Effects of Process and Product Innovation on Performance of Savings and Credit Co-Operative Societies in Meru County, Kenya

Eunice Gaichuru¹, Dr Mohamed Shano¹, Dr Guyo Huka²
¹Department of Accounting and Finance, Meru University of Science & Technology, Kenya
²Department of Business Management, Meru University of Science & Technology, Kenya

Abstract:
Background: Innovation is not all about the commercialization of ideas and inventions as one sometimes finds that things described as innovations involve no impact, little or no novelty but rather a few changes in the use or application of the innovation. This study aimed at exploring the area with the hope of providing important answers on the effect of process and product innovation and performance of Savings and Credit Co-operative Societies (SACCOs) in Meru County. The study was guided by the following objectives: To determine the effect of process innovation and performance of SACCOs in Meru County and to establish how product innovation has an effect on performance; The study was anchored on Schumpeter’s innovation theory and Task Technology fit theory. The study adopted a descriptive and inferential research design; the target population of 162 respondents was drawn from the 18 SACCOs registered and licensed by Sacco Society Regulatory Authority (SASRA) and of staff from the marketing department, credit, accounting, customer service and management. The population was divided into strata and random samples were taken from each stratum to ensure adequate representation of all classes of employees which also reduced the probability of respondent biases. Questionnaires were administered to the sampled respondents and statistical analysis were conducted using a statistical package for social sciences (SPSS) to calculate descriptive statistics, analysis and regression. The Model summary of the regression analysis showed that all the independent variables accounted for 48.9% of the variance of Sacco’s performance. Process and Product innovation had a positive correlation with the performance of SACCOs in Meru County. It was recommended that apart from SACCOs exploiting the opportunities presented by digitalization either by leveraging the technologies in-house or in partnership with FinTech companies, they also need to effectively govern and measure their new innovation development processes from idea development to innovation execution. These should be done while keeping consumer needs and preferences in mind, when employing innovation technologies so as to gain competitive advantage.

Key Words; Financial Innovation; Financial Technology; Deposit Taking Saccos;

Date of Submission: 01-02-2022  Date of Acceptance: 13-02-2022

I. Introduction

Universally, SACCOs are an independent group of persons united voluntarily to satisfy their common economic, social, cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise (SASRA 2017). SACCOs in Kenya are classified as either Deposit-taking or non-deposit taking (DT-SACCOs) where both categories mobilize savings from member’s deposits which are collateralized for purposes of advancing loans to its members. However, Non-Deposit Taking SACCOs receive deposits from members in the form of share capital and these amounts are refundable to members only when they intend to leave the SACCO. This undertaking is termed as either FOSA (Front Office Service Activity) while the previous is known as BOSA (Back Office Service Activity). SACCOs offer the low-income earners the financial inclusion needed to stimulate socio-economic growth which is counted as one of the economic pillars of the country, these diverse settings of SACCOs from different financial backgrounds and geographical regions encourage distributed development (Ndung’u, 2010).

Despite the wide coverage within the country compared to other financial institutions SACCOs are still struggling and have been losing their market share attributed to the fast technological changes and business rivalry within the financial environment (Nyaga, 2012). Innovation has greatly affected the financial market. It has kicked off extensive opportunities for the stakeholders and has further opened up and increased new markets which have come about as a result of new products and services. Financial innovations involve firms developing new things or new-age strategies to improve their operations. In money related organizations or industries, Innovation is viewed as the show of advancing new budgetary instruments, facilitating straightforward access to
monetary activities such as payouts, refunds, settlements, deposits, withdrawals, and money transfers, therefore, reducing chances for oversights and inaccuracies (Mugane, 2015). Innovation is therefore not just creating something new from beginning to the end, but the ability to swiftly embrace external changes and build innovations that help the organizations to be at a competitive advantage (Carayannis, Samara, & Bakouros, 2015).

The Kenyan financial sector has also faced tremendous dynamism over time. A lot of changes have been adopted in the area and prompted an expansion of money related items, applications and hierarchical structures that have improved and expanded the productivity of the monetary framework (Gorton and Metrick, 2010). Therefore, for SACCOs to survive these turbulences they must adapt to these new approaches by adapting to financial innovations in the market to foster growth, prosperity, existence and transformations as the environment within and outside the organization changes (Ngure, Kimani & Kariuki, 2017).

Statement of the Problem

SACCOs operate in a competitive environment where they are at a disadvantage due to their lack of sustainable financial innovation foundation (Tsuma, Maniangi, Odhiambo, & Musinga, 2015) this situation has been heightened by an increase of financial institutions in the market that are highly sophisticated in regards to new payment systems and asset options (Blythin & Cooten, 2017). The new entrants in the market are marked by the mobile digital credit revolution in Kenya which have attracted many financial technology (FINTECH) companies driving financial inclusion outside the traditional forms of banking or financial uses (Worldbank,2018). These firms offer various technologies that meet individual needs and give opportunities to Kenyans who were financially excluded to access financial services, however, there are no control measures put in place in terms of policies, allowing organizations to offer easy services to unskilled customers (Broom, 2013).

As a result of these new entrants, and competition from other financial institutions, SACCO’s productivity has gradually declined and a majority of them cannot compete effectively thus calling for creative and innovative ways of achieving sustainability (Makori, 2013).

Ringera (2018) did a study on the effects of financial innovation on the efficiency of SACCOs in Meru County and established that there was a weak positive but statistically significant relationship between Mobile banking and SACCO’s efficiency as well as between Internet banking and SACCO’s efficiency, Ndwiga and Maina (2018) ascertained that process innovation had a significant and positive relationship with financial performance while product innovation had an insignificant relationship. There was no consensus between theoretical and empirical findings since some were positive, negative, significant or non-significant.

From the review of relevant literature, it is evident that research in the area of SACCO innovations has been done locally but it remains largely unclear whether SACCOs in Meru County are adequately innovative in running their businesses given that they are faced by the challenge of limited growth and expansion. This is underscored by the fact that only 18 SACCOs are hitherto registered and licensed to operate by SASRA in 2020 as opposed to a total of 182 operating SACCOs registered at the Meru County Co-operative office. It is against this background that this paper examined the effect of process and product innovations on performance of SACCOs in Meru County, Kenya.

Study Objectives

i. To determine the effect of process innovations and performance of SACCOs in Meru County.

ii. To establish the effect of product innovations and performance of SACCOs in Meru County.

Research Hypotheses

i. $H_{01}$: There is no significant relationship between process innovations and the performance of SACCOs in Meru County.

ii. $H_{02}$: There is no significant relationship between product innovations and the performance of SACCOs in Meru County.

Theoretical Review

Schumpeter’s Theory of Innovation.

The theory of Innovation was pioneered by Schumpeter (1928) he explains how organizations can become autonomous inventors and create opportunities for new profits through Innovation. He believed that an entrepreneur could earn economic profits by introducing successful innovations and the rewards come in form of profits given for his performance. According to Schumpeter, innovation would be any new policy that an entrepreneur undertakes to reduce the overall cost of production or increase the demand for his products.

The innovation theory hypothesizes that SACCOs can gain profit if the innovations undertaken can reduce the overall cost of production or increase the demand for their products but the profits earned are for a short
duration as competitors imitate the innovation, thereby the innovation ceases being new or novice. However, Schumpeter argued that innovation can also come as a result of demand from businesses to acquire methods to preserve and increase their capital and revenues and SACCOs can achieve this by employing cost accountants and research and development departments to analyze changes in market trends. This theory is very important to the study because SACCOs ought to be competitive in the ever-changing financial institution dynamics so as not to be extinct from the industry therefore continuous innovation is vital for them for survival.

**Task Technology Fit Theory**

Goodhue & Thompson (1995) pioneered the task-technology fit (TTF) theory. They resolved task-technology fit (TTF) as a technology that assists an individual in performing his or her tasks specifically, being fit among task requirements, individual abilities, functionality and interface of the technology. The task-technology fit model is categorized into four major constructs, Technology Characteristics, Task Characteristics and Task-Technology Fit which later influences the outcome variable of usage and individual or company performance. TTF models hypothesize that Information Technology (IT) will be utilized if, and only if, the IT function is appropriate to the user tasks. Therefore, for an information system to positively impact an individual’s performance; the technology utilized should be a good fit with the tasks the technology supports (Muthui, 2013).

The operational efficiency of SACCOs is associated with diverse aspects such as operational cost-effectiveness, profitability, customer service. These technological advances embodied in process innovation improve productive efficiency by reducing average total costs (Therrien et al 2011) Therefore, the Information systems modeled should be able to assist users to carry out tasks more efficiently and competently. The model was used to explain why SACCOs need to embrace technology in their daily operations to cut on cost, improve on their process delivery to serve customers effectively and sufficiently aim at attaining efficiency and increasing their customer base. Nevertheless, information systems will not only add value but also improve performance (Wyman, 2012).

**Empirical Literature**

Moki, et al. (2019) carried out a study on financial innovation strategy and financial performance of DT-SACCOs in Nairobi County. Open system, financial intermediation, life cycle saving theories were used in the study. Descriptive research design and causal research design were used in the study where the target population consisted of forty registered DT-SACCOs in Nairobi County. The study established that there was a significant relationship between financial innovation and financial performance. Firms that did not implement financial innovation licenses were to be revoked due to their financial unsustainability. However, the study failed to mention those who responded to the questionnaires issued.

Ouma, Omagwa and Ngaba (2018) carried out a study on the effect of financial innovation on the performance of Deposit Taking SACCOs (DTS) in Nairobi County, Kenya. The authors claimed that to handle new technologies then SACCO’s in Kenya need to reserve huge investments for innovations and training of manpower it is however not clear if the adoption of financial innovations has had any major effect on DTS financial performance. The study established that new products and service processes had a considerable effect on the financial performance while liquidity and profitability were insignificantly affected by the formation of new organizations but significantly affected by capital adequacy. It was also established that the relationship between financial innovation and performance was significantly affected by a firm’s characteristics.

Ngure (2017) carried out a study on financial innovations and the performance of savings and credit cooperatives societies in Kirinyaga County, Kenya. He applied a cross-sectional descriptive survey research design and used self-administered questionnaires for primary data while audited financial statements were used to obtain secondary data. The results showed a positive relationship between financial innovations and the financial performance of SACCOs in Kirinyaga County. The investigated innovations included product innovations, process innovations and institutional innovations. It is however not clear whether these financial innovations have a similar influence on SACCOs in Meru County.

Shejero (2016) sought to ascertain the effect of innovation strategies on competitive advantage among savings and credit cooperative societies in Mombasa County, Kenya. Primary data was collected using a semi-structured questionnaire. The study suggested the need to improve cost-saving initiatives and extend product range among the main issues influencing the adoption of innovation as a strategy for achieving competitive advantage. The findings revealed that the costs associated with innovation are too high and that product innovation is what is mostly used by SACCOs in Mombasa County.

Njenga, Kiragu and Opiyo (2015) conducted a study on the influence of financial innovations on the financial performance of SACCOs in Nyeri County Kenya. 30 SACCOs were reviewed and a cross-sectional survey research design and stratified sampling technique were used. On data collection, a semi-structured questionnaire was employed and descriptive statistics were generated to describe the study objectives and the profile of respondents. Measures of variations were used to establish convergence of the responses. Inferential
statistics, including, model fitness ($R^2$), for testing the null hypothesis, ANOVA and regression coefficients were used where a significant relationship between financial innovations and financial performance was concluded. Additionally, telephone banking and internet banking were found to be the key drivers of the financial performance of SACCOs.

Conceptual Framework
A conceptual framework is a diagrammatic framework that shows the relationship between dependent and independent variables.

Figure 2.1 shows the variables used in the study.

III. Methodology

Research Design
The study used a descriptive research design. This design applied to the study since it enabled the researcher to gather data of the variable of the study in their natural setting and allowed valid general conclusions from the facts discovered. The rationale for choosing this design was based on its ability to explain association amongst variables in their natural setting and allowing a general conclusion through the administration of self-completed questionnaires (Orodho, 2002).

Target Population
A population entails a collection of items to be investigated (Mugenda, 2005). The study’s population comprises all the registered SACCOs that are operational in Meru. The target population was drawn from the Marketing department, Tellers, credit department, Management and customer care.

Table 1: Target Population

<table>
<thead>
<tr>
<th>Department</th>
<th>No of staff targeted</th>
<th>No of SACCOs</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Dept.</td>
<td>2</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Accounts Dept.</td>
<td>3</td>
<td>18</td>
<td>54</td>
</tr>
<tr>
<td>Credit Dept.</td>
<td>2</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Management</td>
<td>1</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Customer Care</td>
<td>1</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>162</td>
</tr>
</tbody>
</table>

Sampling Procedure and Sample Size
According to Kothari (2004) where a study population exceeds 100 should be sampled and since the study had a large population (162) stratified sampling technique was employed. Stratified random sampling technique was justified for use in this study as per the scientific rules of probability; it ensured adequate representation of all classes of employees and reduced the probability of respondent bias. Nevertheless, since Meru has only 18 registered SACCOs with a different number of employees this sampling method ensured proportionate participation of employees from all the SACCOs. The use of 66 respondents in the study was befitting in line with the recommendations of Mugenda and Mugenda (2003) whereby a descriptive study should include a population of at least 30%. The below formula was employed to determine the size of the sample as used by Nassiuma (2008).
D\text{OE}: 10.9790/5933-1301045362

\[ \text{N}=\text{NC}^2 \]
\[ C^2 + (N-1) e^2 \]

Where:
- \( n \) represents sample size,
- \( N \) represents the study population,
- \( C \) represents coefficient of variation (\( 21\% \leq C \leq 30\% \)), and
- \( e \) represents error margin (\( 2\% \leq e \leq 5\% \)).

Calculating the sample size,
\[ n = 162(0.21)^2 \]
\[ 0.21^2 + (162-1)0.02^2 \]
\[ n = 65.85 \]
\[ n = 66 \text{ respondents} \]

**Research Instrument**

The study used primary data collected by the use of a self-administered structured questionnaire through the “drop and pick technique. A questionnaire is a research instrument consisting of a series of questions and other prompts to gather information from respondents (Mugenda & Mugenda, 2003). The questionnaires consisted of structured questionnaires and consisted of closed-ended questions and included a Likert scale of 5 points. Secondary data was obtained from annual reports published, magazines and other available literature including a statement of financial position and directors reports.

**Data Collection Procedure**

Data collection deals specifically with the category and type of data to be collected and the techniques used. The type of data collected for this study was primary and secondary data which was used to analyze the effects of process and product innovation on performance of SACCOs in Meru County. Primary data was collected by the use of a self-administered questionnaire to gather the required data. This was followed by requests for approval from the management of the afore-stated firms. The questionnaires were then distributed to the sampled respondents through their managers. Secondary data was obtained from SASRA records of financial statements of the SACCOs. Specifically, Return on Equity (ROE) was obtained from the financial statements of SACCOs for the years 2015 to 2019 to measure their financial performance.

**Methods of Data Analysis**

Mugenda (2005) defines data analysis as the process that brings order and meaning to the information collected. Secondary data was collected, coded and tabulated according to each dependent and independent variable and analyzed using descriptive statistics in terms of the mean values.

The following regression model guided the study.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \]

Where:
- \( Y \) is Performance (ROE)
- \( \beta_0 \) is Constant
- \( X_1 \) = % of Process Innovation
- \( X_2 \) = % of Product Innovation
- \( \alpha \) = The constant of regression
- \( \epsilon \) = The error term.
- \( \beta_1, \beta_2, \beta_3 \) are Regression coefficients of Independent variables.

**IV. Findings**

**Descriptive information on Process Innovation**

The respondents were asked to indicate their level of agreement on the effect of process innovation on the performance of SACCOs in Meru County. The findings mean are indicated as shown in Table 2.

<table>
<thead>
<tr>
<th>Process Innovation Statements:</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>StdDev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process innovation designs have improved employees effectiveness and productivity.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>4.056</td>
<td>0.834</td>
</tr>
<tr>
<td>Process innovation has reduced the cost of operation and enhanced efficiency in service delivery.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>3.852</td>
<td>0.96</td>
</tr>
<tr>
<td>Process innovation techniques have improved service quality leading to customer satisfaction and customer retention.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>4.074</td>
<td>0.929</td>
</tr>
</tbody>
</table>
Automation of the SACCO systems has improved our market share and profitability.

According to the findings, the respondents indicated they strongly agreed (Mean = 4.056) with the statement that Process innovation designs have improved employees effectiveness and productivity. Respondents also agreed that process innovation has reduced the cost of operations (Mean = 3.852) enhancing efficiency in service delivery. The study findings further indicated process innovation techniques used by the SACCOs with a (Mean = 4.074) had improved service delivery leading to customer satisfaction and retention. Additionally, respondents concurred (Mean = 3.426) that automation of the SACCO systems improved their market share and profitability.

**Descriptive information on Product Innovation**

The respondents were asked to indicate their level of agreement on the effect of product innovation and performance of SACCOs in Meru County. The findings are indicated shown in Table 3

<table>
<thead>
<tr>
<th>Product Innovation Statements</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The introduction of new products has attracted more members to the SACCO.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>4.037</td>
<td>0.889</td>
</tr>
<tr>
<td>SACCO products are improved regularly to match customers’ needs and expectations of diverse social classes.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>3.074</td>
<td>1.043</td>
</tr>
<tr>
<td>SACCO’s products are simple to understand and well customized to deliver a long-term competitive advantage.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>4.259</td>
<td>0.757</td>
</tr>
<tr>
<td>Our products are distinctively differentiated and informed by the unique characteristics of clients from different market segments.</td>
<td>54</td>
<td>1</td>
<td>5</td>
<td>3.056</td>
<td>1.14</td>
</tr>
</tbody>
</table>

The mean score for the statement “Introduction of new products has attracted more members to the SACCO” had a fairly high mean (Mean = 4.037). The statement “SACCO products are improved regularly to match customers’ needs and expectations of diverse social classes” had mean (Mean = 3.074). The statement “SACCO’s products are simple to understand and well customized to deliver long-term competitive advantage” had the highest mean (Mean = 4.259). The statement “Our products are distinctively differentiated informed by the unique characteristics of clients from different market segments” had the lowest mean (Mean = 3.056).

**Descriptive information on Institution Innovation**

The respondents were asked to indicate their level of agreement on the effect of Institution innovation on the performance of SACCOs in Meru County. The findings are indicated as shown in Table 4.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Assets (Kshs. Billions)</th>
<th>Total Deposits (Kshs. Billions)</th>
<th>Gross Loans (Kshs. Billions)</th>
<th>Total Income(kshs Billions)</th>
<th>Total Equity (Kshs Billions)</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>75.23</td>
<td>50.57</td>
<td>51.55</td>
<td>2.76</td>
<td>3.18</td>
<td>0.12</td>
</tr>
<tr>
<td>2016</td>
<td>82.38</td>
<td>57.66</td>
<td>58.52</td>
<td>4.63</td>
<td>3.45</td>
<td>0.19</td>
</tr>
<tr>
<td>2017</td>
<td>129.04</td>
<td>66.75</td>
<td>94.8</td>
<td>14.76</td>
<td>3.77</td>
<td>0.43</td>
</tr>
<tr>
<td>2018</td>
<td>168.6</td>
<td>73.87</td>
<td>81.02</td>
<td>11.04</td>
<td>1.93</td>
<td>0.61</td>
</tr>
<tr>
<td>2019</td>
<td>128.3</td>
<td>85.86</td>
<td>96.68</td>
<td>19.14</td>
<td>4.06</td>
<td>0.02</td>
</tr>
<tr>
<td>Mean</td>
<td>98.86</td>
<td>73.87</td>
<td>96.68</td>
<td>11.04</td>
<td>4.06</td>
<td>0.61</td>
</tr>
<tr>
<td>Std Dev</td>
<td>12.02</td>
<td>7.5</td>
<td>7.85</td>
<td>1.15</td>
<td>0.82</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Total assets had the highest mean for the period 2015-2019 (Mean= 6.48) while total Equity had the lowest (mean= 0.18). 2018 had the highest Total assets of (168.60) an indicator of the efficiency of the SACCOs in using its assets to generate revenue while 2015 had the lowest total assets. Total deposits in 2019 were the highest (85.86) while 2015 had the lowest total deposits of (50.57). This concurs with study findings done by Musasiah (2010) that deposit level positively impacted lending and the growth of SACCOs in Nairobi County. Gross loans were at the highest in 2019 (96.68) while 2015 had the lowest gross loan (51.55) in the study period. 2015 showed the lowest ROE of 0.12 and 2019 showed the highest 0.61 over the study period. This study
reveals that the performance of SACCOs was fluctuating in the last 5 years of the study as shown in table 4.13 as ROE for 2016 (0.19) 2017 (0.43) and 2018 decreased to (0.13) the level of performance of SACCOs is not stable a fact that can be attributed to other selected factors in the study.

**Correlation Analysis**

This study adopted a correlation analysis to establish statistical relations between two or more variables such that systematic changes in the value of one variable are accompanied by systematic changes in the other variable. Hypothesis testing was subjected to statistical analysis as shown below. Pearson’s correlation analysis and multiple regression analysis were used to test the study hypotheses.

**H₀₁:** There is no significant relationship between process innovations and the performance of SACCOs in Meru County.

Correlation between Process Innovations and Performance of SACCOs was conducted to establish the linear relationship between the independent variables and the dependent variable.

<table>
<thead>
<tr>
<th>Table 5: Process Innovation and ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process Innovation</strong></td>
</tr>
<tr>
<td>Sig 2 tailed</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).**

The results of correlation analysis showed that the correlation between process innovation and performance is positive but not statistically significant (r=0.222, p>0.05). The study accepts the null hypothesis that there is no significant relationship between process innovation and the performance of SACCOs in Meru County. This points out that any effort to change the process design, the cost of adopting ICT service delivery, new process innovation techniques and automation of SACCOs will have an upsurge in performance. These findings concur with a study by Gichana (2015) which found that process innovation had a positive effect on the financial performance of a firm.

**H₀₂:** There is no significant relationship between product innovations and the performance of SACCOs in Meru County.

Correlation between Product Innovations and Performance SACCOs was conducted to establish the linear relationship between the independent variables and the dependent variable.

<table>
<thead>
<tr>
<th>Table 6: Product Innovation and ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Innovation</strong></td>
</tr>
<tr>
<td>Sig 2 tailed</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).**

The study showed that the relationship between product innovation and ROE was positive and statistically significant (r=0.460, p<0.05). The study, therefore, rejects the null hypothesis that there is no significant relationship between product innovation and the performance of SACCOS in Meru County. This implies that an increase in the introduction of new products, improving on current products, enhancing the product performance and having differentiated products will enhance the performance of SACCOs in Meru County. These findings support those of Mosongo (2013), Githakwa (2011) and Tabas et al., (2012) and agree with Sidek (2013) who observed that product innovation indeed significantly influences firm performance.
Regression Analysis for Overall Model
The study sought to determine the nature of the relationship, which are the strength and the direction of the relationship that exists between the study variables.

Table 7: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.489</td>
<td>0.239</td>
<td>0.209</td>
<td>0.368</td>
</tr>
</tbody>
</table>

The study evaluated the effect of financial innovation under study (process & product innovation) and performance (ROE) of SACCOs in Meru County. Using multiple regression analysis the combined effect of the process, product and institution innovation and performance of SACCOs was established. The results showed that $R^2$ equals 0.239 which means that 23.9% of the variance of Y is explained by X. Adjusted R square equals 0.209 and Multiple correlation (R) equals 0.489 It means that there is a moderate direct relationship between predicted data and the observed data.

Analysis of Variance
The probability value (p-value) of a statistical hypothesis test was done to find a value of the test statistic as either extreme or more than extreme than that observed by chance alone, which was to check whether the null hypothesis $H_0$ was true. The p-value was compared with the actual significance level of the test and if it was smaller the result was significant. The smaller it is the more convincing is the rejection of the null hypothesis.

Table 8: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2</td>
<td>6.534</td>
<td>3.26</td>
<td>7.571</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>51</td>
<td>22.007</td>
<td>0.431</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>28.541</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Process Innovation and Product Innovation

The findings on the analysis of variance (ANOVA) indicated right-tailed $F(1, 51) = 7.571, p=0.00462$. Since p-value < 0.05, we reject the $H_0$. The linear regression model, $Y=b_0+b_1X_1+...+b_2X_2$ provides a better fit than the model without the independent variables resulting in, $Y=b_0$. These findings implied that the results are statistically significant and show that there was a significant effect on financial innovation (process and Product) and the performance of SACCOs in Meru County.

Regression Coefficients
The regression equation was explained by the following regression coefficients.

Table 9: Regression Coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std Error</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.006</td>
<td>0.838</td>
</tr>
<tr>
<td>Process Innovation</td>
<td>0.176</td>
<td>0.165</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>0.657</td>
<td>0.189</td>
</tr>
</tbody>
</table>

The findings showed that the coefficient and P values for the variables in the study. The results showed that product innovation (p < 0.05) and process innovation (p>0.05). There are no multicollinearity concerns (Intercorrelations among the predictors X1,X2) as all the VIF values are smaller than 2.5.
The interpretations of the findings indicated the following regression model.

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e \]

Therefore,

\[ Y = -2.006 + 0.176X_1 + 0.657X_2 \]

Where

Constant = -0.2006, \( X_1 = 0.176 \) shows a unit change in process innovation results in a .175 unit increase in financial performance; \( X_2 = 0.657 \) shows that a unit change in product innovation results in a 0.656 unit increase in financial performance.

V. Conclusion

The study makes the below conclusions based on the results in line with research objectives and hypotheses. The first hypothesis showed that new process innovation techniques had a positive effect on the performance of SACCOs in Meru County which is supported by other empirical studies. This means that innovation by design determines how the end-user will experience, interact with and generally respond to what’s on offer. Additionally, the innovation techniques used have improved service delivery, customer retention as well increased profitability and market share of the SACCOs. The study indicates that SACCOs need to offer solutions and create value by giving good and exemplary services. It is noted that services are very particular due to their specific characteristics of intangibility, simultaneity and heterogeneity. Therefore, processes need to be improved to enhance customer service and loyalty. Research has proven that higher retention results in higher market share, which in turn results in higher revenues. Numerous studies have confirmed this assertion (Ndubisi, 2003; Rosenberg & Czepiel, 1983) have shown that the cost of serving one loyal customer is five to six times less than the cost of attracting and serving one new customer.

In regards to the test of the second hypothesis, the success of any innovation depends on how good the products are, to begin with, the appropriate use of the product, the value of an innovation used and the competence of the person implementing it. Therefore, according to the findings, introduction of new products had a positive effect on the performance of SACCOs in Meru County, which also concurred with other empirical studies. The study thus concludes that product innovation is all about the development of products that are attractive to the market audience, targets a profitable customer segment and addresses the right unmet needs. SACCOs need to adapt to customers’ needs, provide quality standardized products that are innovative and environmentally friendly. The study demonstrates that product innovation is a difficult process driven by advancing technologies, changing customer needs, shortening product life cycles, and increasing global competition.

V. Recommendations

Having a sound innovation management plan is not enough since it must translate into viable products and positive business results. To improve returns on innovation investments, SACCOs need to effectively govern and measure their new innovation development processes from end to end, from strategic road mapping to idea development to innovation execution. The study recommends that SACCOs need to analyze their environment and employ innovative technologies to help them gain a competitive advantage in their highly competitive environment. This can be done by exploiting the opportunities presented by digitalization by either leveraging the technologies in-house or partnering with FinTech companies. These techniques would increase the use of technology to have a continuous and aggressive focus on digitization and adoption of new and emerging technologies to bring in operational efficiencies, enhance speed-to-market and deliver superior customer experiences. The study also recommends that the government through SASRA and the Ministry of Industry and Co-operative development continue to provide a conducive environment to allow SACCOs to innovate in order to thrive and flourish through beneficial legislation.

References


DOI: 10.9790/5933-1301045362 www.irosjournals.org 61 | Page
Effects Of Process And Product Innovation On Performance Of Savings And Credit Co-operative Societies in Meru County, Kenya.


DOI: 10.9790/5933-1301045362 www.iosrjournals.org 62 | Page