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E-Banking Strategy and Performance of Commercial Banks in Kenya

[1]Timothy Muthini Kavila
Department of Accounting and Finance, Kenyatta University

[2]Dr. James Kilika
Lecturer, Department of Accounting and Finance, Kenyatta University

Corresponding Email: timothymuthini20@gmail.com

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Abstract

The study focus was on the role of e-banking strategy on a bank's performance in the country. The specific objective is to investigate the role of mobile money strategy, agency money strategy, internet money strategy, and the A-T-Ms strategy on banks' performance in the country. A descriptive research design was employed for this study. The study targeted 39 banks that were in operation during the period of 2016 – 2020. Therefore, the total number of observations was 195. A secondary dataset was employed for the study which was obtained from various sources including the annual reports and publications of banks, the CBK, and Communication Authority of Kenya. The data analysis employed inferential and descriptive statistics. In descriptive statistics, percentages and frequencies are employed while inferential statistics included correlation and regression analysis. According to correlation analysis, agency banking ($r = 0.578$, $p = 0.000$), mobile banking ($r = 0.536$, $p = 0.000$), ATM banking ($r = 0.644$, $p = 0.000$) and internet banking ($r = 0.431$, $p = 0.000$) have a significant relationship with banks performance. The research concluded that use of agency banking, mobile banking, ATMs, and Internet banking had positive outcomes and significantly affected performance of banks. The study also concluded that these e-banking strategy had a positive and significant effect on both ROA and ROE of commercial banks. Therefore, they had a positive and significant effect on performance of commercial banks. The study did a recommendation for commercial banks that there is a need for an investment in advanced technology, a new way of doing things, and capacity enhancement to increase utilization of e-banking services. Additionally, banks ought to put in resources to train, educate, and enlighten their customers on the benefits of utilizing e-banking services.

Keywords: *Financial performance, ATM banking, agency banking, internet banking, mobile banking*

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1.0 Introduction

Today's industrial corporation setting is highly versatile and operates in an environment with rapid adjustments due to technological improvement, improved cognizance, and increased options for consumers of banking services. From history, it is evident that commercial banks have been at the forefront of adapting new systems to serve their clientele better and give improved services to society (Ngango, 2015). E-Commerce (e-change) has emerged as a very critical technological development for organizations in changing business agency practices (Kombe & Wafula, 2015). Money depositing has typically depended on data era (IT) to build up, manage, and deliver its services to all applicable users. Technology is a central tool in this information age and commercial banks have employed it to differentiate their products and services and give handy, reliable, and expedient offerings (Sathye, 2015).

The complexity and competitive nature of the money-depositing industry of the 21st century has led to a surprisingly unpredictable financial environment. ICT plays a central role in this worldwide exchange practice of digital money depositing (Bagudu et al., 2017). The increased assimilation of technology society has been a trigger for banks to come up with strategic initiatives to take advantage of the increased use of technology in society.

In line with Saunders and Cornet (2011), e-money depositing has been followed globally for numerous reasons which include an aggressive method of saving cash and time for users, improved overall performance, and a possibility for boosting marketplace proportion a wider patron base which consists of the ones remotely received either inside a country or across the world. Samar et al. (2017) defined the reasons behind the adoption of e-banking strategy by banks in the United States of America. Important elements noted encompass organization membership, urban place influence, efficient services, a higher regular fee to operating income, and non-interest returns amongst others.

The creation of digital money depositing (e-money depositing) has altered and redefined the strategies deposit-taking and loan-lending firms carry out. Technology is more and more being taken into consideration as the primary contributor to businesses' growth and stability and as a source of competitive advantage. Subsequently, commercial banks are putting extra investment into the trending technology through e-money depositing (Peter & Emenike, 2016). E-money depositing may be defined as the provision of money depositing services and products via digital channels consisting of Automated Teller Machines, the net, and telecommunication gadgets. E-money depositing is being viewed as a revolutionary improvement in the money depositing industry. The corporation believes with the aid of adopting a new era, they may be capable of giving more service to customers and preserving their cash (Hughes et al., 2012).

The money-depositing industry has had a search for strategies to increase its clientele and counter competition and advertising strive of the non-traditional money-depositing entities (Bagudu et al., 2017). Many commercial banks are in the process of increasing their uptake and investment in e-banking strategies and have even blanketed 24-hour phone money depositing structures, finished vital e-money depositing structures which permit their agents to carry out numerous amount of transactions (Peter & Emenike, 2016).

The new money depositing surroundings offers differentiating money depositing products, improved accessibility and comfort, and ensure protection of the cash. How well the deposit-taking and loan-lending firms are capable of delivering services and products in the maximum efficient and effective manner, will determine their capacity to carry out, achieve consumer satisfaction and enhance profitability. Notably, commercial banks offer similar services and products and hence they continually look for new ways to sustain existing customers and ensure

their loyalty from them. Technology is a means that commercial banks are employing to attract potential clients. Commercial banks, consequently, must endeavour to grow progressive programs and tasks to keep advanced customer support levels at the same time as ensuring profitability (Muia, 2017). Innovative developments in records and communique era have been useful to the money depositing industry. They have added approximately new distribution avenues which may cost less and feature extensive services. Technological upgrades and globalization are forcing deposit-taking and loan-lending firms to innovate new ways to complement their traditional ways evolving under the role of several forces which consist of competition, regulatory adjustments, and generation (Mutua, 2017).

In modern world and global environment, e-banking strategy is regarded as a key tool for banks to employ and use effectively to remain afloat in a dynamic and quickly changing industry. It is a resource to keep competitiveness and additionally increase sales and gain and retain a sizeable market share of the populace. From a global perspective, e-money depositing approach has been observed as a game changer for commercial banks because of immense changes in consumer perception of technology and adaption of the same in day-to-day life. In line with the survey by Fanera Ltd (2012), five million dollars had been transacted through online money depositing in the Middle East and an expected 30 out of a hundred of all deposit-taking and loan lending firm transactions were carried out through online channels in 2010. In line with a 2011 survey, sixty-two out of a hundred of respondents stated that the Internet is their preferred money depositing technique. Only 20 out of hundred decided on branch money depositing - a pointy decline in assessment with 2007 while forty out of hundred respondents preferred financial transactions at a branch (Mutua, 2017).

Locally, Kenyan money depositing zone has gone through splendid adjustments in the last few years. Growth in IT era and changing economic situations have produced strength for this change. Commercial banks in the country have been adopting e-money depositing techniques in addition to innovative development in the technological environment. The deposit-taking and loan lending firms make use of the internet, automated teller machines (A-T-Ms), POS devices, and cellular phones as technology devices to supply its money depositing offerings via a mixture of distribution channels including stationary economic group branches, cellular deposit taking and loan lending firm branches, A-T-Ms, on-line money depositing, and cell money depositing (Mwangi, 2007). Each of those distribution channels serves to enable customers and bank clients with a variety of options how to transfer finances as and when needed. Records show that mobile banking has been utilised in the country with over 10 million mobile cash users in 2011. The upward push of the virtual customer and the high-fee infrastructure of physical money depositing places are key to a declining move back on investments for branches (PWC, 2012).

1.1 Problem Statement

It is argued that adoption of e-banking strategies improves the performance of commercial banks. Most banks around country have embraced E-banking strategies to upscale their performance. A decline in performance of banks or even a stagnation in banks' output is an indicator that something needs to be done. Return on assets and return on equity plays a key role in determining the well-being of an organization and bank management use the same to identify if there is a need for other intervention like more investment in e-banking strategies (Kingori & Gekara, 2015).

The banks in Kenya have utilised e-banking as a strategy to get to their desired goals in the competitive setting. The benefits that accrue include the following: ensuring clients are served

conveniently, delivering quality value, and desirable corporate image, improved income, opportunity to expand and reduced cost of operation leading to efficiency at the organization (Clarke, 2019). However, the performance of some commercial banks has considerably improved while in others it has been fluctuating. The banks that have effectively adopted e-banking strategies achieve better financial performance as compared to their counterparts. This is because e-banking is a great way to maintain customers and attract potential clients to the organization. E-banking strategies tend to be low-cost compared to conventional banking methods (Nyabola, 2018).

1.2 Objectives of the Study

The general objective was to investigate the effect of e-banking strategy on the performance of commercial banks in Kenya.

The following specific objectives guided the study:

i) To establish the effect of mobile banking strategy on banks' performance in the country of Kenya.
ii) To investigate the effect of agent banking strategy on performance of commercial banks in Kenya.
iii) To determine the effect of internet banking strategy on performance of commercial banks in Kenya.
iv) To evaluate the effect of automated teller machines strategy on performance of commercial banks in Kenya.

2.0 Literature Review

2.1 Theoretical Review

Balanced Scorecard Theory

The theory was initiated by Kaplan and Norton (1990). It is a measurement tool whose aim is to make a translation of an institution’s mission and vision into an actionable plan. It is an instrument created to measure performance. It aligns business activities with the set purpose, the main aim of the business, mission, and vision. This theory looks into all aspects of an organization and majors from 4 perspectives namely learning and growth and customer focus, business processes, and financial viewpoint. The financial viewpoint investigates the issues of how stakeholders view an organization and how attractive it is to merit an investment by the shareholders. Learning and growth handle the question of areas an organization can innovate and give better services to consumers. Customer perspective is key as it concerns itself with the customer perception of an organization. Finally, business processes focus on internal realignments that a company must focus on to gain a competitive advantage.

In realizing areas of weakness and in complete control strategies, this theory affords a new way of measuring by an organization to be relevant to the current business environment. The balanced scorecard keeps conventional monetary measures while financial reports inform the tale of past happenings. This is important as businesses need to evaluate their long-term plans and strategic measures needed to remain profitable. These measures are not adequate but act as a guide to compare performance over time (Kaplan & Norton, 1990).

A balanced scorecard helps an organization to align the needed skills and competencies required to serve the objectives and purposes effectively and efficiently. It is important to note that balance scorecard gives a report to managers on the results of already implemented actions. Automation gives shape and situation to implementing the Balanced Scorecard system, permits redesign and interpretation of business enterprise facts into information and knowledge

(Kaplan & Norton, 1990). The theory was found to be relevant in the study as it can be used to measure the bank's financial performance against the e-banking strategies.

The Theory of Technology Acceptance Model (TAM)

It was advanced by Davis (1986), and it enables an organization to better predict and accept the data system. The argument is that once a user is confident with technology, he will have more control and be more flexible and employ competence in making use of the same technology.

The technology attractiveness version is a statistics systems idea that shows how technology comes to be accepted and used by a generation. In this era, people take into consideration how technology helps them undertake a particular activity and this informs how an individual selects what to employ and when to employ it; perceived usefulness (PU) is described by Fred Davis as "the extent to which someone has a belief that system use will enhance overall work accomplishment and perceived easiness-of-use (PEOU) which Davis described as "the extent to which someone has a belief that using a specific gadget is important for work accomplishment" (Davis, 1986).

E-banking strategies mainly utilise technology to make various transactions by the consumer and hence the importance of looking into technology acceptance. The study shows that different technology users consume technology based on their understanding of the technology and their ability to control its use. A particular technology will be adopted easily and utilised if the customer believes that it will be easy to use and will enable the customer to perform duties at hand effectively and efficiently (Davis, 1989).

The above elements are very key in the utilisation and adoption of new technology and are recommended through one-of-a-kind variables inclusive of protected use, price, comfort, and perception (Lu et al., 2003). Perceived easiness in use straight away has role in perceived usefulness and the consumer's mindset regarding the real utilisation of the device (Viehland & Leong, 2007).

The use of this theory is further determined by a person's attitude towards technology, the effect of social influence on the user, and perception of the user on behaviour control. This theory was selected as the correct model and modified into extended model with different aspects like easy access, low price of the e-price offerings, perceived consolation, protection, and perceived help from the digital services company. The study seeks to show how acceptance of technology affects banks' performance and how the perceived ease of access and usefulness influence the adoption of technology.

2.2 Empirical Review

Muiruri, Richu and Karanja (2015) analysed the impact of mobile banking on the performance of banks. In the study, it was argued that mobile banking enables fast services to consumers hence highly preferable to visiting a banking hall. Further, it was presented that the reliability of mobile banking plays a critical role in increasing demand for banking services. Outcomes of the research indicated that Mobile banking had an impact on bank performance.

Kato et al (2014) did research on mobile banking and banks' performance in the country. According to the research, he presented that mobile banking involves transfer of funds from one destination to another with the help of a mobile device. He further highlighted that there were great technological advancements in the banking sector and hence the adoption of the same would enhance efficiency in service delivery and reduce turnaround time. In keeping with the development in era, industrial deposit-taking, and loan lending firms have in the present

day past passed through vital technological phases inside the provision of money depositing offerings through adoption of cell money depositing era. A structured questionnaire was employed in this study whereby the collected data utilised inferential statistics to measure relationships among the variables.

In Kenya, Kingori and Gekara (2015) examined the impact of agency banking on business bank execution in Thika region. Purposive examining and cross-sectional examination configurations were embraced. The research outcomes uncovered positive and tremendous impacts of organizations depending on return on resources of business banks. It was reasoned that there was expanded admittance to banking administrations, particularly among those functioning in remote areas since they could undoubtedly get to banking administrations inside their areas of activities.

In their study, Magesse (2019) showed that giving banking services using agents increased access and greatly influenced customers' perception of bank services. There was a considerable reduction in banking costs. Further studies demonstrated that agency banking enhances accessibility to banking services, promotes quality of banking services, decreases costs, and improves profits (Kalinda et al., 2017).

In Australia, Sathye (2015) examined how the use of internet for transacting affects performance of credit associations. Board research configuration was taken on and auxiliary gathered from yearly budget reports of business banks and credit associations more than 10-year time span. The performance of credit associations was highly affected by internet banking.

In Nigeria, Mbah and Obiezekwem (2019) did a study on e-banking effect and SMEs performance. In particular, the study analysed the impact of computerized teller machines, retail location administrations, exchanges alarms through short message administration, mobile banking, and medium enterprises performance. Cross-sectional exploration configuration was embraced. Results laid out a massive impact of robotized teller machines, retail locations, exchange cautions through short message administrations, versatile banking, and execution of small and medium organizations.

In Tanzania, Matimbwa and Ochumba (2018) focused on ATMs' effect on customer satisfaction. The investigation was quantitative and customer satisfaction was found to be highly affected by ATM use. Further, use of ATMS enhanced firm performance. In Nigeria, Jenevive and Anyanwaokoro (2017) focused on ATMs and banks' profitability. Panel regression was adopted. Mobile bank payments and use of ATMs were found to have an impact on banks' profitability.

3.0 Methodology

The descriptive research design was used in the study. The targeted populace includes the banks in the County of Nairobi. The study targeted 39 banks that have been in operation from 2016 to 2020. The study collected data from all 39 banks as sampling was not appropriate due to the size of the target population. The 39 banks were included since they were in operation between the year 2016 to 2021. This study used STATA for data analysis because the software could analyze panel data in a range of time -(Park, 2011). The researcher then analyzed the descriptive statistics for each of the study variables to get their mean, standard deviation, and minimum and maximum values. Afterward, the researcher run Pearson's correlation analysis in SPSS, to get the pairwise correlation matrix which helped determine the direction and strength of the relationship between the study variables. The pooled regression models for both the direct influence were then estimated and their results were presented in tables for efficient interpretation.

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4.0 Result and Discussion

4.1 Descriptive Results

Descriptive for the study were conducted. Results were displayed in Table 1.

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
ROA	0.023	19.6300	11.337	3.641
ROE	0.050	26.7800	11.247	6.540
Investment on Mobile Banking' millions	0.005	1353.654	244.329	281.193
Investment on Agency Banking' millions	0.005	875.059	209.750	188.521
Investment on Internet Banking' millions	0.099	1289.123	397.127	349.447
Investment on ATM' Millions	0.003	1293.857	272.190	314.767

The outcomes revealed that the mean of ROA of commercial banks in the past 5 years was 11.337. The maximum was 19.630 while minimum was 0.023. The standard deviation from the mean was 3. 641.This implied that ROA was significantly from the mean.

The findings showed that commercial banks' mean ROE over the past five years was 11.247. The highest value was 26.780, while the lowest was 0.050. 6.540 was the standard deviation. This implied that ROE varied significantly from the mean. The findings showed that commercial banks' average investment in mobile banking over the past five years was Ksh 244.329 million. The maximum was Ksh 1353.654 million while minimum was Ksh 0.005 million. The standard deviation was 281.193. This implied that investment on mobile banking was greatly spread from the mean

The results revealed that the mean of investment on agency banking of commercial banks in the past 5 years was Ksh 209.750 million. The maximum was Ksh 875.059 million while minimum was Ksh 0.005 million. The standard deviation was 188. 521.This implied that agency banking investment was significantly dispersed from the mean. The findings showed that commercial banks' average investment in online banking over the past five years was Ksh 397.127 million. The maximum was Ksh 1289.123 million while minimum was Ksh 0.099 million. The standard deviation was 349.447This implied that internet banking investments were significantly dispersed from the mean. The results revealed that the mean of investment on ATM banking of commercial banks in the past 5 years was Ksh 272.190 million. The maximum was Ksh 1293.857 million while minimum was 0.003 million. The standard deviation was 314.767. This implied that there was a wide variation in investment in ATM banking from the mean.

4.2 Correlation Analysis

Correlation analysis was utilized to establish the relationship between the research variables.

Correlation Analysis (ROA)

To demonstrate the connection between the e-banking strategies and the performance of the country's banks, this tool was used in the data analysis.

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Table 2: Correlation Analysis (ROA)

		ROA	Mobile banking	Agency Banking	Internet Banking	ATM Banking
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
Mobile Banking	Pearson Correlation	.536**	1			
	Sig. (2-tailed)	0.000				
Agency Banking	Pearson Correlation	.578**	.369**	1		
	Sig. (2-tailed)	0.000	0			
Internet Banking	Pearson Correlation	.431**	-0.103	.233**	1	
	Sig. (2-tailed)	0.000	0.15	0.001		
ATM Banking	Pearson Correlation	.644**	.795**	.387**	.143*	1
	Sig. (2-tailed)	0.000	0	0	0.046	

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

* Correlation is significant at the 0.05 level (2-tailed).

Findings in Table 2 show that there was a moderately strong positive and significant association between mobile banking strategy and ROA (r=0.536, p=0.000). Therefore, higher investment in mobile banking would lead to improved returns on assets. Agency banking strategy and ROA were found to have a moderately strong positive and significant correlation in the findings (r=0.578, p=0.000). Therefore, higher investment in agency banking would lead to improved returns on assets.

Additionally, there was a weak but significant positive correlation between ROA and internet banking strategy in the findings (r=0.431, p=0.000). Additionally, the results demonstrated a significant and strong positive correlation between ATM banking strategy and ROA (r=0.644, p=0.000). Therefore, higher investment ATM banking would lead to improved return on assets.

Correlation Analysis (ROE)

Correlation was done between e banking strategies (mobile banking strategy, agency banking, internet banking strategy) and ATM banking strategy and ROE.

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Vol. 3||Issue 1||pp 47-60||April||2023
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Table 3: Correlation Analysis (ROE)

		ROA	Mobile banking	Agency Banking	Internet Banking	ATM Banking
ROE	Pearson Correlation	1				
	Sig. (2-tailed)					
Mobile Banking	Pearson Correlation	.611**	1			
	Sig. (2-tailed)	0.000				
Agency Banking	Pearson Correlation	.452**	.369**	1		
	Sig. (2-tailed)	0.000	0			
Internet Banking	Pearson Correlation	.331**	-0.103	.233**	1	
	Sig. (2-tailed)	0.000	0.15	0.001		
ATM Banking	Pearson Correlation	.675**	.795**	.387**	.143*	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.046	

According to the findings presented in Table 3, there was a positive and significant relationship found between ROE and mobile banking strategy (r=0.611, p=0.000). As a result, increased investment in mobile banking would improve equity return. The results further showed a weak positive and significant association between agency banking strategy and ROE (r=0.452, p=0.000).

In addition, Internet banking strategy and ROE were also found to have a weak but significant positive correlation, according to the results. (r=0.331, p=0.000). Therefore, higher investment in internet banking would lead to improved return on equity. The results further showed a strong positive and significant association between ATM banking strategy and ROE (r=0.675, p=0.000).

4.3 Regression Analysis

Regression analysis was utilised to find out the relationship between the independent and the dependent variable.

Regression Analysis (ROA)

Regression analysis was utilised to find out the influence of e-banking strategy on bank' organizational performance measured using ROA.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square
1	.796a	0.634	0.625

The adjusted R square, explained jointly by the independent variables and which represents the variance percentage was 0.634 This meant that 63.4% of the variance in ROA was explained by ATM, mobile, internet, and agency banking. This indicates that 63.4% of ROA variation in commercial banks is influenced by parameters outside the model. The adjusted R was 0.625 which was higher than 0.5 further confirming that the model was fit and thus e-banking strategy had an influence on organizational performance.

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Vol. 3||Issue 1||pp 47-60||April||2023
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Table 5: Analysis of Variance

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.659	4	3.415	81.882	.000[b]
Residual	7.924	190	0.042		
Total	21.583	194			

Table 5 shows that F statistic of 81.882 and the associated P-value of 0.000 which is a value less than a p-value of 0.05. This implies that E-banking had a statistically significant effect on commercial bank ROA at a 95% confidence level. This is a clear indicator the bank's performance was affected by the independent variables.

Table 6: Regression of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.134	0.052		2.575	0.011
Mobile banking	0.068	0.025	0.215	2.711	0.007
Agency Banking	0.112	0.018	0.300	6.059	0.000
Internet Banking	0.131	0.019	0.339	6.881	0.000
ATM Banking	0.126	0.032	0.308	3.938	0.000

The results in Table 6 showed that mobile banking had a positive and a significant effect on ROA (β=0.068 p=0.007). It showed that an increase unit in mobile banking leads to an increase in ROA by 0.068 units. Results also showed that internet banking had a positive and a significant effect on ROA (β=0.131 p=0.000). This shows that a unit increase in internet banking results to an increase in ROA by 0.131 units. Furthermore, the outcome showed that ATM banking a positive and significant effect on ROE (β=0.126, p=0.000). This means that a unit increase in agency banking would result to an increase in ROA by 0.126 units.

$ROA= 1.34+ 0.068X_1+0.112X_2+0.131X_3+0.126\ X_4+e$

Where:

X_1 = Mobile banking

X_2= Agency banking

X_3= Internet banking

X_4= ATM banking

e=error term

Regression Analysis (ROE)

Regression analysis was utilised to find out the effect of e-banking strategy on banks' organizational performance measured using ROE.

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Vol. 3||Issue 1||pp 47-60||April||2023
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Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759a	0.577	0.568	0.27234

Mobile banking strategy, agency banking, internet banking strategy, and ATM banking strategy impact ROE. This was supported by R square of 93.3%. This intended that mobile banking strategy, agency banking, internet banking strategy and ATM banking strategy explain 57.7% of the variations in the dependent variable which was ROE. The findings further agreed with the theory of technology acceptance which indicated that once a user is confident with technology, he will have more control and be more flexible and employ competence in making suitable cash operations (Davis, 1986).

Table 8 provided the results of the analysis of the variance (ANOVA).

Table 8 Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.207	4	4.802	64.744	.000b
Residual	14.092	190	0.074		
Total	33.299	194			

Table 8 shows that F statistic of 4.802 and the associated P-value of 0.000 which is a value less than a p-value of 0.05. This implies that the E-banking had a statistically significant effect on commercial bank ROE at a 95% confidence level.

Table 9 Regression of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-0.034	0.069		-0.486	0.628
Mobile banking	0.138	0.033	0.352	4.135	0.000
Agency Banking	0.064	0.025	0.138	2.595	0.010
Internet Banking	0.141	0.025	0.292	5.524	0.000
ATM Banking	0.153	0.043	0.300	3.572	0.000

The results in Table 9showed that mobile banking had a positive and significant effect on ROE (β=0.138 p=0.000). It showed that an increased unit in mobile banking would result in an increase in ROE by 0.138 units. Further, the results indicated that agency banking had a positive and significant influence on ROE (β=0.064, p=0.010). Therefore, a unit increase in agency banking would lead to an increase in ROE by 0.064 units. Additionally, the results showed that internet banking had a positive and significant influence on ROE (β=0.141, p=0.000). This shows that a unit increase in internet banking would result to an increase in ROE by 0.141 units. Furthermore, the outcome showed that ATM banking a positive and significant effect on ROE (β=0.153, p=0.000). This means that a unit increase in agency banking would result to an increase in ROE by 0.153 units.

$ROE= 1.38X_1+ 0.064X_2+0.141\ X_3+0.153\ X_4+e$

Where:

X_1 = Mobile banking

X_2= Agency banking

X_3= Internet banking

X_4= ATM banking

e=error term

5.0 Conclusion

The research concluded that mobile money banking strategy had a positive and significant effect on both ROA and ROE of commercial banks. The study made also concluded that mobile banking has been adopted by banks in Kenya. Therefore, mobile money banking strategy influences banks's performance significantly.

The research concluded that use of agency banking had a positive outcome and significantly affected banks' performance shown by ROA and ROE. Therefore, agency banking strategy had a positive and significant effect on performance of commercial banks.

The study concluded that internet banking strategy had a positive and significant effect on both ROA and ROE of commercial banks. The research made a conclusion that the banks that have adopted internet banking have noticed improved performance and enhanced profitability. Therefore, internet banking strategy had a positive and significant effect on performance of commercial banks.

The study also concluded that ATMs' banking strategy had a positive and significant effect on both ROA and ROE of commercial banks. The study concluded that a significant number of banks use ATMs as a form of e-banking service. Therefore, ATM's banking strategy had a positive and significant effect on performance of commercial banks.

6.0 Recommendations

The study recommends that all banks should encourage their customers to use internet banking oftenly based on the results of the study that internet banking had a noteworthy impact on the return on assets and return on equity of the banks. Relying on internet banking would minimize the customers time and costs rather than visiting the branches physically.

A recommendation was done for banks to contribute significantly on advanced innovation, developments, and improve services to their clients which will lead to more business. The review suggested a need for banks to sharpen, illuminate, and educate customers on the accessibility, openness, use, and worth of e-banking administrations available to them to work on their take-up and utilize. To begin with, it is commended that banks in Kenya should continue to popularise mobile usage in transacting due to its positive influence on performance. It is hereby recommended that banks should continually improve their mobile services for a great impact

Agency banking is a great model that enables banks to reach out to people in remote areas. is therefore important for banks to empower agents to be able to do cheque transactions, foreign exchange transactions, individual statement services, and many more. The banks should come up with ways to empower agents and enable them to handle large cash operations. A recommendation was done for banks to employ both mobile and agency banking. The study

also recommends an increased focus and investments in mobile banking and other e-banking strategies.

The government through the central bank of Kenya should encourage commercial banks to invest more in internet banking. This is because internet banking is the engine for increasing ROA and ROE of the banks. A faster and more efficient financial sector would spur up economic development of a country as well as financial deepening.

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