Effect of Mobile Banking Services on Financial Performance of Deposit-Taking Cooperative Societies in Kenya.

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Abstract

Deposit-Taking Savings and Credit Cooperative Societies have embraced mobile banking services to address efficiency challenges characterized by poor information delivery channels and high operational costs and to enhance their financial performance. However, the effect of mobile banking services on the performance of Deposit-Taking Savings and Credit Cooperative Societies has not been well studied. Even though some studies have indicated the potential of mobile banking services towards improving organizational performance, other studies have indicated otherwise. Given this contradiction, this study sought to investigate the effect of mobile banking services on the performance of Deposit-Taking Savings and Credit Cooperative Societies in Kenya. Descriptive and explanatory research designs were adopted. Using simple random sampling, the study was based on a sample of 86 Deposit-Taking Savings and Credit Cooperative Societies drawn from a target population of 110 Deposit-Taking Savings and Credit Cooperative Societies that were licensed by SACCO Societies Regulatory Authority as at 31st December 2011. The study found that three mobile banking services including mobile deposits services, mobile bill payments services and mobile statements services had a positive statistically significant effect on the financial performance of Deposit-Taking SACCOs in Kenya and therefore recommends their utilization to enhance the financial performance of the SACCO subsector.

Keywords: Financial Performance, Mobile Banking, Mobile Technology, SACCO

Introduction

Rapid advances witnessed in the mobile technologies have led to mobile banking which allows financial institutions to deliver their products and allow for transactions from the clients' mobile devices that include mobile phones, tablets, laptops, and personal digital assistants and other mobile devices such as point of sale (POS) terminals. Nzioka and Palakurthi (2010) assert that mobile banking has facilitated the spread of banking services in developing countries, where there is little or no access to internet connections and existence of poor infrastructure has crippled developments in reaching the unbanked populations particularly those living in rural areas. Mobile banking offers a distinct alternative to conventional branch-based banking in that customers conduct all financial transactions through mobile phones instead of through physical presence in bank branches or through bank employees which allows more convenience to customers (Anyasi & Otubu, 2009; Muisyo, Alala & Musiega, 2014).

Abadi, Kabiry and Forghani (2013) noted that mobile banking allows users to conveniently perform banking transactions at any time from any place using their mobile devices particularly their mobile phones. Aboelmaged and Gebba (2013) indicated that with mobile banking, users can open accounts, check

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account balances, receive their bank statements, trade stock and manage a portfolio of assets, pay for goods and services and transfer money from one account to another conveniently using their mobile devices regardless of where they are located. This is also supported by Joshua (2009) who noted that a number of mobile banking services could be performed at anytime and anyplace via mobile devices particularly mobile phones enabled to connect to physical banks. Additionally, using several applications that are currently downloadable on mobile devices it is possible to inform mobile devices' users on the nearest automated teller machines (ATMs) making it possible for financial institutions to provide distinctive services that enhance their performance (Joshua, 2009).

Deposit- Taking Savings and Credit Cooperative Societies (SACCOs) in Kenya

Savings and credit cooperative society (SACCO) is a type of credit union owned by members sharing a common interest in order to mobilize savings to facilitate credit and other financial services to themselves (World Council of Credit Unions, 2013). Credit unions evolved from the cooperative activities of the early 19th century based on the idea that people could pool their money and make loans to each other. The first of these cooperatives emerged in Germany and England before spreading to other countries. A SACCO system encompasses a mutual agreement and membership that pools members' voluntary savings in the form of shares. The shareholders are brought together by a common interest or purpose such as marketing their products, empowering themselves financially or improving their livelihoods among other interests. In most cases, shareholders have a common connection or background such as their employment, community, geographical area, or any other affiliation. SACCOs differ from other financial institutions such as banks in the sense that they only offer credit and savings services to their members. SACCOs also differ from other philanthropic organizations as they only benefit their members, while excluding other members of the public (Makori, Munene & Muturi, 2013).

The SACCO subsector in Kenya comprises of Deposit-Taking and non-Deposit-Taking SACCOs. Deposit-Taking SACCOs are licensed, supervised and regulated by SACCO Societies Regulatory Authority (SASRA) under the SACCO Societies Act of 2008 (Mumanyi, 2014). Deposit-Taking SACCOs, unlike non-Deposit-Taking SACCOs, offer front office services activities (FOSA) which allow them to provide simple banking services to their members/customers (such as taking deposits, payment services, automated teller machines and other quasi banking services) thus improving their working capital.

The Deposit-Taking SACCOs account for three quarters of the SACCO subsector's assets, deposits and membership (SACCO Societies Regulatory Authority, 2013). Sub-Saharan Africa remains the region with the lowest deposit-taking institutions penetration in the world which stands at an average of 16.6 percent compared to 63.5 percent in developed countries and therefore the need to have Deposit-Taking SACCOs fill this gap (Savings Plus, 2010). In line with the Kenya's Vision 2030 strategy (that requires financial organizations to increase savings and to mobilize more investments for economic growth and development of the country) Deposit-Taking SACCOs' role in the Kenyan economy remains paramount (Government of Kenya, 2013). By the year 2009, out of the 20 million adult people in Kenya, 22.5 per cent were served by commercial banks and microfinance institutions (MFIs) while 17.6 per cent were served by SACCOs making SACCOs a key player in Kenya's financial sector (Matumo, Maina & Njoroge, 2013).

Statement of the Problem

Kenya's Vision 2030 under the economic pillar requires a vibrant and stable financial system to mobilize savings and to allocate resources more efficiently in the economy (Government of Kenya, 2013). Deposit-Taking SACCOs are expected to play a key role in the realization of this vision especially by connecting people who have been financially excluded by major banks to financial services. Despite their role in the

economy, Deposit-Taking SACCOs continue to face a number of performance challenges. They face stiff competition for membership from other deposit-taking institutions particularly commercial banks (Matumo *et al.*, 2013; SASRA, 2013). They also experience efficiency challenges characterized by poor information delivery channels and high operational costs due to inadequate information and communication technologies (Mugambi, Njeru, Memba and Ondabu, 2015). In addition, they also face high demands for loans which they are unable to meet due to liquidity shortages hence compromising their profitability especially given that they cannot seek credit from the Central Bank of Kenya (CBK) like other commercial banks (SASRA, 2014; Mugambi *et al.*, 2015).

SASRA (2013, 2014) noted that many SACCOs had not yet managed to comply with capital adequacy ratios including core capital to total assets and core capital to total deposits liabilities. Athanosoglou, Brissimis, and Delis (2005) established that low capital adequacy can negatively impact on organizational profitability. Deposit-Taking SACCOs additionally experience the challenge of non-performing loans which was recorded at 4.7 per cent in 2013 and 5.73 per cent in 2014 and this can negatively affect their liquidity and eventually their profitability (SASRA, 2014).

Challenges faced by SACCOs have necessitated them to adopt and utilize mobile banking services. Although various scholars have asserted that mobile banking services have the potential to enhance organizational performance (Kato, Otuya, Owunza & Nato, 2014; Maina & Gekara, 2014; Njenga, Kiragu & Opiyo, 2015) these benefits are yet to be confirmed in studies covering Deposit-Taking SACCOs in Kenya. Further, despite the potential of mobile banking services, SASRA (2011) raised concerns in regard to increased incidences of fraud among Deposit-Taking SACCOs raising questions on the role of ICT towards the performance of this sector. It is at the center of these mixed conclusions of effects of mobile banking services that necessitated the need to carry out a study from a Kenyan context to establish the effect of mobile banking services on the performance of Deposit-Taking SACCOs in Kenya. The specific objectives of the study were to establish the effect of mobile money transfer services, mobile deposits services, mobile bill payments services, mobile statements services and mobile enquiry services on the performance of Deposit-Taking SACCOs in Kenya.

Literature review

Theoretical Review

The study was anchored on three theories. Agency theory was used to explain financial performance. Information systems success model was used to link utilization of mobile banking to the realization of organizational benefits. Task-technology fit theory was used to explain the compatibility expected between the nature of tasks and mobile banking services for organizational benefits to be realized.

Agency Theory

SACCOs' management boards have a duty to run the SACCOs in such a way as to maximize the long-term returns to members. Agency theory (Jensen & Meckling, 1976) was used to explain how the relationship between SACCO members and management boards can be harnessed to address SACCOs' financial performance. Agency theory revolves around the principal who hires an agent and delegates decision making to the agent. The prominence of agency theory in explaining financial performance of organizations is influenced by its simplicity in reducing an organization into two participants, the managers (agents) and the shareholders (principals) and also the notion of human beings as self-interested parties (Daily, Dalton & Canella, 2003).

Information Systems Success Model

The measurement of an information system success is crucial in justifying its adoption and continued use. It was for this purpose that DeLone and McLean (1992) proposed an integrative model for conceptualizing and operationalizing information system success

factors. According to this model, the success of an information system is determined by the information system quality (the technical quality of the system) and the output quality of the information system (information quality). Systems quality deals with the success of an information system at the technical level focusing on the desired characteristics of an information system itself which produces the information. Information quality focuses on the information product at the semantic level or the success of information in conveying the intended meaning. These dimensions are linked indirectly to information systems effects on individuals and organizations. This study assumes that system quality (quality features of mobile banking applications), information quality (completeness and accuracy of information generated from mobile banking applications) and service quality (excellence in the way business processes are performed using mobile banking services in the organization) have been addressed as mobile banking services are already adopted by organizations. The gap that remains is to link usage of mobile banking to net benefits, a gap this study sought to fill.

Task-Technology Fit (TTF) Theory

Goodhue and Thompson (1995) established task-technology fit to be an important concept in assessing and explaining information systems success. Task-technology fit is a key theory but often overlooked in understanding the effect of technology on individual performance and by extension the organizational performance (Goodhue & Thompson, 1995). In this theory, technologies are viewed as tools used by individuals in carrying out their tasks and tasks are defined as "the actions carried out by individuals in turning inputs into outputs" (Goodhue, 1995; p. 1828). The model proposes a link between task-technology fit and utilization of technology and a link between task-technology fit to performance impacts.

Goodhue and Thompson (1995), assert that information and communication technologies will enhance individual and organizational performance if the functionalities of the technology conform to the attributes of the tasks supposed to be performed by users within an organization. Task-technology fit being the degree to which technology assists an individual in performing his or her tasks, must exist for the successful realization of benefits from a given technology. Specifically, Goodhue (1997) asserts that fit among task requirements, individual abilities, and the functionality and interface of the technology are a requisite for the realization of tangible benefits from a given technology. Using task-technology fit model, in order for mobile banking services to have a positive effect on organizational performance, mobile banking services must be utilized and there must be a good fit with the tasks the mobile banking services support for the users (Goodhue & Thompson, 1995). Therefore, the model requires that mobile banking services are compatible with the tasks performed by individuals in the organization for performance outcomes to be realized by the individual and by extension the organization.

Empirical Studies

Mobile technologies have found their way into financial institutions leading to mobile banking in developing countries, where there is little or no access to internet connections and existence of poor infrastructure has crippled developments in reaching the unbanked populations particularly those living in rural areas (Nzioka & Palakurthi, 2010). Mobile banking offers a distinct alternative to conventional branch-based banking in that customers can conduct all financial transactions 24 hours a day 7 days per week conveniently without physically travelling to banks' premises (Anyasi & Otubu, 2009; Muisyo, Alala & Musiega, 2014). Mobile banking has now become popular in most financial institutions in developing countries. Dineshwar and Steven (2013) in their study found that awareness of mobile banking services was quite high and usage level was reasonable indicating the potential of mobile banking in revolutionizing the financial sector in developing countries.

Abadi *et al.* (2013) noted that mobile banking allows users to conveniently perform banking transactions at any time from any place using their mobile devices particularly their mobile phones. Aboelmaged and Gebba (2013) indicated that with mobile banking, users can open accounts, check account balances, receive their bank statements, trade stock and manage a portfolio of assets, pay for goods and services and transfer money from one account to the other conveniently using their mobile devices regardless of where they are located. This is also supported by Joshua (2009) who noted that a number of mobile banking services could be performed at anytime and anyplace via mobile devices particularly mobile phones enabled to connect to physical banks. Additionally, using several applications that are currently downloadable on mobile devices it is possible to inform mobile devices' users on the nearest automated teller machines (ATMs) making it possible for financial institutions to provide distinctive services that enhance their performance (Joshua, 2009).

Muiruri and Ngari (2014) noted that mobile banking services enhanced the financial performance of commercial banks in Kenya. Based on the descriptive research design, their study involved a sample of 16 commercial banks with the respondents being members of banks' management. The study recommended commercial banks in Kenya to do more investments in terms of mobile banking and other innovations to enable banks to survive the prevailing stiff competition and the turbulent business environment. This is also supported by Kato, Otuya, Owunza and Nato (2014) who found a positive relationship between the adoption of mobile banking and the performance of commercial banks. This study explores the potential of mobile banking towards improving performance of SACCOs that are now serving more citizens in the rural areas compared to commercial banks, most of which haven't established their presence in most rural areas in Kenya.

Njenga, Kiragu and Opiyo (2015) noted that mobile banking services enhanced the profitability of co-operative societies in Nyeri County, Kenya. Their study which was based on the descriptive design with a sample of 30 co-operative societies in Nyeri County concluded that other than mobile banking services, internet banking also enhanced financial performance of co-operative societies and therefore management boards of these societies should invest more on these innovations. The study also recommended the value addition of mobile banking to include services such as provision of loans which would increase the number of transactions conducted via mobile devices and hence more income for co-operative societies. The study, however, employed a weak research design, descriptive design, and therefore the findings need to be confirmed by use of superior research designs such as explanatory research design so that findings can be validated and generalized across the entire SACCO subsector in Kenya.

Donovan (2011) in his study found that mobile money services significantly improved freedom and sense of belonging for Kenyans. Through the ability to send and receive money conveniently using mobile devices from friends and family members, a form of power that acts on all Kenyans both users and non-users of mobile money services emerges (Donovan, 2011). In another related study, Must and Ludewig (2010) assert that mobile banking services can lead to poverty reduction and financial inclusiveness by increasing savings rates, creating jobs, and increasing access to various financial products offered by microfinance institutions. It would be important to conduct a similar study indicating how mobile banking services would affect the performance of SACCOs, especially given performance challenges in the SACCO sector (Otieno, Okengo, Ojera & Mamati, 2013).

According to Kirui, Okello and Nyikal (2012) who conducted another study found that mobile money transfer services help to resolve an idiosyncratic market failure experienced by farmers. Mobile money transfer was also found to greatly enable farmers to access financial services, which otherwise would not be accessible to them. Their study employed a propensity score matching technique to examine the impacts of mobile money services

and used cross-sectional data collected from 379 multistage randomly selected households in Central, Western and Nyanza regions in Kenya. Similar studies need to be conducted to validate the findings within organizational contexts to evaluate whether organizational performance challenges can benefit from mobile-based money transfer services, a gap this study sought to fill.

Okiro and Ndungu (2013) established in their study that commercial banks had the highest usage of mobile banking followed by SACCOs and lastly MFIs. This study was based on the descriptive design where 30 financial institutions were investigated including two MFIs, 11 SACCOs and 17 commercial banks on their use of mobile and internet banking services. The study established that cash withdrawal was the most commonly used mobile banking service whereas purchasing commodities was the least commonly used. Although the study focused on how mobile and internet banking provides various capabilities to both clients and employees of these organizations, performance outcomes arising from the use of mobile and internet banking to organizations were not addressed, an area this study sought to address.

Conceptual Framework

The study proposed that the performance of Deposit-Taking SACCOs is affected by mobile banking services that included mobile money transfer services, mobile deposits services, mobile bill payments services, mobile statements services and mobile enquiry services as captured in the conceptual framework shown in Figure 1. Mobile money transfer service is the use of mobile devices to transfer money from a SACCO member account to another account (within the same SACCO, another SACCO or any other financial institution). Mobile deposits service is the use of a mobile device to load money into a member's account within the SACCO. Mobile bill payments service is the payments for utilities, goods, and services including settlement of bills using mobile devices enabled to access money from a member's account. Return on assets was used to evaluate the financial performance of Deposit-Taking SACCOs as depicted in the conceptual framework.

As indicated in the conceptual framework shown above, the following five null hypotheses were tested in this study:

i. There exists no effect of mobile money transfer services on the performance of Deposit-Taking SACCOs in Kenya
ii. There exists no effect of mobile deposits services on the performance of Deposit-Taking SACCOs in Kenya
iii. There exists no effect of mobile bill payments services on the performance of Deposit-Taking SACCOs in Kenya
iv. There exists no effect of mobile statements services on the performance of Deposit-Taking SACCOs in Kenya
v. There exists no effect of mobile enquiry services on the performance of Deposit-Taking SACCOs in Kenya

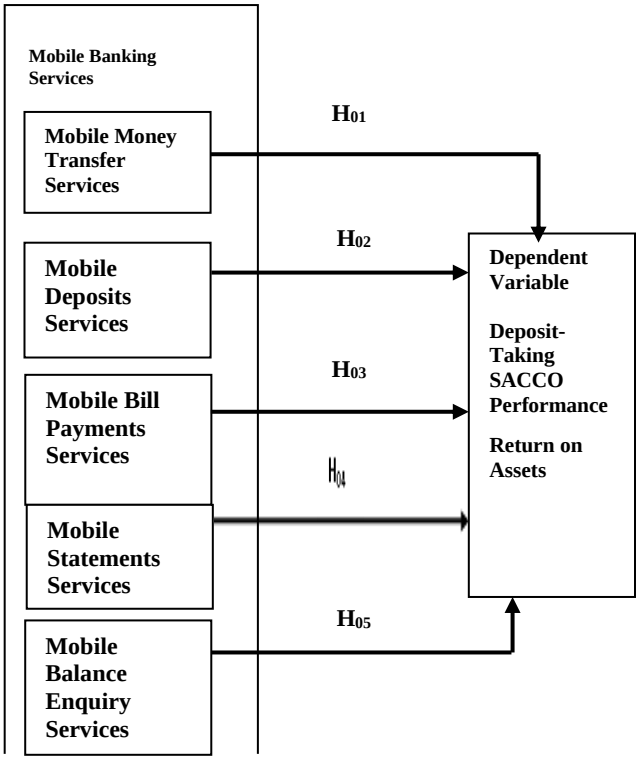

***Figure 1*: Conceptual Framework**

Methodology

This study was guided by the positivism paradigm. It was an ideal philosophy for this study as scientific processes were followed in the formulation of the hypotheses and deductions of the observations in order to determine whether to reject or not to reject the formulated hypotheses as recommended by Mack (2010). According to Sekaran and Bougie (2009) there is no single perfect research design, hence the researcher used both descriptive survey and explanatory research designs to achieve optimal results.

In order to obtain data necessary to draw inferences, the target population included those Deposit-Taking SACCOs that had existed for at least three years since their being licensed. Therefore, the target population was the 110 Deposit-Taking SACCOs that were licensed as at 31st December 2011 in Kenya. To select an optimum sample of 86 Deposit-Taking SACCOs from where data was collected, the simple random sampling method was used. Simple random sampling ensured that each Deposit-Taking SACCO had an equal chance of being selected as suggested by Mugenda and Mugenda (2003). Random sampling was also found suitable by Acharya, Kagan, Lingam and Gray (2008) who conducted a study to establish website usability impacts on the performance of banks. Three variables usually will need to be specified to determine the appropriate sample size: the level of precision (sampling error), the level of confidence or risk, and the degree of variability in the attributes being measured (Kumar, 2005). A simplified formula using these three variables was provided by Yamane (1967) to calculate sample sizes as shown below:

$$n = \frac{N}{1 + Ne^2}$$

Where

n = sample size

N= Total population

e^2 = Level of precision (sampling error)

Assuming a rule of thumb as suggested by Ngulube (2010) of 95 per cent confidence level, the degree of variability of 0.5 and 0.05 sampling error the above formula was used to produce a sample size of 86 Deposit-Taking SACCOs as shown below:

Target population = 110 Deposit-Taking SACCOs

Sample size $n = \frac{N}{1 + Ne^2}$

$= 110/ (1 + 110 * 0.05^2) = 86.2745$

= 86 Deposit-Taking SACCOs

From the sample of 86 Deposit-Taking SACCOs, the study considered only those Deposit-Taking SACCOs that had been licensed and had existed for at least five years. Additionally, the study considered those Deposit-Taking SACCOs that had been using mobile banking services for at least five years for the purpose of obtaining data necessary to draw inferences. To ensure this, the information technology manager was asked about the use of mobile banking services before data collection could be commenced in any given SACCO. The inclusion criterion was in line with Gupta (2005) who asserted that the size of a sample and possible variations contained in the data can affect the quality of information obtained from a sample. Using the inclusion criteria, it was found that all the 86 Deposit-Taking SACCOs forming the sample had existed for more than five years and had been using mobile technology services over those years. From each Deposit-Taking SACCO, two managers (from information technology and finance departments) were purposively sampled as the respondents of the study who were issued with a self-administered structured questionnaire. Mugenda and Mugenda (2003) contend that a researcher can purposefully select respondents he/she considers to have the required information or with the capability to provide credible responses. The respondents selected were believed to be conversant with the utilization of mobile banking services within the SACCO and their effect on SACCO's performance. They were, therefore in a position to provide credible responses necessary to make valid conclusions regarding the study objectives.

Empirical Model

Multiple linear regression analysis was conducted to establish the effect of independent variables (mobile money transfer services, mobile deposits services, mobile bill payments services, mobile statements services and mobile enquiry services) on the dependent variable (financial performance) as recommended by Jackson (2009). According to Faraway (2002) and Brooks (2014) multiple linear regression analysis is chosen when the dependent model is continuous and when independent variables are more than one. It was therefore relevant in testing the effect of mobile technology services (independent variables) on the performance of SACCOs (dependent variable) in this study as the dependent variable was continuous. This is depicted by the model shown below:

$$\mathbf{Y= \beta_0+ \beta_1X_1+ \beta_2X_2+ \beta_3X_3+\beta_4X_4+ \beta_4X_5 +\varepsilon}$$

Where,

Y= Performance of the Deposit-Taking SACCO based on return on assets

X_1= Mobile money transfer services

X_2= Mobile deposits services

X_3= Mobile bill payments services

X_4= Mobile statements services

X_5= Mobile balance enquiry services

ε=error term

β_0 = constant term

β_1- β_5 = coefficients of the independent variables

The empirical model above was used to generate coefficients and t-statistics for each independent variable and their corresponding p-values. To determine whether each independent variable had a significant effect on the performance of SACCOs, its corresponding coefficient was tested to check whether it was statistically different from zero by checking its p-value. If p-value of a given coefficient was less than the chosen significance level (0.05) the null hypothesis was rejected and a conclusion drawn that the corresponding variable significantly affected the performance of SACCOs.

Results and discussion

After checking the completeness and non-response cases of questionnaires, 68 questionnaires were correctly filled representing a response rate of 79.1 per cent. Unreturned questionnaires were 10 representing 11.6 per cent while the disqualified questionnaires due to incompleteness and inconsistencies were 8 representing 9.3 per cent of the total number of issued questionnaires. According to Babbie (2004), Mugenda and Mugenda (2003) and Saunders, Lewis and Thornhill (2007), a response rate of 50 per cent is adequate, a response rate of 60 percent is good, and a response rate of 70 per cent is very good. The response rate of 79.1 per cent observed in this study was therefore very good and as such sufficient for further analysis and for drawing conclusions based on the stipulated research objectives. Furthermore, the study's response rate was acceptable as it compared well with similar studies conducted in Kenya such as Kidombo (2007) who achieved a response rate of 64.0 per cent, Magutu (2013) who had a response rate of 75 per cent and Waithaka, Kimani, Korir and Muathe (2013) who had a response rate of 69 percent.

Regression Results

Tables 2, 3 and 4 summarize the regression analysis results.

Table 2: Summary Results of Regression Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648[a]	.420	.373	.50033
a. Predictors: (Constant), Balance Enquiries, Mobile Bill Payments, Mobile Deposits, Mobile Statements, Mobile Money Transfer Services				

Table 3: ANOVA Results for Model Significance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.224	5	2.245	8.967	.000[b]
	Residual	15.521	62	.250		
	Total	26.745	67			
a. Dependent Variable: SACCO Performance						
b. Predictors: (Constant), Balance Enquiries, Mobile Bill Payments, Mobile Deposits, Mobile Statements, Mobile Money Transfer Services						

As shown in Table 2, R^2 was 0.420 indicating that the five independent variables (mobile money transfer services, mobile deposits services, mobile bill payments services, mobile statements services and mobile enquiry services) explained 42 per cent of variations in financial performance of SACCOs. This implied that 58 per cent of the variation in financial performance of SACCOs was explained by other variables outside the model.

To check the statistical significance of the overall regression model, ANOVA test was used as shown in Table 3. From Table 3, the overall model was statistically significant ($F_{(5,62)}=8.967$, $p=0.000$) implying that the study's independent variables (mobile money transfer services, mobile deposits services, mobile bill payments services, mobile statements services and mobile enquiry services) explained the variations in the dependent variable (financial performance of Deposit-Taking SACCOs) and therefore the model was adequate for further hypotheses testing.

From the regression analysis shown in Table 4, it was found that three mobile banking services including mobile deposits services, mobile bill payments services and mobile statements services had a positive statistically significant effect on the financial performance of Deposit-Taking SACCOs in Kenya. However, mobile money transfer services and mobile balance enquires were found to have no statistically significant effect on the financial performance of Deposit-Taking

SACCOs possibly due to their low uptake in many Deposit-Taking SACCOs. The study, therefore, concludes to a large extent that mobile banking has enhanced the financial performance of Deposit-Taking SACCOs as evidenced by the three services. This study is consistent with other studies in terms of findings. Njeri (2012) established that the utilization of mobile banking as an innovation within Deposit-Taking SACCOs improved the financial performance of these SACCOs. In their study Tsuma, Musiega, Albert and Douglas (2015) also found that SACCOs were reaping the benefits of financial innovations such as mobile banking particularly through increased efficiency, improved service delivery, improved operational performance among many others. Muiruri and Ngari (2014) also propound this finding in their study that found a positive relationship between the performance of commercial banks and the utilization of mobile banking services. Ogweno, Oteyo and Collins (2014) also found a positive relationship between the performance of microfinance institutions and mobile banking and as such recommended adoption of mobile banking in all financial institutions. Additionally, the finding concurs with Kato *et al.* (2014) whose findings indicated the existence of a positive relationship between mobile banking and the performance of commercial banks in their

Table 4: Regression Coefficients

Independent Variables	Beta (Coefficients)	T-Statistic	P-Values	Decision
Constant	2.516	11.454	.000	
Mobile Money Transfer Services	.011	.122	.640	Do not reject null hypothesis
Mobile Deposits Services	.161	1.986	.031	Reject null hypothesis
Mobile Bill Payments Services	.076	1.053	.041	Reject null hypothesis
Mobile Statements Services	.092	1.375	.039	Reject null hypothesis
Mobile Balance Enquiries Services	.043	.572	.570	Do not reject null hypothesis

study that was based in Kakamega town in Kenya.

Recommendations of the study

The study recommends that the management boards of Deposit-Taking SACCOs in Kenya should formulate strategies aimed at increasing utilization of mobile banking services particularly mobile deposits services, mobile bill payments services and mobile statements services as they have been shown to contribute positively towards enhancing SACCOs' performance. Creating awareness of mobile banking services by SACCOs' management should be conducted to encourage buy-in by SACCO members. In addition, management boards of Deposit-Taking SACCOs should lower costs for accessing mobile banking services to increase utilization of this service by Deposit-Taking SACCO members.

Contribution of the study to knowledge

Overall, the study builds on the existing body of knowledge by contributing empirically to the existing literature on the use of mobile banking services and their effect on organizational performance. The study has also developed a conceptual framework that is relevant to academicians interested in undertaking similar studies in other sectors of the economy. The conceptual framework can be adopted as it is or adapted to suit distinct issues in other financial institutions in future studies of mobile banking services. On practical contributions, the study has shown how various mobile banking services contribute to enhancing the financial performance of Deposit-Taking SACCOs. This knowledge is paramount to the management boards of the SACCOs to make investments decisions geared towards enhancing the performance of their SACCOs.

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