FINANCIAL INNOVATION STRATEGY AND FINANCIAL PERFORMANCE OF DEPOSIT TAKING SACCO'S IN NAIROBI CITY COUNTY

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ABSTRACT

Deposit taking SACCO's continue to play a significant role in the lives of the poor in Kenya by responding to their needs, concerns and voices by providing easy access of financial services. Financial inclusion is seen as a solution to include on a large-scale previously excluded poorer groups without access to capital into the financial system. The objective of the study was to determine the effect of financial innovation strategy on performance of savings and credit co-operative society in Nairobi City County. The study was guided by open systems theory, financial intermediation theory and the Life cycle of saving theory. This study adopted both descriptive research design and causal research design. The study population comprised of the 40 registered deposit taking SACCO's in Nairobi County and the study used descriptive inferential analysis of data collected. The study identified that financial innovation was significant in increasing financial performance of SACCO's. The study concluded that firms that have not effectively implemented financial innovation may fail or collapse or otherwise can be absorbed by other well managed SACCO's. The study recommended the need to invest in financial innovation strategy to reduce cost and increase efficiency in the sector.

Key Words: *financial innovation strategy, financial performance, deposit taking SACCO's, Nairobi City County*

INTRODUCTION

Cooperative societies as formal organizations empower their membership make efforts to achieve any common objectives on voluntary and democratic basis. According to (John, 2002), the first ever Co-operative movement was started by Robert Owen in the year 1844 and in recent years the SACCO sector has encountered harsh challenges globally as noted by WOCCU, (2012) to include mission drifts, income generation, compliance, competition, insufficient capital among many others. The sectors financial stability will impact broadly on the nation's economic growth and employment creation. SACCOs are required to file audited financial statements every fiscal year and although SACCOs comply with this requirement, financial statements have shortcomings including non-availability on regular basis.

To promote financial transparency SACCOs should provide timely financial updates and external auditors are evaluated every three to five years using competitive bidding process. Going concern is general accounting assumption and according to (Wood & Sangster, 2005) economic entities are assumed to continue operating in the foreseeable future. It's on this basis that financial statements are prepared and auditors express opinion. Financial inclusion strategies involves the quest of creating financial service available at lower costs to business and individuals, regardless of net worth and size correspondingly within a set timeframe (Cyn-Young & Rogelio, 2015).

These strategies are aimed at coordinating the efforts of different stakeholders in an industry by defining their responsibilities prioritizing resource allocation so as to deliver on set objectives. Financial inclusion attempts to disclose and offer resolution to the constraints that eliminate people from partaking in financial sector that is also known as inclusive financing (Rui & Melecky, 2013). A country is said to have a high financial inclusion rates when the highest proportion of all adults have easy access to abroad range of financial services. The products could range from payment services, insurance, credit facilities and pensions among others (Demirgüç-Kunt & Klapper, 2013).

To be effective, financial inclusion strategies needs to be based on the needs, culture and other prevailing condition of a given economy. The United Nations (2012), notes there is no universally accepted financial inclusion strategies except for a guiding framework because every nation is at a different stage of financial inclusion. The best financial inclusion strategies is one that serves all members of its society as they seek economic prosperity by ensuring that all individuals access a wide range of financial services. In the year 2016, the World Bank revealed that more than two billion people worldwide were excluded from formal financial services (Okoye, Adetiloye & Erin, 2017).

This means that the level of financial inclusion still remains low in the world. The population which was unbanked comprised of adults who had no easer entrée to formal financial service in their area or the one that had come up with a deep distrust of the financial system (Roy, 2017). For the general level of financial inclusion to be advanced across the world, measures are being taken by the World Bank Group known as Universal Financial Access 2020.This is to make sure that the aforesaid unbanked community has the entrée to traditional platforms for instance checking the accounts by the year 2020 as indicated in the Central Bank of Samoa (2017).

Those classified as the underbanked are the individuals who have basic transaction accounts and they are adults who have protected the traditional equipment's for carrying out the transactions like bank account but not sharing to the digital combination of these transition like digital payment. From a global perspective, according to CGAP (Consultative Group to Assist the Poor) (2018) estimates show that 2 billion working age adults, do not have formal accounts with financial institutions. Financial inclusion efforts seek to ensure that all the businesses and households gain access and utilize financial services regardless of their levels of income.

Digital payment terminals are important elements of financial inclusion around the world. In Russia there are over 70 million individuals using payment terminals once every month (CGAP, 2018). In Azerbaijan, there is about 10 bank branches for every 100,000 adults hence the use of payment terminals is seven times more than Russia. The use of payment terminals in other countries such as Brazil, Colombia, India and the USA works as per the set out expectations (CGAP, 2018).Financial exclusion of finance has interrelated social and economic impact in a negative way (Ghosh & Phillips , 2013).

This is due to certain reasons which include inadequate financial service offered, meaning that the individuals who are poor are forced to use ineffective provision at a very high cost with extreme high interest rate on loans, high transaction cost or poor return on savings which leads to poverty. The poor individuals were not able to get access to some of the financial product. Lack of access is brought by total absenteeism of appropriate products or if the products are available, they are expensive (Ledgerwood, Earne & Nelson, 2013).

Poor people are vulnerable to improved events and financial loss, this might be brought by lack of secure saving products and insurance cover. It is hard to build capital due to lack of savings products. Poverty is increased when poor individuals are denied the chance for entrepreneurship which can give them an opportunity to earn income (Gupte, Venkataramani & Gupta, 2013). Performance standards give a standard gauge of dangerous behavior or good performance, thereby helping in setting up credit rating systems for savings and Credit co-operatives. Financial institutions by this time have performance standards and are at present rated in the financial markets by private or even government rating agencies.

Credit rating will be of specific interest to commercial lenders and clients who want to assess the financial standing and performance of savings and credit cooperatives. Short of a commonly accepted and effected set of industry performance standards, it turn out to be fairly challenging to gauge the financial standing and performance of savings and credit cooperatives and make knowledgeable choices on their quality as financial intermediaries (Coulthurst, 2011).In a society, there are groups which are not able to acquire financial services and at the same time they are not capable of accessing social provision, a financial might result to other social exclusion (Daher & Le Saout, 2013).

When it comes to giving products and service that help the poor in coming across their stated goals, there is need for attention to more than just the pure economic of the choices given. How the presentation is done has to do with the acceptance and the application which is determined by the terms of the services and products (Karlan & Morduch, 2009).It is easy to believe that the number of unbanked individuals will reduce significantly in future, due to the vigorous allegation for the development of the economy and decrease in poverty. Starting with country level and grassroots efforts, both for-profit and non-profit are already showing how unbanked doesn't have to be the status quo and the efforts are largely affected by the mobile technology.

In Kenya, there is a widespread of mobile money system application like M-Pesa and Airtel Money in payment of goods and service instead of using cash money. Since 2007, M-Pesa is being used by the many people the majority being Kenyan adults (Muema, 2013). In application of technology, Kenya has made herself as a worldwide technology pioneer over innovations in agent banking and mobile money which is assisting to further reach the poor. The development and usage of these technology basically changed how financial institutions are capable of offering access to their financial services (Blythin & Cooten, 2017).

STATEMENT OF THE PROBLEM

There has been a massive emphasis on delivery of financial services to the poor over the last ten years in the development agenda of most third world countries. This is because it has been found out that reaching out to the unbanked population greatly diminishes poverty (Manyika & Voorhies, 2016). A number of studies have been conducted on financial inclusion strategies across the world. For instance, Harelimana (2016) examined the level of financial inclusion and the effect that it had on financial outcome of SACCOs in Rwanda over a period of five years spanning 2011-2014. Locally, Muema (2013) examined how financial inclusion strategies affected financial performance of commercial banks in Kenya. The study considered a four-year periodic data from 2008 to 2012 with variables that included: agency banking, mobile banking, Islamic banking, micro banking and internet banking. The findings indicated that financial inclusion strategies greatly affected financial performance of banks. The study though similar to the current study, it is limited as it was conducted more than five years ago in a setting where scope of financial inclusion strategies had grown in terms of what they can accomplish hence necessitating the need to undertake the current study. The focus was on commercial banks which do not necessarily target poor and low-income customers. In another study, Waihenya (2013) focused on assessing the effect of agent banking on financial inclusion in Kenya where a strong positive relationship was established. Banks with strong agent network posted better financial outcomes compared to those that did not have a well-developed agent network. Ngigi (2013) also examined how agency banking affected the financial outcomes of commercial banks in Kenya. Makini (2014) examined how financial innovations affected financial outcomes of commercial banks in Kenya where it was established that they improved operations, liquidity levels, and asset quality. In another study, Paye (2013) focused on the effectiveness of SACCOs in implementing financial inclusion strategies in Nairobi. The findings indicated that more than 85% of the developed products met customer needs. However, it was felt that SACCOs needed to diversify their credit facilities and reduce borrowing constraints as they worked against financial inclusion. From the above discussion, it is evident that a number of studies have been conducted on financial inclusion strategies and financial performance of SACCOs. However, the focus of these studies was limited on the strategies or was done to a specific financial inclusion strategies identified for this study. The developments in technology and level of application of the strategies have grown that the findings may not strictly be applicable in the current settings. This study will therefore aim to fill this gap by assessing the effect of financial innovation strategy on performance of savings and credit co-operative society in Nairobi City County.

GENERAL OBJECTIVE

The study's general objective was to determine the effect of financial innovation strategy on performance of savings and credit co-operative society in Nairobi City County.

THEORETICAL REVIEW

Open System Theory

This theory was formulated by Von Bertanlanffy and Rapoport (1958) to help give the organization an understanding of how to operate and influence the environment in which they would work in. This theory offers managers with explanations, terms and metaphors on how organizations operate and function. The theory is of the view that environmental factors strongly influence organizations. Environment is surrounded by several social, political and economic forces. Key resources are provided within an environment for sustaining an organization and this results into sustainability, survival and change (Pfeffer & Salancik, 2015).

The theory was developed in response to past theories of organizations like one of Fayol (administrative theories) and Mayo (human relations perspective). According to these theories, organizations were largely treated as self-sustained business entities (Onday, 2016).This theory is a wide model describing basic elements of an entity and how organizations dynamically interact with each other (Hannah, Mary, Bruce & Fabrice, 2009). This study will be built on the open systems theory which offers managers with descriptions, terminology and clarifications about how organizations function.

Open systems theory holds that organizations are strongly influenced by their environment made up of other organizations employing numerous forces of economic, political, or social nature. The environment offers significant resources that withstand the organization and lead to change and survival (Pfeiffer & Salancik, 2015).Jofre (2011), notes that the accomplishment of Open Systems depends largely on defining, implementing, and satisfying goals at hand. The goals that are established to accomplish Open Systems must be evolutionary in nature because of the magnitude of systems and their dynamic

Savings and credit co-operative like any other organization depend on the environment for input resources in form of human capital and at the same time, its customers and competitors are in this environment As such, an organization should comprehend proper way of managing all these stakeholders and resources for sound strategies of financial inclusion. The rational system perspective emphasizes structure as a crucial tool of achieving the goals of an organization (Mutua, 2013). The significance of a comprehensive financial system is extensively acknowledged in the policy circle and has come to be a policy of importance in many countries including Kenya.

Organizations globally do not exist in a void but do work surrounded by a bigger environment, which as a result brings about key challenges or presents unlimited opportunities for an organization's general performance. An understanding of the environment in which an organization is functioning is therefore of abundant significance in its choice of policies. A predictable 2.5 billion working-age grown-ups worldwide have no access to the kinds of formal

financial services delivered by regulated Commercial Banks and Financial Institutions (FI's) (Blair, 2013).

Through responding to the changes in the operating environment, the SACCO's are able to increase the level of financial inclusion in the country. On the other hand, the open systems theory advocates that financial inclusion needs to be conducted within the provisions of the regulations and provisions of the financial regulators. This theory guides the operations of financial institutions in the implementation of financial inclusionstrategies (Kashangaki, 2014.)This theory fits into this study as it was used to explain how well planned and thought out organizational structures support financial innovation strategy that will in turn support financial inclusion for the good performance of SACCO's.

Financial Intermediation Theory

This theory was formulated by Allen & Santomero (1997) showing that financial institutions having intermediaries are able to reduce transaction costs through sharing information from the lenders who are the financial institutions to the borrowers, the financial institution clients. The financial intermediaries include elements like bank agents, customer care staffs, brochures and booklets and they affect the functioning of the markets, the credit channels and economic effects. According to Jensen & Meckling (1976), these intermediaries provide liquidity and makes shifts in asset characteristics. The role of the financial intermediaries is to educate the customers on the financial product and services available and which they qualify to access. Through these intermediaries, customer financial literacy is improved on products and services that would benefit them and improve their financial standings.

The theory asserts that financial intermediaries transform the credit portfolio demanded by borrowers into a deposit portfolio desired by lenders (Allen & Santomero, 1998). Demirguc-Kunt & Levine (2014), argues that this is done in two fold. Firstly, an intermediary is in a position to exploit economies of scale considerations by writing and enforcing debt contracts with firms and individuals.

Secondly, financial intermediaries minimize transaction costs through the payment system. Integrating this process at the level of financial intermediaries does away with wasteful duplication of verification costs. Notably also, SACCO's are in a position to reduce the costs that would otherwise be acquired while engaging in the process of borrowing. In the case of DTMs, this is more apparent as the cost of funds is reduced given that the DTMs borrow from other financial institutions at high interest rates and thereafter lend at even higher interest.

According to Scholtens & Wensveen (as cited by Ogilo, 2013), existing financial intermediation theory is shaped on the interpretation that intermediaries help to decrease transaction costs and informational asymmetries. As growths in information technology, deregulation, deepening of financial markets, etc. are likely to minimize transaction costs and informational asymmetries,

financial intermediation theory come to the assumption that intermediation befits impractical. This therefore contrasts with the practitioner's view of financial intermediation as a value-creating economic process. It also conflicts with the continuing and increasing economic importance of financial intermediaries.

Zwan (2014), notes that making sense of financialization presents building blocks for a theory of financial intermediation that seeks to appreciating and clarifying the presence and the behavior of real-life financial intermediaries. When data anomalies are not the main focus behind intermediation action and their removal is not the commercial reason for financial intermediaries, the question comes up which example, as a substitute, might more likely explain the essence of the intermediation process. In their view, the concept of value formation in the framework of the value chain might influence that purpose.

Swedroe (2018) notes that in an ideal and efficient market, the financial institutions have clear information and share this information with their clients. As such they improve their financial literacy and knowledge which they used in both short-term and long-term investments receiving high payoffs. This theory fits in this study because it helps borrowers understand that SACCO's are the financial intermediaries and for them to meet their purpose, there must be some regulation of their functions to protect borrowers and savers in their quest for financial inclusion.

Life-Cycle Theory of Saving

The theory was formulated by Modigliani & Brumberg (1954) to offer an explanation on a link between the propensity of people to consume and save at various stages of their lives. The theory argues that the key motive for people to save is provision of adequate resources for their retirement (Wolff, 1979). The theory suggests that people strive to smooth out their consumption patterns over time by ensuring that they save during their working years. This will enable them to support consumption at retirement stage where income is not sufficient. This also helps people to ensure that they maintain the same living standard at retirement phase just as they were living at the time of employment.

The theory argues that people usually accumulate and de-cumulate their level of their wealth on the basis of their age. In youthful stage, people have insignificant accumulation of wealth but this increase as they grow into age towards retirement (Hillier, 2012). This is because young individuals have other commitments including house purchase and education loan payback (Lusardi, 2013).

This theory is relevant to the study because it supports the need for financial literacy programs. Financial literacy programs will educate people on the need to save (among SACCO's) which would mutually benefit the organization and the individuals. At individual level, financial literacy will help one to save for retirement and meeting of unforeseen risks. At the side of the SACCO's, the amount saved from customers would be used in improving financial performance (Cohen & Nelson, 2011).

This model assumes the following human behavior: that they are forward-looking over their life spans; they can predict the financial resources they will have over their lifetime; they understand something about the financial resources they will need in all periods of their lives; and they make informed decisions about the use of their financial resources. Given that financial preparedness for retirement is future looking, the current study infers from life cycle theory to explain how individuals make decisions on deferring current consumptions inform of savings and investments to future savings. This incorporates the usefulness of time value of money based upon discount rates and thus this study explored the moderating effect of demographic characteristics, financial factors and the independent variable of financial literacy on financial preparedness for retirement (Agunga, 2016).

EMPIRICAL LITERATURE

Rapid change in technology and increase in competition raises need for SACCO's to be innovative in creation of new products that meet the needs and wants of customers. These innovations affect the manner in which services are offered and the delivery channels in place. The constantly changing demands of customers and fear of reduction in share of the market have driven rapid adoption of technology among. By collaborating and forming alliances with other entities besides integration SACCO's of telecommunication, software and hardware; SACCO's have remained innovative through introduction of new products and ways of doing business and this has enhanced their performance (Oni, 2012).

According to Bolt and Humphrey (2015), e-money, internet and telephone banking besides ATMs significantly influences financial performance in Netherland. A study on how financial innovations impacted financial performance of financial institutions was carried out by Juodelytė (2018) in Vilnius. The key finding from the study was that digital deposits of the bank and the growth in loans determine performance of the institution. While growth in deposits of the bank has inverse relationship, the growth in loans on the other hand has a direct and significant influence on performance of a financial institution.

According to Malak (2014) in respect to how financial innovation affected financial performance of commercial banks in south Sudan, a significant relationship was established between the study variables. This relationship was also positive in nature, showing that as financial innovation increased, performance of commercial also increased. The study further established positive correlation between the variables.

In a study to assess how financial performance of commercial banks in Kenya was affected by financial innovations, Nyathira (2013) noted that financial innovation through advanced systems of payment improved financial performance. Financial innovation presents more convenience, efficiency and security to banks customers resulting to more demand (uptake) for the new innovations. Demand for traditional payment systems reduces as customers switch to the more effective payment systems; this as seen by the negative correlation.

While assessing the influence of financial innovation and performance of Kenyan commercial banks, Ngari & Muiruri (2014) operationalized financial innovation into credit cards, internet banking and agency banking. The finding of the study indicated that a number of financial innovations had been adopted by banking institutions including agency banking, internet, mobile banking and use of credit cards.

With reference to SACCOs in Nakuru, Kibugo (2017) examined how financial innovations influenced their performance. Financial innovation was operationalized under process, product and institutional. It was revealed that most SACCOs use mobile banking as forms of financial innovation which improved on their performance. The study further revealed that through financial innovation, SACCOs were able to remain competitive.

Decker, (as cited by Njuguna, 2015) did a study by studying the effectiveness of Microfinance institutions in financial inclusion in Kenya. He acknowledged that SACCOs should spread their credits and savings as main financial products that are critical to empowerment as the first step towards financial inclusion, balancing their operations as commercial, NGOs or Government programs to meet the financial needs of people at altered levels. Ndege (as cited by Njuguna, 2015) did a study on the relationship between financial sector deepening and economic growth in Kenya and acknowledged a positive connection between financial sector deepening and economic growth in Kenya. From the above discussions, the existing studies on financial inclusion have majored on its effects on macroeconomic variables and have not addressed the challenges facing financial inclusion. Further, the studies are not clear on the extent to which the financial inclusion strategies have been adopted by Kenyan SACCOs.

In another study, George (2013) did a study to determine how financial innovation strategies influenced performance among Kenyan SACCOs. The design adopted was descriptive and a total number of 43 commercial banks were studied. The study established that process innovation significantly influenced performance of Kenyan commercial banks. Muia (2017) assessed how financial innovation influenced performance of Kenyan commercial banks. The study established that financial innovation had significant effect on performance of Kenyan commercial banks.

Using a case of deposit taking SACCOs in Kenya, Nekesa & Olweny (2018) assessed how financial innovation influenced their financial performance. The study revealed that product, process and organizational innovations are crucial forms of financial innovations resulting into financial performance of financial institutions today. Cherotich, Sang, Shisia & Mutung'u (2015) did a study on financial innovation and how it influenced performance of Kenyan financial institutions. A census was employed thus covering all the 43 commercial banks in Kenya. The study established existence of strong and significant link between financial innovation and performance.

A study by Ouma, Omagwa & Ngaba (2018) analyzed how financial innovations influenced performance of deposit taking SACCOs. The study found out that development of new products

and services had an influence on performance of financial institutions. A related study by Ngumi (2014) sought to determine how financial innovations influenced performance of lending institutions. Financial innovations were operationalized as mobile banking, internet banking, use of automated teller machines and electronic fund transfer. The study noted that financial innovations had significant influence on performance.

RESEARCH METHODOLOGY

Research Design

Creswell (2017) described a research design as a plan of carrying out a study while controlling the factors that may have interference on the study findings validity. In other words, a research design outlines how, where, and when data will be collected and analyzed. This study will use a descriptive research design. This study adopted a causal research design in determining the effect financial inclusion strategies has on financial performance of savings and credit co-operatives. According to Kuhn & Brewer (2010), a causal design is a research design that seeks to find relationships between independent and dependent variables after an action or event has already occurred.This design was suitable to this study because involved collection, verification and synthesis of evidence to establish facts that defend or refute a phenomenon. A causal research might be used in a business environment to quantify the effect that a change to its present operations will have on its future production levels.

Study Population

A population is a set of all elements, groups and items with common attributes and characteristics (Yin, 2013). There are 40 registered deposit taking SACCOs operating in Kenya. The study population comprised of the 40 registered deposit taking SACCOs in Nairobi County (SASRA, 2017) .Further, Mugenda & Mugenda (2003), defines a population as a well-defined set of people, services, elements and events, group of things or households that are being investigated and according to the Central Bank of Kenya annual bank supervision report of 2018.

Sample Design

According to Lavrakas (2008), a sample design is the framework, or roadmap, that serves as the basis for the selection of a survey sample and affects many other important aspects of a survey as well. The target population for this study was 40 SACCO's as they have pertinent information that would respond to the research topic on effect of financial inclusion strategies and financial performance.

Data Collection Instrument

Bryman (2012), notes that data collection is the process of gathering and measuring information on variables of interest in an established systematic fashion that enables one to answer stated research questions, test hypothesis and evaluate outcomes. Further, a data collection instrument

refers to the device used to collect data. In this study, a data collection sheet was prepared by the researcher to aid in data collection.

Data Collection Procedure

The study used secondary data for five years (2013-2017) and was obtained from annual publications by central bank as well as financial statements of SACCOS. This includes statement of financial position and directors reports. Secondary data from SASRA was used to supplement data issued by Kenya National Bureau of Statistics (KNBS). The completed form was scrutinized for any errors, cleaned and all the final cleaned data coded to SPSS for further analysis.

Data Analysis and Presentation

After data entry, all errors were eliminated and frequency analysis was done such that descriptive analysis was computed. Means and standard deviations was obtained from descriptive analysis. Inferential statistics such as multiple regression analysis was used to determine the relationship between independent variable (Financial Innovation Strategy) and the dependent variable (Financial Performance). The regression Model followed this format:

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

Where: Y = Financial Performance; Financial Performance = Measured by ROA; β_0 = Constant; β_1 = Coefficient of the effects of financial innovation strategy on financial performance of deposit taking SACCO's in Nairobi County; X_1 = Value of mobile transactions done over mobile platform for firm i; ε = Error Term

Presentation of results for both the descriptive and inferential statistics was through tables. Quantitative data was presented using mean and standard deviations with the aid of Statistical Package for Social Sciences (SPSS)

RESEARCH RESUTLS

The main objective of the study was to investigate the effects of financial innovation strategy on financial performance of savings and credit co-operative societies in Nairobi County. To verify, this study used regression analysis. The findings are on subsequent sections. This summary provides an insight ability of the regression to effectively account for the total variation in organization performance. The Table 1 below demonstrates how observed y-values are highly dispersed around the regression line.

Table 1: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.938[a]	.880	.878	.02729

a. Predictors: (Constant), mobile transactions

From the findings in Table 1, the independent variable (financial innovation strategies) that was studied, explain the value of adjusted R Square which was at .878 and which represents 87.80%. This shows that the percentage change in financial performance of savings and credit cooperative societies in Nairobi County is explained by relationship financial innovation strategy. The implication of these findings to the current study is therefore that apart from financial innovation strategy, there are other factors with an influence on financial performance which future studies should focus on. More specifically, these other factors explain 12.2% change in financial performance. Table 2 below gives the findings on the Analysis of Variance (ANOVA) that was conducted at 5% level of significance.

Table 2: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.073	3	.358	480.569	.001[b]
Residual	.146	196	.001		
Total	1.219	199			

a. Dependent Variable: financial performance
b. Predictors: (Constant), value of mobile transactions

Table 2 above shows a number of items including the value of F calculated and the p-value showing significance. The significance value is 0.001 which is less than 0.05 thus the model is statistically significant in predicting how financial innovation strategy influenced the financial performance of deposit taking SACCO's in Nairobi County. From the findings, it can be seen that F calculated at 480.569 significance while the value of F critical (at degrees of freedom 4, 71) is equivalent to 2.6506. Thus, it can clearly be shown that F calculated is greater than F critical, and hence the overall regression model was significant / fit in estimating the interaction between financial inclusion strategies and financial performance. Table 3 below gives the beta coefficients and p-values.

Table 3: Coefficient of Determination

	Unstandardized Coefficients		Standardized Coefficients	t value	Sig.
	B	Std. Error	Beta		P value
(Constant)	.410	.022		18.447	.001
Mobile transactions	.043	.003	.507	12.251	.002

a. Dependent Variable: financial performance

The established regression equation by the study resulted into the following regression model;

$$\mathbf{Y = 0.410 + 0.043X_1}$$

Where: Y = Financial Performance of deposit taking SACCO's in Nairobi city county; X_1 = Financial Innovation Strategy (Mobile Transactions)

From the above regression coefficient Table 3, the findings indicated that when mobile transactions are kept constant, financial performance would be at 0.410. As shown in the table, the findings also indicated that an increase in mobile transactions would in turn increase financial performance by .043.

The findings are in line with Malak (2014) who established that financial innovation has positive influence on financial performance. In a study to assess how financial performance of commercial banks in Kenya was affected by financial innovations, Nyathira (2013) noted that financial innovation through advanced systems of payment improved financial performance. Kibugo (2017) revealed that through financial innovation, SACCO's were able to remain competitive. In another study, George (2013) did a study to determine how financial innovation strategies influenced performance among Kenyan commercial banks, it was established that process innovation significantly influenced performance of Kenyan commercial banks.

CONCLUSION

The study concludes that financial innovation as a financial inclusion strategy has a positive and significant influence on the performance of deposit taking SACCO's in Nairobi County. Mobile banking helps decrease avoidable cost, increase efficiency and improves on service delivery to customers that is evident from the value of mobile transactions over the mobile plat form indicated in the annual publications of the financial statements and directors reports. Mobile banking is one of the innovative models of providing banking services to the unbanked. The strategy has brought efficient financial service providers within the reach of millions of people in Kenya thus reducing financial exclusion.

RECOMMENDATIONS

The study identified that financial innovation was most significant in increasing financial performance therefore firms that have not effectively incorporated innovations strategies may have limited avenue for collection of finances, record keeping and avenue of service delivery. The study also recommended that the need to invest in financial innovations to reduce cost and increase efficiency in the sector to retain and increase financial inclusion.

The study recommends that the organization must provide quality services which are user friendly as a means to meet customer expectations leading to growth in business, SACCO's should encourage their customers to fully embrace technology use particularly for services such as cash deposits, cash withdrawals and account opening which can be achieved through creating

awareness in market segments as this would enhance performance and collection of information to fit the needs of the customers.

To the government, through SASRA and other SACCO regulating bodies, the study recommends that it should simplify its registration and capital requirements for one to run a SACCO so as to realize its vision 2030 sustainable development goals of reducing the unbanked. The government of Kenya in the year 2017 allowed SACCO's to use creative methods to get access to customers in marginalized areas in terms of financial access.

REFERENCES

Ali, A. E. E. S. (2015). The regulatory and supervision framework of Microfinance in Kenya. *International Journal of Social Sciences Studies*, *3*, 123.

Allen, F., & Santomero, A. M. (1998). The theory of financial intermediation. *Journal of Banking & Finance*, *21*(11-12), 1461-1485.

Agunga, M. (2016). *Effect of financial literacy on financial preparedness for retirement among permanent and pensionable employees in state owned corporations in Nairobi, Kenya*. Retrieved from https://ir-library.ku.ac.ke

Barua, R. & Sane, R. (2014). *Repayment in microfinance: The role of financial literacy and caste.* Discussion papers in Economics, *14*(6), 1-25.

Blair, C. (2013). *Financial-inclusion*. Retrieved November 29, 2018, from https://www.icpak.com/wp-content/uploads/2015/05/the-accountant-aug-sep14

Bolt, W. & Humphrey, D. (2015). Assessing bank competition for consumer loans. *Journal of Banking & Finance*, *61*, 127-141.

Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. *Entrepreneurship Theory and Practice*, *39*(1), 9-26.

Bryman, A. (2012). *Social research methods*. (4th Edition) Oxford: Oxford University Press

Blythin, J & Cooten, J. (2017).. *The Development of FinTech in Nairobi: Contributions to Financial Inclusion and Barriers to Growth Masters in Management Thesis Lund University school of management*. Retrieved from http://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=8917326&fileOId=8917329

Cámara, N., & Tuesta, D. (2014). *Measuring financial inclusion*: A multidimensional index.

Casu, B., Ferrari, A., & Zhao, T. (2013). Regulatory reform and productivity change in Indian banking. *Review of Economics and Statistics*, *95*(3), 1066-1077.

Central Bank of Kenya (2017) *Annual supervision report*

CGAP (2018). *What is Financial Inclusion and Why is it Important?* Consultative Group to Assist the Poor.

Chepkemoi, M. (2017). The Effects of Financial Literacy Training on Business Profitability in Coastal Region: A Case of Kwale County SMEs. *Strategic Journal of Business & Change Management*, *4*(3).

Cherotich, K. M., Sang, W., Shisia, A., & Mutung'u, C. (2015). Financial innovations and performance of commercial banks in Kenya. *International journal of economics and commerce management II* (5), 1242-1265.

Chithra, N., & Selvam, M. (2013). *Determinants of financial inclusion*: An empirical study on the inter-state variations in India.

Cohen, M & Nelson, C. (2011). *Financial Literacy: A Step for Clients towards Financial Inclusion. Global Microcredit Summit Commissioned Workshop Paper November 14-17, 2011 – Valladolid, Spain*

Communications Commission of Kenya. (2012) *Mobile ventures Kenya*. Quarterly Sector Statistics Report, 2nd Quarter, October December 2011/2012.

Coulthurst, M. (2011).The strengths and limitations of credit as a tool for alleviating poverty. *Word Development journal*. (4) 58-59.

Cooper, B. and Schindler, P. (2008) *Business Research Methods*, Mc Graw Hill: Berkshire.

Creswell, J.W., (2017). *Research design. Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks CA: Sage.

Cyn-Young, P., and Rogelio, V. (2015) *Financial inclusion, poverty, and income inequality in developing Asia,* Asian Development Bank Economics Working Paper Series.

Daher, L., & Le Saout, E. (2013). Microfinance and financial performance. *Strategic Change*, *22*(1-2), 31-45.

Demirgüç-Kunt, A. (2014). Presidential address: Financial inclusion. *Atlantic Economic Journal*, *42*(4), 349-356.

Demirguc-Kunt, Asli; Klapper, Leora; and Singer Dorothe (2013) *Financial inclusion and legal discrimination against women evidence from developing countries*. Policy Research working Paper 6416; World Bank.

Dupas, P., Green, S., Keats, A., & Robinson, J. (2013). *Challenges in banking the rural poor: Evidence from Kenya's western province* (No. w17851). National Bureau of Economic Research.

Ehrbeck,T, Pickens, M & Tarazi, M (2012) *Financially Inclusive Ecosystems: The Roles of government today.* Research & analysis publication.

Engström, P., & McKelvie, A. (2017). Financial literacy, role models, and micro-enterprise performance in the informal economy. *International Small Business Journal*, *35*(7), 855-875.

Fiolleau, K., Hoang, K., Jamal, K., & Sunder, S. (2013). How do regulatory reforms to enhance auditor independence work in practice . *Contemporary Accounting Research*, *30*(3), 864-890. FORTUNE (Oct. 24, 2016),

Fuhrmann, R. C. (2017). *The Banking Industry Guide*. CFA Institute Industry Guides, 2017(1), 1-57.

Galati, G., & Moessner, R. (2013). Macroprudential policy–a literature review. *Journal of Economic Surveys*, *27*(5), 846-878.

George, W. F. (2013). The Effectiveness of Financial Innovation Strategies on the Financial Performance of Commercial Banks in Kenya. *Unpublished MBA project*

Ghosh, A. and Phillips, S. (1998), *Warning: Inflation May be Harmful to Your Growth*, IMF Staff Papers, 45(4), 672-710.

Grifoni, A., & Messy, F. A. (2013). Current status of national strategies for financial education: A comparative analysis and relevant practices. *OECD Working Papers on Finance, Insurance and Private Pensions*, (16), 1.

Gupte, R., Venkataramani, B., & Gupta, D. (2013). Computation of financial inclusion index for India. *Procedia-Social and Behavioral Sciences*, *37*, 133-149.

Haidar, J. I. (2013). The impact of business regulatory reforms on economic growth. *Journal of the Japanese and international economies*, *26*(3), 285-307.

Haiyambo, E. (2016). *An impact assessment of the regulation of microfinance institutions in Namibia* (Doctoral dissertation, Stellenbosch: Stellenbosch University).

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work?--a literature review of empirical studies on gamification. In *System Sciences (HICSS), 2014 47th Hawaii International Conference on* (3025-3034). IEEE.

Hannah, Sean T.; Uhl-Bien, Mary; Avolio, Bruce; and Cavarretta, Fabrice L., (2009). *"A framework for examining leadership in extreme contexts". Management DepartmentFacultyPublications.39*.http://digitalcommons.unl.edu/managementfacpub/39

Harelimana J.B. (2016). Financial Inclusion and Financial Performance of Microfinance Institutions in Rwanda: Analysis of the Clecam Ejoheza Kamonyi. *Business Economic Journal,* 7: 269.

Hillier, F. S. (2012). *Introduction to operations research*. Tata McGraw-Hill Education.

Hung, A., Parker, A. M., & Yoong, J. (2009). *Defining and measuring financial literacy*.

Izquierdo, M. G., Ferrera, J. M. C., & Chaparro, F. M. P. (2016). The effect of financial literacy courses and their teachers on student achievement. In *XXIII Encuentro de Economía Pública* (66). Servicio de Publicaciones.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.

John, A. C. (2002). Roch dale Pioneer. The Oxford Companion to British History.

Jofre, S. (2011). Strategic Management: The theory and practice of strategy in (business) organizations. Kgs. Lyngby: DTU Management. DTU Management 2011, No. 1

Juodelytė, L. (2018). *Impact of financial innovation on the financial performance of the traditional financial intermediaries* (Doctoral dissertation, ISM University of Management and Economics).

Kahuthu, D.G.(2016). *Impact of Prudential Regulation on Financial Performance of Deposit Taking Savings and Credit Co-operative Societies in Kenya*, Unpublished PhD Thesis, Nairobi: Jomo Kenyatta University of Agriculture and Technology

Kaloki, J. D. (2018). Effect of Central Bank of Kenya Regulations on the Financial Performance of Microfinance Banks. *Strategic Journal of Business and Change Management 5,* 584-623.

Kariuki, J. W. & Muturi, W. (2015). Effect of financial literacy on loan repayment a case of ecumenical churches loan fund, Kenya. *International Journal of Social Science and Information*.3,

Karlan, D., Morduch V. (2009). *"Teaching entrepreneurship: Impact of business training on microfinance institutions and clients"*. Yale University Economic Growth Center Working Paper.

Kashangaki, J. (2014). *Transforming SME finance*. Nairobi, Kenya: FSD Kenya.

Kennon, J (2018). *Return on equity (roe) and income statement analysis*. Retrieved fromhttps://journals.sagepub.com/doi/abs/10.1177/0266242617717159?journalCode =isbb

Khun, J & Brewer, E (2010). *Causal _ comparative design. Encyclopedia of research design*. Available from www.googlescholar/com

Kibugo, M. K. (2017). *Effect Of Financial Innovations On Performance Of Microfinance Institutions In Nakuru Town, Kenya* (Doctoral dissertation, COHRED-JKUAT).
K-rep Bank. (2012)
Lavrakas, P. (2008). *Encyclopedia of Survey Research Methods.* Vol. 1 & 2. Sage Publications, Los Angeles, United States of AM
Lawack, V. A. (2012). Mobile money, financial inclusion and financial integrity: The South African case. *Washington. Journal of Technology & Arts*, *8*, 317 - 318.
Ledgerwood, J., Earne, J., & Nelson, C. (Eds.). (2013). *The new microfinance handbook: A financial market system perspective*. World Bank Publications.
Lusardi, A., & Mitchell, O. S. (2013). *Financial literacy and planning: Implications for retirement wellbeing* (No. w17078). National Bureau of Economic Research.
Malak, M. P. (2014). *The effects of financial innovation on the financial performance of commercial banks in South Sudan.* Unpublished MBA project
Manyika, J & Voorhies, (2016). *What Digital Finance Means for Emerging Economies*,
Mbutor, M. O., & Uba, I. A. (2013). The impact of financial inclusion on monetary policy in Nigeria. *Journal of Economics and International Finance*, *5*(8), 318.
Mishkin, F & Eakins S. (2011). *Financial institutions and the markets* (7th ed.), New York: Pearson Education ltd.
Modigliani, F. and Brumberg, R. (1954) *Utility Analysis and the Consumption Function*: An Interpretation of Cross-Section Data. Post-Keynesian Economics.
Mohammad K. A. (2016). *Measuring Financial Performance Based on CAMEL: A Study on Selected Islamic Banks in Bangladesh, Asian Business Consortium*, 47-56
Morgan, P., & Pontines, V. (2014). *Financial Stability and Financial Inclusion. Asian Development Bank Institute*. ADBI Working Paper 488.
Muema. J. (2013). *An analysis of the Determinants of Foreign Direct Investment in Kenya*. Unpublished MBA project, University of Nairobi.
Mugenda, O., & Mugenda, A. (2003). *Research methods: Quantitative and Qualitative methods*. Revised in Nairobi.
Muia, S. W. (2017). *The Effect Of Financial Innovations On Financial Performance Of Commercial Banks In Kenya* (Doctoral dissertation, KCA University).
Musabwasoni, G , Mulyungi P & Muganamfura D.(2018). Effects of Financial Literacy on loan Repayment among Small and Medium Entrepreneurs of Microfinance Institutions Case Study of Inozamihigo Umurenge SACCO in Nyaruguru District. *Journal of Business and Management.* 20, (5). 19-37
Mutua, R. (2013). *Effects of mobile banking on the financial performance of commercial banks in kenya*. Unpublished MBA project, University of Nairobi
Mwaniki, G. O. (2014). *The relationship between financial literacy and loan performance amongst customers of deposit taking microfinance institutions in kajiado county.* Unpublished MBA project, University of Nairobi
Mwangi, N. S. (2014). *The effect of lending interest rates on financial performance of deposit taking micro finance institutions in Kenya.* (Unpublished Master of Science in Finance thesis, University of Nairobi).
Mwega, F. (2014). *Financial regulation in Kenya: Balancing inclusive growth with financial stability*.Working paper

Nekesa, S. M., & Olweny, T. (2018). *Effect of Financial Innovation on Financial Performance: A Case Study of Deposit-Taking Savings and Credit Cooperative Societies in Kajiado County*. Unpublished MBA project. University of Nairobi

Ngari, J. M. K., & Muiruri, J. K. (2014). Effects of financial innovations on the financial performance of commercial banks in Kenya. *International Journal of Humanities and Social Science*, *4* (7), 50-70

Ngigi, J. K (2013).*The relationship between agency banking and financial performance of commercial banks in Kenya.* Unpublished MBA project, University of Nairobi.

Ngumi, M. C. (2014). *The effect of financial innovations on financial performance of commercial banks in Kenya.* Unpublished MBA project, University of Nairobi.

Njuguna, P (2015). *The effect of financial services by microfinance institutions on financial inclusion in kilifi county, Kenya*. Unpublished MBA project, University of Nairobi

Nyathira, N. C. (2013). *Financial innovation and its effect on financial performance of commercial banks in Kenya.* Unpublished MBA project, University of Nairobi.

Ogilo, F. (2013). The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. *Journal of DBA Africa Management Review*.

Okibo, B. W., & Makanga, N. (2014). Effects of micro finance institutions on poverty reduction in Kenya. *International Journal of current research and Academic Review*, *2*(2), 76-95.

Okiro, K., & Ndungu, J. (2013). The impact of mobile and internet banking on performance of financial institutions in Kenya. *European Scientific Journal*, *9*(13).

Okoye, L. U., Adetiloye, K. A., Erin, O., & Evbuomwan, G. O. (2017). Impact of Banking Consolidation on the Performance of the Banking Sector in Nigeria. *The Journal of Internet Banking and Commerce*, *22*(1), 1-16.

Onday, O (2016, March). *Classical to modern organization theory*. Retrieved from https://www.researchgate.net/publication/304988642_classical_to_modern_organization_theory

Onyango ,V . (2014). An Assessment of Financial Literacy on Loan Repayment in Ngara, Nairobi County. *Research Journal of Finance and Accounting,* 5(12), 181-192.

Ongore V.O & Kusa G. B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya, *International Journal of Economics and Financial Issues. 3*(1) *237-252.*

Oni, E. O. (2012). Assessment of the Contribution of Microfinance Institutions to Sustainable Growth of Small and Medium Scale Entreprises in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9),1099-1109

Oruo, J. (2013). The Relationship Between Financial Inclusion and GDP Growth in Kenya. *Unpublished Manuscript submitted with the University of Nairobi*.

Ötker-Robe, İ., Pazarbasioglu, C., di Perrero, A. B., Iorgova, S., Kışınbay, T., Le Leslé, V. & Santos, A. (2013). *Impact of regulatory reforms on large and complex financial institutions* (No. 2010/16). International Monetary Fund.

Ouma, A. A., Omagwa, J., & Ngaba, D. (2018). Financial Innovations and Performance of Deposit Taking SACCO's in Nairobi City County, Kenya. *International Journal of Economics, Business and Management Research,* 2, (2),

Paye, D.D (2013). *The effectiveness of Microfinance institutions in financial inclusion*. Unpublished MBA project, University of Nairobi.

Pfeffer, J. Salancik, G. R (2015) *New Directions for Organization Theory: Problems and Prospects.* Oxford University Press,

Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, *58*(5), 1546-1571.

Roy, R. (2017, November 10). *Banking on the Unbanked* [Blog post]. Retrieved from https://mastercardfdn.org/banking-on-thenbanked//

Rui, H. and Melecky, M. (2013). *Financial Inclusion for Financial Stability: Access to Bank Deposits and the Growth of Deposits in the Global Financial Crisis*. Washington, D.C.: World Bank.

Sarma, M. (2008), *Index of Financial Inclusion,* ICRIER Working Paper, August 2008.

SASRA, (2017) *SACCO Supervision Annual Report*: An annual report on the operations and performance of Deposit Taking SACCO Societies (DT-SACCOs) in Kenya, Nairobi

SASRA, (2018) *SACCO Supervision Annual Report*: An annual report on the operations and performance of Deposit Taking SACCO Societies (DT-SACCOs) in Kenya, Nairobi

Singh, C., Mittal, A., Garg, R., Goenka, A., Goud, R., Ram, K., & Kumar, U. (2014). *Financial inclusion in India*: Select issues.

Soederberg, S. (2013) *Universalizing Financial Inclusion and the Securitization of Development,* ThirdWorldQuarterly, 34:4, 593612, DOI: 10.1080/01436597.2013.786285

Swedroe, L. (2018, July 3). *Invest in Your Own Financial Literacy*. {Blog Post}Retrieved From https://blog.apastyle.org/apastyle/2016/04/how-to-cite-a-blog-post-in-apa-style.html

Tang, Z., Hull, C. E., & Rothenberg, S. (2012). How corporate social responsibility engagement strategy moderates the CSR–financial performance relationship. *Journal of Management Studies*, *49*(7), 1274-1303.

Taylor, S., & Wagland, S. (2013). The solution to the financial literacy problem: what is the answer? *Australasian Accounting Business & Finance Journal*, *7*(3), 69.

Von Bertalanffy, L., & Rapaport, A. (1958). *General Systems: Yearbook of the Society for the Advancement of General Systems Theory*, Vol. I 1956.

United Nations (2012). *Sustainable Development in Kenya: Stocktaking in the run up to Rio*+20. Nairobi Kenya

Vianney, K. J. M. (2013). *The Relationship between Regulation and Financial Performance of Rwanda Commercial Banks*. Unpublished MBA Research Project, University of Nairobi, School of Business.

Waihenya, M (2013) *The effect of agent banking on financial inclusion in Kenya*, Unpublished MBA project, University of Nairobi.

WOCCU. (2012). WOCCU Annual Report 2012. *Building a Global Community*, 2,3. Available from http://www.woccu.org/Retrieved 05/22/2019.

Wood, F., & Sangster, A. (2005). *Business Accounting* 1(Vol. 10). London: Pearson Education Limited.

Yin, R. K. (2013). *Validity and generalization in future case study evaluations.* Evaluation, 19(3), 321-332.

Zwan, N. (2014). *Making sense of financialization. Socio-Economic Review*, Volume 12, Issue 1, 1 January 2014, Pages 99–129,https://doi.org/10.1093/ser/mwt020