



INFLUENCE OF INNOVATION ON PERFORMANCE OF DEPOSIT TAKING SACCOS IN KENYA

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ABSTRACT

The Kenyan SACCOs have cemented their role in serving the unbanked population, through credit provision for household economies, mobilization of savings, deepening of financial access and inclusion. The financial sector has witnessed a rapid progress in digital transformation especially with Mobile banking usage. This has resulted in a new wave of digital upstarts that capitalize on changes in technology, customer behavior, and the availability of data to create innovative, customer-friendly alternatives to the services incumbents offer. These innovative platforms have enabled reach of other financial service providers to serve the unbanked population. The advancement and use of mobile technology and the changing environment has also brought disruptive new competitors within the Sacco Sub-sector in Kenya. With the increasing competition, innovation can be very important for Saccos to achieve better performance. This was the basis of this study, to investigate the extent to which innovation influences performance of DT-SACCOs in Kenya. This study was anchored on the Dynamic Capabilities Theory. Descriptive cross-sectional survey and correlational research designs were adopted. A sample size of 108 licensed DT-SACCOs in Kenya was drawn from a target population of 160 including 10 Key Informants Interviews. A semi structured questionnaire was used to collect primary data from CEOs, Managers and Sacco employees. An interview guide was used to collect additional information from Key Informants Interviews. The pilot study of the questionnaire covered 11 DT-SACCOs to test the validity and reliability. Out of the 108 questionnaires administered, 105 questionnaires were dully filled and returned representing a response rate of 97.2% percent. Data was analyzed using descriptive statistics, content analysis, Pearson's correlation, hypotheses testing and regression analysis. The study findings suggest that the overall correlation coefficient for Innovation and performance of DT-SACCOs in Kenya was found to be 0.576 with a p-value of 0.000 $\alpha=0.05$ implying there is a significant influence of Innovation on performance of DT-SACCOs in Kenya. The study recommended need for defining and implementing sound innovative activities to remain competitive. Limitations of the study included contingencies, choice of study variable and measurement scale. Areas for further studies suggested are conducting studies in other contexts to corroborate these findings.

Key words: Innovation, Performance, Deposit-Taking-Saccos.

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INTRODUCTION

The Kenyan SACCO industry is part of the massive cooperative sector. SACCOs differs from other Cooperatives as they specialize in financial intermediation, which necessitates adherence to Prudential Financial standards and supervisory oversight; require access to liquidity mechanisms and require to maintain capital base from retained earnings from operations (Njuguna, 2011). The Kenyan SACCOs act as competitive alternative financial service providers to Kenyans as anticipated in the Second Medium Term Plan (2013-2017). Credit provision for household economies, mobilization of savings, deepening of financial access and inclusion further cements their role in serving the unbanked population [Sacco Societies Regulatory Authority (SASRA, 2018)]. They have made an indelible mark to the lives of Kenyans (SASRA, 2011). Traditionally, the Kenyan Saccos are formed or founded along certain common bond characteristics such as occupations, profession, industry, geographical area of operations among others (SASRA, 2019A). Hence, the Deposit Taking Saccos (DT-SACCOs) are member-owned financial institutions, with five categories namely Government based DT-SACCOs, Farmer based DT-SACCOs, Private Institutions based DT-SACCOs, Community based DT-SACCOs and Teacher based DT-SACCOs.

The SACCO Sub Sector in Kenya is unique phenomenon due to duality of SACCOs. It can be described as two-tiered given the nature of savings and deposits they mobilize from their membership (SASRA, 2019B). According to the SACCO subsector Demographic Study Report of 2019, the first tier are DT-SACCOs in which members make deposits and are offered savings accounts services. They provide basic 'banking' services (demand deposits, payments services and channels such as quasi banking services commonly known as ATMs), FOSA and are licensed and supervised under the Sacco Societies Act (cap 490B) and Sacco Societies (Deposit-taking Sacco Business) Regulations 2010. By 2021,

175 DT-SACCOs were licensed by SASRA out of 215 DT-SACCOs (SASRA, 2021). The second tier is the non-DT-SACCOs in which its members make savings (deposits) strictly for utilization as collateral for credit facilities (SASRA, 2019B). There are over 6,000 registered Non-DT-SACCOs in Kenya, 1,995 of which were active (SASRA, 2014). SACCOs start as non-DT SACCO business and grow to DT Sacco business to expand the range of financial services to members. The non-DT-SACCOs provide a limited range of savings and credit products, are registered, and mainly supervised under the Cooperative Services Act (CAP 490) by the Ministry of Industry, Trade and Cooperatives. However, the gazettment of the draft Sacco Societies (Non-Deposit taking Business) Regulations is likely to bring in the supervision and regulation of the Non-DT-SACCO segment of the SACCO subsector under SASRA (SASRA, 2019B).

The last two decade has witnessed fast growth of SACCOs in Kenya as the result of provision of credit for a wide range of purposes and on a relatively affordable terms and conditions. This has contributed to access to formal financial services and products which has expanded significantly among Kenyans. A report by Kenya National Bureau of Statistics (2019B) found out that more Kenyans now access formal financial services and products, but access gaps still exist but narrowing. Access to financial services outside the main cities remains limited (Republic of Kenya, 2007). Addressing the issue of access will require strengthening of the alternative financial service providers, for instance SACCOs (Republic of Kenya, 2007). Given the low penetration of formal financial services, SACCOs have enormous potential to mobilize additional savings and to provide credit, especially to sections of the population that do not use banking services and the low-income groups (Republic of Kenya, 2007). The DT-SACCOs are broadening their catchment area beyond their traditional membership to a diverse range of

the population (SASRA, 2019A). The progressive adoption of the use of information communication technology in service delivery, coupled with the introduction of new products explains the fast growth of Saccos. The rapid progress in digital transformation with Mobile banking usage which has facilitated penetration of Saccos to the rural areas. SASRA (2019B) reported that this growth reinforces member's confidence in DT-SACCOs as formal financial players in the industry.

Amidst this fast growth, SACCOs are operating in ever dynamic and complex and competitive environment and multi-relationship with stakeholders. Saccos just like other business firms are finding their businesses under threat due to competitive environment they operate. The culprits are members of a new wave of digital upstarts that capitalize on changes in technology, customer behavior, and the availability of data to create innovative, customer-friendly alternatives to the services incumbents offer. These are the drivers of development that were envisaged by Schumpeter at the beginning of the 20th century (Atalay, Anafarta and Sarvanc, 2013). Arguably, it's time for SACCOs to innovate or be left behind. D'Emidio, Dorton and Duncan (2015) claims that to seize the opportunities, Saccos must learn to tap the potential for innovation made possible by four evolving trends: higher customer expectations, the rise of the mobile internet, big data and advanced analytics and the internet of things. The advancement and use of mobile technology and the changing environment has also brought disruptive new competitors within the Sacco Sub-sector in Kenya.

With the increasing competition, innovation can be very important for Saccos to achieve better performance and better results eventually. Innovation is a determinant of economic success. Innovation facilitates survival and growth of organizations in today's turbulent, dynamic and highly competitive environment. Saccos have no option but to continuously

implement innovation measures that will keep them ahead of their competitors (Chesbrough, 2003; Auka and Mwangi, 2013). Innovation goes beyond production of new products; it is about discovering completely new markets that meet previously unknown and therefore untapped customer needs (Ryan, 2011). Firms that continuously innovate contribute significantly to economic growth (Atalay, Anafarta, and Sarvanc, 2013). In essence, Saccos should place an emphasis on establishing a suitable innovative culture. The changing business environment demands implementation of innovation strategies to face cutthroat competition (Auka and Mwangi, 2013).

Due to abrupt changes in external and internal business environment, corporate governance mechanisms also change constantly (Al Mamun, Yasser and Rahman, 2013). In principle, SACCOs have to respond in order to attain and retain an attractive relative position vis-à-vis their best rivals. Porter (1998) contend that these firms must increasingly compete, to defeat competition, win new customers (Hana, 2013), and retain the existing customers. In their quest towards survival and growth, Innovation is a critical survival ingredient of the Saccos. In response to aforementioned environmental changes, Saccos are enhancing their innovative potential by developing new capabilities that will help them to achieve higher performance (Montes, Moreno and Fernández, 2004). Innovation involves change and the high technology which is the most powerful tool for strengthening competitiveness. Within the Business organizational context, innovation may be linked to positive changes in efficiency, productivity, quality, competitiveness, and market share. According to Auka and Mwangi (2013) there is need for Sacco management to be more innovative to make their firms more competitive in the face of the cutthroat competition. Schumpeter's view is that industries must incessantly revolutionize the economic

structure from within, that is innovate with better or more effective processes and products.

Study Objective:

The study objective was to determine the extent to which Innovation influences performance of DT-SACCOs in Kenya.

Hypothesis of the Study

The null hypothesis (H_0) of the study was there is no significant relationship between innovation and performance of DT-SACCOs in Kenya.

Statement of the Problem

Financial institutions and digital financial service providers have continued to increase the reach of formal financial services. Apart from the commercial banking sector, the DT-SACCOs remain the single largest formal financial credit service provider to household economies in Kenya (SASRA, 2018). This is attributed to fact that the members' savings can be treated as collateral for borrowing at the same time earn interest from the surplus made by the SACCO. The SACCO Sub Sector has witnessed rapid growth, making an important contribution to financial access reaching 13 per cent of the population (Republic of Kenya, 2007). However, the DT-SACCOs operating in ever dynamic and complex and competitive environment. They are struggling to remain competitive amidst increased globalization activities, new wave of digital upstarts that capitalize on changes in technology, customer behavior, and the availability of data to create innovative, customer-friendly alternatives to the services incumbents offer. Hence, innovation remains a key element of their business success and survival (Auka and Mwangi, 2013; Barbara and Alberto, 2009; Jimenez and Sanz-Valle, 2011) to achieve better performance and better results eventually. Past empirical studies (Macharia and Tirimba, 2018; Kiende, Mukulu and Odhiambo, 2019; Odero, Egezza and Oseno, 2019 and Chege, Wang

and Suntu, 2020) amongst others conceptualized the study variables in this study differently, adopted different methodological approach and focused their studies on different contexts. Hence, based on the reviewed literature, there is no study which had been undertaken to investigate the influence of innovation on the performance of DT-SACCOs in Kenya.

LITERATURE REVIEW

This study was anchored on the **Dynamic Capabilities Theory** that was propounded by Schumpeter (1934). He viewed Innovation-based competition where competitive advantage is based on the creative destruction of existing resources and novel recombination into new operational capabilities (Pavlou and El Sawy, 2011). Dynamic Capabilities Theory provides an understanding of how organizations respond timely to attain a sustainable competitive advantage in certain conditional cases (Peteraf, Di Stefano and Verona, 2013). Dynamic Capabilities Theory recognizes the need for firms to have a better understanding of market dynamics and focuses on the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments (Teece and Pisano, 1994; Teece, 2007). Eisenhardt and Martin (2000) considers dynamic capabilities as the firm's specific strategic and organizational processes that create value for firms within dynamic markets by manipulating resources into new value-creating strategies. It is a viable means for managing organizations in turbulent environments (Teece, Pisano and Shuen, 1997). Dynamic capabilities vary with environment dynamism, but they remain valuable in virtually all levels of environmental turbulence (Pavlou and El Sawy, 2011). The development of dynamic capabilities reflects an organizational ability to cope with the change in a timely way (Wu and Hisa, 2008). Dynamic capabilities are processes embedded in firms (Eisenhardt and Martin, 2000). Reconfiguring operational capabilities and

deploying new ones to address turbulent environments is the ultimate goal of dynamic capabilities that seek to achieve evolutionary fitness and prevent rigidities (Teece, 2007).

In this study, Dynamic Capabilities Theory helps in understanding how organizations can manipulate its resources to contribute to a firm's performance or its competitive advantage (Helfat, Finkelstein, Mitchell, Peteraf, Singh and Winter, 2007). Teece *et al.* (1997) argue that dynamic capabilities are particularly important for performance in situations of environmental change when a firm's needs to rejuvenate. The emphasis is in the resource configurations that create value and not on dynamic capabilities that can be duplicated. This is achieved through innovation by organizations. Innovation remains a critical factor for firms to create value and sustain competitive advantage. Dynamic Capabilities Theory points to the need of Sacco management recognition and evaluation of business environment to enable them to configure internal and external competencies in addressing rapidly changing environments (Teece et al., 1997). Hence, Dynamic Capabilities Theory postulations are crucial foundations for this study as they demonstrate how Saccos are able to successfully integrate, reconfigure and redeploy knowledge resources, from one innovative measure to another and as a result obtain greater performance. Thus, the Dynamic Capabilities Theory forms the basis for conceptualization of innovation in this study.

Innovation and Performance of DT-SACCOs

Past empirical studies on innovation and performance of DT-SACCOs relevant to this study revealed different findings and their respective recommendations. For instance, Macharia and Tirimba (2018) investigated the effect of product innovation factors on financial performance of 30 DT-SACCOs in Nairobi City County, Kenya. They focused on Saccos which have been operating between 2013 and 2017. Product innovation aspects investigated included

branch networks, products' range, product location and product cost. The study used descriptive research design and census approach. 90 respondents were identified through use of purposive sampling. Primary data was collected through semi-structured questionnaires while secondary data was collected from published financial statements. The return rate was 65%. Macharia and Tirimba (2018) found that branch network, product range, product location and product cost had a significant direct relationship to financial performance of DT-SACCOs in Nairobi City County, Kenya.

Lilly and Juma (2014) sought to find the relationship between strategic innovation and performance, a case study of Commercial banks in Nairobi County, Kenya. Strategic innovation was measured by new product development, cost reduction, differentiation, quality improvement, increased sales and entrance into new markets. While performance was measured in terms of return on equity, return on assets and profitability. Their study was anchored on Blue Ocean Theory, Resource Based Theory and Knowledge-Based Theory. The sample size was 119 respondents out of 170 of top-level managers, middle level managers and low-level managers involved in formulating and implementing strategy at the branch level. They adopted descriptive research design and analyzed their data using multiple hierarchical regression model. Lilly and Juma (2014) found a positive and significant relationship between cost management aspects of strategic innovation, continuous quality improvement innovative measures and the marketing innovative measures and the performance of commercial banks.

Shisia, Sang, Matoke and Omwario (2014) investigated the relationship between strategic innovation and performance of public universities in Kenya. This study was premised on Blue ocean theory, resource-based theory and theory of invisible assets. Product innovation, marketing innovation, process innovation and

organizational innovation were the indicators of innovative strategies. The indicators of organizational performance were resource generation, teaching and learning, research and knowledge creation, and competitive advantage. The study adopted descriptive survey design and census survey of 20 top management executives with a response rate of 63%. Data was analyzed using multi hierarchical regression model. They established that there existed a positive relationship between strategic innovation and performance of public universities in Kenya.

Kiveu, Namusonge and Muathe (2019) analyzed the effect of innovation on firm competitiveness in manufacturing SMEs in Nairobi County, Kenya. The parameters of performance were customer satisfaction, membership base, asset base and deposit base while the indicators of innovation were incremental, process, marketing, and organizational innovations. They adopted a descripto-explanatory design in which cross sectional survey strategy was used to collect data on innovation from a sample of 284 enterprises for the period 2012–2014. The target population for the study was 989 employees. 284 questionnaires were distributed, out of which 209 were returned translating to a response rate of 73.6%. Multistage sampling design was employed. They used multiple linear regression to analyse the effect of innovation on competitiveness. Descriptive and inferential statistics were used to test relationships between the variables. Kiveu, Namusonge and Muathe (2019) found that 97% of the manufacturing SMEs were innovating with majority implementing incremental innovations. Further, process, marketing and organizational innovations had positive significant effect on competitiveness, while product innovation had positive non-significant effect.

Odero, Egessa and Oseno (2019) studied the effect of innovation on performance of Deposit Taking SACCO's in Kenya. The

indicators of innovation were product, market and technological while the parameters of performance were customer satisfaction, membership base, asset base and deposit base. Their study was guided by Transformational Leadership Theory and positivism research philosophy. They employed descriptive correlational research design and census technique. Close ended questionnaires and an interview schedule were used to collect Primary data targeting 126 senior managers and 42 CEOs. Census technique was employed with the study population being all 42 Deposit Taking SACCO's operating in Nairobi County, Kenya. Purposive sampling was employed to select the CEO's and senior managers. Further simple random technique was used in selecting 12 CEO's for interviews. 126 questionnaires were distributed out of which 102 were returned giving a response rate of 81%. Validity and reliability tests, descriptive and inferential statistics, and simple linear regression were used. The study confirmed that innovation had a positive and significant effect on the performance of Deposit Taking SACCO's in Kenya. Specifically, product, market and technological innovation collectively were to have statistically significant relationship with performance.

Using descriptive survey design, Kiptoo and Koech (2019) examined the effect of strategic innovations on organizational performance of manufacturing firms in Kwale County, Kenya. Their study was premised on Organizational Control Theory, Stakeholder Theory, Agency Theory and Technology Acceptance Model. The indicators of innovation were product, process, market and technological while the parameters of organizational performance were market share growth, competitive advantage and operational cost reduction. Data analysis was done through descriptive statistics and inferential statistical (correlations, and multiple regression analysis). Kiptoo and Koech (2019) established that technological innovations has a positive and

insignificant relationship with the performance of manufacturing firms ($\beta=0.072$, $P=0.626$, $P>0.05$), product innovation had a positive and significant effect on the organizational performance ($\beta=0.202$, $P=0.046$, $P<0.05$), marketing innovation was found to have a positive and significant effect on organizational performance ($\beta=0.216$, $P=0.029$) and process innovation had a positive but insignificant effect on organizational performance of manufacturing firms ($\beta=0.130$, $P=0.814$). Kiptoo and Koech (2019) recommended further studies on other industries in Kenya. Hence, this study intends to bridge the gap by investigating the relationship between innovation parameters (Products, Processes, Marketing and Organizational Restructuring) and performance of DT-SACCOs within the financial industry and Sacco subsector in Kenya.

Grounding their study on Theory of the Innovative Firm and the Dynamic Capability Theory, Kiarie and Lewa (2019) investigated the effect of innovation practices on organization performance in health insurance service providers in Kenya. The indicators of innovation were process and market while parameters of organization performance were service efficiency, customer satisfaction, reduction in operational cost and timely delivery of services. They employed descriptive research technique and stratified sampling technique to come up with the sample. Kiarie and Lewa (2019) found a strong relationship between innovation practices and organization performance in health insurance service providers in Kenya. They recommended further studies on other industries in Kenya. Hence, this study intends to bridge the gap by investigating the relationship between innovation and performance of DT-SACCOs within the financial industry and Sacco subsector in Kenya.

In 2013, Atalay, Anafarta and Sarvan developed an innovation scale to investigate the relationships between innovation types and firm performance of 113 firms operating in the automotive supplier industry which is one of the

most innovative industries in Turkey as of the year 2011. Hierarchical regression was used to test the effects of innovation types (product innovation, process innovation, organizational innovation and marketing innovation) on firm performance. Their study revealed that technological innovation measured by product and process innovation, has significant and positive impact on firm performance. Further, they found no evidence for a significant and positive relationship between non-technological innovation measured by organizational and marketing innovation and firm performance. Atalay et al. (2013) focused on innovation types and firm performance of automotive supplier industry in Turkey over the previous 3-year period (year 2009-2011). Hence, this study intends to bridge the gap by investigating the relationship between innovation and performance of DT-SACCOs within the financial industry in Kenya.

Chege, Wang and Suntu (2020) examined the association between technology innovation and firm performance in Kenya. Specifically, the study considered the impact of entrepreneur innovativeness on this association. They employed the five-stage growth model and the product-process model of innovation as the main theoretical frameworks for the study. The study used a quantitative research design and a semi-structured questionnaire. The primary units of analysis are the managers of SMEs in Tharaka-Nithi County, Kenya. Random sampling procedure was applied to select a sample of 297 enterprises. 297 questionnaires were distributed, and 249 questionnaires were returned at response rate was 84%. Structural equation modeling was used in the analysis. The study findings show that technological context ($\beta = 0.487$, $p = 0.00$), technological innovation ($\beta= 0.245$, $p = 0.00$) and entrepreneur innovativeness ($\beta= 0.523$, $p = 0.00$) had a positive impact on the relationship between IT innovation and firm performance but organizational structure ($\beta = 0.115$, $p = 0.098$) and

business environment ($\beta = 0.017$, $p = 0.640$) did not. The study recommends that entrepreneurs should develop innovative strategies to actualize firm performance.

Premising their study on Dynamic capability theory, Kiende, Mukulu and Odhiambo (2019) sought to determine the influence of organization innovation on the performance of small and medium women-owned enterprises in Nairobi County, Kenya. Their study was guided by an epistemological research philosophy adopting a positivist research paradigm. They employed cross-sectional survey design using both quantitative and qualitative approaches. They derived a sample size of 358 respondents using Fisher's formulae. They used linear regression analysis to explain the relationship of study variables. Their study revealed that organizational innovations had a positive and significant influence on performance of women owned enterprises in Kenya. They concluded that implementation of better strategic innovations aid in cost reduction, hence improving performance. The focus of their study was organization innovation measured by strategic alignment, customer insight and organizational readiness while the current study focuses on multi-dimensional nature of innovation. Further, the focus of this study was on small and medium women-owned enterprises in Nairobi County while the current study is on DT-SACCOs in Kenya.

Rajapathirana and Hui (2017) developed a research framework to explore the relationship among innovations capability, innovation type and on the different aspect of firm performance covering insurance industry in Sri Lanka. The study used four dimensions for measuring the innovation activities which are insurance product innovation, process innovation, marketing innovation and organizational innovation. Firm performance had three dimensions which included innovation, market and financial performance. Their study employed six indicators which include return on

sales, overall profitability, and return on investment, market share, total sales, and customer satisfaction to measure organizational performance. The final response rate for their study was 68.9%. The Structural equation modeling was employed to examine the relationship between study constructs. Their study revealed a significant and strong relationship between innovation capabilities, innovation efforts and firm performance. Rajapathirana and Hui (2017) focused on the relationship among innovations capability, innovation type and on the different aspect of firm performance covering insurance industry in Sri Lanka. They recommended further studies on similar themes in different developing countries and different service sector industries. Their study relied on qualitative data to measure the firm performance due to original data disclosure restrictions.

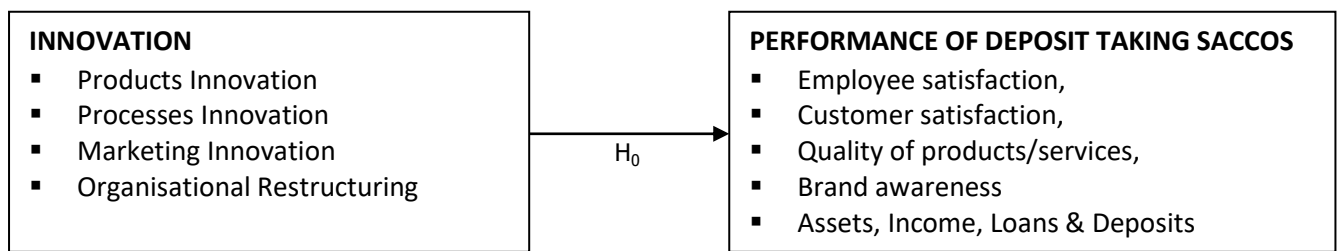
Bach, Dalazen, da Silva, Ferraresi and da Veiga (2019) conducted a systematic literature review to establish the relationship between innovation and performance in private companies. Their research corpus was based on research protocol systematization. Their study employed algorithms for optimizing standard graph layout for identification of the relationships of study themes. In the analyzed studies, they established convergence of innovation initiatives which contribute to improvements in company performance. In the scientific field, they found that development of innovative activities has enhanced the performance of private companies. They recommended for future empirical research to better understand the phenomenon.

Oliveira, Basso, Kimura and Sobreiro (2018) used exploratory factor analysis and structural equation modeling to investigate the relationships between innovation efforts, impacts of these innovations and the financial performance of 5,025 Brazilian companies. The results revealed that innovative efforts have a positive and significant relationship with

innovation impact. Further, they found no significant relationship between innovation impact and financial performance. They conclude that innovation does not seem to consistently explain performance due to the country specific institutional environment and economic uncertainty on the performance of firms. This study focused on impacts of innovation from the context of the largest economy in South America and Central America while the current study focusses on investigation of innovation impacts in

the context of the largest and most advanced economy in East and Central Africa.

In conclusion, the reviewed literature mainly concurs that innovation capabilities namely product, process, marketing, service, and administrative innovation (OECD and Eurostat, 2005; Lin, Chen and Chiu, 2010) if well devised and implemented can successfully contribute to an improvement in the performance of the DT-Saccos in Kenya.



Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

METHODOLOGY

Descriptive cross-sectional survey was adopted. Descriptive cross-sectional survey enables data collection from a relatively large number of cases with individual characteristics at a time related to two or more variables (Kothari, 2004). Further, correlational research design was used to test the study hypothesis. According to Cooper and Schindler (2003), correlational studies attempt to establish existence of a relationship between two or more variables. This type of descriptive cross-sectional research has been used by several researchers such as Wanyama and Olweny (2013), Munyasia (2016), Onyim, Wanjare, Ook and Oluoch (2017), Mugwang’a, Awino, Ogutu and Maalu (2018), Kamau, Machuki and Aosa (2018) and Murage, Muya and Mogwambo (2018). The research study was guided by pragmatic paradigm. The Target Population of study was 175 DT-SACCOs which are licensed to undertake deposit-taking Sacco business (SASRA, 2019A). The study adopted a census approach of all the licensed DT-SACCOs.

Similar studies by Otieno, Mugo, Njeje and Kimathi (2015), Machora and Oluoch (2019) adopted a census method. However, 3 licensed DT-SACCOs had their licenses revoked and not renewed while 22 DT-SACCOs failed to attain the licensing requirements as per the Sacco Societies Act. As a result, 150 DTS were eligible to participate in the study thereby constituting the targeted population. There were 10 key informants that were subjected to interview; this made the target population to be 160. The sample size of 108 drawn from 150 eligible DTS using the Hypergeometric distribution in accordance with Krejcie and Morgan (1970) table of determining the sample size. Random and stratified sampling were adopted. Primary data was collected using a semi structured questionnaire. Secondary data collection sheet was used to collect secondary data drawn from SASRA annual supervision reports and an interview guide was used. The questionnaire piloted to 11 respondents were identified through random sample. Cronbach’s Alpha was used to measure the common internal

consistency. Data was analyzed using both descriptive and inferential statistic. Several analytical tools were used to ensure the research objectives are achieved. The results of the statistical analysis were presented using charts, tables, frequencies, and bar graphs.

FINDINGS

Questionnaire Rate Return

Out of the 108 questionnaires administered to the respondents, 105 questionnaires were dully filled and returned and found to be usable. This represented a response rate of 97.2% which is considered adequate for the analysis and acceptable as it compared well to similar study (Munyasia, 2016), which achieved a questionnaire response rate of 100%. The higher return rate was achieved mainly due to the utilization of some of the recommendations by National Research Council (2013), Frohlich (as cited in Kamau, 2018) and Harrison, Henderson, Alderdice and Quigley (2019). They include need to pre-test, format, and administer the questionnaires through emails, drop and pick and phone calls and regular follow-up through phone calls and office visits [Frohlich (as cited in Kamau, 2018)] and use of reminders to increase the return rate (Harrison et al., 2019). Acquisition of a research clearance permit from National Commission for Science, Technology and Innovation (NACOSTI), JKUAT introduction letter and a personalized cover letter with a handwritten signature also boosted questionnaire return rate.

Reliability Test Result

Innovation had a reliability coefficient of 0.925 while Performance of the DTS had a reliability coefficient of 0.896. The reliability coefficients of all the study variables were above 0.70. This implies that alpha coefficients are acceptable and adequate to accept presence of internal consistency.

Basic Tests for Statistical Assumptions of Regression Analysis

Linearity Test

Scatter plots shown a linear of the relationship between each of Independent Variables and Dependent Variable.

Multicollinearity

The study checked presence of multicollinearity using Variance Inflation Factor (VIF) and Tolerance statistics. The results of Coefficients reveals that all the VIF values are less than 2 ($VIF < 2.0$) and all the Tolerance values are greater than 0.2 ($Tolerance > 0.2$). Hence, the assumption is met because the VIF scores are well below 10, and tolerance scores to be above 0.2, which indicate that Multicollinearity is not a problem for all the variables included in the regression model.

Homoscedasticity

To test this assumption, standardized values of the model were plotted against the predicted standardized residuals obtained. A random array of dots in the graph implies that the assumption has been met. The scatter plot generally appearing more random than funneled, thus the assumption on homoscedasticity is met.

Normality Test

This study assessed normality of distribution by looking at the distribution of residuals using a P-P Plot of the standardized residuals. The results shows that normal P-P Plot which illustrates that the majority of data points touch or are coalesced around the diagonal line. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed, indicating that normality assumption has been met.

Descriptive Statistics on Innovation and Performance of DT-SACCOs

The study sought the opinion of the respondents on Innovation and performance of deposit taking SACCOs in Kenya and the Composite means and Standard Deviation of the result is presented in Table 1.

Table 1: Descriptive Statistics on Innovation and Performance of DT-SACCOs

Variables	n	Mean	Standard deviation
Innovation	105	4.06	0.839
Performance of DT-SACCOs	105	3.79	0.909

It was established that innovation had composite mean of 4.06 and composite standard deviation of 0.839, while the composite means and standard deviation of performance of DT Saccos was 3.79 and 0.909 respectively. This implied that innovation by Saccos has high influence on their performance.

Result of content analysis

The respondents observed that Saccos are introducing higher quality product and service in the market, customizing according to market demands, needs and preference and improving the existing systems to remain attractive. The recent reforms in the Kenyan financial sector have put Saccos in a vulnerable position (Auka and Mwangi, 2013) with the growing concern being that Sacco members are increasingly seeking products from other financial institutions. During the interviews, a key informant had this to say:

“Saccos are operating in cutthroat competition within the financial sector, with opening of the Sacco membership, the product lines

remain slim, we have imitation in our subsector hence we have to continuously innovate to retain and attract new customers” (Interview Data, 2019).

This implies that competition is shifting from Sacco subsector level to financial level. Berggren and Nacher (2001) stressed that organisations must not only develop and introduce high quality product or service but also build a better business model and a stronger network of value-delivery system to compete in the fast-evolving marketplace that positively influence the performance.

Correlation Analysis of Innovation and Performance of DT-SACCOs

The study conducted a bi-variate correlation test using Pearson’s coefficient to test the relationship between Innovation and Performance of DT-SACCOs in Kenya using 5% significance level. The aggregate correlation results are shown in Table 2.

Table 2: Correlation Analysis of Innovation and Performance of DT-SACCOs

Innovation	Performance of DT-SACCOs
Pearson correlation	0, 0.576
sig. (2-tailed)	0000 0.000
n	0 105

*Correlation significant at 0.05 level (2-tailed)

The correlation output in Table 2 shows that Innovation was significantly related (P -values<0.05) to Performance of DT-SACCOs in Kenya. The overall correlation was found to be 0.576 with the p-values (0.000<0.05) implying that there is a significant influence of Innovation on Performance of DT-SACCOs in Kenya, leading to rejection of the null hypothesis; H_{05} : that Innovation

does not significantly influence Performance of DT-SACCOs in Kenya. These findings on innovation supports those of Odera, Egessa and Oseno (2019), Bach *et al.*, (2019), Macharia and Tirimba (2018) and Oliveira *et al.* (2018). Egessa and Oseno (2019) who conducted their study in Kenya found that innovation had a positive and significant effect on the performance of DT-SACCOs. Bach *et al.*, (2019)

established convergence of innovation initiatives which contribute to improvements in company performance in Brazil. Macharia and Tirimba (2018) who investigated the effect of product innovation factors on financial performance DT-SACCOs in Kenya, found a strong positive and statistically significant relationship between product innovation factors and financial performance. Oliveira *et al.* (2018) found a similar finding, but they concluded that innovation does not seem to consistently explain performance due to the country specific

institutional environment and economic uncertainty on the performance of firms.

Regression Analysis of Innovation and Performance of DT-SACCOs

Simple linear regression was adopted to investigate how Innovation influences Performance of DT-SACCOs in Kenya. The result of regression outputs is shown Tables 3, 4 and 5 as Model summary, ANOVA, and regression coefficients respectively.

Table 3: Model Summary of Innovation and Performance of DT-SACCOs

Model	R	R ²	Adj. R	Se	Df1	Sig.
1	0.576	0.332	0.325	5.5424	1,103	0.000

Model 1: Predictors: (Constant), **Innovation**

Result from Table 3 suggest that there is a positive multiple correlation (R=0.576) between Innovation and Performance of DT-SACCOs in Kenya. The Model indicates that the Innovation

term predicted up to 32.5% variance in Performance of DT-SACCOs in Kenya which was statistically significant ($p\text{-value}=0.000<0.05$). The remaining 67.5% is explained by the other factors outside this model.

Table 4: ANOVA of Innovation and Performance of DT-SACCOs

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.917	1	10.917	51.178	0.000 ^b
	Residual	21.972	103	0.213		
	Total	32.890	104			

a. **Dependent Variable:** Performance of DT-SACCOs
b. Predictors: (Constant), **Innovation**

The ANOVA results indicated that F-statistics (1,103) =51.178 is significant given that the $P\text{-value}$ $0.000<0.05$ which implies that the

regression model for Innovation is significantly better prediction of Performance of DT-SACCOs in Kenya.

Table 5: Regression Coefficients

Model		Coefficients			T	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	4.876	0.158		30.9	0.000
	Innovation	0.558	0.078	0.576	7.154	0.000

a. **dependent variable:** Performance of DT-SACCOs

Result from Table 5 indicated that: the test of $\beta_1=0.558$ (coefficient of Innovation) statistics revealed that there was sufficient evidence that Innovation was linearly related to Performance of DT-SACCOs in Kenya. (Value of test statistics: $t=7.154$; $p\text{-value}=0.000$).

The regression equation:

$$Y = \beta_{01} + \beta_i X_{it} + e_{it} \dots \dots \dots (i)$$

Where Y = Performance of DT-SACCOs, β_{01} - Population's regression constant, X_{it} - Innovation, β_i the regression coefficient of Innovation and ϵ - is the Model error variable.

The proceeding multiple linear regression model was as follows:

$$Y=4.876+0.558*X.$$

This implies that a unit increase in innovation leads to 0.558 increase in performance and it is statistically significant.

CONCLUSION AND RECOMMENDATION

The study concluded that Saccos have developed and implementing innovative

approaches to remain competitive. Results revealed that Innovation is significantly a better predictor of Performance of DT-SACCOs in Kenya. The study contributed to the existing body of knowledge by availing information on how Innovation influences the performance. This provides support to Dynamic Capabilities Theory in the view that innovation plays a critical role in determining performance and survival of organizations especially in a cutthroat competition.

The study recommended that the Sacco leadership should invest in R&D to spur the innovation process. Increased funding to R&D activities is essentially an investment in technology and future capabilities which is transformed into new products, processes, and services. The results of this study lend support to the dynamic capabilities theory in sense that organizational resources statistically significantly influence firm performance.

Suggestion for Future Research

The study recommended that future studies should widen the target population to include the membership of Saccos whom are the owners.

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