



EFFECT OF MOBILE BANKING ON SUSTAINABLE OPERATIONAL PERFORMANCE OF SAVINGS AND CREDIT COOPERATIVES IN UASIN GISHU COUNTY, KENYA

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Abstract

The purpose of this study was to establish the effect of financial digitalization on sustainable operational performance of SACCOs in Uasin Gishu County, Kenya. Specific objective of the study was to examine effect of mobile banking on sustainable operational performance of SACCOs in Uasin Gishu County. The study was guided by theory of transaction cost theory. The study used descriptive research design. The target population of this study comprised of 90 management employees of 15 registered deposit taking SACCOs in Uasin Gishu County. Census was carried out during the study. Pilot test was carried out to test validity and reliability of data collecting instruments. Data was collected by use of questionnaire. The study used both descriptive and inferential analysis whereby descriptive analysis involved use of mean, frequencies, standard deviation and percentages while inferential analysis involved pearson product moment correlation and multiple regression models. The study results revealed that there was a significant effect of mobile banking ($\beta=0.295$; $p<0.05$) on sustainable operational performance of SACCOs. The study concluded that there is significantly positive relationship between mobile banking on sustainable operational performance of SACCOs. The study recommended that that SACCOs as well as other financial institutions in Kenya should increase

the number of agents in estates and in the rural areas by reducing the requirements of becoming an agent. The study will be of significant to the scholars as this will form basis for further research also it will provide secondary data.

Keywords: mobile banking, sustainable operational performance, financial digitalization, banking services, fund transfer, cost efficiency, SACCOs

INTRODUCTION

Operational performance of SACCOs has been of great interest in research. Operational performance is a construct of multidimensional in nature (Alam, Raza & Akram, 2011). It comprises of three elements namely lead time, cost efficiency and reliability of the service. Provision of banking and financial services by the cooperative societies stands as major drivers for growth and development (Ouma, Omagwa & Ngaba, 2018). Cooperative societies are not only for making profits but also improving the well-being the members through by offering them loans at lower interest for provident purposes (Sum & Memba, 2016). To measure the performance of SACCOs, there are several techniques to be considered and they include lead time, cost, dependability and quality of the service (Abdullai & Micheni, 2018).

The main aim behind cooperative society is to pool resources together and eliminate middlemen to achieve common goal (Tsuma, Musiega & Adhiambo, 2015). SACCOs are important form of financial intermediary which for a long period of time have played important role in provision of financial services to their members (Bwana & Mwakujonga, 2013). An increase in adoption of digital finance in financing institutions especially in deposit taking SACCOs has improved provision of services with reduced costs hence satisfying customer needs and has also transformed through enhancement of efficiency and effectiveness (Nyathira, 2012).

Digital finance is also important as it has led to improved rate of services that are being delivered in the sector of finance hence eradicating informal ways such as long queues where customers are forced to wait so as to be served. These customers can now therefore carry out this service by use of ATMs, mobile banking, internet banking and agency banking (Bett, 2017). Mobile banking is the provision of financial and banking services with the help of mobile gadgets. The introduction of mobile banking has enabled customers to be able to access banking services such as money transfer, redeem royalty coupon, bill payments and withdrawals (Okiro & Ndungu, 2013).

Statement of Problem

Savings and credit cooperatives institutions play an important role in financial empowerment in developing countries such as Kenya. Specifically SACCOs are significant in financial service delivery due to its efficiency in providing low cost products and cost effectiveness in financial services accessibility leading to improved operational performance (Ngure, Kimani & Kariuki, 2017). However, SACCOs continue to experience operational challenges due under utilizing the capabilities of digital finance hence facing cost ineffectiveness, delays and unreliability in service delivery (Abdulai & Nyaoga, 2017). Therefore this has led to decreased number of clients in the SACCOs (Kiragu, 2015). This study aimed therefore to investigate the effect of financial digitalization on sustainable operational performance of SACCOs in Uasin Gishu County, Kenya.

Research Objective

To establish effect of mobile banking on sustainable operational performance of SACCOs in Uasin Gishu County, Kenya.

Research Hypothesis

H₀₁: Mobile banking has no significant effect on sustainable operational performance of SACCOs in Uasin Gishu County.

LITERATURE REVIEW

Theoretical Literature Review

The main pioneers of transaction cost of innovation theory were Hicks and Niehans 1983. The theory states that the main intention of digital finance is to reduce transaction cost (Tsuma, Musiega & Odhiambo, 2015). SACCOs are faced with challenges of ever increasing costs which menaces their existence. Therefore, they need an invention for reducing costs (Abdulai & Micheni, 2018). The theory is relevant to the variable since the use of internet connected technology will lower costs as it provides off set access to organization's internal database therefore influencing operational performance of the firm. The theory however has been criticized since it largely overlooked in formulation of public policy especially to downsize the public sector. This has led to inappropriate policies.

Effect of Mobile Banking on Sustainable Operational Performance of SACCOs

Harelimana (2017) carried out a study on impact of mobile banking on performance of Unguka micro finance bank in Rwanda. Quantitative and qualitative methods that include both interviews

and questionnaires were used to give answers to research objectives so as to obtain primary data. An interview was performed among the operational managers as they understand better performance of the firm. There was usually a shortcoming of questionnaires since some were misplaced or not filled. The researcher therefore preferred the use of an interview which it was much reliable compared with the use of questionnaires.

Too, Ayuma and Kemboi (2016) led an investigation on effect of mobile banking on financial performance of banks in Kapsabet, Kenya. Descriptive research design was used with a population of 336 respondents. Interviews and questionnaires were used in data collection of the study. The outcomes of the study revealed that there was significant relationship between mobile banking and financial performance of banks. It also revealed that mobile banking assists in easy transfer of funds as it saves on lead time and faster means of bill payment without using cash. Data collection in relation to this study only considered the banks. However future studies should focus on other financial sectors in order to widen the information on impact of mobile banking on operational performance.

Kathuo (2015) did a research on effect of mobile banking on financial performance of banking institutions in Kenya. Gradual growth in investment of mobile banking in the country requires various studies to investigate if mobile technology has an impact in banking sector. It applied descriptive research design and the main instrument used to collect primary data was questionnaires. The study had a target population of 42 banks in Kenya. The study results stated that transactions have increased due to use of mobile banking. The study did not focus on factors affecting mobile banking which include political factors, level of interest and client's attitude towards adoption of the technology.

Taiwo and Agwu (2017) examined the role of mobile banking on operational efficiency of banks in Nigeria. Survey research design was used and questionnaires were issued to obtain primary data for the objective of the study. It was found out that introduction of digital finance led to a drastic increase in operational performance of banks as there were many active clients' accounts which increase growth of banks. There was inadequate knowledge on adoption of digital finance in the financial sector. However this study focused only on banks as opposed to other financing institutions such as SACCOs the findings poses a challenge in generalization.

Daniyan, Khan and Roslan (2017) conducted a study on effect of mobile banking on the performance of commercial banks in Nigeria. The study adopted descriptive cross sectional design and the target population was 22 commercial banks. Structured questionnaire was used to obtain primary data. Respondents affirmed that mobile banking positively affect performance of banks. It also revealed that clients can easily access accounts at their own convenient time. Mobile banking was found to be essential despite of high initial capital to install. The study

recommended its replication in other financial institutions such as SACCOs, microfinance and telephone banking in other African countries to widen the literature relating to mobile banking.

Conceptual Framework

A conceptual framework is a diagram that depicts the relationship between the variables under a study (Ngumi, 2013). Figure 1 represents the conceptual framework for this study; it illustrates the relationship between the dependent and independent variables.

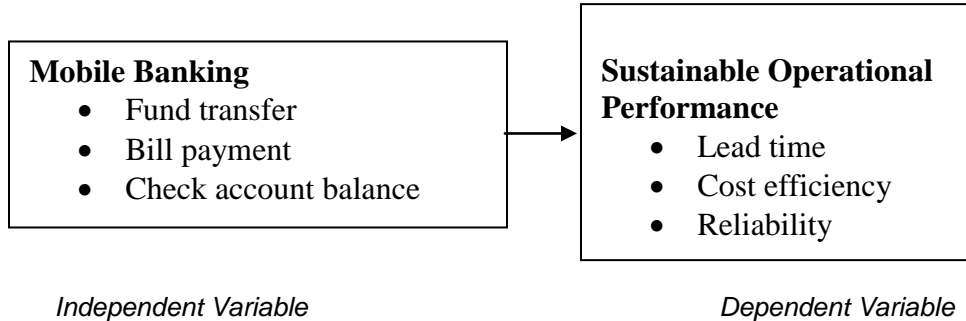


Figure 1: Conceptual Framework

MATERIAL AND METHODS

The study sought to collect information from respondents among 15 deposit taking SACCOs in Uasin Gishu County, Kenya. The research was designed to gather information from 90 respondents. Descriptive research design was used in this study. It is suitable for description and measurement of phenomena without any biasness. Primary data was collected through self-administered semi-structured questionnaires with the help of research assistant in order to capture primary data on digital finance and operational performance of SACCOs.

The study used both descriptive and inferential analysis. Descriptive analysis involved use of mean, frequencies, standard deviation and percentages. Inferential analysis involved Pearson product moment correlation and multiple regression analysis. Therefore, the following multiple regression equation was used.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon \dots \dots \dots \text{Equation 1}$$

Where:

Y represents operational performance

β_0 represents regression constant

X_1 represents mobile banking

β_1 represents the beta coefficients of the independent variable

ϵ represents all relevant variables not included in the model

RESULTS

Relationship between Mobile Banking and Sustainable Operational Performance of SACCOs

The objective was to establish effect of mobile banking on sustainable operational performance of SACCOs in Uasin Gishu County, Kenya. The researcher sought an opinion from the respondents by seeking providing them with number of statements on the extent does those indicators affect sustainable operational performance of SACCOs (Table 1).

Table 1. Mobile Banking

Statements		SA	A	N	SD	D	Mean	Std. Dev
i. Fund transfer systems have improved cost efficiency among customers.	F %	55 66.3	20 24.1	2 2.4	2 2.4	4 4.8	4.47	.941
ii. Use of mobile banking in bill payments has improved reliability of cooperatives.	F %	13 15.7	63 75.9	1 1.2	1 1.2	5 6.0	3.99	.724
iii. Easy accessibility of account balances has reduced time taken to apply for loans.	F %	35 42.2	40 48.2	1 1.2	1 1.2	6 7.2	4.23	.888
iv. Mobile banking enable customers get timely notifications of financial transactions.	F %	19 22.9	56 67.5	2 2.4		6 7.2	4.06	.738

The study established that 75(90.4%) agreed while 6(7.2%) disagreed. This was further supported by (mean=4.47, Std Dev=0.941). The study indicated that majority of the respondents agreed that fund transfers using mobile is cost efficient. These findings were supported by Kathuo (2015) did a research on effect of mobile banking on financial performance of banking institutions in Kenya indicated that transactions have increased due to use of mobile banking. It also revealed that mobile banking services include fund transfer, bill payment, cheque book order and bank statements which have improved operational performance of banking sector.

Further majority of the respondents that is 76(91.6%) were of the opinion that bill payment through mobile banking is reliable while 5(7.2%) disagreed with the statement. This was further supported by (mean=3.99, Std Dev=0.724). These findings were also supported by Too, Ayuma and Kemboi (2016) who carried out a study on effect of mobile banking on financial performance of banks in Kapsabet and the results showed that there was significant relationship

between mobile banking and financial performance of banks. It also revealed that mobile banking assists in easy transfer of funds as it saves on lead time and faster means of bill payment without using cash.

In addition, the researcher sought an opinion from the respondents whether there is easy access of account balances through mobile banking. From the findings, 75(90.4%) were of the opinion that there is easy accessibility of account balances hence saving on time. This was further supported by (mean=4.23, Std Dev=0.888). These findings were supported by Daniyan, Khan and Roslan (2017) who conducted a study on effect of mobile banking on the performance of commercial banks and revealed that clients can easily access accounts at their own convenient time. Mobile banking was found to be essential despite of high initial capital to install. The findings of descriptive statistics showed that majority of the respondents are of the idea that automated teller machines enables cost efficient services.

Lastly, 75(90.4%) of the respondents were of the opinion that customers get timely notification on financial transaction while 6(7.2%) disagreed. It was further supported by (Mean=4.06, Std Dev=0.738). These findings were supported by Kathuo (2015) who did a research on effect of mobile banking on financial performance of banking institutions in Kenya and found that revealed that mobile banking services include fund transfer, bill payment and bank statements which have improved sustainable operational performance of banking sectors. Majority of the respondents showed were of the opinion that clients are able to be notified on their financial transaction within the shortest lead time.

Correlation Results

A correlation analysis of mobile banking and sustainable operational performance of SACCOs in Uasin Gishu County, Kenya was presented in Table 2.

Table 2: Mobile Banking

		Sustainable Operational Performance	Mobile Banking
Sustainable Operational Performance	Pearson	1	
	Correlation		
	Sig. (2-tailed)		
Mobile Banking	Pearson	.621**	1
	Correlation		
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

The study analyzed the relationship between mobile banking and sustainable operational performance of SACCOs and the results presented in Table 2 indicated that mobile banking had a positive and statistically significant on sustainable operational performance of SACCOs with ($r=0.621$; $p<0.05$). The results imply that mobile banking positively and significantly affect sustainable operational performance. These findings were in line with the findings of Too, Ayuma and Kemboi (2016) who led an investigation on effect of mobile banking on financial performance of banks in Kapsabet and depicted that there was significant relationship between mobile banking and financial performance of banks.

Assumptions of Regression Model

The study conducted the assumptions of multiple regression models. This was to provide unbiased estimates of the study parameters. Various assumptions were tested and these include multicollinearity assumption, homoscedasticity assumption and autocorrelation assumption.

Normality Assumption

The study used Kolmogorov-Smirnov and Shapiro-Wilk test to determine normality. The results are as shown in Table 3.

Table 3: Normality Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Mobile Banking	.250	8	.150	.932	8	.534

From the findings, the study shows that significance values obtained were all greater than 0.05 indicating that data was normally distributed.

Multicollinearity Assumption

Multi-collinearity was assessed in this study using the variance inflation factor (VIF) and tolerance. The results were as indicated in Table 4 below.

Table 4: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Mobile Banking	.741	1.350

From Table, the results showed that values were greater than 0.2 for all independent variables and VIF values less than 10 for the same. Therefore, no independent variable was removed from analysis.

Homoscedasticity Assumption

Homoscedasticity shows that variance of residuals is equal for both large and small values of predicted value of the dependent variable (Osborne & Waters, 2012). The study used Levene's test to measure variances for the variables. The results were as shown in Table 5.

Table 5: Levene's Test of Equality of Error Variances

F	df1	df2	Sig.
.638	74	8	.851

Dependent Variable: Sustainable Operational Performance

From Table 5, the results shows test of homoscedasticity assumption which has significant value of 0.851 which is greater than predictable value of 0.05 therefore signifying that assumptions has been attained.

Assumptions of Autocorrelation

The Durbin –Wartson test statistic varies from 0 to 4. Values between 0 and 2 indicate positive auto correlation, 2 indicating zero autocorrelation and values between 2 and 4 indicate negative autocorrelation (Chen, 2016). The results are as shown in Table 6.

Table 6: Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.739 ^a	.546	.522	.39477	1.817

As indicated in Table 6 Durbin-Wartson statistic was 1.817 which according to (Garson, 2012) it implies that independent observations as the value was within threshold of 0 and 2.

Multiple Regression Model

The study used multiple regression analysis to determine the influence of predictor variables (mobile banking) on sustainable operational performance of SACCOs. The results are as shown

in Table 7.

Table 7: Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.739 ^a	.546	.522	.39477

Dependent Variable: Sustainable Operational Performance

From Table 7, the findings indicate that the relationship between financial digitalization and sustainable operational performance focused on this study was positive and strong ($R=0.739$). R square is used to evaluate the goodness of fit of a model. The coefficient of determination also known as R-square is 0.546. This implies that the effect of predictor variables (mobile banking) explains 54.6% of the variations in sustainable operational performance of SACCOs in Uasin Gishu County. It further shows that a change in financial digitalization has a positive and strong effect on sustainable operational performance of SACCOs. Thus assumes that the difference of 26.1% of the variation is as result of other factors.

Assessing the Fit of the Multiple Regression Model

The study also examined whether multiple regression model was a good fit for predictor variables on sustainable operational performance. The test results were shown in the Table 8.

Table 8: Results of ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	14.596	4	3.649	23.413	.000 ^b
Residual	12.156	78	.156		
Total	26.752	82			

a. Dependent Variable: Sustainable Operational Performance

The findings of the study in Table 8 indicated that there was statistically significant relationship between independent variables and dependent variables ($F=23.413$; $P=0.000$). The null hypothesis that all regression coefficients in the population are zero was rejected. This therefore indicated that multiple regression model was a good fit for the data. It also indicates that automated teller machines, mobile banking, internet banking and agency banking all influence sustainable operational performance of SACCOs in Uasin Gishu County.

Individual Regression Coefficients

The t-test was conducted to examine whether the individual regression coefficients were statistically significant. The results were presented as shown in Table 9.

Table 9: Individual Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	.838	.396		2.118	.037
Mobile Banking	.295	.068	.387	4.359	.000

It was noted that mobile banking significantly predicts sustainable operational performance ($t=4.359$; $p<0.05$). Therefore the study rejected the null hypothesis that mobile banking has no significant effect on sustainable operational performance of SACCOs in Uasin Gishu County, Kenya. The results also agree with the conclusion by Daniyan, Khan and Roslan (2017) who conducted a study on effect of mobile banking on the performance of commercial banks in Nigeria and revealed that mobile banking positively affect performance of banks. Mobile banking was found to be essential.

CONCLUSION

From the findings, it was concluded that adoption of financial digitalization by SACCOs affect its operational performance. The study indicates that for the SACCOs to be highly competitive, they need to employ modern technological innovations such as mobile banking. Technology is one of the key elements that define a society or civilization. The critical role of technological innovation in the development of a financial institution and its contribution on the economic growth of firms has been widely documented due to its significant effect on performance of SACCOs

RECOMMENDATIONS

This study recommends that management of those SACCOs which have not instituted and adopted the electronic banking adopt an electronic way of doing things in their operations. The study found that those SACCOs which use financial digitalization have had very positive impacts on the sustainable operational performance of the SACCOs. It is therefore

recommended that management of other SACCOs adopt financial innovations such as ATMs, mobile, internet and agency banking. The study established that the use of financial digitalization increased accuracy and efficiency, reliability and speed which give them competitive advantage over the rest of the financial institutions.

SCOPE FOR FURTHER RESEARCH

The researcher analyzed for major effects of mobile banking on sustainable operational performance of SACCOs in Uasin Gishu County. A similar study should be conducted in other counties to establish whether it will yield the same information. Further a study can be conducted to determine the challenges faced in the establishment of agency banking in Kenya. The study further recommends that a study should be done on the challenges facing the adoption of agency banks by SACCOs in Uasin Gishu County. Another suggested study would be to explore on the challenges that SACCOs face on the development and implementation of financial digitalization and ways of addressing such challenges.

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