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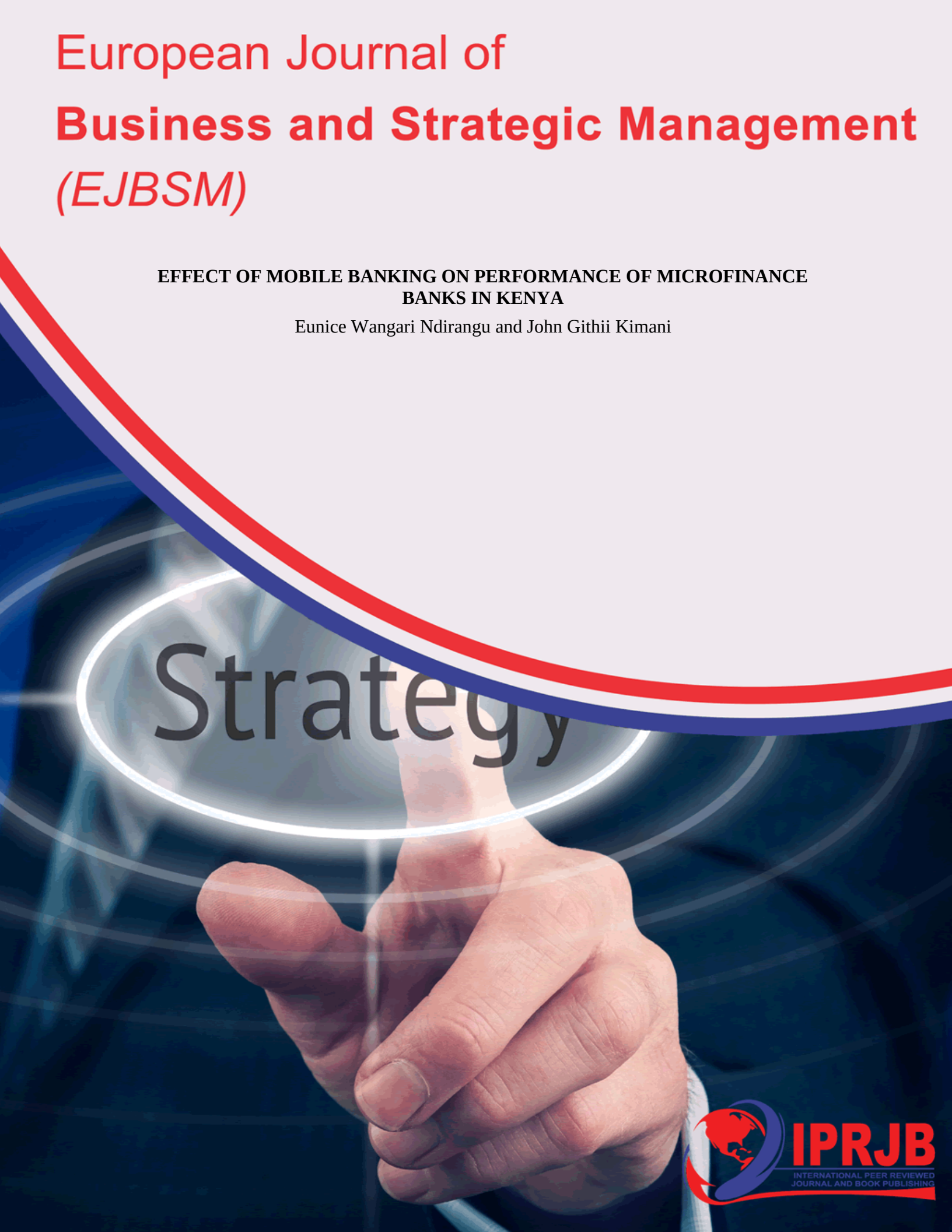
Eunice Wangari Ndirangu and John Githii Kimani



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Effect of Mobile Banking on Performance of Microfinance Banks in Kenya

[1*] Eunice Wangari Ndirangu
[1]Post Graduate Student: Dedan Kimathi University of Technology

[2]CPA John Githii Kimani
Director: Finstock Evarsity College
*Corresponding Author's E-mail: jkimani@finstockevarsity.com

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Abstract

Purpose: The purpose of this study was to establish the effect of mobile banking on performance of microfinance banks in Kenya

Methodology: The study adopted positivism philosophy approach and descriptive research design was used. The study also used census survey. The target population was the thirteen Microfinance Banks regulated by the Central Bank of Kenya. The questionnaires were self-administered and primary data was collected from the thirteen regulated microfinance banks. The data was analyzed using the Statistical Package for Social Science. Descriptive and inferential statistics were used for preliminary analysis. Factor analysis was conducted to reduce the number of factors and Kaiser Mayer Olkin and Barlett's test of Sphericity were tested and total variance explained, scree plot and rotated component matrix were drawn.

Findings: The findings showed that majority of the respondents were in agreement that it is easy to deposit and withdraw cash, transfer funds, apply loan and check the balance using mobile banking. The hypothesis ($H_0$2) findings showed that mobile banking had a significant effect on performance of MFBs. The summary model showed that the R was 0.280 and R square of 0.078. This implied that mobile banking predicted 7.8% of the performance of MFBs. The ANOVA results showed that F value was 4.940 and a p value of 0.030 which indicates that it was statistically significant. After the T test mobile banking beta coefficient was the regression model was generated Y = 2.841+ 0.271MBA.

Unique Contribution to Theory, Practice and Policy: The study recommends that MFBs should partner with telecommunication services providers to develop products and services which are customer oriented and easy to use. They should develop strategies on market penetration by creating awareness on the product and services available in the market.

Keywords: *Mobile, Performance, Microfinance Banks*

INTRODUCTION

Mobile banking involves the use of mobile devices in the provision of banking services. Some of the services provided include transfer of money, payment of bills, mini statement requests, among others. Several researches have been done on mobile banking. Kathuo, Onyango & Rotich (2015), studied how mobile banking influenced the level of performance of banks in Kenya. The study leaned on how this technology had an impact on indicators such as Return on Equity (ROE) and Return on Assets (ROA). Some of the theories that the study made use of include balanced scorecard and innovation theories. The study targeted 42 commercial banks operating within the country. The conclusion arrived at was that MB services created a wider outreach resulting into an improvement in financial performance. At least 60% of the services offered by the application had a positive impact on the revenue of the banks that were researched on.

Amfo, Cudjoe and Nyanyofio (2015), research focused on the determinant of mobile banking among bank customers in Ghana. The study used diffusion theory of innovation, TAM and theory of reasoned action. The purposive sampling method was used to select 150 respondents of Access Bank. The study used explanatory research and cross sectional research to find out the use of mobile banking as a communication tool on customer's behavior. Questionnaires were used to collect primary data and secondary information from journals. Descriptive statistics was done with the help of SPSS. The study concluded there is no impact of financial cost on the utilization of telephone banking services.

Hauwa, Shazida & Abdul (2017), did a study to determine effects of CB in Nigeria were being influenced by the use of mobile banking. There were 22 commercial bank involved in the study which were descriptively studied. Simple random techniques were adopted to select one respondent from each commercial banks and survey questionnaire was used for sourcing for primary data which was descriptively analyzed. The contribution of MB channel towards banking profitability was estimated at 80% by the study.

Memba & Munyoro (2017) investigated how MB technology impacts performance in MFIs. The research design used was descriptive research and due to the reduced number of the MFIs census was used for the population of 39 MFIs registered by association of microfinance (AMFI). Data analysis involved both inferential and descriptive statistics, in addition to carrying out regression analyses. The study however shows that negative relationship between the financial performance and the use of MB. Chaushen (2013), studied some of the factors that came into effect in the usability of MB in Singapore. Both the acceptance innovation diffusion model and technology acceptance model were utilized. An exploratory design was applied on 600 clients who formed the study sample. The respondents shared their opinion on the intent to try out or actually use banking.

The above studies done by Kathuo et al. (2015), Amfo et al. (2015), Hauwa et al. (2017), Memba & Munyoro (2017), and Chaushen (2018) discussed some factors that influence mobile banking however, some parameters have not been raised. Parameters such as money transfer, pay bills, mobile remittances balance inquiry and mini statement were done for commercial banks and not

for MFBs. Most of the studies used bank customers but in this current study will use MFBs managers which will give clear picture of the performance in MFBs.

Statement of the Problem

Microfinance banks financial creativities has taken an important part in improving the performance and in creating of services that help the paucity to become economically active. This supports SDGs, Kenya vision 2030, and big four agenda aim of reducing different forms of paucity by 2030 and tries to find ways for protecting social welfare of the poor and the left behind. Despite the efforts made to reduce scarceness the population of people living in extreme poverty globally remain unacceptably high. The latest global estimate showed that above 10% of the world population or 800 million people lived below the extreme paucity verge in 2013. In Sub Saharan Africa an estimated 415 million or 35% of the population is under standards of living and is the only region where the overall number of extremely poor people is increasing rather than decreasing (WB, 2017 & UNEP, 2018)

In Kenya nearly half of the population 45.2% is living in poverty. Poverty increment is attributed to lack of microcredit for the poor due to high cost of dealing with the poor and unlimited resources by MFBs. As MFBs continue to improve financial innovation and reduce poverty and providing the poor access financial services, these innovations continue to create debate over whether they really benefit the poor (Sara & Shahidur, 2016). Asante, Ofori & Kojo (2015), study examined ATM in furnishing services and disclosed that technology has resulted in new delivery channels for banking products and services. The study shows that ATM banking has contributed positively to the banking industry. Chigada & Hirschfelder (2017), on operating mobile banking in South Africa, the study disclosed that the transnational application of mobile money service systems is difficult to implement. Nezianya & Izuchuchu (2014), in Nigeria the branchless outlets on performance of deposit money banks in Nigeria. The result findings were the agent services offered have increased customer and are cost-effectiveness.

METHODOLOGY

The study adopted positivism philosophy approach and descriptive research design was used. The study focused on all the thirteen (13) MFBs regulated by the CBK. The research used purposive sampling and the sampling techniques were chosen because of the characteristic of the population and the study requires the senior managers who are experts in the work they are doing. The respondents were the five managers from each MFB totaling to 65 these are the Chief Executive Officer, finance managers, Business development manager, credit officers and operations manager. Data collection was done by acquiring data from primary sources and for this study data was collected from the microfinance banks institutions. The raw data was acquired from the issuing of the questionnaires. Primary data was collected using questionnaire and a Statistical Package for Social Sciences (SPSS) software was used to analyze data. Data was coded before being used by SPSS. Descriptive statistics (frequencies, mean scores, and standard deviations) were used to describe the characteristics of the variables. Descriptive statistics provide the basic features of the data collected. Inferential statistics was used to conclude the findings of test done on a population

by taking a sample of an information from the large population. The inferential statistic techniques were used to measure the significance of the relationship while the bivariate regression was employed to find out whether agency banking had a positive correlation with performance of the MFBs. The results of the study were presented using tables, cross tabulation, frequency and percentage.

RESULTS

Demographic Data of Respondents

Distribution of Respondents by Positions

The Figure 1 presents the distribution of the respondents in the MFBs. The findings in Figure 1 indicate that the different posts were represented as follows business development manager's 30%, operations manager 23%, credit managers 23%, finance managers 19%, chief executive officers 5%. The finding indicates that the banks were fairly represented as the sample was taken from all the departments involved in decision making.

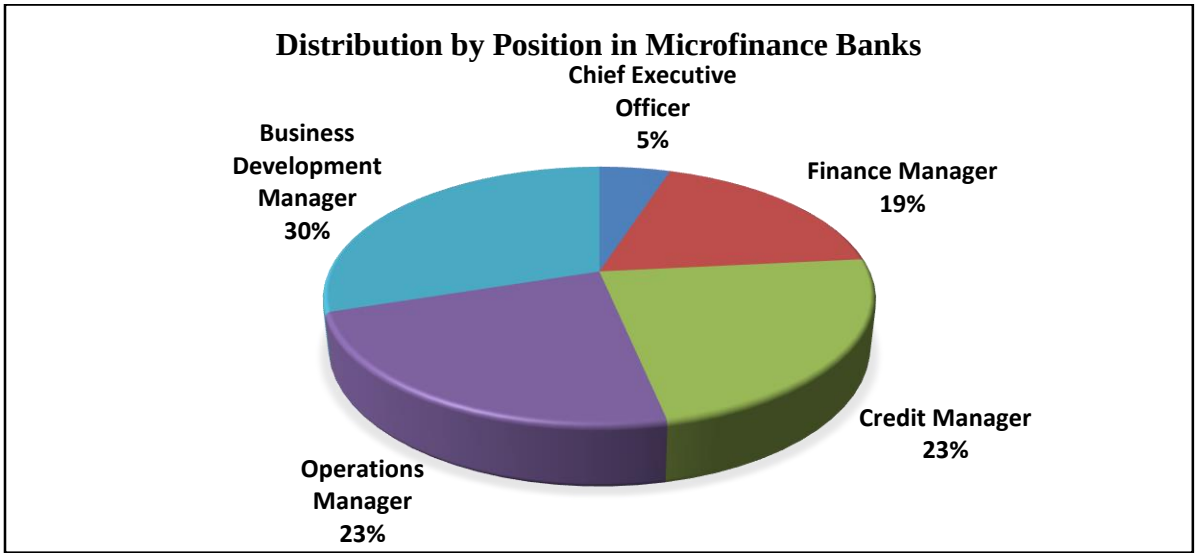

Figure 1: Distribution by Position in Microfinance Banks

Distribution by Education Level

Figure 2 presents the level of education of the respondents from the microfinance banks. The findings show that the respondents had the required level of education. 68% of the respondents had bachelor degree, 28% had a post graduate degree and 5% had diploma from different institutions of higher learning. The level of education can help the employees to acquire knowledge and skills to improve the performance by being more innovative. In addition, financial education can help the employees of the MFBs to upgrade the perception of financial products and services and build customers trust. This concurs with Nazari (2014), that the technical knowledge, attitude, practice and self-efficacy assist in collecting reliable and accurate data in the research. The

respondents had enough knowledge and skills on the financial innovations developed by the MFBs and as such provided reliable information on how the agency banking is improving the performance the institutions.

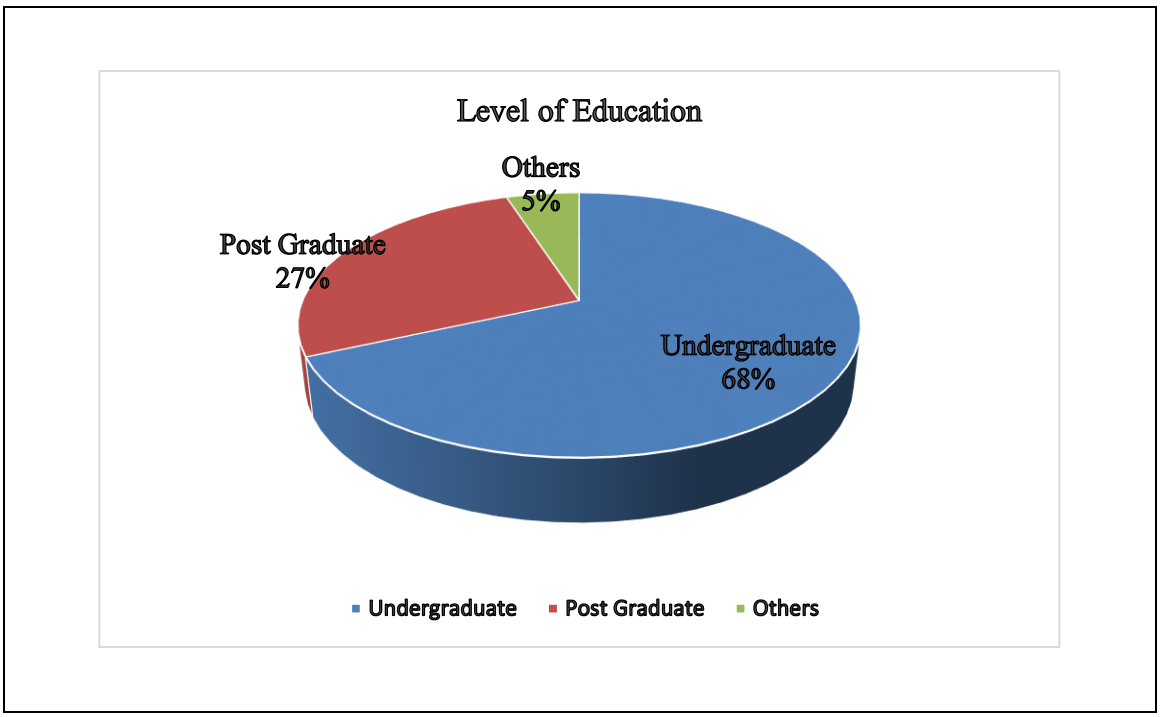

Figure 2: Level of Education

Descriptive Analysis

Descriptive Analysis for Mobile Banking

The study examined the effect of mobile banking on performance of microfinance banks. The objective was examined by the use of the statements on the questionnaire. The statements were on whether the customers were able to deposit cash, withdraw cash, pay bills, transfer funds, enquire balance and loan application. The respondents were asked to indicate whether they agree or disagree with the statement. After data collection the questionnaires were coded and analyzed using SPSS. Frequencies of the various outcomes were drawn in percentages from the sample and then presented in Table 1 below.

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Table 1: Descriptive Analysis for Mobile Banking

Statement	D %	NS %	A %	S A %	Mean	Std Dev
Customers can be able to deposit cash using their mobile phone			16.7	83.3	4.85	0.360
Customers are able to withdraw cash with their mobile phone			21.7	78.3	4.78	0.415
The customers can be able to transfer money using mobile phone			35.0	65.0	4.60	0.616
The customers are able to use mobile telephone to pay bills	8.3	13.3	28.3	50.0	4.17	1.060
The customers are able to enquire their balances on mobile phone			18.3	81.7	4.82	0.390
The customers can apply for loan using their telephone	43.3	8.3	20.0	28.3	3.13	1.546
Overall					**4.39**	**0.851**

The Table 1 presents the descriptive analysis for mobile banking. The findings in Table 4.5 indicates that 85% of the respondents strongly agreed and 15% agreed that they can easily use mobile phone to deposit cash. This shows that 100% of the respondents agreed with the statement that depositing cash using mobile phone is easy and convenient to the customers. This in line with the study by Amfo, Cudjoe and Nyanyofio (2015), which confirmed that mobile banking allows the customers to deposit cash and are able to monitor their accounts. Hauwa, Shazida and Abdul (2017), stressed that banks should protect the customer's deposit to encourage them save and invest in the long term assets. On the withdrawal of cash, it shows that 100% of the respondents agreed with the statement as 78.3% of the respondents strongly agreed and 21.7% agreed. This discloses that customers can easily withdraw cash using the phone from their bank accounts without wasting time going to bank branch or depending on the bank tellers. Customers access their accounts wherever they are at any time as it not closed. This supports the study by Kathuo, Onyango and Rotich (2015), that confirmed that most of the customer are preferring to withdraw cash using mobile phone instead of going to the banks because of insecurity and time wasting due to cueing in the bank halls. Regarding whether the customers are able to transfer funds 66.7% concurred and 33.3% cooperated with the statement. This explains how secure it is to transfer funds from one

account to the other using smart phone. These findings are consistent with the study by Memba and Munyoro (2017), that stressed that mobile banking allows the customers to transfer funds anytime from one account to the other thus improving customer satisfaction.

The respondents were asked whether they are able to pay bills using mobile phone and the results showed that 50% agreed and another 28.3% firmly concurred with the statement while 13.3% were not sure, 5% and 3.3% differed with supposition. This acknowledges that mobile banking has made the paying of bills convenient and time saving instead of going to cue at the paying points. This is in line with the study by Kathuo et. al, (2015), that pointed out that customers are using mobile phone for paying goods and services instead of carrying cash money and this has reduced theft at the paying points.

The outcome of the statement on enquiry of the balances through mobile phone showed that all the respondents were in agreement as 81.7% strongly agreed and 18.3% agreed that the customers are able get all the information needed. This shows that the respondents are satisfied with the services they are providing to the customers and are getting feedback from the customers that enquiring of account balances is fully exploited. These findings correspond with the study by Amfo et. al, (2015), who found that mobile banking permits the customers to receive information including the mini statement of all the transactions. The statement on the loan application had different opinions because 28.3% concurred and 23.3% disagreed, 20% strongly disagreed and 20% concurred with the statement and 8.4% were not sure. This reveals that the customers have not really embraced the borrowing of money through mobile banking. It also indicates that they do not have enough information on loan application. The mean score of 4.39 indicates that majority of the respondents agreed that mobile banking is efficient and effective in offering financial services. The average standard deviation was 0.851 signifies that a large number of the respondents were in agreement that mobile banking is providing access to financial services which are quick and secure.

Mobile banking has increased the procurement of financial services with additional services adapted to different levels of the population. This study is consistent with the research by Amfo et.al. (2015), which confirmed that mobile banking has helped in the inclusion of the unbanked. This supports the study by Kathuo et. al., (2015), which concluded that mobile banking has enlarged the access to financial services of the banking sector. Mobile banking is proving to be more efficient than other banking services given the number of mobile telephone transactions has increased very fast in the six years' understudy. Many MFBs in Kenya have partnered with telecommunication companies to offer better and affordable means of accessing cash while receiving the most competitive interest rates for the money saved. Some MFBs have collaborated with Safaricom for Mpesa to offer quality services to customers of depositing, withdrawing, transferring money and paying for goods and services using a mobile device. Other MFBs for example Maisha MFB has partnered with airtel Kenya and has rolled out a product called Mfanisi mobile money product to reach out to more underserved population especially in the remote areas. This has provided customers a very quick and secure means of applying for loans and other cheap

services through this new creativity. It is also training the unbanked population on how to save and invest the little funds they are earning.

Factor Analysis

Drivers for Mobile Banking

Test Sampling Adequacy for Mobile Banking

The Table 2 presents the tests of sampling adequacy for mobile banking. The findings in Table 4.16 shows that the KMO for mobile banking = 0.783 and p value of 0.000. This implies that the data was appropriate for regression analysis.

Table 2: KMO and Bartlett's Test for Mobile Banking

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.783
Bartlett's Test of Sphericity	Approx. Chi-Square	129.361
	df	15
	Sig.	.000

Total Variance Explained for Mobile Banking

Table 4.17 presents the total variance explained for mobile banking. The results in the Table 4.17 shows the total variance explained by the extraction of factor loadings and rotation sums of squared loadings and principal component analysis (PCA). This shows that two factor loadings were retained with eigenvalues greater than 1. Component 1 had a total of 3.027 and an initial Eigenvalues of 50.44% of variance. Component 2 accounted for a total of 1.007 and a 16.71% of variance. The total variance explained indicates that the two components retained explains a 67.151% of the total variance. According to Osborne, Costello and Kellow (2008), the communalities above 0.4 is acceptable and the communalities which are below 0.3 are removed. Field (2013), Tabachnick and Fidell (2014), also recommends that the factors loadings which are below 0.3 to be suppressed and are not fit for analysis. This is in consistent with the study by Hair et. al, (2012), which stated that in factor analysis a total of 60% of the components retained in the total variance explained is acceptable. In this study total variance explained was 67% this means that it is acceptable for regression analysis.

Table 2: Total Variance Explained for Mobile Banking

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.027	50.444	50.444	3.019	50.324	50.324
2	1.002	16.707	67.151	1.010	16.827	67.151
3	.935	15.586	82.736			
4	.489	8.151	90.887			
5	.325	5.424	96.311			
6	.221	3.689	100.000			

Scree Plot for Mobile Banking

The Figure 2 presents a scree plot for mobile banking. The results in Figure 4.6 shows the scree plot with the extraction of eigenvalues for mobile banking. The downward curve indicates the two factors which had eigenvalues greater than 1. This curve shows the variance explained with a break point of two items with eigenvalue and all the six parameters in the variable were included for the regression analysis.

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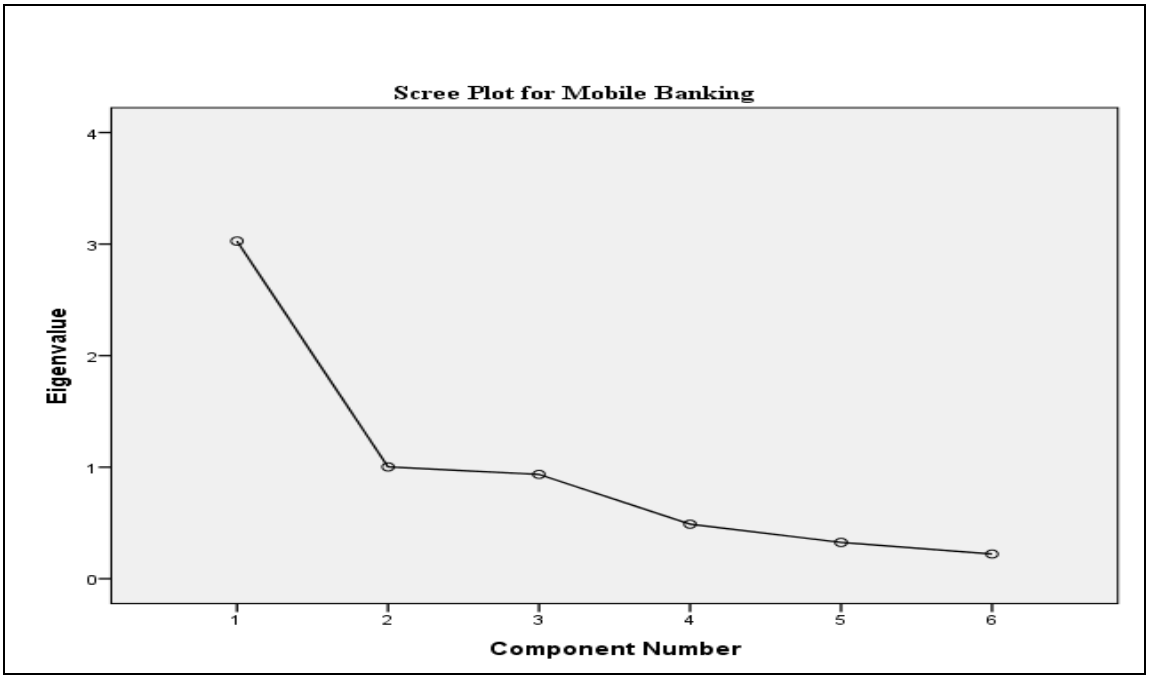

Figure 3: Scree Plot for Mobile Banking

Rotated Component Matrix for Mobile Banking

The Table 3 presents the rotated matrix for mobile banking. The Table 4.18 results show that after the extraction method of PCA using rotation method of Varimax with Kaiser normalization two factors were retained and sorted according to their size. Component one had four items, component two had one items. Component one indicates that all the five component are regularly transacted by the customers. The second component was deleted because it had only one item. The statement on paying of bills was removed because it was below 0.3. According to Osborne, Costello and Kellow (2008), the factors above 0.4 is acceptable and below 0.3 are removed. Field (2013), Tabachnick and Fidell (2014), also recommends that the factors loadings which are below 0.3 to be suppressed and are not fit for regression analysis.

Table 3: Rotated Component Matrix for Mobile Banking

	Component	
Statement	**1**	**2**
Customers are able to withdraw cash with their mobile phone	.872	
The customers are able to enquire their balances on mobile phone	.856	
Customers can be able to deposit cash using their mobile phone	.849	
The customers can be able to transfer money using mobile phone	.829	
The customers can apply for loan using their telephone		.997

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Inferential Analysis of Mobile Banking on Performance

The study sought to examine the effect of mobile banking on performance of MFBs in Kenya. To examine the effect of mobile banking (cash deposit, cash withdrawal, bill payment, balance enquiry and loan application) on performance the study tested the following null hypothesis:

H_o2: Mobile banking has no significant effect on performance of Microfinance Banks in Kenya

To test this hypothesis, the mean score of mobile banking was regressed on the weighted score of performance. The Table 4 presents the summary of the bivariate model between mobile banking and performance. The Table 4 shows that R = 0.280 indicating that the correlation between mobile banking and performance is weak and positive. The R square = 0.078 meaning that mobile banking explains 7.8% of the variation in performance. This shows that there are other factors that contribute to the performance of MFBs.

Table 4: Model Summary for Mobile Banking Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.280	.078	.063	.67395

After the model summary the ANOVA was conducted and presented in Table 4. The Table 4 shows the regression model results of mobile banking and performance. The result indicates that mobile banking have a statistically significant effect on performance of MFBs in Kenya at a p value of 0.03 with an F statistic of 4.940 which supports the alternative hypothesis that mobile banking has an effect on performance of MFBs in Kenya. After the ANOVA the regression of coefficient results of mobile banking and performance was presented in Table 4 below.

Table 5: ANOVA for Mobile Banking

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.244	1	2.244	4.940	.030
	Residual	26.344	58	.454		
	Total	28.588	59			

The Table 5 presents the coefficient for mobile banking. The results in Table 4.34 indicates that the regression coefficients correlation of mobile banking and performance was statistically significant with a p – value of 0.030. After the T test it was found that the unstandardized beta was positive. The null hypothesis was rejected and alternative hypothesis was accepted that mobile banking has an effect on the performance of the MFBs. The findings indicated that mobile banking and performance are significantly correlated.

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Table 5: Regression Coefficient for Mobile Banking

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig.
1	(Constant)	2.841	0.485		5.856	0.00
	Mobile banking	0.271	0.122	0.28	2.223	0.03

The model $Y = \beta 0 + \beta 2X2 + \varepsilon$ was given by the model

$Y = 2.841 + 0.271^*$ MBA.

The results indicate that there is a positive relationship between mobile banking and performance of MFBs in Kenya. This supports the study by Kathuo, Onyango and Rotich (2015), who concluded that mobile banking has made the financial outreach easy for many especially those who could not afford near financial services and has a positive influence on financial performance of commercial banks in Kenya. This study is inconsistent with the study by Memba and Munyoro (2017), who confirmed that mobile banking has emerged very important channel in the banking industry for procuring banking services and its adoption has affected the performance negatively due to high risks of fraud hence affecting negatively the performance of mobile banking. The study concurs with the study conducted by Hauwa, Shazida and Abdul (2017), who concluded that mobile banking has positively affected the performance of commercial due to the increased number of customers thus increasing profits. The results imply that MFBs needs to sensitize the customers to embrace mobile banking service to increase the number of customers and hence improving the performance of the MFBs. This will also include larger population to access financial services contributing to Kenya vision 2030.

The figure 4 presents the test of homoscedasticity of mobile banking and performance of MFBs in Kenya. P P plot output and the residual plot is close to straight line. This means that there is normal distribution and there is no heteroscedasticity in the data hence regression analysis was conducted because the regression bivariate model chosen was fit for the data. Shevlins and Miles (2010) confirmed that if the regression model chosen for the data is fit the heteroscedasticity does not occur.

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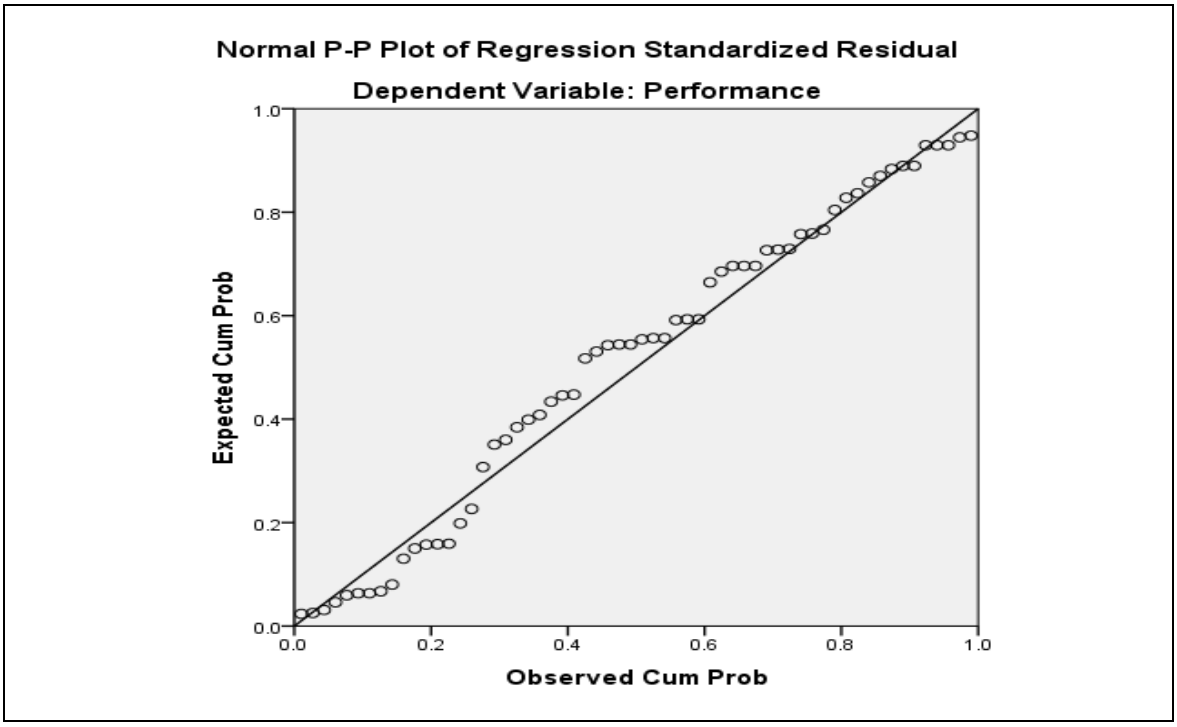

Figure 4: Homoscedasticity Test for Mobile Banking and Performance

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The findings showed that majority of the respondents were in agreement that it is easy to deposit and withdraw cash, transfer funds, apply loan and check the balance using mobile banking. The hypothesis ($H_0 2$) findings showed that mobile banking had a significant effect on performance of MFBs. The summary model showed that the R was 0.280 and a R square of 0.078. This implied that mobile banking predicted 7.8% of the performance of MFBs. The ANOVA results showed that F value was 4.940 and a p value of 0.030 which indicates that it was statistically significant. After the T test mobile banking beta coefficient was the regression model was generated Y = 2.841+ 0.271MBA. This portrayed that there was moderate relationship between mobile banking and performance of MFBs hence null hypothesis was rejected and alternative hypothesis was accepted. This means that mobile banking is being used by MFBs for financial inclusion although improvement of minimal compared to other factors contributing to the performance.

Conclusion

The study examined the effect of mobile banking on performance of the MFBs in Kenya. The adoption of mobile banking has boosted the performance of MFBs by increasing the number of cash deposit, cash withdrawal, money transfer, loan application and bill payment. The study found a negative relationship between mobile banking and performance Mobile banking has been found

to be an important tool for financial inclusion and for increasing profits to the banks. Using mobile phone MFBs are able to offer quick services to the customers. Therefore, customers are satisfied with the services because it is easy and convenient to control personal accounts. The study indicated there is need for the decision makers to deepen the awareness on mobile banking to the users to reduce fraud. Financial decisions made should be sound and flexible to provide a guide in achieving the banks objectives and enable the right conditions for creative mobile banking users to thrive.

The findings demonstrated a strong theoretical framework of the mobile banking and performance using diffusion theory of innovation which identifies the factors that affect decision making in adoption of the innovation, the characteristics of individuals that embrace the innovations and the consequences for the mobile banking users. This is an area MFBs should consider in making decisions of the financial services offered using mobile phone due to fraud. Mobile banking is a practice that needs to be fully implemented such as people using it to access financial services especially in the rural areas are offered quality services by ensuring that they are well trained on how to operate mobile phone and understand the information by the banks. The managing team should ensure there is efficiency and effectiveness as mobile banking is a strong drive to performance. The recognition of the employees will motivate them to achieve the set objectives and help to build the loyalty of the microfinance banks.

Recommendations

The study recommends that MFBs should partner with telecommunication services providers to develop products and services which are customer oriented and easy to use. They should develop strategies on market penetration by creating awareness on the product and services available in the market.

REFERENCES

Amfo, P., Cudjoe, G., & Nyanyofio, J. (2015). Determinant of Mobile Banking Adoption in the Ghanain Banking Industry: A case of Access Bank Ghana Limited. *Journal of Computer and communication*, (3) 1-19.

Asante, G., Afori, E., & Kojo, D. (2015). Assessing the Impact of the ATM in Delivering Service in the Banking Industry. A case of GCB Bank Ltd. *European Journal of Business and Management*.

Chaushen, C. (2013). Perceived Risk, Usage Frequency of Mobile Banking Services. *Journal of Service theory and Practice*, 23(3).

Hauwa, B., Shazida, J., & Abdul, H. (2017). The Effect of Mobile Banking on the Performance of Commercial Banks in Nigeria. *International Research Journal of Management, IT & Social Sciences (IRJMIS)*, 4 (2) 71-76, Retrieved from https://www.researchgate.net/publication/318671387.

Kathuo, S., Onyango, W., & Rotich, G. (2015). Effects of Mobile Banking on Financial Performance of Bank Institutions in Kenya. *Strategic Journal of Business and Change Management*, Vol 2 (98) 1440 - 1457 ISSN 2312 - 9492.

Memba, F., & Munyoro, J. (2017). Effects of M- Banking Technology on Financial Performance of Microfinance Institutions in Kenya. *The Strategic Journal of Business and Change Management*.

Nezianya, P., & Izuchuchu, D. (2014). Impact of Agent Banking on Performance of Deposit Money Banks. *Research Journal of Finance and Accounting* , 2222 - 2847.

Sara, G., & Shahidur, K. (2016). How Microfinance has Reduced Rural Poverty in Bangladesh. *International Food Policy Research Institute*.

World Bank. (2017). The World Bank Annual Report . *World Bank Annual Report & Financial Statement*.