

EFFECT OF INNOVATION ADOPTION ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVING AND CREDIT CO-OPERATIVE SOCIETIES IN KENYA

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Abstract

The study attempted to determine the effect of entrepreneurship innovation on financial performance of the deposit taking saving and credit co-operative societies in Kenya. The study followed a descriptive survey design. The target population of the study was 176 registered Deposit Taking SACCOS in Kenya. The study used both purposive and simple random sampling techniques. Purposive sampling was used to select the SACCOs registered as DTS while simple random was then used to select the required sample from the list of registered DTS in Nairobi County. A sample size of 35 DTS was selected. In addition, 35 general managers, 35 credit managers and 35 marketing managers in DTS constitute the sample of respondents. The research instruments were questionnaires for general managers, credit managers and marketing managers in DTS. The pilot study was carried out in five DTS in Nairobi County. In this study, only quantitative data were generated. Descriptive statistics was used to analyze quantitative data. Multiple regression models were used to show the relationship between independent and dependent variables. Data was analyzed with the help of Statistical Package for Social Science (SPSS) Version 22. Based on the summary of the study findings, innovation adoption greatly influence the financial performance of DTS in Kenya. To improve the likelihood of achieving greater customer satisfaction, it is recommended that SASRA- the SACCOs regulator consider setting a minimum size threshold within which SACCO's can operate.

Keywords: *Innovation adoption, financial performance, deposit taking saving and credit societies*

1. Introduction

The microfinance sector has evolved over the past three decades. As in most developing countries, there are policy and regulatory shortcomings in the Kenyan financial sector in general, and the microfinance industry in particular, especially for non-deposit taking microfinance institutions (MFIs). The existing microfinance regulation in Kenya (Microfinance Act 2006), while putting regulation and supervision of Deposit Taking Microfinance Institutions (DTIs) under Central Bank of Kenya (CBK), has, through Section 3(2) of the Act, empowered the Minister for Finance to make regulations specifying the Non-deposit taking microfinance business and prescribe measures for the conduct of the specified business (MF Act, 2006). The rapid growth of microfinance has brought increasing calls for regulation, but complying with prudential regulations and the associated supervision can be especially costly for microfinance institutions. The best empirical estimates of the costs of such regulation come not from microfinance or other financial institutions operating in developing countries, but from banks in industrialized countries. In discussing tradeoffs in regulation of Microfinance Institutions, Christen, Lyman, and Rosenberg (2003) draw an important distinction between prudential and

non-prudential regulation. According to their definition, regulation is prudential when “it is aimed specifically at protecting the financial system as a whole as well as protecting the safety of small deposits in individual institutions.” The assets of microfinance institutions remain substantially less than those of formal providers of financial services, most notably banks, and thus they do not yet pose a risk to the stability of the overall financial system in most countries. However, an increasing share of microfinance institutions take deposits from the public, and many of the depositors are relatively poor. Protecting the safety of those deposits provides a rationale for improved regulation and supervision of microfinance institutions, and thus Christen, Lyman, and Rosenberg (2003) argue that prudential regulations should generally be triggered when an MFI accepts retail deposits from the general public. SACCOs in Nairobi County in 2013 stood at 1,325 and out of these, 43 operate FOSAs and are therefore licensed and regulated by SACCO Societies Regulatory Authority (SASRA) while the rest are supervised by the Ministry of Industrialization and Enterprise Development. SACCOs in Nairobi County just like their counterparts across the world predominantly rely on advance of credit to their members as the primary business accounting for over 90% of their income. Members contribute deposits on a monthly basis and the accumulated deposits enable the members to qualify for loans which are calculated using the formula of the accumulated deposits times three. Loans given out are secured using the member’s shares and guarantors, however sometimes the loans advanced are not recovered as expected giving rise to what is called non-performing loans. SACCOs in Nairobi County have witnessed significant growth over the past few years compared to other counties in the country. However, this study concentrated on deposit taking (FOSA operating SACCOs) in Nairobi County.

1.1 Statement of the Problem

The rapid growth of deposit taking, saving and credit co-operative societies in Kenya has brought increasing calls for regulation. Most deposit taking SACCOs thus face challenges in enhancing their financial performances. Studies mention the drivers behind financial performance of in organizations as innovation adoption, but hard data supporting such claims are rather limited. Louis (2006) in his study puts forward two measures of financial performance that are being applied in modern businesses today i.e. Market value added (MVA) and Economic value added (EVA). Unfortunately, no literature or studies have empirically addressed how these measures of financial performance are influenced by innovation adoption in deposit taking saving and credit co-operative societies in Kenya. It is on this basis the current research will establish the influence of innovation adoption on DTS in Kenya.

1.2 Specific Objective

The specific objective of the study was to:

1. To determine the effect of innovation adoption on financial performance of the deposit taking saving and credit co-operative societies in Kenya

1.3 Research Question

The study was guided by the following research question

1. What was the effect of innovation adoption on financial performance of the deposit taking saving and credit co-operative societies in Kenya?

2. Methodology

2.1 Research Design

This study used descriptive survey design. Descriptive survey design is the investigation in which either or both quantitative and qualitative data are collected and analyzed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. The research adopted quantitative approach because the information collected through questionnaires is analyzable using statistical tools such as measures of central tendency and measures of dispersion. The descriptive survey design was also used to describe characteristics of the study variables. This was necessary to obtain information concerning the current status of phenomenon that describes the current situation as it is with respect to the variables of the study. This study was also able to generalize the findings to all the SACCOs in Nairobi County. This was made possible since the study used inferential statistics alongside the descriptive statistics.

2.2 Target Population

There are 430 SACCOs registered under the Co-operative societies Act in Kenya (Survey Report, February 2012). The list of the SACCOs was obtained from the Ministry of Industrialization and Enterprise Development. The target population constituted all the registered Deposit Taking SACCOs in Nairobi County. There are 176 registered Deposit Taking SACCOs in Nairobi County (SASRA Annual Report, 2015) and this constituted the target population of institutions. The study also comprised of a quantitative study of the general managers, credit managers and marketing managers in the Deposit Taking SACCOs in Nairobi County. One seventy six general managers, 176 credit managers and 176 marketing managers in the Deposit Taking SACCOs in Nairobi County constituted the population of subjects in the quantitative study.

2.3 Sampling Frame

A sampling frame is a list of all items or elements from which a sample is drawn and may include individuals, households or institutions (Creswell, 2003). In the current study, the sampling frame involved a list of all the registered Deposit Taking SACCOs in Nairobi County. The sampling frame was obtained from the list of the SACCOs in Ministry of Industrialization and Enterprise Development (2016).

2.4 Sampling technique and Sample Size

The study used both purposive and simple random sampling technique. Thus, cases of subjects are picked because they have the information or possess the required characteristics. Since the purpose of this study is to assess the effect of entrepreneurial factors affecting financial performance of the Deposit Taking Saving and Credit Co-Operative societies in Nairobi County, only SACCOs registered as DTS was selected for this study. Simple random sampling was then used to select the required sample from the list of Deposit Taking Saving and Credit Co-Operative societies in Nairobi County.

The researcher considered a sample size of 35 DTS. Consequently, 35 general managers, 35 credit managers and 35 marketing managers in the Deposit Taking SACCOs were selected for the current study. The total sample size comprised of 105 respondents.

2.5 Data Collection methods

The study used both primary and secondary data. The primary data was gathered by use of a questionnaire. A questionnaire was used to obtain important information about the population. Primary data was the information

the researcher obtained from the field. The questionnaire was utilized with the general managers, credit managers and marketing managers in the selected DTS in Nairobi County to give information concerning the influence of innovation adoption on the financial performance of DTS in Nairobi County. Secondary data refers to the information obtained from articles, books, newspapers, internet and magazines. Thus secondary data for the current study was collected from the financial statements of the SACCOs and books to collect information on annual earnings of the SACCOs.

2.6 Pilot Study

A pilot study is the pre-testing of the research instruments in the field to determine the validity and reliability of the research instruments. In this study, content validity was established in the questionnaire by seeking a lot of assistance from the supervisors in order to ensure that the instruments, in terms of the statements, questions or indicators, represented the aspects being measured. The researcher used internal consistency method to determine the reliability of the questionnaires.

For internal consistency Orodho (2015) suggests that where Cronbach's Alpha Test is used in reliability testing, the value should not be lower than 0.8. In this study, The Cronbach Alpha Values obtained for the three independent variables was 0.848 meaning that they were above the critical value of 0.8 and hence all questions were retained in the study. A Cronbach Alpha of 0.8 and above was considered high enough to judge the instrument as reliable.

2.7 Data Analysis and Presentation

The first step involved the analysis of quantitative analysis. Second step involved the presentation of the analysed data. Descriptive statistics which include measure of central tendency such as means, mode and median and measure of dispersion which includes standard deviations was derived. These analyzed data was used to summarize findings and describe the population and sample involved. Inferential statistics was applied in the current study. First, Correlation coefficients between independent variable and dependent were computed to explore possible strengths and directions of relationships. Secondly, to measure the financial performance of DTS, the study employed simple regression models. Simple regressions incorporate one independent variable to explain variations of the dependent variable. To establish the overall relationship between the innovation adoption and financial performance, the following model was used.

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where;

Where Y= Financial Performance, β_0 = the intercept term

β_0, β_1 , = regression coefficients to be estimated

X_1 = innovation adoption

ε = Error Term

An independent variable was considered to be a significant predictor of the dependent variable if the absolute t-value of the regression coefficient associated with the dependent variable is greater than the absolute critical t-value. The overall fit of model was based on the F-test. The model treats financial performance of SACCOs as the dependent variable while the independent variable was innovation adoption. Data was presented in

various forms. A frequency distribution table was used to summarize data. Frequencies and percentages were also used to present the data.

3. Findings

3.1 Questionnaire Response Rate

A total of 105 questionnaires were issued out to selected participants for completion in this study. Of the 105 questionnaires issued to the selected sample, 93 were returned and responded to, yielding a response rate of 89%. Based on the recommendations by Mugenda and Mugenda (2003), the response rate of 89% is very good as it is above 70% which is the minimum threshold for analysis to progress.

3.2 Reliability Analysis

A pilot study was conducted to detect weaknesses in design and instrumentation. Reliability analysis was done using the Cronbach’s Alpha Test (Cronbach, 1951).

Table 1: Cronbach’s Alpha Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.848	.570	39

Source: Pilot Data (2017)

The Cronbach Alpha Values obtained for the three independent variables was 0.848 meaning that they were above the critical value of 0.8 and hence all questions were retained in the study.

3.3 Sample Characteristics

Out of the 93 respondents, 18 of them constituting 19.4% of the sample were females and 75 of them constituting 80.6% of the sample were males. This indicates that female participation in deposit taking, saving and credit co-operatives is lower than that of males despite their important contributions in the growth of deposit taking, saving and credit co-operatives in Kenya. Descriptive results indicate that the current age of participants ranged from 25 years to 50 years and above. The findings suggest that age is a factor in the management of Deposit Taking SACCOS with medium aged employees being most preferred. These results show that in addition to more male participants holding senior positions in Deposit Taking SACCOS, more males than females will also continue to engage in higher leadership positions at older age than females. Show that majority of Deposit Taking SACCOS (83.9%) had operated over six years. This implies that most of the Deposit Taking SACCOS had been in business for long.

3.4 Descriptive Results and inferential Statistics

The descriptive analyses involved frequency distribution measures, measures of central tendency such as means and measures of dispersion such as standard deviation. The study revealed that there were three types of innovation applied to DTS. These were introduction to new products, services and technology such as money gram, m-pesa, point of sale, standard order facilities, safe custody of documents and valuables, ATM services, NHIF, check off facility for employees and school fees loan among others.

Table 2: Innovation adoption by DTS in Nairobi County

Statement	SD %	D %	N %	Agree %	SA %	Mean	STD
1.The introduction of new products influences financial performance of DTS	4.5	8.5	6.5	48.4	32.3	3.93	1.111
2.The introduction of new services influences financial performance of DTS	6.5	5.5	7.5	45.2	35.5	3.96	1.127
3.The introduction of new Technology have an effect on the financial performance of DTS	3.2	2.0	4.2	35.5	54.8	4.35	.9399
Average	4.7	5.3	6.1	43.0	40.9	4.085	1.0594

Source: Survey Data (2017)

Table 2 shows that majority of respondents (90.3%) indicated that the introduction of new services speeded up business operation which as a result leads to enhanced financial performance of DTS. The mean score for responses for this section was 4.085 which indicated that the majority of the respondents agreed that adoption of innovation is a key driver of financial performance in DTS.

3.5 Financial Performance of the Deposit Taking, Saving and Credit Co-Operative Societies

Information concerning the net surplus, saving, membership, interest on members’ deposit and average savings per member in the Deposit Taking, Saving and Credit Co-Operative Societies in Nairobi County is presented.

Table 3: Financial Performance of the Deposit Taking, Saving and Credit Co-Operative Societies in Nairobi County

Financial Performance Indicators In DTS	Amount in Kenya Shillings			
	2012	2013	2014	2015
1. Net Surplus	1,889,737,530	2,229,747,112	2,640,927,402	2,965,493,626
2. Interests on Members’ Deposit	6,004,070,766	8,079,461,894	9,649,225,891	11,063,553,431
3. Savings	8,289,474,599	101,451,994,592	116,283,101,283	130,946,006,891
4. Membership	421289	460122	502757	511541
5. Average Savings Per Member	209569.85	220489.34	231290.86	255983.4

Source: Survey Data (2017)

Results presented in Table 3 show that the sum of net surplus, interests on members’ deposit, savings, membership and average savings per member for all DTS in Nairobi increased substantially in the four successive years under study. The net surplus increased from Ksh 1,889,737,530 in 2012 to Ksh 2,965,493,626 in 2015, interests on members’ deposit increased from Ksh6, 004,070,766 in 2012 to Ksh 11,063,553,431 in 2015. Total savings also increased from Ksh 8,289,474,599 in 2012 to Ksh130, 946,006,891 in 2015. Membership in the same period increased from 421289 in 2012 to 511541 in 2015. Finally, the average savings per member increased from Ksh209569.85 in 2012 to Ksh255983.40 in 2015. This increase in net surplus, interests on members’ deposit, savings, membership and average savings per member is an indicator of financial performance.

3.5 Using Inferential Statistics to Determine the Effect of Innovation Adoption Affecting Financial Performance of the Deposit Taking, Saving and Credit Co-Operative Societies

In this study, correlation analysis was used to establish the degree of relationship between two variables with the Pearson correlation coefficient (r), which yields a statistic that ranges from -1 to 1. The correlation between innovation adoption and financial performance variables ($r=.329, p=.000$; $r=.611, p=.000$; $r=.438, p=.000$) show positive and highly significant at .05 levels. The results show evidence of the positive influence of innovation adoption on financial performance of DTS in terms of net surplus, increased interests on members' deposit and increased average savings per member. Thus simple linear regression modeling provided the means of testing the predictive ability of independent variables. The linear regression models assumed the form:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon \quad \text{Where:}$$

Y = Financial Performance, β_0 = the intercept term; β_1 = partial regression coefficient (shows the change in the expected value of Y for a unit change in X)

X_1 = Innovation, ϵ = Error Term

The dependent variable (financial performance) was measured using three sub-variables, namely; net surplus, increased interests on members' deposit and increased average savings per member. The result shows that the independent variables statistically and significantly predict the dependent variable ($F = 12.626, p = .000$) (i.e., the regression model is a good fit of the data).

Table 4: Regression Analysis of the Effect of Innovation Adoption on financial performance of DTS

Variable	Un standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	41.234	5.125		4.43	.000
Innovation Adoption	.444	.321	.131	.721	.009

Significant at $p=.05$ levels; $R^2=76.4\%$; $F=$ F = 12.626,

The simple regression models was summarized as: Financial Performance = 41.234 + .444 (Innovation Adoption). The study has established that all the independent variable has a positive influence on financial performance of DTS. This means that for unit increase in innovation, there is an increase of financial performance by a factor of .444. The unstandardized coefficient, β_2 , of Innovation Adoption is equal to .444.

4.0 Discussions

The objective of the study stated: *To find out the effect of innovation adoption on financial performance of the deposit taking saving and credit co-operative societies in Nairobi County.* The study revealed that there were three types of innovation applied to DTS. These were introduction to new products, services and technology. According to Hayashi and Klee (2003) innovations can be grouped as new products (such as adjustable rate mortgages and exchange-traded index funds); new services (such as on-line securities trading; Internet banking

and mobile banking); new "production" processes (such as credit scoring); or new organizational forms such as agency banking and Internet-only banks. In addition, majority of respondents (90.3%) indicated that the introduction of new services speeded up business operation which as a result leads to enhanced financial performance of DTS. These findings concur with studies undertaken by Hayashi and Klee (2003) who noted that innovation over the years has made the financial sector to have new and innovative products and services. It is also noted from the study that by adopting innovation, there was increase in net surplus, interests on members' deposit, savings, membership and average savings per member is an indicator of financial performance. These findings are supported by Pradeepkumar (2003) who used growth rate analysis to analyze the financial performance indicators of horticultural producer's cooperative marketing society limited, Bangalore. The correlation between innovation adoption and financial performance variables showed evidence of the positive influence of innovation adoption on financial performance of DTS in terms of net surplus, increased interests on members' deposit and increased average savings per member. The result also show that the independent variable statistically and significantly predict the dependent variable ($F = 12.626, p = .000$) (i.e., the regression model is a good fit of the data). According to Boot and Thakor (2007) innovation generally does seem to have positive effects in raising financial performance of innovators. These findings also concur with Gitonga (2003) who said that innovation can be critical in overcoming the

5. Summary

Results of findings show that majority of respondents (96.8%) indicated that DTS encouraged the adoption of innovation frequently to enhance financial performance. this means that these categories of Deposits taking SACCOS had realized the importance of innovation adoption in enhancing financial performance. One type of innovations adopted by DTS to enhance financial performance was the introduction of new products. Majority of respondents (90.3%) indicated that the introduction of new services speeded up business. Another way of enhancing the financial performance of DTS was the adoption of new Technologies (90.3%). This meant that adoption of innovation is a key driver of financial performance in DTS.

6. Conclusions

The effect of innovation on financial performance of the DTS was positive. To confirm this, results of findings showed that DTS were encouraging the adoption of innovation to enhance financial performance. One type of innovations adopted by DTS to enhance financial performance was the introduction of new products. The study can conclude that financial performance in deposit taking SACCOs is significantly influenced by adoption of entrepreneurship innovation.

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