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Abstract
Internet banking is a set of financial services delivered through digital pathways. This study sought to determine the effect of internet banking on profitability of the Kenya Commercial Bank. Guided by the theory of financial innovations. This study applied descriptive research design and purposive sampling to select Kenya Commercial Bank from the list of all licensed commercial banks in Kenya as at December 31st 2020 because it is the largest bank in terms of technology. Secondary data was extracted from the financial statements which were analyzed using simple linear regression. The study established that internet banking was an important factor in enhancing profitability of the Kenya Commercial Bank (β=0.087, $p< 0.05$). It was concluded that profitability of the Kenya Commercial Bank was influenced by internet banking. The findings of the study will be important in informing policy makers and bank managers on mechanisms of enhancing their profitability. The study therefore recommended that commercial banks that seek to enhance their profitability should embrace internet banking.
Keywords: Internet Banking, Commercial Banks, Profitability.

Introduction

Internet banking is a set of financial services delivered through digital pathways. In other words, internet banking is a financial service provided and accessed on the customers' respective mobile phones, computers, Point-of-Sale (POS) and ATMs (Kumarr, 2019). Through electronic payments, consumers can transfer funds, pay bills and pay for goods and services from their home, or in a market or store setting, with limited physical contact. Internet banking enable a rapid, secure way for governments to reach vulnerable people with social transfers and other forms of financial assistance, especially during times when transportation and movement around the country is unsafe or limited (World bank, 2020). The current Covid-19 pandemic has amplified the benefits of expanding internet banking, because it significantly reduces the need for physical contact in retail and financial transactions and helps government respond more quickly to extend liquidity to firms and people most at risk (CBK, 2020). Internet banking particularly through the use of mobile phones, has also permitted remote payments and transactions, enabling the social distancing recommended to reduce contagion.

Globally, internet banking is heavily used by commercial banks to efficiently serve their customers and increase profit margins (World Bank, 2016). In 2012, India witnessed the changes in the payment system. During that period digital growth was witnessed where internet banking was seen growing very fast. This growth was necessitated by the government regulations, availability of internet, Mobile phones, mobile applications and technological advancements (Mishra, 2019).
In Africa, internet banking has grown exponentially. For instance, the growth of internet banking in South Africa has have been accelerated by technological advancement, friendly government regulations, banks investing more on technology, good network and availability of affordable mobile phones. In East Africa internet banking has grown despite challenges like poor network, illiteracy where people do not have the knowledge to use digital platforms, lack of mobile phones among other factors. In Tanzania, use of mobile money have experienced explosive growth since the service was introduced in 2008. With several providers competing for market share, a range of new use cases have been introduced, including digital credit, savings, and bill payments. In 2017, nearly a decade after the first mobile money deployment launched, 60 percent of Tanzanians had used mobile money (CGAP, 2018).
Kenya has been transformed with the new innovations in finance as a result of IT advancement. To date the use of cash has been replaced by digital cash and digital wallets. Andrew (2001) says that in coming years, paper money is likely to lose ground as existing new e-money instruments receive broader acceptance for growing range of transaction. According to (CBK, 2019) Kenyan banks have exponentially embraced the use of information and communication technologies in the provision of banking services, this has enhanced the application of e-payments in banking services. The advancement in technology has played an important role in improving service delivery standards in the banking industry (CBK, 2012). However, despite efficient service delivery by commercial banks, it is not clear on the effect of internet banking on profitability of commercial banks in Kenya.

Statement of the Problem
With the rapid development of internet banking in Kenya, banking has become more efficient. With the evolution of technology, internet banking is slowly disrupting the traditional banking services. This efficiency in banking is increased through loan personalization modules, elimination of middlemen hence lowering the cost of transactions significantly. The relationship between financial technologies and banks is mostly complementary, with banks investing heavily in financial technologies infrastructure. Technological investments are taking a larger share of bank’s resources. On one hand the bank performance is directly related to efficiency and effectiveness of digital financial services, but on the other hand tight monetary policies and standards are needed to enhance the actual level of profitability among the commercial banks. The banks have to balance these two options of efficiency and profitability in order to manage their sustainability. This is only possible if overall effects of internet banking on profitability of commercial banks is well understood. Therefore, the overall objective of this study was to establish the effect of internet banking on profitability of commercial banks in Kenya with a focus on the Kenya Commercial Bank.

Research Objective
- To determine the extent to which Internet banking affect profitability of Kenya Commercial Bank.

Research Hypothesis

- H_o: Internet banking has no significant effect on profitability of Kenya Commercial Bank.

Significance of the Study

The research will assist financial institutions to monitor the financial outcome as well as effects of innovation on profitability of financial institutions. The findings of the study will also be of importance to policy makers, regulators and shareholders as it will go a long way in guiding the stakeholders in decision and policy making. The study will further be of importance to scholars as it will contribute to the existing body of knowledge in the area of internet banking and profitability of commercial banks.

Literature Review

Theoretical Review

This study was guided by the theory of financial innovations.

Theory of Financial Innovations

The proponent of this theory was Silber (1983) and it was based on the notion that money can be increased if the drivers of expanding the money can be increased. According to (Li & Zeng, 2010) this theory demonstrates the new innovations in the finance sector that are aimed at filling the gaps in the money related business sector which include the expenses and the exchange costs. Błach (2011) noted that the theory of financial innovation has brought about new way of doing business and this has helped to meet the customer needs and hence enhancing the firms' level of liquidity as well as expanding quantity new applicants, due to their qualifications on the situation. The theory emphasizes that financial innovation is a critical motivating force of the financial systems that aims at bringing better economic competence and enhancing competitiveness in the finance sector.

Sekhar (2013) noted that financial innovations have redefined financial developments by coming up with new ways of production, technological solutions, creating better return rates hence boosting the Kenya's economy in general. The theory posits that the innovativeness improves the firms' competitive edge of a corporate and generates more earnings to the investors. Innovation is a tool used to solve, manage and transfer the entire extra burden. The application of innovations promotes growth of financial entities through improved allocation, efficiency and a reduction of financial and administration costs.

The weakness of this theory is, this theory requires the banks to adopt a high technological framework which is a costly affaire to most of the banks. Another weakness is, the theory assumes that all the targeted customers have the capability of using the technology available to increase their operations. The theory also assumes that all those seeking financial services have the required digital knowledge to enhance their utilization of the technology.

Despite the above weaknesses, the theory of financial innovations will enable the researcher to access the digital innovations (internet Banking) to the extent to which it contributes to profitability of commercial banks in terms of revenue. This theory therefore calls for an understanding of what is expected to ensure that the targeted customers have the ability to apply the required technology for service delivery. The theory was applicable to this study as it provided a good basis for understanding how internet banking has improved the financial sector in Kenya.

Internet Banking and Profitability

Dias and Mckees (2010) argues that the rate of internet banking is impacted by five characteristics. The characteristics are relative advantage, compatibility, complexity, trial ability and observability. Internet banking is measured by cost of cash transactions and revenue generated (Bello, 2005). Cost of transaction is the amount charged by a bank when a transaction is done, this is an income to the bank. This is attributed to the fact that with increased transaction the cost is minimized and hence the bank is able to save more revenue which translates into profitability. Internet banking is generally cheaper in terms of transferring money and providing other services to clients. Hence, there is a likelihood that there will be more savings on the part of the bank which improves the profitability of the bank. All this is made possible as many consumers, are able to access financial services on a 24-hour basis through various cash points.

Figure 1: Conceptual Framework

Empirical Review

Zimmerman (2010) carried a study on the effects of internet banking on operational performance of commercial banks in Nakuru County. The objective of the study was to investigate the extent to which internet banking affects operational performance of commercial banks in Nakuru County. The study employed the following theories namely: Bank-Focused Theory and The Technology Acceptance Model (TAM). This study adopted a cross-sectional research design. The study population comprised of 56 employees of the commercial banks. Since the banks are few, the study adopted a census survey. Data was collected using structured questionnaires. Data was analyzed using correlation and regression analysis. The study established that internet banking has a positive significant effect on operational performance of the commercial banks. The study established that mobile banking supports the delivery of mobile banking services in an economy. The study was only carried in Nakuru County, hence the need to carry the study in commercial banks in Kenya to allow for generalization.

Methodology

The research utilized a Case study descriptive research design. The population of the study consisted of all the 43 commercial banks licensed by the Central Bank of Kenya (CBK) as at 31st December 2020. The study used purposive sampling to pick Kenya Commercial Bank. Kenya Commercial Bank was selected because during the period 2016 to 2020 it was the largest commercial bank in asset base and also had the highest technological advancement (CBK, 2020). The study used secondary data. The data was derived from CBK banks annual supervision reports and from the Kenya Commercial Bank financial reports. A total of 5 financial years (2016 – 2020) was used. The data was subjected to descriptive and inferential statistics to establish patterns, trends and to assess the effect of the independent variable on the dependent variable. Pearson Correlation analysis was used to establish the relationship between internet banking and profitability. To develop the research model and assess the magnitude of the effect of the independent variable on the dependent variable simple linear regression analysis (equation 3.1) was tested.

$Y = \beta_0 + \beta_1 X_1 + e$ ………………………………………………………………………………. 3.1

Where:
Y = Profitability
β_0 = The Y intercept
β_l = Is the regression coefficient
X_1 = Internet banking
e = the error term

Results

Effect of Internet Banking on Profitability of Kenya Commercial Bank

This objective sought to establish the extent to which Internet banking affect profitability of Kenya Commercial Bank. The main focus of this objective was to determine the amount of revenue generated from internet banking on a semi-annual basis for the financial period from January 2016 to December 2020. This was compared with the profitability of KCB which was measured using semi-annual ROA. The financial report value in Kenya shilling were extracted from the KCB published financial statements for the financial period from January 2016 to December 2020. This were presented in Table 1 and Figure 2.

Table 1
Internet Banking Revenue and ROA

Period	Internet Banking Revenue Ksh (million)	ROA
Jun-16	1.564	1.172
Dec-16	2.346	1.758
Jun-17	4.152	1.184
Dec-17	6.228	1.776
Jun-18	4.256	1.34
Dec-18	6.384	2.01
Jun-19	6.78	1.368
Dec-19	7.376	1.48
Jun-20	10.17	2.052
Dec-20	11.064	2.22
Total	**60.32**	**16.36**
Mean	**12.064**	**3.272**

Source (CBK, 2021)

The results in Table 1 show that December 2020 had the highest revenue (11.064) generated from internet banking while June 2016 had the least revenue (1.564) generated from internet banking. The total revenue generated from internet banking for the five years under study was 60.32 million and the mean was 12.064 million. The highest ROA (2.22) was reported in December 2020 while the lowest ROA (1.172) was reported in June 2016. The average ROA for the five years under study was (3.272). To summarize the values in Table 4.1 in graphical form the values were plotted and Figure 2& was obtained.

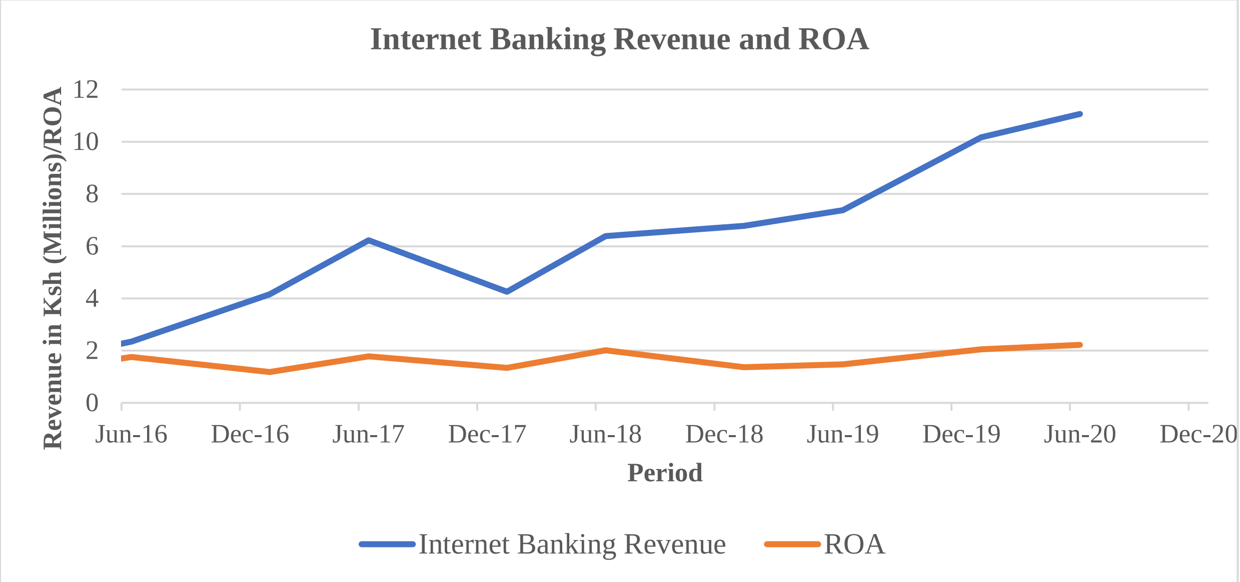

Figure 2: Internet Banking Revenue and ROA for the Period June 2016 to Dec 2020
Source (Author, 2021)

The results in Figure 2 show that for the five years under study there was a general upward trend for the revenues generated from internet banking. Similarly, though at a lower rate there was a general upward trend in ROA for the five years under study. The results show that there was an increase in revenues generated from internet banking for the five years under study and this could have contributed to the increase in ROA. The ROA is calculated as total net income divided by the value of total assets. Since revenues generated form internet banking represents a small percentage of a bank's total income hence this could explain why there was a relative lower rate of change in ROA for the five years under study. This is consistent with Zimmerman (2010) who noted that internet banking contributed positively to the financial performance of commercial banks in Kenya. This could be attributed to the fact that internet banking allows 24 hours service provision to a bank client thus 24 hours revenue generation. The study was further consistent with Ngugi (2013) who established that internet banking was cost effective and banks were able to save thus improving their financial performance of commercial banks.

The data were subjected to further analysis using Pearson's correlation so as to establish the relationship that exists between revenues generated from internet banking and ROA. The results are presented in Table 2

Table 2
Pearson's Correlation Analysis

		ROA
Internet Banking Revenue	Pearson Correlation	0.706*
	Sig. (2-tailed)	0.022
	N	10

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

The results in Table 2 show that there is a high positive statistically significant correlation ($r = 0.706$, $p < 0.05$) between internet banking revenues and ROA of KCB. This means that revenues generated from internet banking have influence on ROA of KCB. This is in agreement with Zimmerman (2010) who established a positive significant correlation between internet banking and financial performance of commercial banks.

The Study further sought to establish the effect of revenues generated from internet banking on ROA of KCB. Simple linear regression analysis was applied and the results are presented in Table 3

Table 3

Regression Model Summary for Internet Banking Revenues

Model	R	R^2	R^2_{Adj}	SE
1	0.706[a]	0.499	0.436	.284565

Source (Author, 2021)

From Table 3, it is noted that the goodness of fit for the regression between revenues from internet banking and ROA of KCB was satisfactory. An R^2 of 0.499 indicates that 49.9% of the profitability of KCB is explained by the revenues generated from internet banking.

Table 4

ANOVA for Internet Banking Revenues

Model		S.S	*df*	M.S	*F*	*p*
1	Regression	0.644	1	0.644	7.953	0.022[b]
	Residual	0.648	8	0.081		
	Total	1.292	9			

From Table 4, F=7.953, $p < 0.05$ indicates that revenues generated from internet banking play a significant role in influencing the profitability of KCB.
Further, the null hypothe*sis that Internet banking has no significant effect on profitability of Kenya commercial bank.*

Table 5

Coefficients for Internet Banking Revenues

P

Model		B	S.E.	t	*p*
1	(Constant)	1.112	.207	5.381	0.001
	Internet Banking Revenue	0.087	.031	2.820	0.022

Source (Author, 2021)

From Table 5, (β= 0.087, t= 2.820, $p < 0.05$) led to the rejection of the null hypothesis that Internet banking has no significant effect on profitability of Kenya commercial bank. The study thus, concluded that revenues generated from internet banking were a significant factor affecting profitability of KCB. This finding is in agreement with Zimmerman (2010) who established that internet banking has a positive significant effect on operational performance of the commercial banks. The study further is in agreement with the findings of Ngalyuka (2013) who noted a significant effect of internet banking of performance of commercial banks in Kenya. The study thus concludes commercial banks that seek to enhance their financial performance should embrace internet banking as it enhances service delivery by providing 24 hours services to clients.

Conclusion and Policy Implication

The study concluded that profitability of KCB is influenced by internet banking. Commercial banks that seek to enhance their profitability should adopt internet banking. Commercial banks that seek to enhance their profitability must consider embracing internet banking because it enhances service delivery by offering 24 hours services to clients. Internet banking also allows banks to offer services at low cost and hence reducing operation costs.

References

Andrew, L. (2001). Financial Innovation and the Performance of Commercial Banks in Kenya. *Doctoral dissertation, Kenyatta University.*

Bello, D. A. (2005). The impact of E-banking on customer satisfaction in Nigeria the Abuja management review.

Blach, S. W. (2011). Board of director determinants of voluntary audit committee disclosures: Evidence from Singapore. *Singapore Management University.*

Central Bank of Kenya. (2020). Bank Supervision Annual Report.

Central Bank of Kenya Report. (2019). List of Licensed Commercial Banks in Kenya.

Central Bank of Kenya. (2012). Bank Supervision Annual Report.

CGAP Report. (2018), A digital credit Revolution Insight from Borrowers of Kenya and Tanzania. CGAP working paper, Washington DC.

Dias, K., & Mckee, J. (2010). Factors influencing internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic commerce research and applications*, *8*(3), 130-141.

Kumar, C. A. (2019). Basic statistics for business & economics. McGraw Hill.

Li, M. V., & Zeng, M. (2010). *Financial modeling and actuarial valuation*. New York: Springer.

Mishra, R. (2019). Making Smartphones Last Longer with Code Offload. In *Proceedings of the 8th international conference on Mobile systems, applications, and services* (pp. 49-62).

Ngalyuka, R. E. (2013). *Is fixed investment the key to economic growth?* (No. w4436). National Bureau of Economic Research.

Ngugi, P. M. (2013). *Effect of bank innovations on financial performance of commercial banks in Kenya* (Doctoral dissertation).

Silber, E. M. (1983). A prospective and retrospective look at the financial innovation theory. *Journal of health communication*, *9*(S1), 13-19.

World Bank Group. (2016). Template for the design of a national financial inclusion strategy, World Bank, Washington, DC.

World bank. (2020). COVID-19 and Digital Financial Inclusion in Africa.

Zimmerman. (2010). Zhou, W., Arner, D. W., & Buckley, R. P. (2015). Regulation of digital financial services in China: last mover advantage.