



**THE EFFECT OF FINANCIAL INNOVATION ON THE FINANCIAL PERFORMANCE
OF DEPOSIT TAKING SACCOs IN KENYA, A CASE OF KIAMBU COUNTY**

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Abstract

Financial Innovation involves the design, the development, and the implementation of innovative financial instruments and processes, and the formulation of creative solutions to problems in finance. This study sought to establish the effect of financial innovation on the financial performance of deposit taking SACCO's in Kiambu County. More specifically the study analyzed the role of product, process, service and institutional innovations in the performance of SACCO's. The variables analysed were found to have a statistically significant effect on financial performance of SACCOs in Kenya. It was therefore recommend that future study should include other non – financial innovation variables such the effect of competition from commercial banks, internal political influence, operations cost, saving culture and investment policies among others. The effect of innovation on financial performance should also be extended to other financial institutions in future research.

Keywords: Financial Innovation, Financial Performance, Innovation, SACCO

1. Introduction

Innovation in the financial market fosters an organization to grow, prosper and transform in synchronization with the changes in the environment, both internal & external (Mugane, 2015). The banking sector in Kenya has witnessed radical changes of late, based on many innovations in products, processes, services, systems, business models, technology, governance and regulation. The pervasive influence of information technology has revolutionaries in banking (Kumar, 2011). Financial markets have been liberalizing in both financial and non-financial technologies. Hwang et al. (2004) notes that this liberalization and globalization is due to various political and economic events which have increased competition among African financial market and forcing the authorities to deregulate and restructure the domestic banking industry.

In the Kenyan financial markets, all profit seeking enterprises are constantly adapting to new and improved products, services and organizational structures that can reduce their costs of production, satisfy their customers' needs better and yield higher profits (Mugane, 2015). Bank customers demand for variety, convenience and new services. They want products that can meet their precise, individual needs. Nyathira (2012), observed that Kenya's financial sector has undergone significant transformation in the last few years and that many new financial systems have come into place. With the recent innovations in the financial market and more so banking SACCO's in Kenya, whole industry has been transformed through enhancement of efficiency and effectiveness.

2. Financial Innovation

Financial innovation can be defined as the action or a process of creating and popularizing new financial instruments as well as new financial technologies, markets and institutions (Jofi, 2015). Kenyan financial sector has over time developed successfully with innovation products and services available in financial market (Mukur, 2014). Noyer (2007) noted that financial innovation has not only created new opportunities for the sector participants, but also increased new market players arising from new products in the financial market. Currently SACCO's are providing a very stiff competition to the commercial banks, given that they have introduced current financial innovations in service delivery. These SACCO's just like the commercial banks have adopted innovation products such as debit cards, credit cards, ATM cards, M-pesa and others which facilitate the use of electronic means of payment and sometimes substitute for the use of physical cash. These have made them very competitive with investors turning away from banks and opt to invest in these SACCO's.

That latest service innovation within the SACCO's has led to furthering of financial inclusion and innovative service offerings for all Kenyans by presenting their financial services offering on to a single platform which will increase accessibility of banking services, flexibility, convenient and affordability (Mugane, 2015).

3. Financial Performance

Firm performance refers to outcomes achieved in meeting internal and external goals of a firm (Lin *et al.*, 2008). Generally common indicators, such as profitability ratio, asset management ratio, debt ratio, liquidity ratio, and market value ratio are used in measuring financial performance of SACCO's (Tavitiyaman *et al.*, 2012).

4. Sacco's in Kenya

The SACCO societies have distinguished themselves as convenient channel for savings mobilization and credit extension to members for both personal and corporate development (Onduko, 2013). The main aim of regulation is to protect the customers' deposits and increase public confidence hence attracting more new customers. The main regulators and governors of the banking industry in Kenya is the companies Act, the Central Bank of Kenya Act Cap 491, the banking Act Cap 488, the micro finance Act 2006 and The SACCO Societies Regulatory Authority (SASRA) established under the SACCO Societies Act (Cap 490B) of the Laws of Kenya 2010. SASRA evaluates the performance of the SACCO subsector based on the financial data and information extracted from audited financial statements and reports for the period 2006 to 2010. SACCO's just like Commercial banks in Kenya accept deposits from individuals and accrue some profit by using the deposits to offer loans to businesses with a high interest rate.

There are more than 2000 SACCO's in Kenya with only 186 registered SACCO's by SASRA and which are authorized to conduct front office service operations (FOSA) with only 13 being located in Kiambu County (Appendix II). A FOSA activity is a quasi-banking service undertaken by registered SACCO's. SACCO's comprises over 50% of all cooperatives in Kenya and as financial institutions they play a critical role of financial intermediation in Kenya's financial landscape focusing mostly on personal development (Onduko, 2013).

5. Statement of the Problem

Deposits taking SACCO's in Kenya have always straggled to keep pace with this ever changing technology with some of the SACCOs collapsing and others operating under losses. Long lines due to increased membership, transaction error, and insecurity and network failures are the

common challenges in the financial markets (Smith, 2013). This has highly lowered customer's perception on the quality of service offered, reducing credibility in the banks and microfinance (Joseph *et al.*, 2003). Therefore many of the customers have opted to look for alternative banking system such as SACCO's which are also experiencing similar challenges as the banks and microfinance.

Failure by previous researcher to keep updating with the current innovations in the deposit taking SACCO's, the problems of ineffectiveness and poor financial performances in the SACCO's are experienced. Thus this research sort to investigate the role of current financial innovations and how they affect the financial performance of SACCO's registered with SASRA.

6. Study Objectives

The general objective of the study seeks to establish the role of financial innovation on financial performance of deposit taking SACCO's in Kenya. The specific objectives were;

1. To establish the role of product innovation on financial performance
2. To determine the role of process innovation on financial performance
3. To establish the role of service innovation on financial performance
4. To determine the role of institutional innovation on financial performance

7. Literature Reviewed

The study adopted three theories to guide it;

Constraint- induced theory; This theory was advanced by Silber (1983) and cited severally by Mukur (2014). This theory is based on the assumption that the main reason for innovation is to increase the firms' profitability. Mukur (2014) noted though there are some external and internal environmental obstacles which distract realization of profit maximization. These barriers tend to undermine the efficiency of financial institutions.

Innovation diffusion theory; The innovation diffusion theory was developed by Rogers (2003). According to the theory, there are four elements of diffusion which including innovation, time, communication channels, and social systems that affect adoption of innovation. Rogers, (2003) states that an individual's technology adoption behavior is determined by his or her perceptions regarding the relative advantage, compatibility, complexity, trainability, and observability of the innovation, as well as social norms.

Schumpeter Theory of Innovation; Schumpeter (1934) cited by Korir (2014) and Mugane (2015) argued that entrepreneurs who are very innovative create new opportunities for new

profits. The innovation becomes a new product in the market which competitors followers (firms) imitate due to the super normal profits enjoyed by the originator of the idea. Schumpeter (1934) emphasized the role of entrepreneurship in finding better opportunities to exploit to generate flow of income. The theory has attempted to distinguish between the entrepreneurs whose innovations create a profitable environment for new enterprises and the bankers who create credit to finance the construction of the new ventures (Schumpeter, 1939).

8. Conceptual framework

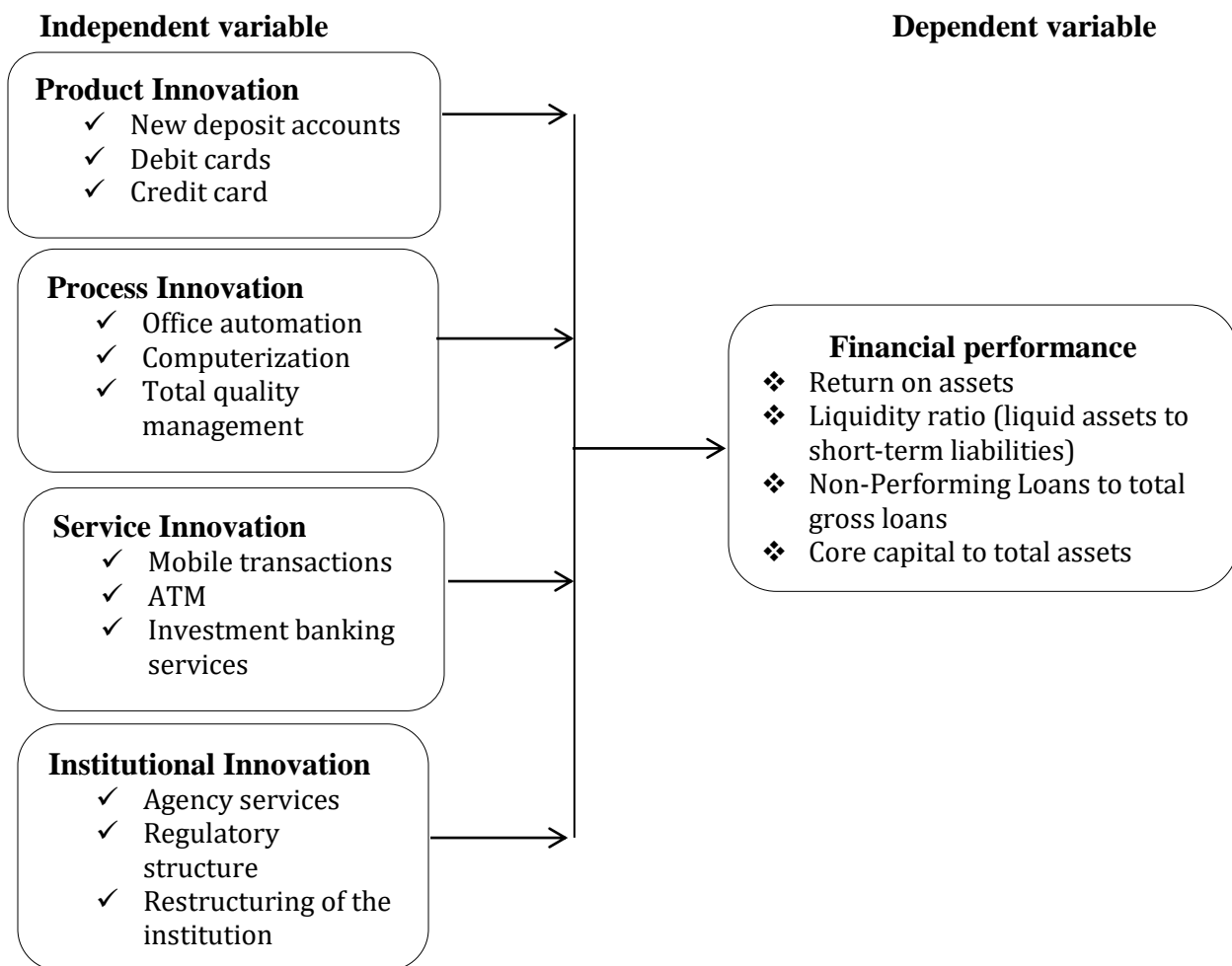


Figure 1: Conceptual Framework

9. Research Methodology

Descriptive data design was applied in data analysis. The population of interest was eleven SACCO's. The sample composed of 22 managers, 22 employees and 33 members interviewed using structured questionnaires. Therefore, a sample size of 77 respondents was used in the

study. Tables were used for qualitative presentation of information analysis and the inferential analysis was analyzed using linear regression model.

RESULTS AND DISCUSSION

10. Financial performance

Table 1: Financial Performance

Factor	Not At All (%)	Low Extent (%)	Moderate Extent (%)	Great Extent (%)	Very Great Extent(%)
Return on assets	5.56	18.52	46.30	20.37	9.26
Liquidity ratio	7.41	14.81	48.15	18.52	11.11
Non-performing loans	5.56	16.67	46.30	20.37	11.11
Core capital to total assets ratio	5.56	16.67	48.15	18.52	11.11

The research sought information on the trend of various measures of financial performance. The respondents were asked to give their opinion on the statement that return on asset ratio had been improving over the last five years (2011-2015) in their SACCOs. From the results 5.56% of the respondents strongly disagreed, 18.52% agreed, 46.30% were neutral, 20.37% agreed and 9.26% strongly agreed. The interpretation was that majority of the respondents were neutral. In combination however, the number for the respondents who agreed and strongly agree was greater compared to those who disagreed and strongly disagree combined. The results further indicate that the return on assets had been improving.

The respondents were also requested to give their opinions on the statement that liquidity ratio had been improving over the last five years (2011-2015) in their SACCOs. From the results 7.41% of the respondents strongly disagreed, 14.81% agreed, 48.15% were neutral, 18.52% agreed and 11.11% strongly agreed. The interpretation was that majority of the respondents were neutral. In combination however, the number for the respondents who agreed and strongly agree was greater compared to those who disagreed and strongly disagree combined. The results thus implied that SACCOs maintained a good liquidity ratio.

The study sought the respondents' opinions on the statement that nonperforming loans to gross loan ratio has been improving over the last five years (2011-2015) in their SACCOs. From the

results 5.56% of the respondents strongly disagreed, 16.67% agreed, 46.30% were neutral, 20.37% agreed and 11.11% strongly agreed. The interpretation was that majority of the respondents were neutral. The findings imply that non-performing loans were reducing each year. The opinions thus suggested that the SACCOs had maintained the default from the customers low.

Finally the respondents were asked to give their opinion on the statement that core capital to total assets ratio has been improving over the last five years (2011-2015) in their SACCO. From the results 5.56% of the respondents strongly disagreed, 16.67% agreed, 48.15% were neutral, 18.52% agreed and 11.11% strongly agreed. The interpretation was that majority of the respondents were neutral. In combination however, the number for the respondents who agreed and strongly agree was greater compared those who disagreed and strongly disagree combined. These findings therefore, showed that SACCOs had maintained the right levels of core capital in their organization. These findings concur with those of Heremans (2007), Korir (2014), Ahmed *et al.* (2011) and Onduko (2013) who found that financial indicators measures performance.

11. Product innovation

Table 2: product innovation

Factor	Not At All (%)	Low Extent (%)	Moderate Extent (%)	Great Extent (%)	Very Great Extent (%)
New deposit account	3.70	11.11	29.63	48.1	7.41
Debit card	3.70	9.26	31.48	44.44	11.11
Credit Cards	3.70	9.26	33.33	46.30	7.41
Innovation strategy	3.70	9.26	31.46	46.30	9.26

The study sought to find the effect of product innovation on the financial performance of deposit taking SACCOs in Kenya. The result found out that deposits accounts affect the financial performance of the SACCO as evidenced by the opinions of the respondents. As a percentage of the total 3.70% were for the opinion no extent at all, 11.11% said low extent 29.63% were for the moderate opinion, 48.15% were for the great extent opinion and lastly 7.41% were for the very great extent. The interpretation was that majority of the respondent felt that opening new

accounts by customers had a great effect on the financial performance of SACCOs in Kenya.

The use of debit cards was found to affect the financial performance of the SACCOs. As a percentage of the total 3.70% were for the opinion no extent at all, 9.26 % said low extent 31.48 % were for the moderate opinion, 44.44% were for the great extent opinion and lastly 11.11 % were for the very great extent. The interpretation was that majority of the respondent felt the use of debit cards by customers had a great effect on the financial performance of SACCOs in Kenya.

The use of credit card was found to have effect on the financial performance of the SACCOs. As a percentage of the total 3.70% were for the opinion no extent at all, 9.26 % said low extent 33.33% were for the moderate opinion, 46.30% were for the great extent opinion and lastly 7.41% were for the very great extent. The interpretation was that majority of the respondent felt that use of credit cards by the customers had a great effect on the financial performance of SACCOs in Kenya

The study requested the respondents to give their opinion on the extent to which product innovation strategies affected the financial performance of the SACCO. As a percentage of the total 3.70% were for the opinion no extent at all, 9.26% said low extent 31.46 % were for the moderate opinion, 46.30% were for the great extent opinion and lastly 9.26 % were for the very great extent. The interpretation was that majority of the respondent felt that product innovation strategies by the SACCO had a great effect on the financial performance of SACCOs in Kenya. These findings supports those of Mwangi (2007), Onduko (2013) in Kenya and Nwokah *et al.* (2013) in Ghana.

12. Service Innovation

Table 3: Service Innovation

Factor	Not At All (%)	Low Extent (%)	Moderate Extent (%)	Great Extent (%)	Very Great Extent (%)
Mobile service	5.56	12.96	38.89	29.63	12.96
ATM	3.70	14.81	44.44	22.22	14.81
Investment banking services	3.70	9.26	33.33	46.30	7.41
Influence of	3.70	14.81	46.30	22.22	12.96

The research investigated the effect of service innovation on the financial performance of deposit taking SACCOs in Kenya. The results found that, as a proportion of the total 5.56 % of the respondents were for the opinion no extent at all, 12.96 % said low extent, 38.89 % were for the moderate opinion, 29.63% were for the great extent opinion and lastly 12.96 % were for the very great extent. The interpretation was that majority of the respondent felt that mobile service innovation by the SACCO had effect on the financial performance of SACCOs in Kenya.

The use of Automatic Teller Machine was found to affect the financial performance of the SACCO. The study found that, as a proportion of the total 3.70 % of the respondents were for the opinion no extent at all, 14.81% said low extent 44.44 % were for the moderate opinion, 22.22 % were for the great extent opinion and lastly 14.81 % were for the very great extent. The interpretation was that majority of the respondent felt that innovation in use of automatic teller machine by the SACCO had effect on the financial performance of SACCOs in Kenya.

The innovation in the investment banking services was found to affect the financial performance of the SACCOs. As a proportion of the total, 3.70% of the respondents were for the opinion no extent at all, 14.81% said low extent 48.15 % were for the moderate opinion, 20.37 % were for the great extent opinion and lastly 12.96 % were for the very great extent. The interpretation was that majority of the respondent felt that innovation in investment banking services by the SACCOs had a moderate effect on the financial performance of SACCOs in Kenya.

The respondents were ask to give their opinion on the extent to which service innovation influence the financial performance of their SACCOs. The results found that as a proportion of the total 3.70% of the respondents were for the opinion no at all, 14.81 % said low extent 46.30 % were for the moderate opinion, 22.22% were for the great extent opinion and lastly 12.96 % were for the very great extent. The interpretation was that majority of the respondent felt that service innovation by the SACCO had a moderate effect on the performance of SACCOs in Kenya. The findings supports those of Abor (2005) in Ghana and Mwangi (2013), Kimingi (2010) in Kenya.

13. Institutional innovation

Table 4: Institutional Innovation

Factor	Not At All (%)	Low Extent (%)	Moderate Extent (%)	Great Extent (%)	Very Great Extent (%)
Agency service innovation	9.26	16.6	46.30	18.52	9.26
Regulatory structure	7.41	20.37	44.44	18.52	9.26
Restructuring of the institution	7.41	18.52	44.44	20.37	9.26
Efficiency and diversity	7.41	18.52	42.59	22.22	9.26

The research sought the respondents opinions on the extent to which agency service innovation affected the financial performance of the SACCOs. The study found out that from the total respondents 9.26 % of the respondents were for the opinion no at all, 16.6 % said low extent 46.30 % were for the moderate opinion, 18.52% were for the great extent opinion and lastly 9.26 % were for the very great extent. The interpretation was that majority of the respondent felt that agency service innovation by the SACCO had a moderate effect on the performance of SACCOs in Kenya.

Regulatory structure was found to have effect on the financial performance of the SACCOs. As a proportion of the total 7.41% were for the opinion no extent all, 20.37% said low extent 44.44 % were for the moderate opinion, 18.52 % were for the great extent opinion and lastly 9.26 % were for the very great extent. The interpretation was that majority of the respondent felt the change in the regulatory structure helped improve the financial performance of the SACCOs in Kenya.

The restructuring of the institution was found to affect the financial performance of the SACCOs. As a percentage of the total 7.41% were for the opinion that no extent at all, 18.52% said low extent 44.44 % were for the moderate opinion, 20.37 % were for the great extent opinion and lastly 9.26 % were for the very great extent. The interpretation was that majority of the respondent felt that restructuring of the institution by the SACCO had a substantial effect on the performance of SACCOs in Kenya.

Innovation in efficiency and diversity was found to have effect on the financial performance of the SACCOs. The study found that 7.41% of the respondents were for the no extent at all opinion, 18.52 % said low extent 42.59 % were for the moderate opinion, 22.22% were for the great extent opinion and lastly 9.26 % were for the very great extent. The interpretation was that

majority of the respondent felt that innovation in efficiency and diversity by the SACCO had a substantial effect on the performance of SACCOs in Kenya. The findings supports those of Kibera and Mburu (2004), Onduko (2013) and Mudibo (2005).

14. Process innovation

Table 5: Process Innovation

Factor	Not At All (%)	Low Extent (%)	Moderate Extent (%)	Great Extent (%)	Very Great Extent (%)
Office automation	5.56	22.22	37.04	18.52	16.67
Computerization	5.56	20.37	40.74	20.37	12.96
Total quality management	5.56	14.81	46.30	22.22	11.11
Turnover	5.56	14.81	40.74	24.07	14.81

The study assessed the effect of process innovation on the financial performance of the SACCOs. One of the elements of the process innovation was the office automation which was found to have effect on the financial performance of the SACCO. As a percentage of the total 5.56 % of the respondents were for the no extent at all opinion, 22.22 % said low extent 37.04 % were for the moderate opinion, 18.52 % were for the great extent opinion and lastly 16.67 % were for the very great extent opinion. The interpretation was that majority of the respondent felt that office automation by the SACCO had an effect on the performance of SACCOs in Kenya.

Computerization in the SACCOs was found to affect the financial performance of the SACCO. As a percentage of the total 5.56 % of the respondents were for the no extent at all opinion, 20.37 % said low extent 40.74 % were for the moderate opinion, 20.37 % were for the great extent opinion and lastly 12.96% were for the very great extent. The interpretation was that majority of the respondent felt that computerization by the SACCO had effect on the performance of SACCOs in Kenya. Therefore the results showed that SACCOs should adopt technological changes to help them perform better.

Total quality management was found to contribute to the financial performance of the SACCO. As a percentage of the total 5.56 % of the respondents were for the no extent at all, opinion 14.81 % said low extent 46.30 % were for the moderate opinion, 22.22 % were for the great extent opinion and lastly 11.11 % were for the very great extent. The interpretation was that majority of

the respondent felt that total quality management by the SACCO had significant effect on the performance of SACCOs in Kenya.

The respondents were asked to give their opinions on whether process innovation causes high turnover in the SACCO. As a percentage of the total 5.56 % of the respondents were for the no extent at all opinion, 14.81 % said low extent 40.74 % were for the moderate opinion, 24.07 % were for the great extent opinion and lastly 14.81 % were for the very great extent. The interpretation was that majority of the respondent felt that process innovation causes high turnover in the SACCO in the financial performance of SACCOs in Kenya. The findings supports those of Onduko (2013) and Githikwa (2009) in Kenya, Dauda *et al* (2011) in Nigeria and those of Abor (2005) in Ghana.

15. Testing Multi collinearity using Pair-wise Correlation

Table 6: Correlation Analysis

Variables	Performance Innovation	Product Innovation	Process Innovation	Service Innovation	Institution Innovation
Performance Innovation	1				
Product Innovation	0.72	1			
Process Innovation	0.80	0.56	1		
Service Innovation	0.77	0.58	0.59	1	
Institution Innovation	0.63	0.54	0.46	0.46	1

Brook (2002) Multi collinearity is the problem that occurs when the explanatory variables are very highly correlated with each other. If there is no relationship between the explanatory variables, they would be said to be orthogonal to one another. If the explanatory variables were orthogonal to none another, adding or removing a variable from a regression equation would not cause the values of the coefficients on the other variables to change.

From table 6 the correlation analysis shows that the collinearity between independent variables was below 85 % which has been accepted in literature as the value beyond which collinearity would be termed as a serious problem in models estimation process. The correlation between the independent variables and the dependent variable (SACCO's performance) was found to be quite high which was a good indication of explanation power of the independent variables on the

dependent variable. Since multi collinearity was not found to be serious problem the researcher proceeded to carry out the regression analysis in the net section

16. Regression Model fit

Table 7: Regression Result table

Variable	Coefficient	Standard error	t-statistic	p-value
Production Innovation	0.207	0.079	2.632	0.010
Process Innovation	0.301	0.076	3.947	0.000
Service Innovation	0.335	0.077	4.346	0.000
Institutional Innovation	0.178	0.071	2.520	0.015
Intercept	1.230	0.40	3.075	0.000
F-statistic = 64.207				
Prob>F = 0.0000		R-squared=0.840	Adjusted R-squared=0.827	

The regression model is as follows:

$$Y = 1.230 + 0.207X_1 + 0.301X_2 + 0.335X_3 + 0.178X_4 + \varepsilon$$

Standard Error 0.40 0.079 0.076 0.077 0.071

t-Statistics 3.075 2.632 3.94 4.346 2.520

p-value 0.00 0.000 0.000 0.000 0.015

F-statistic = 64.207

Prob>F = 0.0000

Adjusted R-squared=0.827

Where: Y = Financial performance, β_0 = Constant Term, β_1 = Beta coefficients, X1 = Product Innovation, X2 = Process Innovation, X3 = Service Innovation, X4 = Institutional Innovation
 ε = Error Term

17. Product innovation

From the regression model above coefficient of product innovation was found to be 0.207. This value shows that holding other variables in the model constant, an increase in product innovation by one unit causes the financial performance to increase by 0.207 units. The value of the coefficient is also positive. The positive effect shows that there is a positive relationship between the product innovation in the SACCOs and their performance.

The coefficient is not just positive but also statistically significant with a t-statistic value of 2.632. In statistics, a t-statistic of 3 and above is normally accepted to be significant in statistical inference. The standard error was found 0.079 and the p-value was found to be 0.00. The variable was also found to be the third most influential variable on the performance of SACCOs

in Kiambu County. These findings supports those of Mwangi (2007), Onduko (2013) in Kenya and Nwokah *et al.*(2013) in Ghana.

The results thus shows that product innovation by the SACCOs enhance the financial performance. The implication is that the stakeholders should make sure that product innovation is prioritized when formulating the financial strategies. The SACCOs should also allocate enough resources to enhance the product innovation process.

18. Process Innovation

From the regression model coefficient of process innovation was found to be 0.301. This value shows that holding other variables in the model constant, an increase in product innovation by one unit causes the financial performance to increase by 0.30 units. The value of the coefficient is also positive. The positive effect shows that there is a positive relationship between the product innovation in the SACCOs and their performance.

The coefficient is not just positive but also statistically significant with a t-statistic value of 3.947. In statistics, a t-statistic of 3 and above is normally accepted to be significant in statistical inference. The standard error was found 0.076 and the p-value was found to be 0.00. The variable was also found to be the second most influential variable on the performance of SACCOs in Kiambu County. The findings supports those of Onduko (2013) and Githikwa (2009) in Kenya, Dauda *et al* (2011) in Nigeria and those of Abor (2005) in Ghana.

The results thus shows that process innovation by the SACCOs enhance the financial performance. The implication is that the stakeholders should make sure that process innovation is prioritized when formulating the financial strategies. The SACCOs should also allocate enough resources to enhance the process innovation process.

19. Services Innovation

From the regression model coefficient of service innovation was found to be 0.335. This value shows that holding other variables in the model constant, an increase in product innovation by one unit causes the financial performance to increase by 0.335 units. The value of the coefficient is also positive. The positive effect shows that there is a positive relationship between the product innovation in the SACCOs and their performance.

The coefficient is not just positive but also statistically significant with a t-statistic value of 4.346. In statistics, a t-statistic of 3 and above is normally accepted to be significant in statistical inference. The standard error was found to be 0.077 and the p-value was found to be 0.00. The

variable was also found to be the first most influential variable on the performance of SACCOs in Kiambu County. The findings supports those of Abor (2005) in Ghana and Mwangi (2013), Kimingi (2010) in Kenya.

The results thus shows that service innovation by the SACCOs enhance the financial performance. The implication is that the stakeholders should make sure that service innovation is prioritized when formulating the financial strategies. The SACCOs should also allocate enough resources to enhance the service innovation process.

20. Institutional Innovation

From the regression model, coefficient of institutional innovation was found to be 0.178. This value shows that holding other variables in the model constant, an increase in product innovation by one unit causes the financial performance to increase by 0.178 units. The value of the coefficient is also positive. The positive effect shows that there is a positive relationship between the product innovation in the SACCOs and their performance.

The coefficient was not just positive but also statistically significant with a t-statistic value of 2.520. In statistics, a t-statistic of 3 and above is normally accepted to be significant in statistical inference. The standard error was found to be 0.071 and the p-value was found to be 0.015. The variable was also found to be the third most influential variable on the performance of SACCOs in Kiambu County. The findings supports those of Kibera and Mburu (2004), Onduko (2013) and Mudibo (2005).

The results thus showed that institutional innovation by the SACCOs enhanced the financial performance. The implication is that the stakeholders should make sure that institutional innovation is prioritized when formulating the financial strategies. The SACCOs should also allocate enough resources to enhance the institutional innovation process.

21. Good-of- fit Statistics

From table 7 the value of F-statistic is 64.207 and it is also statistically significant. The value of adjusted R-squared was found to be 0.827. This implied that the estimated model explains approximately 83% of the variation in bank performance and that the remaining 17% is accounted for by other factors that were not included in the model. The future researchers are therefore urged to try and improve the model by including other relevant variables in the model.

22. Financial Performance over five years (2011-2015)

Table 8: Descriptive Analysis

	Non-Performing Loans Ratio (%)	Roa Ratio (%)	Liquidity Ratio (%)	Capital Ratio (%)
Mean	5.407818	2.927091	32.23036	11.17655
Std. Dev.	2.023944	0.740049	4.602515	1.797250
Observations	55	55	55	55

Table 8 shows the descriptive results for the secondary data for the eleven SACCOs under study. The data is for the measures of SACCOs financial performance over a period of 5 years that were under investigation. The variables that were used as measures of financial performance of the SACCOs were capital adequacy ratio, liquidity ratio, and return on assets. In all cases the data for every variable was aggregated for all the eleven SACCOs to form a continuous variable in a series form disregarding the difference in years and ignoring the panel structure in the data. Each of the variable was therefore composed of 55 observations.

The liquidity ratio variable had a mean of 32% and the standard deviation of 4.6 units. According to (SASRA,2013) annual report, liquidity level indicate an institutions ability to fund increase in assets and meet obligations as and when they fall due. Deposit taking SACCOS like other financial institutions, therefore require matching level of liquidity resources to the short-term deposits and other liabilities in order to remain liquid. The report further, note that the minimum regulatory ratio in Kenya is 15 percent. As reported in the table 8 it is evident that on average all the eleven SACCOs adhere to this rule since the mean is 32% which is above the statutory value of 25%.

As reported, the capital adequacy ratio had a mean value of 11% and the standard deviation of 1.797 units for all the eleven SACCOS. Although some values of mean for some SACCOs were below the statutory requirement of 10% level, majority adhered to the set out rules and maintained the minimum level. This was confirmed the mean value of 11% which was a value marginally above the statutory set value of 10%.

Further, on the other hand the trend in non-performing loans to gross loan ratio for all the SACCOS had a mean value of 5% and the standard deviation of 2.02 units. This value

remained low which meant that the SACCOs industry was able to contain the default level. SASRA (2013) annual report, noted that the lending model for SACCOs should ideally minimize defaults level. Finally the return on assets was noted to be relatively small with a value of 2.9 and the standard deviation of 0.7 units across all SACCOs. These results indicates that SACCOs should come up with more innovative ways to invest to improve the return on assets such as investing in profitable new ventures investments.

22. Summary of findings

Product Innovation

The indication of results was that product innovation helped to improve the financial performance of SACCOs.

The results were arrived at since the respondents agreed that the opening of new deposits accounts, the use of debit card and the use of credit cards had effects on the financial performance of SACCOs in Kenya. Product innovation was found to have a positive and a statistically significant effect on the financial performance of SACCOs in Kenya.

From the regression model, this variable was found to contribute a great variation to the financial performance of SACCOs in Kenya holding other variables constant. This variable was found to be the third most influential variable in the model. The implication was that product innovation was a key determinant of SACCO's financial performance in Kenya and especially in Kiambu County.

Service Innovation

The study sought to investigate the effect of financial innovation on the financial performance of SACCOs in Kiambu County. The indication was that product innovation helped to improve the financial performance of SACCOs.

The results were arrived at since the respondents agreed that Mobile services, automated teller machine and investment banking services had effects on the financial performance of SACCOs in Kenya. Service innovation was found to have a positive and a statistically significant effect on the financial performance of SACCOs in Kenya.

From the results of the regression model, service innovation was found to contribute a great variation of 0.335 units per it unit change to the financial performance of SACCOs in Kenya holding other variables constant. This variable was found to be the first most influential variable in the model. The implication was that service innovation was a key determinant of SACCO's financial performance in Kenya and especially in Kiambu County.

Process Innovation

The study sought to investigate the effect of process innovation on the financial performance of SACCOs in Kiambu County. The indication was that process innovation helped to improve the financial performance of SACCOs.

The results were arrived at since the respondents agreed that the opening of new deposits accounts, the use of debit card and the use of credit cards had effects on the financial performance of SACCOs in Kenya. Process innovation was found to have a positive and a statistically significant effect on the financial performance of SACCOs in Kenya.

From the regression, process innovation was found to contribute a substantial variation of 0.301 units per it unit change to the financial performance of SACCOs in Kenya holding other variables constant. This variable was found to be the second most influential variable in the model. The implication was that process innovation was found to be a key determinant of SACCO's financial performance in Kenya and especially in Kiambu County.

Institutional Innovation

The study sought to investigate the effect of institutional innovation on the financial performance of SACCOs in Kiambu County. The indication was that institutional innovation helped to improve the financial performance of SACCOs. The results were arrived at since the respondents agreed that the opening of new deposits accounts, the use of debit card and the use of credit cards had effects on the financial performance of SACCOs in Kenya. Institutional innovation was found to have a positive and a statistically significant effect on the financial performance of SACCOs in Kenya.

From the regression results, institutional innovation was found to contribute a variation of 0.178 units per it unit change to the financial performance of SACCOs in Kenya holding other variables constant. This variable was found to be the least influential variable in the model. The implication was that the variable is a key determinant of SACCO's financial performance in Kenya and especially in Kiambu County.

Secondary data

The findings from the secondary data showed that on average all the SACCOs adhered to the regulations on the set levels of minimum liquidity and capital adequacy levels. However some of SACCOs occasionally violated this requirement. The level of non-performing loans was found to be low, this was a good indication of containing default levels.

The return on assets was found to be low. This was a good indication that majority of the SACCOs were not able to employ their assets to optimal use. When assets are employed optimally return on assets ratio should be high.

23. Conclusion

The study concluded that product innovation, process innovation, service innovation and institutional innovation are key determinants of financial performance of SACCOs in Kenya. The results as presented by the regression model revealed that the factor's effect was statistically significant. Service innovation was found to be the most influential, process innovation was found to be the second most influential variable, product innovation in the SACCOs was found to be third most influential variable and finally institutional innovation was the least influential variable on financial performance of deposit taking SACCOs in Kenyan.

The study further concludes that SACCOs should adopt different types of financial innovations so that they can expand their financial performance. On the overall the study concludes that there is a strong positive and statistically significant relationship between financial innovation and SACCO's financial performance in Kenya. The SACCOs are encouraged to explore different types of innovations that will help them perform better since also the innovation considered in this study were found to improve the financial performance.

SACCOs should invest in technology such as use of internet and computerization of their activities. This would be important since majority of the respondents confirmed through their response that increase in use of such services helped reach many customers as possible. Innovations in the agency services, regulatory structure and restructuring of the institutions was also found to have a substantial contribution to the financial performance of SACCOs.

24. Recommendations

The financial performance of SACCOs

From the results, the study gives a recommendation that in Kenya, product, process, institutional and service innovations are key determinants of financial performance of SACCOs in Kenya. It was observed that all variables had different effects on the financial performance of SACCOs in Kenya. However, on the overall the variables were found to be statistically significant and therefore managers and other stakeholders in the industry should take into account the effects of these variables when making financial decisions.

Product Innovation

This variable was found to be statistically significant and therefore it is recommended that managers should be keen on the product innovations in their SACCOs. The management of these organizations should be geared towards bringing new financial products for both the existing and expected customers since this would in turn affect the financial performance of the SACCO. The organizations should also allocate adequate resources in new product innovations.

The SACCOs should offer good interest rates for the new customers intending to open new bank accounts to motivate them to save more. They should in extension avail debit cards and credit card to the customers cheaply to encourage them to withdraw and spend more. This would in turn generate more revenues for the charges of using these products.

Service Innovation

Since the effect of service innovation was found to be statistically significant, it was recommended that managers should be keen on the service innovations in their SACCOs. The management of these organizations should be geared towards bringing new services for both the existing and expected customers since this would in turn affect the financial performance of the SACCO. The organizations should also allocate adequate resources in new service innovations.

The recent innovations in the mobile banking services have revolutionize the banking industry in Kenya. A good example is the introduction of M-banking which help the customer to access their account from the comfort of their residence. Since mobile service was found to have a positive effect more innovation in this direction would be useful to the customers. The use of ATMs was also found to be of great effect on the financial performance of SACCOs. Thus SACCOs should teach their customers the important of using this facility and encourage it use.

Process Innovation

Process innovation was found to have a statistically significant and therefore it is recommended that managers should be keen on the process innovations in their SACCOs. The management of these organizations should be geared towards bringing new products for both the existing and expected customers since this would in turn affect the financial performance of the SACCO. The organizations should also allocate adequate resources in new process innovations.

SACCOs should invest in improving office Automation since this measure was found to contribute to the financial performance. Office Automation encourages the sharing of financial information and thus enhances the first transactions.

Institutional Innovation

Institutional innovation was found to have statistically significant and therefore it was recommended that managers should be keen on the institutional innovations changes taking place. The government should enhance and finance activities that are meant to bring institutional innovation in the SACCOs industry.

According to Onduko (2013) institutional innovation are innovation in the financial system as an overall, such as changes in the structure of the financial sector, changes in business structure, financial intermediation and changes in the supervisory framework. Therefore the management should make sure that enough attention should be directed toward these innovations when making financial decisions. The government should also strengthen oversight bodies such as SASRA to make sure that the SACCOs adhere to the set regulations and rule to prevent the collapse of the young industry.

25. Area for further Research

From the results of the research recommendation is suggested for further research in other counties. The study should include other non – innovation variables such the effect of competition from commercial banks, internal political influence, operations cost, saving culture and investment policies. The effect of innovation on financial performance should also be extended to other financial institutions in future research.

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