

Effect of Technological Innovation Strategy on Performance of Savings and Credit Co-operatives in Kenya

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Abstract: The main objective of the study was to establish the effects of technological innovation strategy on performance of savings and credit co-operatives in Kenya with a view of ameliorating the situation for socio-economic development. This study used a descriptive research design. Pilot study was conducted in 9 deposits taking Saccos. A survey of 172 deposit taking Sacco's was conducted for the study. Data was collected from the 172 deposit taking SACCOs in Kenya using questionnaires. Both quantitative and qualitative data was collected. The study used SPSS (Version 21) for the analysis and data output. Content analysis was used to address the qualitative information obtained from the key informants.

Keywords: Technological Innovation Strategy, Performance, Savings and Credit Co-operatives.

1. INTRODUCTION

This study seeks to establish the effects of deposit mobilization strategies on the performance of savings and credit cooperative societies. In today's society, cooperative financial institutions hold a considerable market share, with the IMF estimating that across all banking sector assets in developed countries, the market share of cooperative finance was equivalent to 14 percent in 2004 (Hesse & Cihak, 2007). Previous research on cooperative finance during crisis indicates that they tended to fare better than investor-owned savings and loans institutions, as they pursue more conservative investment policies (Chaddad & Cook, 2004). For instance, analysis from the IMF indicates that cooperative banks in developed countries tend to be more stable than commercial banks, especially during financial crisis, as their investment patterns tend to be less speculative and returns are therefore less volatile (Hesse & Cihak, 2007).

The growth of any economy depends on capital accumulation, which in turn depends on investment and an equivalent amount of savings to match it. Two key issues for developing countries are how to stimulate investment and increase the level of saving to fund increased investment (Gijssels & Devetere, 2007). Deposits mobilization should be backed by adequate institutional capital which ensures permanency, provide cushion to absorb losses and impairment of members' savings (Evans, 2001). The institutional capital, which comprises the core capital and less share capital, is mainly accumulated from appropriation of the surpluses. Therefore, SACCOs should strive to maximize on the earnings to build the institutional capital (Branch & Cifuentes, 2001; Ombado, 2010). This institutional capital ensures the permanence and growth of the SACCOs even in turbulent economic times (Evans, 2001). In fact, it helps the SACCOs to grow and, remain economically and financially viable (Gijssels & Devetere, 2007). Such growth is enhanced by effective financial practices.

Accordingly, the financial practice team identifies the most appropriate methods and structure of financing the SACCOs' assets. Such a structure should be in a position to optimize surpluses (Evans, 2001). More so, prudent funds allocation strategies is an important financial practice function in any SACCO society. This aspect usually involves decisions to commit the SACCOs' funds to planned investment options. SACCOs need to make decisions to invest their funds more

efficiently in anticipation of expected flow of benefits in the long run. Such investment decisions generally include expansion, acquisition, modernization and replacement of long-term assets (Maina, 2007). Thus, the SACCOs' value is deemed to increase where the investments are profitable and add to the wealth in the long run. This situation is obtained where the SACCO involves itself with investments that yield benefits greater than the opportunity cost of capital.

2. STATEMENT OF THE PROBLEM

Kenya's vision 2030 for financial services is to create a successful and globally competitive financial sector capable of promoting high levels of saving and financing for Kenya's investment needs (Adam, Collier and Ndungu, 2011). The Ministry of Cooperative and marketing estimates that about 80% of the Kenyan population derives their income either directly or indirectly through SACCO initiatives. It is estimated that a significant 24.6 million people (63%) participate either directly or indirectly in SACCO enterprises. The government has made a significant initiative to support co-operative movements through legislation so as to achieve the millennium development goals and vision 2030 objectives of increasing financial inclusion. Over time, SACCOs have been trying to address members' demands by mobilizing funds and granting credit to members. However, they have not been able to grow their wealth sufficiently through accumulation of enough institutional capital to finance non-withdraw able capital funded assets, provide cushion to absorb losses and impairment of members' deposits (GOK, 2011).

Many studies have empirically linked the technological innovations strategies to business performance (Barry & Tacneng, 2009; Mulunga, 2010; Bruhn &Georgi, 2006; Valdemar, Encinas & Imperio, 2007). Empirical suggests that a direct link between deposit mobilization strategies and improved business performance exists as well. The above mentioned factor makes organizations and especially Saccos a very interesting phenomenon and research object. However, as the Saccos strive to improve on their performance, they need to be a step ahead of both the customer and their competitors in order to be successful, which demands adoption of various deposit mobilization strategies. Thus, the study discussed the effects of technological innovations on performance of savings and credit co-operatives in Kenya.

3. LITERATURE REVIEW

Banson, Sey and Sakoe (2015) examined the role mobile deposits play in deposit mobilization with the high rate of mobile phone penetration in Ghana. The study used stratified, convenience and purposeful techniques to arrive at the sample size and descriptive statistics for the presentation and analysis of findings. The findings show that mobile deposit as a way of deposit mobilization through mobile banking has proven to be very effective means of mobilizing deposit apart from the traditional usual way of deposit mobilization. As a result, First Capital Plus, the first financial institution to introduce this product in Ghana and Africa at large has been able to increase its deposit base tremendously. It is a 24 hours a day 7 days a week service which makes it convenient for customers to deposit money anytime anywhere. It has reduced queuing at FCP's banking halls, encouraged the culture of savings especially among low income earners, reduced the risk associated with carrying money to the bank to deposit and reduced the time and cost of travelling to the bank to deposit money. The mobile deposit solution through the use of Speed Banking Cards has proven to be a complementary deposit system. This study had a narrow focus on the mobile banking which is one aspect of the technological innovation discussed in this study.

4. RESEARCH METHODOLOGY

The study used cross-sectional survey with a descriptive research design. The target population of this study was 181 authorized deposit taking SACCOs in Kenya that have been in existence for at least the last 5 years SASRA (2014). The firms which have been there for 5 years are considered to have adequate knowledge and have deposit mobilization strategies in place. The study used questionnaires as the main data collection instrument that contains both open ended and close ended questions. Primary data was collected through administering of questionnaires to Members of the SACCOs, senior staff of the SACCOs and Cooperative Ministry/regulatory officials. Data was collected using semi-structured questionnaires as the principal data collection instrument. The study employed descriptive analysis technique on both primary and secondary data. In both cases, the study used SPSS (Version 21) in the analysis and data output will be tabulated and on the secondary data, the study applied Ordinary Least Squares (OLS). Content analysis was used to address the qualitative information obtained from the key informants.

5. FINDINGS

The study sought to find out the extent that the various technological innovations adopted by the Sacco affect its performance. According to the findings, 9.9% indicated that the various technological innovations adopted by the Sacco affect its performance to a very great extent. 51.7% indicated that the various technological innovations adopted by the Sacco affect its performance to a great extent. 26.4% indicated that the various technological innovations adopted by the Sacco affect its performance to a moderate extent. 12% indicated that the various technological innovations adopted by the Sacco affect its performance to no extent. The findings are shown below.

Table 1: Technological innovation strategy

	Percent
To a very great extent	9.9
To a great extent	51.7
To a moderate extent	26.4
To no extent	12.0
Total	100.0

The study sought to find out the period within which different technological innovation were introduced. According to the findings, most ATMs services were introduced between 2012-2013 as shown by a mean of 2.50 and a standard deviation of 0.93. Most mobile banking facilities were introduced between 2012-2013 as shown by a mean of 3.11 and a standard deviation of 0.94. Most websites were introduced between 2012-2013 as shown by a mean of 2.58 and a standard deviation of 0.63. Finally, most ATMs services were introduced between 2012-2013 as shown by a mean of 3.06 and a standard deviation of 0.75.

Table 2: Introduction of technological innovation

	Before 2009	2009 - 2011	2012 - 2013	2014 - 2016				
					SUMMARIES			
	Row N %	Row N %	Row N %	Row N %	Mean	Median	Mode	Standard Deviation
ATMs Services	15.3%	34.3%	35.5%	14.9%	2.50	3.00	3.00	.93
Mobile Banking facilities	7.4%	17.4%	32.2%	43.0%	3.11	3.00	4.00	.94
Robust Website	3.7%	37.2%	52.9%	6.2%	2.58	3.00	3.00	.63
Internet Banking	.0%	24.8%	42.1%	33.1%	3.06	3.00	3.00	.75

The study sought to establish the extent to which each of the following factors best explain the benefits derived from automated services quality. According to the findings, respondents were neutral that the Sacco has experienced Improved Member Services as shown by a mean of 3.02 and a standard deviation of 1.18. The respondents agreed that there's been reduction in operational costs as shown by a mean of 3.41 and a standard deviation of 0.93. The respondents agreed that they have experienced improved performance of Sacco as shown by a mean of 3.68 and a standard deviation of 1.02. The respondents agreed that they have experienced increased revenue growth as shown by a mean of 3.74 and a standard deviation of 0.93. The respondents agreed that Computerization of the processes has aided quick member services, decision making process and accountability in the Sacco as shown by a mean of 3.61 and a standard deviation of 1.14.

Table 3: Automated service quality

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree				
						SUMMARY			
	Row N %	Row N %	Row N %	Row N %	Row N %	Mean	Median	Mode	Standard Deviation

The Sacco has experienced Improved Member Services	9.9%	24.8%	32.2%	19.4%	13.6%	3.02	3.00	3.00	1.18
There's been reduction in operational costs	10.0%	14.9%	44.6%	24.8%	15.7%	3.41	3.00	3.00	.93
We have experienced improved performance of Sacco	10.0%	16.9%	21.5%	38.0%	23.6%	3.68	4.00	4.00	1.02
We have experienced increased revenue growth	10.0%	5.0%	44.2%	22.3%	28.5%	3.74	4.00	3.00	.93
Computerization of our processes has aided quick member services, decision making process and accountability in the Sacco	4.5%	15.3%	18.6%	38.0%	23.6%	3.61	4.00	4.00	1.14
Our Sacco has been able to adopt the new technology	10.0%	10.0%	61.2%	18.6%	20.2%	3.59	3.00	3.00	.81

The study sought to find out if technology adoption should be a top priority for Sacco management. According to the findings, 3.7% disagreed that technology adoption should be a top priority for Sacco management. 22.3% were neutral that technology adoption should be a top priority for Sacco management. 40.9% agreed that technology adoption should be a top priority for Sacco management. 33.1% strongly agreed that technology adoption should be a top priority for Sacco management. The findings are as presented in the table below.

Table 4: Technology adoption

Technology adoption should be a top priority for Sacco management	Percent
Disagree	3.7
Neutral	22.3
Agree	40.9
Strongly agree	33.1
Total	100.0

Table 5: Component Matrix

	Factor Loadings
ATMs Services	.887
There's been reduction in operational costs	.824
We have experienced improved performance of Sacco	.778
Mobile Banking facilities	.732
We have experienced increased revenue growth	.674
Robust Website	.673
The Sacco has experienced Improved Member Services	.648
Computerization of our processes has aided quick member services, decision making process and accountability in the Sacco	.647
Internet Banking	.539
To what extent do the various technological innovations adopted by the Sacco affect its performance	.515
Our Sacco has been able to adopt the new technology	.505

Table 6: Reliability Statistics

Cronbach's Alpha	N of Items
.852	11

Regression analysis was conducted to check on the significance of the relationship between technological innovation strategy and performance. Figure 1 indicates that majority of the observed points appears in the first quadrante and the line of best fit indicates an estimate line that is increasingly, positively, upwards. This implies that there is a positive linear relationship between technological innovation strategy and performance.

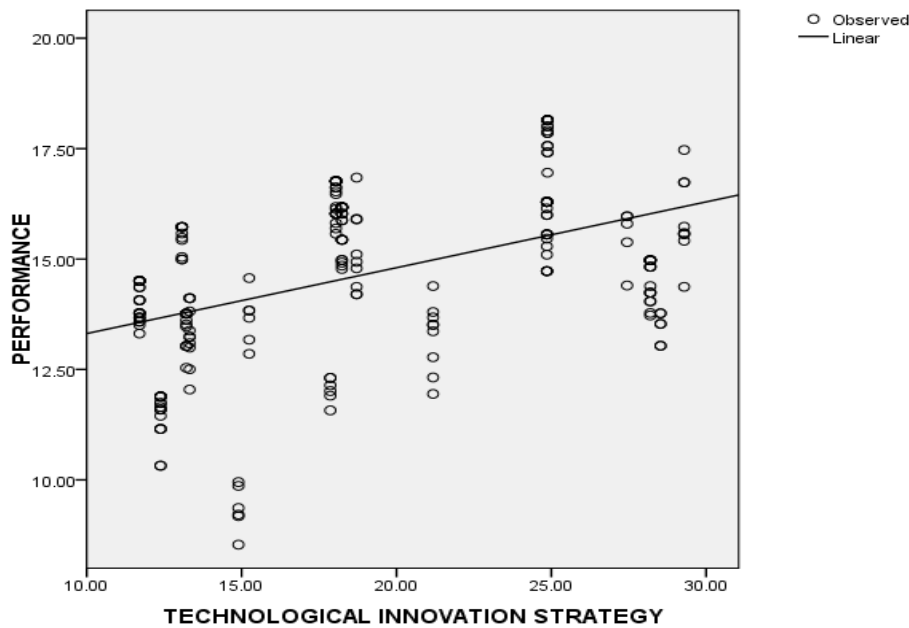


Figure 1 Scatter plot of technological innovation strategy

Table 7 presents the regression model on technological innovation strategy versus performance. As presented in the table, the coefficient of determination R square is 0.212 and R is 0.460 at 0.05 level of significance. These results indicate that **21.2%** of the variation on performance can be explained by technological innovation strategy.

Table 7 further presents the results of Analysis of Variance (ANOVA) on technological innovation strategy and performance. As presented in the table the ANOVA results for regression coefficients indicates an F statistic of **64.653** with a significance level of **.000** which is less than 0.05 hence implying that there is a significant relationship between technological innovation strategy and performance.

The study further determined the beta coefficients of technological innovation strategy on performance. Table 7 shows that technological innovation strategy influences performance positively since the coefficient of technological innovation strategy is **.149** which implies that a single unit change in technological innovation strategy causes performance to increase by **0.149** units. The associated significance level is **.000** which is less than the threshold of .05 indicating that technological innovation strategy is statistically significant in explaining the variations in performance. The fitted model can thus be given by, $Y = 11.824 + 0.149X_3$ (Where X_3 is technological innovation strategy)

Table 7: Model Summary results

Equation	R	Model Summary				Parameter Estimates	
		R Square	F	df1	df2	Constant	b1
Linear	0.460	.212	64.653	1	240	11.824	.149
Sig.			.000			.000	.000

6. CONCLUSION AND RECOMMENDATION

Descriptive statistics were used to analyze this research objective and other subsequent analysis was done. The level of technological innovation strategy was measured on a four point no extent/very great extent scale. According to the findings, 9.9% indicated that the various technological innovations adopted by the Sacco affect its performance to a very great extent. 51.7% indicated that the various technological innovations adopted by the Sacco affect its performance to a great extent. 26.4% indicated that the various technological innovations adopted by the Sacco affect its performance to a moderate extend. 12% indicated that the various technological innovations adopted by the Sacco affect its performance to no extend. Regression analysis was done whereby the results indicated that technological innovation strategy had a goodness of fit of 21.2% indicating that technological innovation technology 21.2% of the variation in the performance of SACCOs in Kenya. The results and findings therefore conclude that there is significant association between technological innovation strategy and performance of SACCOs in Kenya.

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