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The Influence of Financial Innovations on the Financial Performance of Commercial Banks in Cameroon

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Abstract

This research paper looks into the impact which financial innovations have on the financial performance of banks in Cameroon, specifically commercial banks. The research study used various proxies for financial innovations such as; automated teller machines (ATM), point of sale (POS), internet banking (IB) and mobile banking (MB). In order to gauge the financial performance of commercial banks in Cameroon, the study employed return on assets. The relationship between the variables in the study is established by way of multiple regressions. Using SPSS statistical software to make the analysis; the study found ATMs and MOB to have a positive significant relation to the financial performance of commercial banks while POS terminals and Internet banking both had p-values greater than the study confidence interval. Finally the study recommends banks to issue more POS terminals and sensitize customers on using internet banking services.

Keywords: financial innovation, financial performance, multiple linear regressions

1. Introduction

Banks and Financial institutions are imperative to every economy; they play a vital role in Capital provision for innovation, infrastructural development and job creation (Guisse, 2012). The desire to make financial services accessible to everyone has led banks and financial institutions to find innovative ways for the delivery of financial services (Sweeny & Morrison, 2004). Otoo, (2013) noted that deregulation, increased globalization and stiff competition are responsible for the increase in financial innovations.

As early as the 1930s, Joseph Schumpeter postulated that; financial innovations are a prelude to changes being made to existing products, processes and organizations. Overtime, the definition has evolved; financial innovations refer to the process of creating financial products and making these products available to the market and institutions (Lerner and Tufano, 2011, White, 1997).

The benefits of banks adopting financial innovation is enormous as postulated by Lyons, Chatman & Joyce, (2007), they found improved banking performance, increased market share and cost reduction as some of the benefits of adopting financial innovations. In Cameroon, commercial banks have strategically adopted financial innovations into their daily processes and operations to their advantage. Financial innovations developments within the banking sectors in Cameroon have been essentially within the area of Automated Teller Machines, Point of sale, Mobile Banking and Internet banking.

This research study has been necessitated by increased competition (post COVID) in the Cameroonian banking industry. The industry witnessed the entry of three new banks making the total commercial banks in Cameroon to 19. As Commercial banks scramble for market share, developing innovative products is a prerequisite to increasing profits. In addition, the Cameroonian banking sector continues to experience strained financial performance due to money transfer services like Orange Money and Mobile Money.

A review of existing literature demonstrates various research gaps. Ngwengeh, Messomo & Mbu (2021) studied how digital financial services (Virtual Savings Accounts, Virtual Transfers Accounts, Virtual Withdrawals Accounts and Virtual Payment Services) affect the financial performance of commercial banks in Cameroon. Their research arrived at the conclusion that except for Digital payments which had a negative correlation with profitability, the other dependent variable showed positive correlations with profitability of commercial banks in Cameroon. Lontchi, Yang & Shuaib, (2023) researched the effect which Financial

Technology has on the financial performance of SMEs in Cameroon amid COVID-19 Recovery. The research found a positive and significant correlation between financial technologies on the financial performance of SMEs in Cameroon. This research paper therefore aims to examine the effect which financial innovation has on the financial performance of Commercial banks in Cameroon.

2. Objectives of the Study

The main objective of this research study is to ascertain the effect of financial innovation on the financial performance of commercial banks in Cameroon. Specifically, the research sought to;

(i) To investigate the relationship between Automated Teller Machines and the financial performance of Commercial banks in Cameroon.

(ii) To investigate the influence which Mobile banking services has on the financial performance of Commercial banks in Cameroon?

(iii) To investigate the influence which Internet banking has on the financial performance of Commercial banks in Cameroon?

(iv) To find out the relation between Point of Sale and the financial performance of Commercial banks in Cameroon.

3. Literature Review

This part analyses relevant research that pertains to the relationship between financial innovation and the financial performance of banks. Hayder, (2023) studied the impact which financial innovations have on the financial performance of banks in Iraq. The research paper employed mobile money payments, ATMs transaction values and Point of sale terminals as proxies to financial innovations and return on assets and return on equity as measures for banking financial performance. Hayder, (2023) study concluded as to the case of the Iraqi banking system that mobile money payments had the greatest impact on the financial performance of banks in Iraq due to large volume of transactions.

Ashiru, Balogun, Paseda, (2023), research study focused on the effect which financial innovations had on the financial performance of money deposit banks in Nigeria and found point of sale terminals to have the most positive effect on the financial performance of banks in Nigeria because of large volume and value of transactions.

Wadesango & Magaya (2020) studied the effect which digital banking services have on the financial performance of commercial banks in Zimbabwe. The study revealed the return on assets of commercial banks increased as customer deposits through digital banking services increased.

Kiplangat & Tibbs (2018) investigated financial innovations and financial performance of banks in Kenya. They surveyed 215 banking employees with a sample estimate of 170 respondents. Their study concluded that mobile banking services had a positive impact while online banking had no significant effect on the financial performance of banks in Kenya. The main rationale they expressed for mobile banking impact is due to convenience of use and affordable fees levied.

Ogre (2013) examined the influence which e-banking has on the financial performance of commercial banks in Kenya. The research paper concluded that the number of cards (debit and credit) issued by the bank to its customers, the number of Point of Sales (POS) terminals, Automated Teller Machines (ATMs), the usage levels of Mobile Banking, Electronic Funds (digital transfers) and internet banking have a significant impact on the profitability of commercial banks in the Kenyan banking industry.

Furthermore, Aduda & Kingoo, (2012) found a positive correlation between e-banking and the financial performance of commercial banks in Kenya.

The American Economist, Silber, (1983) postulated the Constrained Finance Induced Theory. According to Silber the main rationale for the existence of financial innovation is to maximize profits. The main hypothesis stated is that firms innovate through financial instruments mainly to lessen financial constraints. These constraints are internal as well as external constraints. On the external front are government regulation and forces of demand and supply. A firm will tend to maximize its objective function subject to existing constraints (Silber, 1983).

Financial innovations are aimed at reducing transactional cost (Hicks and Niehans, 1983). Hicks and Niehans, (1983) demonstrated how financial innovations are developed as a response to advancements in technology. This theory is relevant as it explains how commercial banks can improve their financial performance by reducing transactional cost.

4. Data Presentation

This research paper main objective is to determine the impact which financial innovations have on the financial performance of commercial banks in Cameroon. To ascertain afore mentioned objectives; secondary data is sourced from the World Bank website. The data obtained covers the period 2004 to 2021 and includes all the fifteen commercial banks of Cameroon. For the dependent variable, the study adopted Return on Assets (ROA). The return on assets is indicative of the profitability of a bank in relation to its total assets. For the independent variables the study adopted the following proxies for financial innovation; Automated Teller Machines (ATM), Point of Sale (POS), Mobile Banking (MOB) and Internet banking (IB). The data in the study was analyzed using the Statistical Package for Social Sciences (SPSS).

5. Methodology

This study takes on a descriptive nature and employs the econometric multi-linear regression model. The aim of Multiple Regression analysis is to establish possible correlations that exist between the dependent variable (ROA) and the four proxy predictor variables (ATM, POS, MOB, IB). The rationale for employing multiple regression analysis is to determine if the independent variables can successfully predict the dependent variable. Each predictor value is weighed, the weights denoting their relative contribution to the overall prediction. The general form for a regression model takes the format;

$$y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta nXn \quad (1)$$

In which Y represents the dependent variable,

$X_1,\ldots,X_n$ are the *n* independent variables,

Weights, a, $b_1,\ldots,b_n$, regression analysis ensures maximal prediction of the dependent variable from the set of independent variables. Inculcating our study variables into the regression model produces;

$$ROA = a + \beta 1ATM + \beta 2POS + \beta 3MOB + \beta 4IB \quad (2)$$

These regression equations were run using software SPSS, the results are presented in the next section.

6. Results and Analysis

The results of the study are presented by first considering the goodness of fit, that is how well the multiple linear regression models conforms to the data, then analysis of variance as well as regression coefficient. This study considers

Table 1. Model Fitness

Model Summary				
Model	**R**	**R Squared**	**Adjusted R Squared**	**Std Error of Estimate**
1	0.726	0.884	0.848	0.184637285

Table 1 above explains the fitness of the model used to explain the variables in the study. The coefficient of determination, also known as R squared provides insights into how much of the dependent variable can be explained by the independent variable, this indicates, 88.4% of variation in Return on Assets of commercial banks in Cameroon can be explained by the independent variables. This illustrates that the regression model applied here has good explanatory power of the variables in question.

Table 2. Analysis of Variance

	Model	**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig**
1	Regression	4.355	4	0.654	29.431	0.000
	Residual	0.956	40	0.065		
	Total	5.311	44			

a. Dependent Variable: ROA
b. Predictors (Constant): Internet Banking, Point of Sale, Mobile Banking, Automated Teller Machines

Table 2 above illustrates the analysis of variance; the P-value demonstrates the degree of relationship between the dependent and independent variable. Where the p-value is less than 0.05, as in this case (0.000) then the conclusion is that the model is significant in explaining the relationship between the variables, that is the model is statistically significant. A statistically significant model is indication that the independent variables are good predictors of the financial performance of commercial banks in Cameroon.

Table 3. Regression Coefficient

Model		Unstandardised coefficient		Standardised Coefficeints	T	Sig
		B	Std. Error	Beta		
1	(Constant)	-1.054	0.663		-3.874	0.001
	Automated Teller Machine	0.224	0.173	0.245	2.098	0.032
	Point of Sale	0.366	0.145	0.495	2.561	0.088
	Mobile Banking	0.298	0.188	0.228	2.781	0.024
	Internet Banking	0.248	0.345	0.781	2.952	0.089

a. Dependent Variable: Performance of Commercial Banks in Cameroon

Table 3 above shows the regression coefficients, that is the strength of the relationship between the dependent variable and independent variable. The results indicate that Point of Sale and Internet Banking have no statistically significant relation to the financial performance of commercial banks in Cameroon. This is evidenced by their p-value ratios of 0.088 and 0.089 respectively. Because the p-values are greater than 0.05 then the null hypothesis is accepted, that is the point of sale and internet banking has no significant impact on the financial performance of banks in Cameroon.

The regression coefficients for Automated Teller Machines and Mobile Banking are statistically significant at 0.032 and 0.024 respectively; this led to the rejection of the null hypothesis.

7. Discussion and Conclusion

The current study sought to determine the effects which financial innovation has on the financial performance of commercial banks in Cameroon. The study concluded that Automated Teller Machines (ATM) and Mobile banking does affect the financial performance of commercial banks. The findings of this research is corroborated by research from Takon et al., (2019), Boateng & Nagaruju (2020) and Kemboi (2018) who found a similar positive significant relationship between ATM, Mobile banking and financial performance of commercial banks. ATMs and mobile money greatly reduces transaction cost and facilitates customer management, thereby increasing efficiency and increasing profits. This is in conformity with Hicks and Niehans (1983) theory of reduced transactional cost. Kiplangat & Tibbs (2018) also found a positive influence of mobile banking services in the Kenyan banking system; the main reason being the convenience of use and affordable transaction fees. This is similar to the case of Cameroon as an increase in mobile banking services improved the financial performance of commercial banks in Cameroon. Therefore ATMs and Mobile banking services increase the financial performance of commercial banks in Cameroon.

Conversely the study found point of sale (POS) and Internet banking had no significant impact on the financial performance of commercial banks in Cameroon. This could be explained by a few reasons; first internet banking among commercial banks in Cameroon lacks efficacy and most banking customers do not bank online. POS terminals are not widely used by customers to make payments. This study is in contrast to the findings of Wadesango & Magaya (2020); they found digital banking services increased the return of assets on banks in Zimbabwe. This is also in contrast to Ashiru, Balogun, Paseda, (2023) who found POS terminals had a significant positive impact on the financial performance of banks in Nigeria, mostly influenced by large volume of transactions done by POS terminals in Nigeria.

The study recommends that commercial banks in Cameroon embark on campaigns to encourage customers to use internet banking services for money transfer and payment of goods and service.

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Authors contributions

Dr. SATIA was responsible for designing and performing this manuscript. Dr. TAKEUDO was responsible for data collection and study design. Dr. SATIA drafted the manuscript and performed the empirical analysis. Pr ASSOUMOU revised and edited the manuscript. All authors read and approved the final manuscript.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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