

Effect of Mobile Banking on Financial Performance of Commercial Banks in Kisii Town, Kenya

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Abstract: Around half of the world's population is out of formal banking and financial services. For this reason, several mobile payment trend studies have revealed the potential of mobile network technologies for payment purposes. The main objective of the study was to assess the effect of mobile banking to financial performance of commercial banks in Kisii Town, Kenya. The specific objectives of the study were to evaluate the effect of perceived security of mobile payments technology on financial performance of commercial banks in Kisii Town, to determine the effect of perceived ease of accessibility of mobile payments technology on financial performance of commercial banks in Kisii Town and to determine the effect of transaction cost of mobile payment technology on financial performance of commercial banks in Kisii Town. The study used a sample of 255 respondents which was drawn from Operation Managers, clients, cashiers and 7 M-Pesa paying agents. The data collected were analyzed by use of descriptive statistics and inferential statistics with the help of Social Sciences version 21 software. The study found out that, perceived cost, perceived access and perceived security of mobile payments technology have a significant influence on the financial performance of commercial banks. The study concluded that the transaction cost of mobile payment is cheap, mobile banking money can be sent any time of day; it saves time of travelling and that mobile banking transactions are processed in accordance with clients' expectations besides providing evident of payment to another person.

Keywords: Craft, External equity, Financing, Growth, Microenterprise, Tabaka.

1. INTRODUCTION

The Internet in its present stance can be viewed as one of the commonly available distribution channels. In the mid 1990's, almost immediately after embracing the Internet as a channel for banking services, banks started and telecommunications companies started to work together towards the development of an online banking service based on mobile telephony. Wang et al. (2006) observed that, the growth of wireless technology has increased the number of people using mobile devices and accelerated the development of mobile service conducted with these devices.

Recently Banks have radically converted from the traditional use of banking to branchless positions of banking. Tiwari, Buse and Herstatt (2006) define mobile banking as any transaction, involving the transfer of ownership of rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device. It is also called m-banking. Mobile banking has received overwhelming uptake in Kenya since its introduction in 2007 (Petrova, 2002). In Kenya, only 19% of adult Kenyans reported having access to a formal, regulated financial institution while over a third (38%) indicated no access to even the most rudimentary form of informal financial service. This leaves a percentage of more than 80% outside the bracket of the reach of mainstream banking (Njenga, 2013). Kato et al. (2014) stated that, mobile banking platform allows increased penetration by banks to areas not

viable for physical presence that involves huge investments in physical infrastructure. Banks are also able to sell more services to existing customers through mobile banking thus increasing the banks' share of profit.

Kimenyi and Ndung'u (2009) asserted that, as a product of mobile payment technology, mobile-banking has become a solution into the problems of the unbanked society and that it is an effective approach in reaching millions of unbanked households in rural areas with very little investments. There are several basic mobile banking services offered by most banks for their customers (Ethang'atha, Thiaine and Lyria, 2015; Anand, 2007). These include: account alert, security alerts and reminders, account balances updates and history, customer service via mobile, branch or ATM location information, bill payments, deliver online payments by secure agents and mobile application, funds transfers and transaction verification.

Several mobile payment trend studies (Ivatury and Pickens, 2006; Bångens and Söderberg, 2008) have revealed the potential of mobile network technologies for payment purposes. The Mobile Banking service enables subscribers to use their mobile phones to carry out transactions that would have otherwise been done by commercial banks themselves, usually over the counter. Besides, studies in other regions (outside Kenya) have indicated that mobile banking saves of transaction costs, both direct and indirect, that are associated with manually depositing or withdrawing money from banks. However, it has been observed that regardless of Mobile Banking's wide set of applications, a good percentage of the mobile phone users still do not make use of all the available Mobile Banking facilities. Many people still personally visit banking halls to perform transactions that could have otherwise been done by mobile banking, thereby time consuming to and from the bank, and money associated with the travels, besides risking theft of the withdrawal from the banks. Besides, little is known about the effects of mobile banking to performance of commercial banks. Therefore the study seeks to establish the effects of mobile banking on financial performance of commercial banks in Kisii Town, Kenya.

The main objective of the study was to determine the effect of mobile banking on financial performance of commercial banks in Kisii Town, Kenya. The specific objectives of the study were to establish the effects of transaction cost of mobile payment technology on financial performance of commercial banks in Kisii Town, to establish the effects of perceived ease of accessibility of mobile payments technology on financial performance of commercial banks in Kisii Town and to establish the effects of perceived security of mobile payments technology on financial performance of commercial banks in Kisii Town.

2. EMPIRICAL REVIEW

2.1 Transaction Cost and Financial Performance:

The penetration of mobile phones is increasing in developing and poorer nations, where a large percentage of the global population resides (Kasyoki, 2012). Kasyoki (2012) opined that low-cost banking and financial services can attract a considerable number of customers who formerly could be served only at too high a cost. Prior to introduction of M-pesa (m-payment), individuals used a mixture of informal (such as large buses) and formal channels (mainly commercial banks and other financial institutions) to transfer money (Ethang'atha et al., 2015). Mobile Banking has also been viewed as a savior for commercial banks in the sense that it presents an opportunity for banks to retain their existing, technology-savvy customer base by offering value-added, innovative services and that, it might even help attracting new customers (Krueger, 2001). Kathuo, Rotich and Anyango (2015) observed that mobile banking has made basic financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the banks own overheads and transaction-related costs. A study by Ethang'atha et al. (2015) recommended that there is need to reduce the service charges imposed on the M-Payment services in Kenya, in order to reduce high costs incurred on M-Payment transactions.

Kato, Otuya, Owunza and Nato (2014), established that there was positive relationship between mobile banking and performance of commercial banks in Kenya. Kathuo et al. (2015) study on the effect of mobile banking on the financial performance of banking institutions in Kenya, revealed that the branches have been offering mobile banking services to their clients for the last five years to offer services such as deposits, withdrawals, ATM withdrawals and fund transfer. The findings further revealed that the average the volume of mobile-banking transactions on the services per year for the

last five years and those deposits, withdrawals and transfers recorded were over 30 million in number, while ATM withdrawals recorded were over 45 million in number.

2.2 Ease of Accessibility and Financial Performance:

Access to Finance is critical for sustainable economic growth and social development. This is because, financial inclusion empowers low income people and marginalized sectors of society to actively participate in the economy, which leads to increasing employment and decreasing poverty levels (Arora and Ferrand, 2007). Mutua (2013) stated that mobile banking can make basic financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the bank's own overheads and transaction-related costs. Besides, studies have also shown that the poor often have greater familiarity and trust in mobile phone companies than with normal financial institutions. Customers can access account information at any time, day or night, and this can be done from anywhere (Okiro and Ngungu, 2013).

Burgess and Pande's (2005) study proved that the expansion of rural banking in India significantly reduced rural poverty rates due to increased access to credit, expansion of branchless banking, in which banks increase the financial reach using agents as intermediaries to provide services to clients in rural and remote areas where the fixed costs of opening a branch would be prohibitive. Asfour and Haddad (2014) observed that Jordanian banks opted for mobile payment as a way of reducing the overhead cost in line with the changes in the evolution of service through using technology that will help to get what customer expect from banking service. Nandhi (2012) study on the effects of mobile banking on the savings practices of low income users in India, found out that, the ability to save has improved for a majority of users through EKO mobile banking by comparison to earlier practices such as keeping cash on hand, and that, it has become a very effective, safe, and trustworthy savings instrument for its users; importantly, dependence on risky informal methods has decreased for a large percentage of customers who were previously dependent on these practices for lack of affordable and safe savings options. Mutua (2013) study on the effects of mobile banking on the financial performance of commercial banks in Kenya, revealed that, during the study period, the amount of money transacted through the mobile money transfers increased steadily. The study however found that there exist a weak positive relationship between mobile banking and the financial performance of commercial banks in Kenya. The study recommends that the policy makers take mobile banking awareness creation into consideration when drafting policies on the operations of banks in Kenya.

2.3 Security of Mobile Banking and Financial Performance:

Nguyen, Cao, Dang and Anh (2016) found out that security is one of the major considerations by consumers when deciding to use mobile services and hence concluded that, in order to enhance trust, service providers should increase services' security and reliability. Asfour and Haddad (2014) documented that, security is ensured in MB, as banking transactions are encrypted and the mobile banking sim card is password-protected. A study by Ahmed et al. (2011) discovered that security was the most important factor that motivated Chinese consumer adoption of online banking. The findings of the Federal Reserve Survey (2013) cited in Asfour and Haddad (2014) lamented that mobile banking does not offer a secure environment that customer always prefer interface interaction through making transaction besides also posing lack of confidentiality by not use receipt or signature in any transaction they do. To counter this claim, Omwansa (2009) proved the security of mobile banking by opining that a lost or stolen mobile phone does not mean catastrophe as no one can access an M-Pesa account without a correct Personal Identification Number (PIN). Kathuo (2015) recognized the need for all the commercial banks need to provide as many mobile banking products as possible. However, the study recommends that proper caution should be taken to ensure that the services offer adequate customers' trust, security as well as their awareness of the M-banking products.

Asfour and Haddad (2014) study on the impact of mobile banking on enhancing customers' E-satisfaction, with special focus on the commercial banks in Jordan, recommended that Telecoms and banks should work hand-in-hand to offer a high quality service whose security can meet customer satisfaction. The findings of Mbiti and Weil (2011) realized that methods MB users had started shifting savings from informal tools to M-Pesa perhaps due to the superior security of M-Pesa. Kasyoki (2012) researched on the factors affecting adoption of mobile phone banking by customers of commercial banks in Kenya, and the findings of the study revealed that the respondents used mobile banking because they found it cheap, safe and reliable to a greater extent.

3. RESEARCH DESIGN

The study adopted a descriptive survey research design. The study used a sample of 225 respondents drawn from operation managers, clients, agents, cashiers and M-Pesa agents. Primary data were collected using a questionnaire. The data collected were analyzed by use of descriptive statistics which involved calculation of weighted means and percentages; and inferential statistics which involved regression analysis and ANOVA, with the help of Social Sciences (SPSS) version 21 software. The results were presented in charts, tables and graphs.

4. FINDINGS

4.1 Response Rate:

The study aimed at obtaining relevant data by administering questionnaires to 255 respondents. Out of these, 249 questionnaires were obtained from the respondents, fully filled. This represented 97.4% response rate and this was deemed enough to analyze and draw conclusions upon.

4.2 Gender of Respondents:

Respondents were asked to indicate their gender. This was aimed at determining the composition of both genders in the study. The findings revealed the following results in figure 1.

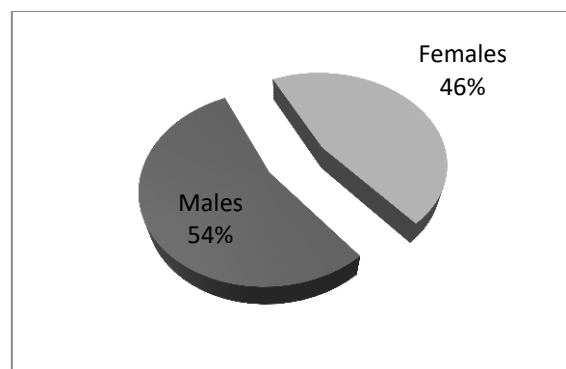


Figure 1: Summary of Gender of Respondents

The findings in figure 1 show that 54% of the respondents were males while 46% of the respondents were females. This shows that at least a third of the respondents were from either gender.

4.3 Age of Respondents:

The study sought to establish the age of the various categories of respondents involved in the study. The results were as documented in figure 2.

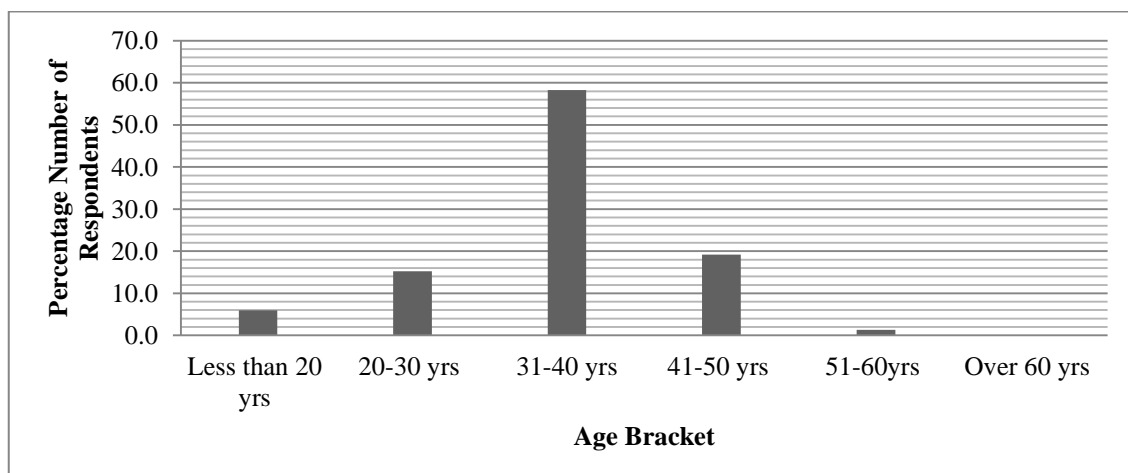


Figure 2: Age of Respondents

Figure 2 illustrates that majority of the respondents (58%) were of age bracket 31-40 years. This was followed by 19% of the respondents who were of age between 41-50 years; then 15% of the respondents who were in the age bracket 20-30 years. The research further indicated that 6% of the respondents were less than 20 years of age while only 1% of the respondents were of age between 51-60 years. This shows that majority of the respondents were of age 31-40 years.

4.4 Effect of Transaction Cost of Mobile Payment Technology on Financial Performance:

Respondents were required to indicate the extent to which mobile technology has improved the financial performance of banks. Some selected statements on mobile banking were provided on a five point likert scale and respondents were asked to rate them. The results are presented in table 1.

Table 1: Effect of Transaction Cost of Mobile Payment Technology on Financial Performance

	Very high Extent 5	High Extent 4	Moderate Extent 3	Low Extent 2	Very Low Extent 1	Σf_i	$\Sigma f_i x_i$	$\frac{\Sigma f_i x_i}{\Sigma f_i}$
Mobile Bank can be sent any time of day	123	27	1	0	0	151	726	4.81
Mobile Bank saves time of travelling	67	81	3	0	0	151	668	4.42
Mobile Bank reduces paperwork involved when sending money through other modes	54	83	13	1	0	151	643	4.26
Has reduced transaction costs	69	49	21	11	1	151	627	4.15
Mobile Bank saves time of queing	33	67	28	15	8	151	555	3.68
Mobile Bank provides a platform for saving for rural unbanked people	47	43	31	19	11	151	549	3.64
Mobile Bank has reduced travelling costs	19	72	41	19	0	151	544	3.60

As table 1 shows, the respondents agreed that, to a high extent, mobile Bank can be sent any time of day (weight 4.81); mobile Bank saves time of travelling (weight 4.42); that mobile bank reduces paperwork involved when sending money through other modes (weight 4.26) and that mobile bank has reduced transaction costs (weight 4.15). The study also revealed that mobile bank saves time of queing to a moderate extent (weight 3.68), it provides a platform for saving for rural unbanked people (weight 3.60) besides reducing travelling costs (weight 3.60). All the ratings were on a five point likert scale. These findings are in agreement with that of Kasyoki (2012) whose respondents claimed that, through mobile banking, it was now cheaper, safe and reliable to send money. Mbogo (2010) also observed that convenience of the money transfer technology plus its accessibility, cost, support and security factors are related to behavioral intention to use and actual usage of the mobile payment services by the micro businesses to enhance their success and growth.

4.5 Effect of Perceived Ease of Accessibility on Mobile Payments Technology:

The study wanted to know the effects of perceived ease of accessibility on financial performance of banks. Some selected statements on the perceived ease of accessibility were provided on a five point likert scale and respondents were asked to rate them. The results were as presented in table 2.

Table 2: Effect of Perceived Ease of Accessibility on Mobile Payments Technology

	Very high Extent 5	High Extent 4	Moderate Extent 3	Low Extent 2	Very Low Extent 1	Σf_i	$\Sigma f_i x_i$	$\frac{\Sigma f_i x_i}{\Sigma f_i}$
There are prompt feedbacks from the banks on clients' transactions	36	115	0	0	0	151	640	4.24
Its very easy to access my banks account from clients' phone for	19	73	45	11	3	151	547	3.62

transactions								
There are long procedures involved when using Mobile Banking	9	26	37	42	13	127	357	2.81
On many occasions there is no network to carry out Mobile Banking	18	17	54	39	23	151	421	2.79

As table 2 illustrates, the study found out that there are prompt feedbacks from the banks on clients' transactions to a high extent (weight 4.24). The study further found out that, to a moderate extent, it was very easy to access my banks account from clients' phone for transactions (weight 3.62). However, the study reiterated that, there are long procedures involved when using Mobile Banking and that, on many occasions there was no network to carry out Mobile Banking, though to a low extent (weights 2.81 and 2.79 respectively). This could be because there are only a few steps one needs to follow in the phone's pop-up menu so as to enable them send or withdraw the money. The readily-available network also enables one to carry out the transactions with ease. All the ratings were on a five point likert scale. Similar findings were observed by Mbogo (2010) whose study came to the conclusion that mobile banking had brought about convenience of the money transfer technology plus its accessibility. The study almost concurs with Mwando (2013) who observed that mobile banking leads to increased accessibility of banking services by customers in Kenya.

4.6 Effect of Security of Transactions Carried Out During Mobile Payment

The study sought to know the effect of security of transaction carried out during mobile payment on the financial performance of banks. To address this objective, some selected statements were provided on a five point likert scale and respondents were asked to rate them. The findings revealed the following results on table 3.

Table 3: Effect of Security of Transactions Carried Out During Mobile Payment

	Strongly Agree 5	Agree 4	Not sure 3	Disagree 2	Strongly Disagree 1	Σf_i	$\Sigma f_i x_i$	$\frac{\Sigma f_i x_i}{\Sigma f_i}$
Transactions are processed in accordance with my expectations	57	92	2	0	0	151	659	4.36
Provides evident of payment	26	125	0	0	0	151	630	4.17
I don't lose my privacy	37	99	12	2	1	151	622	4.12
There occurs remittances delay	51	69	21	6	4	151	610	4.04
No one can transact with my money without my approval	40	63	29	19	0	151	577	3.82
No one can withdraw money without my consent	24	29	53	27	18	151	467	3.09
Clients never lose amount of money transaction	17	35	22	57	20	151	425	2.81
No one can transact with client's money without his/her approval	9	31	55	33	23	151	423	2.80
My money can be stolen	12	17	29	71	22	151	379	2.51
Sometimes my bill payment is erroneously credited in a different account	0	0	0	95	56	151	246	1.63

Table 3 discloses that mobile banking transactions are processed in accordance with my expectations; that it provides evident of payment to another person: that one doesn't to lose privacy when doing mobile banking; and that Sometimes there occurs remittances delay. The respondents also seemed undecided on the claims that no one can transact with client's money in the bank using phone account without the client's approval and that no one can withdraw money without Mobile Banking client's consent. However, the study registered disagreement on the part of the respondents as far

as the claims that they (clients) never lose money during mobile banking transaction nor can someone else transact with client's money in the phone account without approval or that their money cannot be stolen from client's account even if the client loses phone (weights 2.81, 2.80 and 2.51 on five point likert scale). Worse still, the respondents strongly disagreed with the claims that sometimes their bill payment is erroneously credited in a different account by the Mobile Service provider (weight 1.63). All the ratings were on a five point likert scale. These findings further confirm the accessibility and security associated with using mobile payment. For instance, the fact that clients opined that one cannot lose privacy, nor money from the account confirms further that mobile payment is secure. The provision of payment during payment coupled with processing of transactions in accordance with clients' expectation proves that there is easy accessibility of mobile payment by the clients. These concurs with Mbiti and Weil (2011) who concluded that, widespread cellular communication and the ability to transfer money instantly, securely, and inexpensively are together leading to enormous changes in the organization of economic activity.

4.7 Return On Equity:

The study wanted to establish the financial performance of the banks under study. For this reason, their Return on Equity was calculated and the results are presented in figure 3 below:

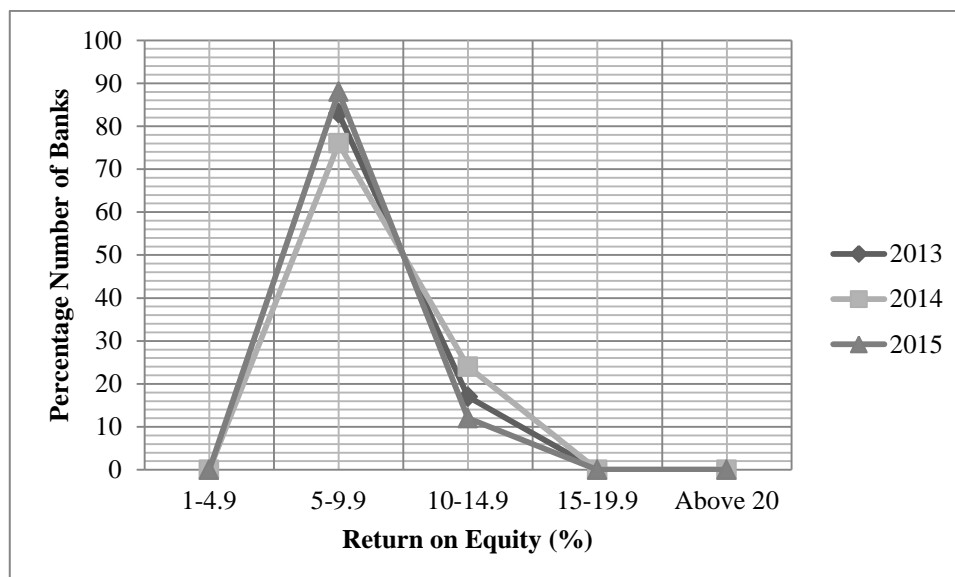


Figure 3: Return on Equity

It is evident from the study that majority of the commercial banks realized Return on Equity in the range 5-9.9%. This shows that the return to the shareholder is in the range 5-10% of their share value.

4.8 Coefficients Table:

The coefficients so found (shown on table 4) were used to write the full multiple linear regression equation. From table 4, the P-value for perceived cost was found to be 0.000, that of perceived accessibility 0.012 while perceived security had a p-value of 0.004. Since all these p-values were less than 0.05, it led to the conclusion that perceived cost of Mobile Payment Technology, perceived accessibility of Mobile Payment Technology and perceived security of Mobile Payment Technology have significant influence on financial performance of commercial banks in Kisii Town.

Table 4: Table of Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	68.959	0.900		.410	.709
Perceived Cost	.100	0.828	.389	.548	.000
Perceived accessibility	.402	0.257	.493	.765	.002
Perceived security	.324	0.435	.207	.372	.004

a. Dependent Variable: Financial Performance

The above coefficients lead to the formation the following model:

$$FP = 68.959 + 0.100TC + \beta_2 0.402AC + 0.324SS$$

Where *FP*-Financial performance

TC-Transaction cost effect

AC-Accessibility effect

SS-Security effect

$\beta_0, \beta_1, \beta_2$ and β_3 -regression equation coefficients

4.9 Model Summary of Regression Analysis:

The multiple regression analysis also produced a summary of the multiple regression model. Table 5 shows the model summary.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672 ^a	.452	.672	.8274
a. Predictors: (Constant), perceived cost, perceived accessibility, perceived security, Financial Performance				

The adjusted R^2 also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables (Patel & Bhatt, 2013). As table 4.10 depicts, the value of the coefficient of determination, was found to be .452. This communicates the fact that 45.2% of the factors determining the financial performance are explained by the independent variables under consideration in this study. The remaining 54.8% of the factors determining financial performance are explained by factors outside the model.

4.10 ANOVA Results:

An Analysis Of Variance (ANOVA) test was run using three independent variables and the dependent variable in the SPSS version 21 in an effort to determine the significance of the dependent variables in the regression model. The findings are presented on table 6.

Table 6: ANOVA for the Overall Model

		Sum of Squares	df	Mean Square	F	Sig.
Regression	Between Groups	310.26	6	51. 71	19.21	.000
Residual	Within Groups	654.69	243	2.692		
	Total	964.95	249			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), perceived accessibility, perceived security, transaction cost

Table 6 shows that the P value for the overall model is 0.000. Since this is less than the critical value (0.05), it leads to the conclusion that, at 5% level of significance, the overall model is significant. This implies that, perceived accessibility, perceived security, transaction cost jointly have a have a significant effect on the performance of commercial banks. These findings are in harmony with Mbogo (2011) whose study realized that accessibility, security and cost were all significant in performance.

5. SUMMARY

The first objective of the study was to establish the effects of transaction cost of mobile payment technology on financial performance of commercial banks in Kisii Town. The respondents also agreed that, to a high extent, mobile bank can be sent any time of day; it saves time of travelling and that it reduces paperwork involved when sending money through other modes. The study realised that transaction cost of mobile payment technology has a statistically significant influence on the financial performance of commercial banks.

The second objective of the study was to establish the effects of perceived ease of accessibility of mobile payments technology on financial performance of commercial banks in Kisii Town. The study found out that there are prompt feedbacks from the banks on clients' transactions to a high extent, and that there was network to carry out mobile banking, although there are long procedures involved when using mobile banking. The study noted that perceived ease of accessibility of mobile payments has a statistically significant influence on the financial performance of commercial banks.

The third objective of the study was to establish the effects of perceived security of mobile payments technology on financial performance of commercial banks in Kisii Town. The study revealed that mobile banking transactions are processed in accordance with clients' expectations; that it provides evident of payment to another person: that one doesn't to lose his/her privacy when doing mobile banking; and that sometimes there occurs remittances delay. It was also observed that perceived security of Mobile payments technology has a statistically significant influence on the financial performance of commercial banks.

6. CONCLUSION

It is evident from the study that the transaction cost of mobile payment is cheap, mobile Banking money can be sent any time of day; mobile bank saves time of travelling, and that it reduces paperwork involved when sending money through other modes. The study also observed that the mobile bank service provider prompt feedbacks on clients' transactions and that mobile banking transactions are processed in accordance with clients' expectations besides providing evident of payment to another person. It can also be noted that, perceived cost, perceived access and perceived security of mobile payments technology have a statistically significant influence on the financial performance of commercial banks.

7. RECOMMENDATIONS

Based on the above findings, the study recommends that; first, the mobile banking service provider should lower its transaction charges further since over 25% of the respondents felt it was a bit expensive. Secondly, the service provider should reduce the procedure followed in accessing ones bank account since it was not certain whether it is easy to access banks account from clients' phone for transactions. Thirdly, the service provider should work out mechanisms to avoid remittance delays sine it was felt that sometimes there occurs remittances delay. Further still, more stringent measures should be put in place to make it impossible for unauthorized person to transact money in the account without owner's approval.

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