data, the number of mobile phone agents and mobile phone accounts grew from 6,104 to 5.1 million, respectively, in 2008 to 282,929 and 66.0 million in 2020. The volume and value of mobile phone money transfers also increased from 10.2 million transactions worth Kshs 27bn in 2008 to 181.3 million transactions worth of Kshs 605.7bn in 2020.

Automated Money Machines

Automated money machine is a computer controlled device that dispenses and provides other services to customers who identify them with a personal identification number (PIN). They also refer to an electronic banking terminal that enables consumers to conduct simple transactions without

the assistance of a teller or branch personnel. ATMs are convenient because they allow customers to do self-service operations like cash withdrawals, bill payments, and account transfers. The physical carriage of cash as well as frequent visit to the banks is being reduced. The principal advantage of ATM is that it dispenses cash at anytime of the day even as it needs not to be located within the banking premises but in stores, shopping malls, fuel stations et. Cetera, unlike the traditional method where customers have to queue for a very long period of time to withdraw cash or transfer funds.

Automated teller machine banking has become a significant channel for banking products and services behind branch banking and banks continue to invest in new and efficient technologies that can handle more functions that include cash depositing to attract more customers and achieve customer satisfaction with the banks. Automated Teller Machine penetration has been used by banks as a powerful strategic variable to outpace any sort of competition, making it an excellent way for banks to boost their performance while maintaining their efficacy in the market (Memba & Njeru, 2018). Ratnawati (2020) study found that ATMs density has significant positive influence on financial inclusion in Asia.

Financial Performance

Performance usually refers to financial parameters such as profitability, market share, and growth rate (Osman, 2016). However, businesses that want to survive in the competition should also consider non-financial indicators such as employee performance, job satisfaction, learning, and quality (Abdalkrim, 2017). In this respect, different dimensions have been used in the literature regarding business performance measurement (Venkatraman and Ramanujam, 2016; Hultink and Robben, 2015). Besides these dimensions, some models have also been designed.

Performance Measurement Matrix, Performance Pyramid System, Balanced Scorecard, Integrated Performance Measurement System, Performance Prism, and Organizational Performance Measurement are among these models (Garengo et al., 2015). The financial aspects of the balanced scorecard model (Kaplan & Norton, 1996; Kaplan, 1998) will be used in the current study which include return on assets and profitability index metrics.

Empirical Review

Abubakar (2020) examined the effects of automated teller machine (ATM) on user satisfaction in Nigeria: A study of united bank for Africa in Sokoto metropolis. The research was carried through across-sectional survey design which questioned respondents on ATM services. The population of study mainly constituted of customers of United Bank for Africa within Sokoto metropolis. The sample in this study consisted of 100 respondents who are users of the ATM services. The data collected was analyzed by use of multiple logistic regression analysis. The findings revealed that, the impact of ATM services in terms of their perceived ease of use, transaction cost and service security is positive and significant. However, the result also indicates that the impact of ATM services in terms of availability of money is positive but insignificant

Malek, Shabudin, and Mohtar (2017) concentrated on the banking agent's moderating effect on Malaysian commercial banks' performance in terms of financial inclusion. It was done using a descriptive research design. Agent characteristic, liquidity, security, and product services are the four factors that control the moderating effect of the banking agent because they can each have a distinct impact on the performance of financial inclusion. It's probable that a banking agent's impacts on the four elemental variables will vary from one another. To meet consumer demand when conducting everyday business, the agents must maintain a balance of sufficient cash in the drawer or even their e-money float balance. A balance is absolutely necessary for an agent to have; otherwise, they risk running out of cash or electronic float and being unable to meet the needs of the customer.

Taiwo and Agwu (2019) examined the role of e-banking on the operational efficiency of commercial banks in Nigeria. Primary data were obtained by administering questionnaires to staff of four purposively selected banks (Ecobank, UBA, GTB and First bank). Pearson correlation was used to analyze the results obtained using the Statistical Package for Social Sciences (SPSS) and it was observed that banks' operational efficiency in Nigeria since the adoption of electronic banking has improved compared to the era of traditional banking. This improvement was noticed in the strength of banks, revenue and capital bases, as well as in customers' loyalty. It was concluded that the introduction of new channels into their e-banking operations drastically increased bank performances, since the more active customers are with their electronic transactions the more profitable it is for the banks.

Hussein (2019) looked into how financial innovation affected deposit-taking Micro Financial Institutions' financial performance. A descriptive survey research design was used for this investigation. The survey had seventy-four respondents from four microfinance institutions in Thika Town that accepted deposits. Data was gathered by the distribution of questionnaires to the respondents, and it was then compiled using descriptive and inferential statistics. Descriptive statistics were used to evaluate primary data using SPSS software, which also summarized and tabulated data. The study's conclusions showed a favorable correlation between financial success and the two innovation variables, organizational innovation and product innovation.

Joseph (2019) examined the impact of electronic banking on the profitability of commercial banks in Kenya. The study adopted a descriptive research design. The population of the research consists of the 43 commercial banks in operations as at 31st 2014 in Kenya. A census survey was undertaken. The study used secondary data obtained from various Central Banks of Kenya publications. Statistical Package for Social Sciences (SPSS) was used in the analysis of data. Descriptive statistics produced trends, means and percentages while inferential statistics produced regression and correlation results which showed the causal relationship among the variables. The results from multiple regression indicated that there is a there a positive significant relationship between ATM transactions and bank profitability.

Wanjiku, Koori and Atheru (2020) study on technological innovation and financial inclusion by commercial banks in Nairobi. A descriptive research design and a positivism philosophy were used. For the purpose of this investigation, the target population included all the 42 registered commercial banks operating in Nairobi County, Kenya in the year 2016. Purposive sampling technique was used to determine the sample size. Both primary and secondary data was used in this study. Questionnaires were administered to randomly selected respondents. Multiple regression model was employed in this study. Results of the study indicated that the predictor variables; mobile banking, agency banking, electronic banking outlets and internet banking have an influence on financial inclusion. Correlation results also indicated that mobile banking, agency banking, electronic banking outlets and internet banking were positively associated with financial inclusion.

In their 2018 study, Abdullai and Micheni looked at how internet banking affected how well commercial banks operated in Kenya's Nakuru County. A cross-sectional research design was used for this investigation. There were 56 employees of commercial banks who made up the research population. The report used a census survey because banks are typically tiny. Using standardized questionnaires, data was acquired. According to the report, Internet banking significantly improves the operational effectiveness of commercial banks. However, Internet banking alone does not improve financial efficiency, necessitating the addition of additional factors.

Abong'o (2016) looked at how mobile phone banking affected Kenya's commercial banks' performance. The descriptive analysis method was

used. The findings indicated that the safe holding and transfer of money from one owner to another was not a significant predictor of bank efficiency. However, the performance of banks has significantly impacted the exchange of money in many ways including mobile banking and investments. However, cluster sampling, which is more susceptible to sampling error, was used.

In their 2018 study, Njoroge and Mugambi looked at the impact of electronic banking on the financial performance of Kenyan commercial banks, specifically the branches of Equity Bank in Nairobi's Central Business District. As of December 2015, there were 500 Equity Bank workers spread over 10 branches in Nairobi. The study used a descriptive research approach, and the data was analyzed using SPSS. The analysis came to the conclusion that mobile banking had lowered the bank's own overhead costs and transaction-related costs while increasing accessibility to fundamental financial services. The difficulties encountered with ATM usage by customers made a major improvement to the banks' financial position.

The quantitative data from Ahmed and Wamugo's (2019) study on financial innovation and the performance of Kenya's 42 commercial banks was described using descriptive statistics. According to the study, the performance of commercial banks in Kenya was positively and statistically significantly impacted by agency banking, mobile banking, internet banking, and ATM banking. The study came to the conclusion that financial innovations such as agency banking, mobile banking, internet banking, and ATM banking considerably and positively impacted the performance of commercial banks. This was accomplished through a number of means, including improved profitability, decreased banking expenses, higher productivity and efficiency, improved customer outreach and customer relationship management, improved accessibility to services, and improved service quality.

METHODOLOGY

This study adopted a cross-sectional survey design in which data was collected for the objectives of the study. According to Think Business Banking Awards (2020) Standard Chartered bank, Equity Bank, KCB Bank, Sidian Bank, Bank of India, Bank of Baroda and I&M Bank were feted as the best banks in digital and service efficient banks. Thus the unit of observation was the seven commercial banks which received the Think Business Banking Award in 2021 in Mombasa County. Unit of analysis was branch managers drawn from all branches of the 7 commercial banks. The sampling frame for this study was the branch managers of all the seven commercial banks who received the Think Business Banking Award in 2020 which include Standard Chartered bank, Equity Bank, KCB Bank, Sidian Bank, Bank of India, Bank of Baroda and I&M Bank were feted as the best banks in digital finance platform. The study employed stratified and purposive sampling to select the respondents for the study. The Cochran's formula was used to calculate a representative sample due to the fact that the accessible (study) population is large.

Two sets of data was collected, that is, primary and secondary data. Consequently, two instruments were used to collect the stated data. These were a research questionnaire and a secondary data collection sheet respectively.

After the questionnaires have been filled and collected, the researcher sieved through the data and thoroughly check for errors in responses, exaggerations or omissions. The study adopted descriptive analysis and inferential analysis where the study data was analyzed, presented and interpreted based on the study objectives. Descriptive statistics aim at providing the pattern of the responses and their consistency in each of the hypothesized variables. Inferential statistics provides more insight into the research findings. The research findings were presented using frequency and descriptive tables. The following multiple regression model was adopted;

$$Y_v = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y_i to Y_{vi} represent financial performance; β_0 represent the y- intercept, X_i to X_{iv} represent independent variables (point of sale terminals, internet banking, mobile wallets and automated money machines); β_1 to $\beta_4$represent regression coefficients of the independent variables and error term; ε represents the error term or precision level. The results of the analyses was presented in tabular as well as graphical formats.

Table 1: Hypothesis Testing

Hypothesis Statement	Hypothesis Test	Decision Rule
$H_0$1: Point of sale terminals has no significant effect on financial performance	H0: β1 = 0 HA: β1 ≠ 0 -To conduct F-test to assess overall model significance	Reject $H_0$1 IF P-value ≤ 0.05 otherwise fail to reject $H_0$1 if P-value is > 0.05
$H_0$2: Internet banking has no significant effect on financial performance	H0: β2 = 0 HA: β2 ≠ 0 -To conduct F-test to assess overall model significance	Reject $H_0$2 IF P-value ≤ 0.05 otherwise fail to reject $H_0$2 if P-value is > 0.05
$H_0$3: Mobile wallets has no significant effect on financial performance	H0: β3 = 0 HA: β3 ≠ 0 -To conduct F-test to assess overall model significance	Reject $H_0$3 IF P-value ≤ 0.05 otherwise fail to reject $H_0$3 if P-value is > 0.05
$H_0$4: Automated money machine has no significant effect on financial performance	H0: β4 = 0 HA: β4 ≠ 0 -To conduct F-test to assess overall model significance	Reject $H_0$4 IF P-value ≤ 0.05 otherwise fail to reject $H_0$4 if P-value is > 0.05

FINDINGS

Descriptive Analysis

This study carried out the following descriptive statistics; mean, standard deviation of all the study variables.

Point of Sale Terminals

The study sought the views of respondents on the extent to which the given aspects of point of sale terminals affect financial performance as indicated by their level of agreement. A Likert scale data was collected rating the extent of agreement in a scale of 1 to 5 where 1 is the strongly disagree whereas 5 is the strongly agree indicator. The mean score for each item was calculated and the findings were shown in Table 2.

Table 2: Point of Sale Terminals

	Mean	Std. Deviation
The bank has expanded point of sale terminals in all populated urban areas enabling accessibility	4.46	.988
The bank has provided adequate security around the point of sale terminals	4.37	1.032
The point of sale terminals are available whenever needed hence reliable	4.17	1.341
The bank has enhanced 2 step authentication on all transactions thus protecting customer data	4.24	1.430
Our point of sale terminals are of high integrity The bank has expanded point of sale terminals in all populated urban areas enabling accessibility	4.62	0.938

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From the results in Table 2, the bank has expanded point of sale terminals in all populated urban areas enabling accessibility with a mean of 4.46 and standard deviation of 0.988. The respondents agreed that the bank has provided adequate security around the point of sale terminals as indicated by a mean of 3.37 with a standard deviation of 1.032. The respondents agreed that the point of sale terminals are available whenever needed hence reliable as indicated by a mean of 4.17 and standard deviation of 1.341. The bank has enhanced 2 step authentication on all transactions thus protecting customer data. Finally, respondents agreed that the bank has expanded point of sale terminals in all populated urban areas enabling accessibility as indicated by a mean of 4.24 and a standard deviation of 1.430.

Internet Banking

The study sought the views of respondents on the extent to which the given aspects of internet banking are adopted in commercial banks as indicated by their level of agreement. A Likert scale data was collected rating the extent of agreement in a scale of 1 to 5 where 1 is the strongly disagree whereas 5 is the strongly agree indicator. The mean score for each item was calculated and the findings are shown in Table 3.

Table 3: Internet Banking

	Mean	Std. Deviation
The customers are able to get real time feedback on their transactions	4.46	.988
The customers are able to access credit services through the internet	4.37	1.032
The internet banking for the bank allows for inter-bank money transfers	4.17	1.341
The online banking site is of acceptable integrity to protect customer's transaction information	4.24	1.430

From the results in Table 3, the customers are able to get real time feedback on their transactions with a mean of 4.46 and standard deviation of 0.988. The respondents agreed that the customers are able to access credit services through the internet as indicated by a mean of 3.37 with a standard deviation of 1.032. The respondents agreed that the internet banking for the bank allows for inter-bank money transfers as indicated by a mean of 4.17 and standard deviation of 1.341. Respondents agreed that the online banking site is of acceptable integrity to protect customer's transaction information as indicated by a mean of 4.24 and a standard deviation of 1.430. Findings are supported by Ahmed and Wamugo's (2019) whose study which came to the conclusion that internet banking has a positive impact on the performance of commercial banks.

Mobile Wallets

The study sought the views of respondents on the extent to which the given aspects of mobile wallets are adopted in commercial banks as indicated by their level of agreement. A Likert scale data was collected rating the extent of agreement in a scale of 1 to 5 where 1 is the strongly disagree whereas 5 is the strongly agree indicator. The mean score for each item was calculated and the findings are shown in Table 4.

Table 4: Mobile Wallets

	Mean	Std. Deviation
The bank has banking apps downloadable for free	4.17	.741
The mobile wallet for the bank is easy to install and use	4.39	1.313
The bank's mobile wallet allows customers to use the services while offline	4.38	.509
The customers are able to retrieve transactions statement through mobile wallet	4.05	1.341

The results in Table 4 indicates that majority of respondents agreed that the bank has banking apps downloadable for free as indicated by a mean of 4.17 with a standard deviation of 0.741. Respondents also agreed that the mobile wallet for the bank is easy to install and use as indicated by a mean of 4.39 with a standard deviation of 1.313. Respondents agreed that the bank's mobile wallet allows customers to use the services while offline as shown by a mean of 4.38 and standard deviation of 0.509. Finally, majority of the respondents agreed that the customers are able to retrieve transactions statement through mobile wallet as indicated by a mean of 4.05 and standard deviation of 1.341. Results agree with Wanjiku, Koori and Atheru (2020) whose study established that electronic mobile wallets has significant effect on bank performance.

Automated Money Machine

Data was collected through the Likert scale measuring the level of agreement of the respondents with respect to the given aspects of automated money machine. The results are as presented in Table 5.

Table 5: Automated Money Machines

	Mean	Std. Deviation
The bank's automated money machines are widely available and convenient	4.17	1.341
The bank's money machines are designed to protect service user data	4.41	1.301
The automated money machines of the bank accept cards from other banks	4.39	1.313
The automated money machines owned by the month are easy to use, i.e. user friendly	4.16	.538

As indicated in Table 5, majority of the respondents agreed that the bank's automated money machines are widely available and convenient as indicated by a mean of 4.17 and standard deviation of 1.341. The respondents also agreed that the bank's money machines are designed to protect service user data as shown by a mean of 4.41 and a standard deviation of 1.301. Respondents agreed that the automated money machines of the bank accept cards from other banks as indicated by a mean of 4.39 and standard deviation of 1.313. Finally, respondents agreed that the automated money machines owned by the month are easy to use, i.e. user friendly as indicated by a mean of 4.16 with a standard deviation of 0.538. The findings are supported by Abubakar (2020) study which revealed that the impact of automated money machines in terms of their perceived ease of use, transaction cost and service security is positive and significant.

Multiple Regression Analysis

In statistical modelling, regression analysis is a statistical process for estimating the relationships among variables (Marshall, 2013). Test of significance was carried out for all variables studied using t-test at 95% level of significance. A multiple regression model was adopted in the study to establish the statistical relationship between the independent and the dependent variables.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.822[a]	.676	.598	1.03842	2.880

a. Predictors: (Constant), Internet banking, Point of sale terminals, Mobile wallets, Automated money machines

b. Dependent Variable: Financial performance

The model summary results in Table 6 showed a moderate regression between digital finance platform and financial performance of commercial banks in Mombasa. In the model summary, the R^2 is 0.676 which indicates that independent variables (point of sale terminals, internet banking, mobile wallets and automated money machines) explain 67.6 per cent variation in financial performance, while the remaining 32.4% are un-modelled determinants.

Table 7: Model Validity (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.084	4	9.521	38.236	.001[b]
	Residual	18.242	73	0.249		
	Total	56.326	77			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), Internet banking, Point of sale terminals, Mobile wallets, Automated money machines

From Table 7, the significance value in testing the reliability of the model for the relationship between digital finance platform and financial performance was obtained as 0.001 which is less than 0.05, the critical value at 95% significance level. This indicates that regression model is statistically significant in predicting the relationship between the study variables. The F value calculated is 38.236 indicating a significant model for the relationship as given by the regression coefficients.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.713	.271		2.631	.000
	Point of sale terminals	.198	.089	.261	2.224	.013
	Internet banking	.589	.236	.894	2.495	.000
	Mobile wallets	.521	.205	.566	2.541	.037
	Automated money machines	.465	.167	.409	2.784	.002

a. Dependent Variable: Financial performance

The derived regression coefficients of the model are:

$$Y = .713 + .198X_1 + .589X_2 + .521X_3 + .465X_4$$

The regression results showed that independent variables had significant value below 0.05 meaning that they were all significant. From the results, it showed that holding all factors constant at zero, the change in financial performance would be .417. Further, the regression results showed that a unit change in point of sale terminals would lead to 0.198 unit change in financial performance. A unit change in internet banking would lead to 0.589 unit change in financial performance. Further, a unit change in mobile wallets would lead to 0.521 unit change in financial performance and finally, a unit change in automated money machines would lead to 0.465 unit change in financial performance.

Discussion of Major Findings

In relation to the variable point of sale terminals, the results showed that point of sale terminals has a significant and positive effect on financial performance. This is supported by regression analysis β-value of .198 and p-value>0.05 at 95% level of significance. The study rejected the null hypothesis that there is no significant effect of point of sale terminals and financial performance.

In relation to the variable internet banking, the result indicated that internet banking has a

significant effect on financial performance. This is supported by regression analysis β-value of .589 and p-value>0.05 at 95% level of significance. Findings are supported by Ahmed and Wamugo's (2019) whose study which came to the conclusion that internet banking has a positive impact on the performance of commercial banks. The study rejected the null hypothesis that there is no significant effect of internet banking and financial performance.

In relation to the variable mobile wallet, the results showed that mobile wallet has a significant and positive effect on financial performance. This is supported by regression analysis β-value of .521 and p-value>0.05 at 95% level of significance. Results agree with Wanjiku, Koori and Atheru (2020) whose study established that electronic mobile wallets has significant effect on bank performance. The study rejected the null hypothesis that there is no significant effect of mobile wallet and financial performance.

In relation to the variable automated money machines, the result indicated that automated money machines has a significant effect on financial performance. This is supported by regression analysis β-value of .465 and p-value>0.05 at 95% level of significance. Findings are supported by Abubakar (2020) study which revealed that the impact of automated money machines in terms of their perceived ease of use, transaction cost and service security is positive and significant. The study rejected the null hypothesis that there is no significant effect of automated money machines and financial performance.

CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The research sought to investigate the effect of point of sale terminals on financial performance. The findings indicated that the bank has expanded point of sale terminals in all populated urban areas enabling accessibility and it has provided adequate security around the point of sale terminals. The results also showed that the point of sale terminals are available whenever needed hence reliable and the bank has enhanced 2 step authentication on all transactions thus protecting customer data. The bank has expanded point of sale terminals in all populated urban areas enabling accessibility. Regression results revealed that point of sale terminals has significant positive effect on financial performance of commercial banks.

The research sought to determine the effect of internet banking on financial performance. The findings were as follows; the customers are able to get real time feedback on their transactions and the customers are able to access credit services through the internet. Also, the internet banking for the bank allows for inter-bank money transfers and the online banking site is of acceptable integrity to protect customer's transaction information. Regression results revealed that internet banking has significant positive effect on financial performance of commercial banks.

The research sought to establish the mobile wallets on financial performance. Findings were as follows; the bank has banking apps downloadable for free and that the mobile wallet for the bank is easy to install and use. Findings revealed that the bank's mobile wallet allows customers to use the services while offline and the customers are able to retrieve transactions statement through mobile wallet. Regression results revealed that mobile wallets has significant positive effect on financial performance of commercial banks.

Finally, the research sought to find out the effect of automated money machines on financial performance. Findings were as follows; the bank's automated money machines are widely available and convenient and the bank's money machines are designed to protect service user data. Study results showed that the automated money machines of the bank accept cards from other banks and these machines owned by the bank are easy to use, i.e. user friendly. Regression results revealed that automated money machine has significant positive effect on financial performance of commercial banks.

Conclusions

The study concluded that point of sale terminals has significant effect on financial performance of commercial banks in Kenya. The point of sale terminals have been expanded by the bank in all populated urban areas enabling accessibility. The bank provide adequate security around the point of sale terminals. And these terminals are available whenever needed hence reliable. Further, it is concluded that the bank has enhanced 2 step authentication on all transactions thus protecting customer data.

In addition, the study concluded that internet banking has significant effect on financial performance of commercial banks in Kenya. Also, the internet banking for the bank allows for inter-bank money transfers and the online banking site is of acceptable integrity to protect customer's transaction information. Transactions feedback to customers is in real time and the customers are able to access credit services through the internet.

Furthermore, the study mobile wallets has significant effect on financial performance of commercial banks in Kenya. The bank banking apps are downloadable for free and the mobile wallet for the bank is easy to install and use. The study concludes that the bank's mobile wallet allows customers to use the services while offline. Also mobile wallets provides capability to customer of retrieving transactions statements.

Lastly, the study concluded that automated money machines has significant effect on financial performance of commercial banks in Kenya. Automated money machines owned by the bank are widely available and convenient. Banks' automated money machines accept cards from other banks and these machines owned by the bank are easy to use, i.e. user friendly. Also the bank's money machines are designed to protect service user data.

Recommendations

The study recommended that the commercial banks should prioritize on installing point of sale terminals across all populated urban areas enabling accessibility as they had the highest effect on financial performance. In addition, the banks should provide adequate security around the point of sale terminals. The terminals should be resilient and reliable and for security purposes, all the banks' POS terminals should be equipped with additional security measures like 2-step factor authentication.

The study recommends that the management of commercial banks should build presence in the internet by providing internet based banking services. This would make the banks' services accessible throughout by a wider majority of customers anywhere. In addition, the internet banking should allow inter-bank money transfers and the platform should be of acceptable integrity to protect customer's transaction information.

The study recommends that banks should make the mobile wallets apps free to users and downloadable even when the interconnectivity is low. This would allow various classes of users to embrace mobile wallets for the banks. In addition, the mobile wallets should be easy to install and if possible, they should be offered as cloud services. The mobile wallets should have a capability to serve the customer while offline to save the customer additional banking charges.

The study recommends that the management of commercial banks should make automated money machines owned by the bank widely accessible and located in convenient points. The banks' automated money machines should be able to accept cards from other banks at a low fee and they should be user friendly. Extra security measures should be deployed within the automated money machines to protect phishing attacks on clients as they use the machines.

Suggestions for Further Studies

The current study was based on descriptive research design on the banking sector, future studies should be undertaken using other research designs such as correlational, survey or experimental research designs to help in finding an in-depth investigation into the sector.

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