MOBILE BANKING SERVICES AND PROFITABILITY OF DEPOSIT TAKING SACCOS IN VIHIGA COUNTY, KENYA

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ABSTRACT

Sacco's across the world contribute the development an economy. This is achieved by financial performance that is measured using profitability that serves a critical role in the financial markets and in general the entire economy. Nevertheless, their contributions may be hindered by issues related to financial viability. According to the 2022 CBK report, the SACCOs in Vihiga County had a varied performance in the period ending on December 31, 2021. As of December 31, 2021, the Sacco's recorded a pre-tax loss of Ksh.339million, which is a decrease from the loss of Ksh.1.4billion reported on December 31, 2020, and a significant decline from the profit of Ksh.118 million in 2019. The performance of this investment resulted in a 5% return on assets in 2017, followed by a -2% return in 2018, a -4.1% return in 2019, a -5.3% return in 2021, and a -0.6.9% return in 2022. Hence, this research aimed to ascertain the impact of mobile banking services on the profitability of SACCOS in Vihiga County, Kenya. The primary goals are to determine the impact of mobile money transfer, mobile account management, mobile credit facilitation, and mobile bill presentment on the profitability of SACCOs in Vihiga County. The research was informed by the intermediation theory, diffusion of innovation theory, theory of technological acceptability model, and the task technology fit theory. A descriptive research approach was utilized. The intended demographic for this project consisted of 125 individuals who were part of the 12 officially recognized SACCOS in the County. The research used a stratified sampling approach to determine a sample size of 95 individuals. These individuals were selected utilizing simple random selection from each stratum. The researcher gathered primary data via the use of semi-administered questionnaires that included both open-ended and closed-ended questions. The analysis employed descriptive statistics such as standard deviation, means, frequencies, and percentages. Conversely, inferential statistics was employed to determine the correlation between the variables being studied. The multiple regression analysis model was utilized. Multicollinearity, normality and heteroscedasticity were tested to test for the violation of regression equation. Frequency tables were utilized in quantitative data presentation. The ethical consideration was adhered to throughout the study period. The study showed that mobile money transfer, mobile account management and mobile bill presentment, all had the significance threshold of $p<0.05$ hence all had statistically significant effect on profitability of DTS in Vihiga County, Kenya. On the other hand mobile credit facilitation was statistically insignificant with $p>0.05$ The study concluded that popular of the responders established to abundant magnitude with the fact that mobile money transfer, mobile account management and mobile bill presentment indeed affected the profitability of DTS. The study recommended the effective utilization of bank to mobile transfer, bank to bank transfer and mobile to mobile transfer to help improve the profitability of DTS. It equally recommends the effective utilization of mobile account statements, transaction authorization and balance inquiries that would help to improve on the profitability of DTS. Additionally, it recommends for the effective utilization of utility bills management, till number payments and paybill payments that contribute to improved performance of DTS.

Key words: Mobile Money Transfer, Mobile Account Management, Mobile Credit Facilitation, Mobile Bill Presentment, Profitability and Mobile Banking Services

INTRODUCTION

The exponential expansion of Information Technology (IT) has profoundly revolutionized global banking practices. Customers may acquire service without physically going to the bank's branches. The integration of IT in the banking sector empowers customers to conveniently carry out essential transactions and make important choices related to deposits, withdrawals, and investments (Joseph, McClure & Joseph, 2013). According to Kimball and Gregor (2015), mobile banking services provide handy alternatives to traditional branch banking. Customers may do most banking operations via numerous channels without having to visit a physical branch. Transactions processing and customer service are becoming more autonomous from the branch channel. Furthermore, the emerging technologies are being widely embraced, enabling customer relationship management to transcend specific channels.

Sacco's have embraced mobile banking services in response to the significant technological advancements and changing client preferences worldwide. By 2017, the Middle East had over 5.5 million active users of internet banking, which constituted almost 30 percent of all banking transactions. (Mahalaxmi, 2016). Kimball and Gregor (2017) posit thatclients are now seeking various delivery options and flexible working hours that are both handy and not limited by time or place. Consequently, almost all Sacco institutions are offering services via diverse alternative technological channels.

Regionally, payment system has seen significant improvements throughout time, transitioning from conventional transaction processing to a partially automated use of technology. However, this development has only occurred on the Sacco's side, therefore necessitating an improvement in end user interface (Babatunde & Salawudeen, 2017). Anggraini, Aryani, and Prasetyo (2020) argue that the rapid expansion of ICTs has eliminated the previously existing digital divide and transformed the commercial landscape into a digital realm. For example, Nigerian banks have undoubtedly made significant investments in technology and have extensively embraced electronic and communications networks to provide a diverse array of value-added goods and services.

Locally, Kenyan Sacco's have seen significant transformations during the last twenty years. The advancements in technology and evolving economic conditions have been the driving force for this transformation (Maungu,2015). Kweyu &Ngare (2019) note that Sacco's in Kenya may employ mobile banking channels to acquire, monitor, and service clients via various channels that are always creating new delivery methods at a rapid pace. Furthermore, the progress in communication and computer technology has enabled individuals to carry out a wide range of mobile banking transactions from any place, minus the need to physically visit a traditional financial institution, via different mobile banking channels. Consequently, there has been a significant increase in the variety of payment options as a means to reach unbanked individuals and expand the spread of financial institutions via mobile banking channels.

Statement of the Problem

Savings and credit cooperatives may have a considerable influence on the financial empowerment of developing nations like Kenya. Saccos serve a vital role in delivering financial services since they are efficient in offering affordable goods and cost-effective accessibility to financial services, which ultimately improves operational performance (Ngure, Kimani & Kariuki, 2017). Kenyan Saccos have used many banking channels to improve their performance. Nevertheless, Saccos persist in encountering operational and financial difficulties as a result of not fully leveraging the possibilities of digital finance, leading to cost inefficiency, delays, and unreliability in service provision. This is a result of the ever-changing environment that has caused financial institutions to encounter difficulties owing to intense competition from commercial banks and non-commercial organizations that provide similar services.

The majority of Saccos in Vihiga County have had financial losses since the first Sacco was granted a license by the CBK. According to the 2022 central bank report, the Saccos in Vihiga County had a varied performance in the period ending on December 31, 2021. More precisely, the Sacco's financial statement shows a pre-tax loss of Ksh.339million as of December 31, 2021, which is a decrease from the pre-tax loss of Ksh.1.4billion recorded as of December 31, 2020, and a significant decline from the profit of Ksh.118million in 2019. This performance translated to a return on asset of 5% in 2017, -2% in 2018, -4.1% in 2019, -5.3% in 2021 and -6.9% in 2022.

Ruto (2016) researched on the impact of mobile banking on the financial well-being of Saccos in Nakuru CBD, Kenya was investigated. The research discovered a favorable correlation between mobile banking and the financial success of SACCOs. However, this study will focus on Saccos in Vihiga County, Kenya. Mikae and Mogwambo (2021) investigated the bearing of mobile banking on the financial health of Sacco's in Kisii County, Kenya. The results suggested that the amount of money exchanged through mobile banking had a favorable and significant bearing on the financial well-being of Sacco’s. Nevertheless, this research will specifically concentrate on Sacco’s within Vihiga County. Wanyonyi and Ngaba (2021) examined the impact of digital financial services on the financial health of Sacco’s in Kakamega County, Kenya. The research revealed that the financial success of the Sacco’s was strongly impacted by the implementation of digital financial services by the Sacco managements. However, this work focused on Sacco’s in Vihiga County. It’s on these preceding statistical gaps, conceptual and contextual gaps that this study aimed to ascertain the influence of mobile banking services on profitability of SACCOs in Vihiga County.

Objective of the Study

To investigate the influence of mobile banking services on profitability of DTS SACCOs in Vihiga County, Kenya.

Specific Objective

To evaluate the influence of mobile bill presentment on profitability of DTS SACCOs in Vihiga County, Kenya.

THEORETICAL REVIEW

Financial Intermediation Theory

This theory traces its origins back to the research conducted by Gurley and Shaw in 1960. The theory draws upon agency, transactional cost, and informational asymmetry theories (Bert & Dick, 2003). Financial intermediation is the act of surpluses depositing their cash with financial institutions, who in turn lend those monies to deficit units. Financial intermediaries emerge due to incomplete information, elevated transaction costs, and regulatory mechanisms, as posited by this hypothesis. Bert and Dick (2013) state that this theory considers intermediaries as a means of mitigating informational asymmetries and transaction costs by consolidating the resources of clients, thus accomplishing economies of scale. Intermediaries play a crucial role by facilitating the consistent transfer of money from entities with excess cash to those with a shortfall.

This research embraced the financial intermediation theory to explain the motives behind financial organizations building banking channels. The setting up of financial channels is viewed as a means to achieve sustained long-term growth, provide liquidity, and maintain sustainability. The primary function of a financial intermediary is to generate and provide specialized financial products. Financial intermediaries arise as a result of market flaws. In an ideal market scenario, devoid of any transaction or information expenses, financial intermediaries would be non-existent. Therefore, this theory served as the primary underpinning for the research and is essential for understanding the profitability variable.

Diffusion of Innovation Theory (DIT)

Rogers (2004) posit that innovation may be a product, process or idea as long as it is new in the market. This theory gives a familiar framework for the determination of barriers which may hinder Mobile Banking diffusion. The application of this theory enhances the comprehension of the adoption rate of Mobile banking based on the innovation attributes. Peng & Vlas (2017) indicate that, mobile banking as an innovative technology with characteristics including 5 attributes (trialability, observability, relative advantage, complexity and compatibility) being presumed to be affecting whether and how it is adopted and accepted amongst clients (Rogers, 2004)

People in a social system often embrace innovations in a chronological order. The time series is classified into adopter groups based on the time it takes for them to begin implementing new concepts. Identifying the specific group to which people belong is crucial for change agents, since their short-term objectives importantly contribute in promoting the acceptance of innovation (Scott & McGuire, 2017). Human connection requires the acceptance of new ideas via interpersonal networks. When a novel idea adapter interacts with two persons inside a particular social system, and those individuals later become adopters, they then spread the innovation to their peers, thereby continuing the process. The resulting distribution, which is expected to have a Gaussian distribution over time, is given by a binomial expansion.

There are five distinct phases included in the innovation-decision process: understanding the innovation, opinion creation regarding it, its acceptance or rejection, change implementation if permitted and confirmation of one's perspective. The categories according to Peng & Vlas (2017)

include: the early adopters and innovators, the early majority, late majority and the laggards. On the other side, innovativeness is the level of earliness of individual to relatively adopt a new idea in comparison to other individuals belonging to her or his social system. Incorporating Roger's model is necessary since in the information technology and banking services mobile banking is an innovation. The theory may have a fault in its failure to adequately account for social norms, standards, and cultural norms of acceptability, which are of more importance than the concept of adopting an invention. Thus, this theory underpins mobile banking services variables.

Empirical literature Review

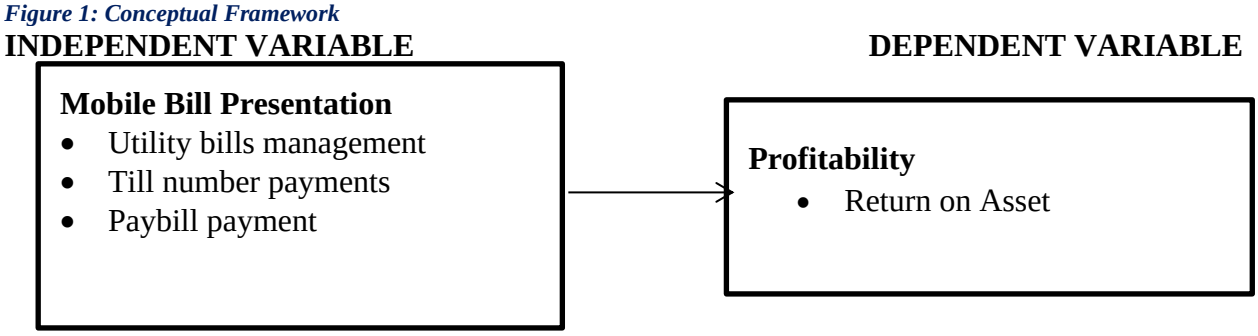
Mobile Bill Presentment and Profitability

Mbogo (2020) studied the influence of mobile bill presentment on the financial success of MSMEs, with a strong emphasis on the instance of M-Pesa in Kenya. The research is based on a survey done by administering questionnaires. Data was gathered from a sample of 409 micro business owners in Nairobi, Kenya. An analysis of the data reveals that the suitability, availability, cost-effectiveness, assistance, and protection features of the money transfer technologies are linked to the inclination to utilize and actual utilization of mobile bill presentation by micro enterprises. This usage is aimed at improving their success and development. Whereas this study was done on micro-business in Kenya, the current data was done among Sacco's in Vihiga County and thus there was contextual gap.

Okello (2019) discovered the upshot of mobile bill presentment on financial health of Kenyan Commercial Banks. The target audience for the research was made up of the forty-three commercial banks for a time of five years from 2011 to 2015. This study maximized on the secondary data of the banks as registered with the CBK. The studies suggested that the adoption and utilization of mobile bill presentment have enhanced the performance of the banking sector by significantly improving its productivity and efficiency. Whereas this study was done on commercial banks, Kenya, the current data was done among Sacco's in Vihiga County and thus there was contextual gap.

Wilson (2019) studied the bearing of mobile bill presentment on the financial health of commercial banks in Rwanda. The work included a time frame spanning from 2013 to 2019. The researcher utilized a combination of primary and secondary data sources for data collecting. Questionnaires were created to facilitate the collection of primary data. An interview guide was delivered to the sampled group, consisting of the workers and customers of Bank of Kigali Head Office. The research focused on a population of 120 individuals, with a sample size of 92 responses. The study's results have great relevance for the researcher as they facilitated a deeper knowledge of the impact of electronic payment systems on the functioning of commercial banks in Rwanda. Even though the research was done on Rwandan commercial banks, the current data was done among Sacco's in Vihiga County and thus there was contextual gap.

Figure 1: Conceptual Framework



Source: Researcher (2024)

Research Design

Descriptive research design was adopted. This design as Saunders *et al.* (2011) postulate enables that researcher to gather data from a set of population either through interview or administration of questionnaires to them. Also, through the design the researcher can collect data in a large sample size that represents the whole population in a natural set up and without altering their responses. As a result, the study was underpinned on descriptive research design, which involved gathering data from respondents and analyzing it from their point of view. The rationale for employing a descriptive research design is that it enables the efficient and cost-effective collecting of significant quantities of data. This research method involves directly acquiring data from a precise populace or a representative sample at a specific point in time.

Target Population

Study target audience was a total of 125 SACCO personnel from the 12 SACCOs operating in Vihiga County where the unit of observation was the 125 SACCO personnel whereas unit of analysis was the 12 SACCOs in Vihiga County.

Sampling Design

Vihiga town is home to 12 SACCOs that provide various services, including FOSA and BOSA services. The twelve SACCOs originating from Vihiga County was utilized. The study focused on key informants such as SACCO managers and heads of business sections who possess knowledge and expertise regarding the operations of the institutions in relation to service quality and customer loyalty.

The study utilized Yamane (1967) formula.

$$n = \frac{N}{1 + N(e)^2}$$

Whereby,

$n =$ Sample size

$N =$ Target Population

$e =$ Sampling Error ie 0.05

Thus, sample size was $n = \frac{125}{1+125(0.05)^2} = 95\ personnel$

The target population was categorized into three groups: heads of business department, branch managers, and employees, utilizing a stratified random sample approach. This strategy is a crucial method as it prevents the confusion of specific parameters that have significance in the investigation (Orodho, 2000).

The 12 branch managers were chosen through purposive random sampling, ensuring that all managers with the necessary knowledge about service quality and customer loyalty are included.

The method of choice for selecting 15 leaders of the business department and 49 staff members is simple random selection, ensuring that every individual in the target audience has an equivalent opportunity to be included (Kothari, 2003).

Data Collection Instruments

The research utilized both primary and secondary data. Questionnaires served as the key sources for collecting data. These questionnaires were distributed to staffs of various SACCOs in Vihiga County. Primary data is the original information obtained directly from individuals being surveyed. Secondary data was acquired from many sources including the records of the SACCOs, financial reports, auditors' correspondence with management, prior research reports, newsletters, and the organization's website.

Data Collection Procedure

Before collection of data, the researcher sought approval from Kenyatta University as well as NACOSTI. To collect primary data, the researcher aimed authorization from the administrative department of the SACCOs. The drop-and-pick method is employed for survey management. Participants allotted a duration of fourteen days to finalize the survey. Prior to the expiration of the specified two-week period, the researcher made a visit and send a reminder email in order to expedite and increase the rate of response. The secondary data was obtained by collecting net income and total assets data from the SACCOs' financial records.

Data Analysis and Presentation

Data on the independent variables was cleaned and coded before the actual analysis. The researcher employed both descriptive and inferential statistics to analyze the data, utilizing SPSS version 26 as a tool. Descriptive statistics facilitated the determination of the means and standard deviations. Conversely, inferential statistics were utilized to assess the magnitude of the associations between study variables, employing both correlation and multiple regression analysis.

The regression model was:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \varepsilon}$$

Whereby:

Y=SACCOs profitability

$\beta_{0,}$ − Constant

$\beta_{1,}$ − Beta Coefficient

X_1 − Mobile Bill Presentment

ϵ − Error Term

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Statistics

Table 1 Descriptive Statistics of mobile Bill Presentment

	N	Mean	Std. Dev
Utility bills management	76	4.3684	.70884
Till number payments	76	3.5132	.55362
Paybill payment	76	4.1184	.81596
Valid N (listwise)	76		

Source: Field Study (2024)

Table 1 indicates that all participants strongly agreed that utility bills management improves the profitability of the DTS. The mean score for this assertion was 4.3684, with a variance of 0.70884. Regarding the question of whether the incorporation of till number payments and Paybill payments improves the performance of the DTS, it was seen that most of the participants agreed with this assertion. The average rating for till number payments was 3.5132 with a variance of 0.55362, while the average rating for Paybill payments was 4.1184 with a variation of 0.81596.

Table 2: Descriptive Statistics on Fund Management

Std. Deviation	Mean	Kurtosis	Skewness
.05303	.0876	-.460	.758

Source: Study Data (2024)

As evident in Table 2 the mean performance of DTS in Vihiga County is 0.0876, with a standard deviation of 0.05303. The stability of DTS was demonstrated by its profitability, which exhibited a nearly normal distribution. This was further validated by the measures of kurtosis and skewness.

Correlation Analysis

The researcher created a correlation matrix between the variables utilizing the SPSS software. The results are summarized in Table 3.

Table 3: Correlation Results

		Profitability	Mobile bill presentment
Profitability	Pearson Correlation	1	.533**
	Sig.(2-tailed)		.000
	N	76	76
Mobile bill presentment	Pearson Correlation	.533**	1
	Sig.(2-tailed)	.000	
	N	76	76

Source: Field Data (2024)

The link between mobile bill presentment and profitability DTS was positive and moderate at 0.533 but significant at 0.000 ($p<0.05$).

Regression Analysis

Multiple regressing analysis was computed to derive the relationship between the variables.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.601[a]	.361	.325	.56426

a. Predictors: (Constant), Mobile Presentment

Source: Field Study (2024)

The results designate that R square of 0.361 was evaluated, demonstrating that changes in the mobile presentment was responsible for 36.1% of the changes in profitability among DTS in Vihiga County. 63.9% of the remaining changes were related to external factors that this model did not take into account.

Analysis of Variance (ANOVA)

The ANOVA test was done and the results shown in Table 5.

Table 5 ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.792	4	3.198	10.044	.000[b]
	Residual	22.606	71	.318		
	Total	35.398	75			

a. Dependent Variable: profitability

b. Predictors: (Constant), Mobile bill presentment

Source: Field Study (2024)

From the ANOVA figures in table 5, p-value 0.000 as computed implies that the regression model was statistically significant in forecasting the connection between mobile banking services and profitability among DTS in Vihiga County as the p-value <5%.

Regression Coefficients

The regression output was done and represented in Table 6.

Table 6 Regression Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.589	1.892		-.311	.757
	Mobile bill presentment	.488	.092	.509	5.307	.000

a. Dependent Variable: Profitability

Source: Field Study (2024)

The scholar conducted regression analysis to come up with the connection between mobile bill presentment and profitability of DTS in Vihiga County. The following regression equation was established.

$$\mathbf{Y = -0.589 + 0.488X_4}$$

Where: Y = Profitability, $\mathbf{X_1}$= Mobile bill presentment

The findings show that a unit rise in mobile bill presentment would lead to 0.488 rise in profitability. A p value of 0.000<0.05) meant that the change was statistically significant. Thus, the hypothesis was rejected.

This could be attributed to the effective utilization of utility bills management, till number payments and paybill payment. These outcomes support the findings of Okello (2019) who established that the adoption and utilization of mobile bill presentment have enhanced the performance of the banking sector by significantly improving its productivity and efficiency.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study established that mobile bill presentment positively impacts the profitability of DTS in Vihiga County, Kenya. Therefore, the study concludes that effective utilization of utility bills management, till number payments and paybill payments influence profitability of DTS. This indicates that addressing the mobile bill presentment will increase on the profitability of DTS. Mobile bill presentment allows consumers and businesses to pay bills, view their billing statements, and receive bills through electronic channels such as online banking platforms, mobile apps, or email. By embracing EBPP, individuals can save time, reduce paperwork, and streamline their bill payment process.

Recommendations

The researcher established that mobile bill presentment positively impacts the profitability of DTS in Vihiga County, Kenya. This study hence recommends for the effective utilization of utility bills management, till number payments and paybill payments that contribute to improved performance of of DTS.

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