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Influence of Adoption of Mobile Banking Strategy on the Financial Performance of Micro-Finance Institution in Nanyuki Town, Kenya

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Abstract

The study aims at examining the influence of adoption of mobile banking on the financial performance of Micro Finance Institutions in Nanyuki town, Kenya. The theory guiding the study was the Technology Adoption Model developed by Davis in 1989. The research design adopted was descriptive research design. The target population was 142 management level employees from the three-deposit taking Micro-Finance institutions. The sample size comprised of 41 respondents. Data was collected using questionnaires while data analysis was conducted using Statistical Package of Social Sciences (SPSS) Version 22.0. Descriptive and inferential statistical techniques were used in data analysis. The findings established that financial accessibility was the top attribute for adoption of mobile banking strategy among the management of MFIs. Regression results revealed that mobile banking positively and significantly influence financial performance of MFIs. Adoption of mobile banking strategy was viewed to result to increased financial accessibility and effective service delivery of MFIs. However, a number of MFIs had not fully adopted the mobile banking platform. The study concluded that there is necessity for embracing the mobile banking platform by all MFIs to increase the number of transactions that results to increased financial performance of MFIs. The study recommendation is that MFI should adopt mobile banking as a modality for creating efficiency and effectiveness in customer outreach that eventually enhances financial performance.

Keywords: *Mobile banking, financial performance, Micro Finance Institutions*

1.1 Introduction

The adoption of technology to innovatively deliver financial services has altered the global competitive environment in which the financial institutions operate. These strategies have been credited for enhanced competition in financial markets leading to efficiency in provision of services, reduced costs of search and verification and ability to operate on and process big data (Wang, 2018). However other researchers like Bateman (2018) associate the presence of Fintech in the finance industry with inefficient intermediation and adverse developmental outcomes.

The use of financial technology (Fintech) has been embraced in different forms in different sections of the globe. In the United States of America (USA) for instance, financial institutions are in the fore of the world in the adoption of financial technology. This has been facilitated by the well-established technology hubs in the Silicon Valley and New York (Marino, 2015). Nonetheless, it is of significance to note that the rate of consumer adoption of Fintech in the USA has lagged behind in comparison to India and China. However, United States of America still remains the top most Fintech adoptive country in the world in areas of borrowing, investment, lending and saving with a 67% adoption rate (KPMG, 2017).

Across Africa and in the Sub-Saharan region, Africa's largest economy Nigeria has witnesses a surge in the use of financial technology. The country has a robust human resource in the continent giving it the potential of becoming the largest Fintech market in the region. The financial technology services offered by financial institutions in Nigeria include mobile payment, personal finance, mobile lending and block chain services (Uche, 2019). The adoption of financial technology is dependent on a favourable regulatory environment and adequate investment in research and development. Unfortunately, Nigeria has not developed a robust legal framework to protect both the customers and financial institutions (Akinwale, 2019).

The use of mobile phones to perform banking transactions is called mobile banking. It entails the provision of bank-related financial services with the help of mobile telecommunication devices (Anyasi & Otubu, 2019). In mobile banking, customers can use mobile phones or personal digital assistants (PDAs) to withdraw money from their bank (Saleem & Rashid, 2011). The desire by financial institutions to manage their costs both operational and administrative coupled with intensive competition has seen banks seek refuge in mobile banking. This is happening in both the developed and developing countries where mobile phones have become the primary form of telecommunication (Silarszky, 2008). For example, countries in northern Europe have the most advancement in terms of adoption of mobile-related technologies.

Similarly, in Africa, over the last decade, mobile money has grown rapidly following the tremendous penetration of mobile phones; for instance, the number of users has risen from 38% in 2009 to 72% in 2017 in Sub-Saharan Africa (The World Bank, 2019). This unprecedented usage of mobile phones creates an opportunity for the massive population who own a mobile phone to have bank accounts. In Kenya, over the past two decades, Micro-Finance Institutions (MFIs) have developed effective and efficient means for providing credit. In a report by Kenya Agribusiness and Agro industry Alliance (2013), there are

currently three Deposit-taking MFIs in Nanyuki Town that include Kenya Women Finance Trust DTM Limited, Faulu Microfinance Bank Ltd and SMEP Microfinance Bank Ltd.

1.2 Statement of the Problem

Micro-Finance Institutions (MFIs) are crucial in the development and growth of economies of the developing countries like Kenya cannot be overemphasized. Nevertheless, there has been intense competition in the financial sector between commercial banks and MFIs leading to dwindling financial performance of the respective institutions (Mohamed, 2019). To guarantee and enhance financial performance, MFIs have adopted financial technology strategies such as mobile banking. In Kenya almost all traditional banks and 80% of MFIs have fully adopted mobile banking strategies. Through training and extension of financing, MFIs have been instrumental in the growth and expansion of small and micro-enterprises run by low income communities (Hezron & Muturi, 2015).

A number of studies have been conducted to confirm the reality of the adoption of mobile banking strategies particularly those related to innovation and their impact on financial performance of MFIs. For example, Mohamed (2019) evaluated the impact of mobile banking on the financial performance of commercial banks in Kenya. The study established that access to mobile banking had a strong and positive association with performance of commercial banks. Wainaina (2017) examined how the management of mobile phone-based loans affected the financial performance of commercial banks. The findings established that mobile-phone based loans had a positive and significant effect on financial performance of commercial banks. Although there are numerous such studies, few have focused on the analysis of adoption of mobile banking strategies on financial performance of MFIs in Nanyuki Town. This study aimed at filling this empirical gap.

1.3 Objectives of the study

The general objective of the study was to examine the influence of adoption of mobile banking strategy on the financial performance of Micro-finance institution in Nanyuki Town, Kenya.

1.4 Research Question

How does adoption of mobile banking strategy influence the financial performance of micro finance institutions in Nanyuki Town?

2.0 Literature Review

2.1 Theoretical Review

The theory was developed by Davis in 1989.The theory posits the reasons why individuals and organizations may accept or reject adopted technology. The argument is that there are a number of factors that influence the adoption of technology (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The theory indicates that adoption of mobile technology consider perceived usefulness and perceived ease of use before going for a given technology as expressed by Davis (1989). Relatively, the Perceived Usefulness (PU) refers to the degree of the user belief on the potential of application of a given system in increasing job performance

of the activity at hand. On the other hand, Perceived Ease of Use (PEOU) refers to the belief by the user that the system in use is free from manipulations.

In essence, governments and organizations have put massive resources in terms of investment in technology over the years. This has necessitated the need for its adoption in every sector of the economy because of the benefits associated with it. Consequently, in reference to MFI, evaluation of the cost of adoption technology is acceptable whereas the level of acceptability is beyond dispute. Thus, adoption of mobile technological strategies has the potential of enhancing their data analytics, credit scoring, innovation and hence increase efficiency and effectiveness and eventually have a positive impact on financial performance of MFIs.

2.1. Empirical Review

A study by Mohamed (2019) evaluated the impact of mobile banking on the financial performance of commercial banks in Kenya. This was a descriptive research design targeting a population of 1234 employees from the 43 registered commercial banks in the country. Using simple random sampling, 350 employees were selected as the study sample. The study utilized both primary and secondary data. Primary data was gathered through structured questionnaires while secondary data was done from retrieval of publications from Central Bank of Kenya, Communication Authority and Kenya Bankers Association. Analysis of data was through Statistical Package for Social Sciences (SPSS) version 22. Data was analyzed through descriptive and inferential statistical techniques. The study established that access to mobile banking had a strong and positive association with performance of commercial banks.

A study by Wainaina (2017) examined how the management of mobile phone-based loans affected the financial performance of commercial banks. The research design was descriptive with a sample size of 52 respondents. Data was collected through questionnaires while analysis was through descriptive and inferential statistics. The findings established that mobile-phone based loans had a positive and significant effect on financial performance of commercial banks. The study also revealed that repayment period and credit scoring had a positive and significant effect on financial performance of commercial banks.

An analysis of how mobile bank lending affects non-performing loans in Kenya's commercial banks was done by Murunga and Kibati (2014). The study was descriptive in nature and focused on commercial banks in Nakuru Town. The sample size was 64 respondents with data collected through questionnaires. The analyzed data revealed a positive relationship between mobile banking and volume of non-performing loans

An analysis by Mutua (2017) looked at the volume of mobile money transactions undertaken on the leading mobile phone service provides in the leading 43 commercial banks registered in the country. The study looked at a five-year period starting from 2007. The study growth was attributed to the convenience associated with mobile money banking. However, the study established a weaker association involving mobile banking and financial performance of commercial banks.

In another study, Kathuo, Rotich, and Anyango (2015) evaluated the impact of mobile banking technology on the financial performance of commercial banks. The study specifically analyzed how mobile banking impacts on the various indicators of performance

that include Return on Assets (ROA) and Return on Equity (ROE). Descriptive research design was utilized to obtain data from the respondents. The target population was the 43 commercial banks in Kenya in 2014. The data was analyzed by use of inferential and descriptive statistics. It was revealed from the study findings that the financial performance of the commercial banks had improved due to enhanced efficiency in service provision through the mobile banking platform.

2.2. Conceptual Framework

The conceptual framework highlights the influence of adoption of agency banking strategy and financial performance of Micro-finance institution in Nanyuki Town, Kenya. Mobile banking is explained through two indicators; financial accessibility and effective service delivery. Financial performance of MFIs is explained through profitability and Return on Assets and Return on Equity. The association is outlined as;

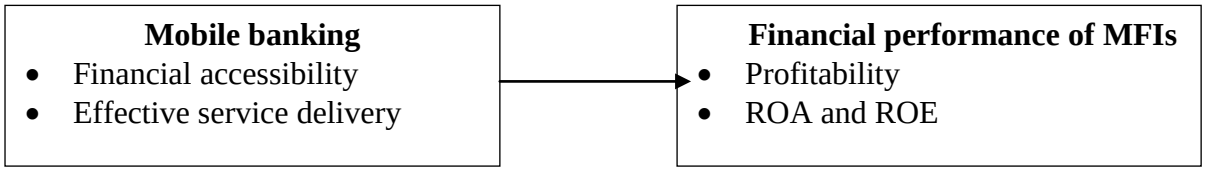

Figure 1: Conceptual Framework

3.0. Research Methodology

This study used a descriptive research design to answer questions concerning the influence of agency banking strategies on performance of Micro-finance institutions. The researcher preferred this research design since it enabled reporting of adoption of mobile strategy issues as they exist in the micro-finance institutions operating in Nanyuki Town. The target population of the study was 142 management level employees from the three-deposit taking Micro-Finance institutions operating in Nanyuki town; Kenya Women Finance Trust, Faulu Microfinance Bank Ltd and SMEP Microfinance Bank Ltd. The Top, Middle and Lower Level managers constituted the target population. The sample size was 41 respondents. The study collected data using a structured questionnaire which was pre-tested at KRep Bank in Nyahururu town with a sample of six respondents to ascertain the validity and reliability. In checking the reliability of the instruments, Cronbach's alpha reliability coefficient was computed with the minimum threshold of 0.7. The results in Table 1 show that the Cronbach Alpha values for the dependent variable, financial performance of MFIs were 0.887. The Cronbach Alpha values for predictor variable; mobile banking was at 0.897. The findings complement the assertion by Sekaran (2015) that reliability coefficient of over 0.8 is sufficient for articulation of the stipulated levels of truthfulness of the data which may then be correlated and regressed.

Table 1: **Reliability of study variables**

Variables	No of items	Cronbach's Alpha
Financial performance of MFIs	8	0.887
Mobile banking	8	0.897

In data analysis, descriptive and inferential statistical techniques were employed with the help of Statistical Package for Social Sciences (SPSS) version 22.0. Quantitative data was analyzed using descriptive statistics that included percentages, means and standard deviation.

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The study also utilized inferential statistics to ascertain the relationship between variables. This led to the computation of correlation and regression analytical tests.

The study applied regression analysis to test the hypothesis with the following model:

$\mathbf{Y=\propto+\beta_1 X_1+\varepsilon_0}$…… (1)

Y= Financial Performance of MFIs

$\propto$=Constant

B_{ij} = regression coefficients

X_1= Adoption of mobile banking

4.0. Results and Discussion

4.1 Normality test

Normality of the distribution of data was evaluated through the examination of skewness and kurtosis. Kline (2005) suggested that a valuable that indicates an absolute skew-index value greater than 3.0 is seen as extremely skewed. On the other hand, a kurtosis index that is greater than 8.0 is viewed as extreme in nature. Further, an index that is smaller than the absolute value of 2.0 for skewness and absolute value of 7.0 has the least violation of the assumption for normality. Therefore in this study, the normality test for all the variables had the skewness and kurtosis ranging from -1 and +1 as shown in Table 2. The implication is that the assumption of normality was satisfactory.

Table 2: Normality test

Variable	N statistic	Skewness		Kurtosis	
		Statistic	Std. error	Statistic	Std. error
Mobile banking	40	-.491	.172	-.240	.342

4.2 Adoption of mobile banking strategy and financial performance of MFIs

The results in Table 3 indicate that financial accessibility as a strategy for adoption of mobile banking had a standard deviation of 0.841 and means score of 4.12 out of the possible 5, while effective service delivery had a lower standard deviation of 0.826 and mean of 3.78. This is an indicator that majority of the respondents strongly agreed that financial accessibility was the top attribute for adoption of mobile banking strategy among the management of MFIs in Nanyuki town. This further implies that the data for financial accessibility was the most concentrated around the mean. The findings agreed with Mohamed (2019) results that showed that accessibility to mobile banking had a strong positive relationship with financial performance of commercial banks. The findings also agreed with Kathuo, Rotich, and Anyango (2015) results that the financial performance of the commercial banks had improved due to enhanced financial accessibility and efficiency in service provision through the mobile banking platform.

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Table 3: Adoption of mobile banking strategy

Item	NAT (%)	SE (%)	ME (%)	LE (%)	VLE (%)	Mean	Std. Dev.
Financial accessibility							
FA1	1.77	4.24	17.67	33.22	43.11	4.12	0.962
FA2	0.71	2.83	20.14	36.75	39.58	4.11	0.888
FA3	2.83	8.13	21.91	39.93	27.21	3.81	1.018
FA4	3.18	7.07	25.80	39.58	24.38	3.75	1.006
					Composite	4.12	0.841
Effective service delivery							
ESD1	2.47	6.36	27.56	41.34	22.26	3.75	0.956
ESD2	5.30	11.31	29.33	34.63	19.43	3.51	1.109
ESD3	3.53	18.37	39.22	28.98	9.89	3.23	0.98
ESD4	3.89	19.08	34.98	28.98	13.07	3.28	1.041
					Composite	3.78	0.826

4.2.1 Correlation Analysis

From the findings on Table 3, mobile banking had a strong and positive relationship (r= 0.692, p-value=0.000<0.05) with financial performance of MFIs. The correlation results agreed with Wairimu (2019) findings that established that adoption of mobile banking strategies increased financial performance of micro-finance institutions.

Table 3: Correlation analysis

Variables		Financial performance of MFIs	Mobile banking
Financial performance of MFIs	Pearson Correlation	1	.692**
	Sig. (2-tailed)		.000
	N	40	40
Mobile banking	Pearson Correlation	.692**	1
	Sig. (2-tailed)	.000	
	N	40	40

4.2.2 Regression analysis of adoption of mobile banking strategy and financial performance of MFIs

Regression analysis was conducted to test the association between adoption of mobile banking strategy and financial performance of MFIs. Regression assisted in verifying the level of influence between mobile banking and financial performance of MFIs through multiple linear regressions. In addition, multiple linear regressions tested the goodness of fit for the data of the overall regression model by use of F-ratio results. These results generated

regression model summary, ANOVA and regression coefficients.

The results in Table 4 show that R^2 value was 0.794 and this indicates that a strong association exists between mobile banking and financial performance of MFIs. The implication is that mobile banking share a variation of 79.4% of financial performance of MFIs when other factors are held constant. At 79.4% variation level, the model is a good fit and expresses the financial performance of MFIs in Nanyuki town.

Table 4: Model summary

Model	R	R^2	Adjusted R^2	Std. error of estimate
1	.859[a]	.794	.787	.21655

4.2.3. Analysis of Variance (ANOVA)

The analysis of variance examines the association or interaction of the independent and dependent variables. The ANOVA results on Table 5 show that the overall model was a good fit as shown by (F-value=53.392 and p-value=0.000<0.05).

Table 5: Analysis of variance

Model		Sum of squares	Df	Mean of square	F	Sig.
1	Regression	45.676	3	6.419	53.392	.000[b]
	Residual	9.153	37	.208		
	Total	54.829	40			

4.2.4 Coefficient analysis

Regression coefficient expresses the slope or linear interaction existing amongst the study variables. Through coefficient analysis, the strength of the independent variables on the dependent variable is assessed. The results show that the model is valid as shown in Table 6.

Table 6: Coefficient analysis

Model		Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. error	Beta		
1	(Constant)	.097	.032		3.664	.001
	Mobile banking	.235	.043	.271	5.354	.000

The model derived was;

Financial performance= $.097+.235_{mb}$

Mobile banking had a positive linearly significant influence on financial performance of MFIs (β=0.235, p=0.000<0.05). The implication is that a change in one unit in mobile banking resulted to 23.5% unit increase on financial performance of MFIs. The findings

support Mohamed (2019) whose study established that access to mobile banking had a strong and positive association with financial performance of commercial banks.

5.0 Conclusions

Adoption of mobile banking strategy was viewed to result to increased financial accessibility and effective service delivery of MFIs. However, a number of MFIs had not fully adopted the mobile banking platform. The study concluded that there is necessity for embracing the mobile banking platform by all MFIs to increase the number of transactions that results to increased financial performance of MFIs.

6.0 Recommendations

The study recommendation is that MFI should adopt mobile banking as a modality for creating efficiency and effectiveness in customer outreach that eventually enhances financial performance.

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