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### **Innovative pursuance in the propagation of savings and credit Co-operative societies**

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#### **Abstract**

In the past few decades many Saving and Credit Co-operative Societies (SACCO) in Kenya thrived due to several innovations including but not limited to lowering of their loans interest rates, and providing members with economical banking services. With the increase in the number of organizations willing to emulate the same products to members for example lending money within shorter periods with minimal interest rates due to easy recoverability of the same for example Safaricom - Fuliza and M-Shwari loans, MCO-OP salary loans, Equitel-loans, KCB Mobiloan services, SACCOS are facing very stiff competition from these institutions and if this trend is unchecked, it might lead to the demise of the Co-operative Societies. Therefore there is urgent need for SACCOS to reinvent themselves in order to remain relevant. This study surveys a few innovative ideas that may be adopted and/ or pursued in order to safeguard against the depletion of SACCOS. Among them is the good response of members towards a higher education loan and savings by products, contemporary skills training loan for produce SACCOS such as Agriculture and manufacturing and members dependants by products. Furtherance to indicate that the adoption of the pursued ideas would lend credence to the uniqueness of SACCOS as being the institutions that develop the welfare of their members since these ideas if properly implemented would generally improve members' wellbeing.

**Keywords:** Innovative, cooperative societies, pursued, products

#### **1. Introduction**

In the past decades the Co-operatives thrived in their undertakings since they were among the few organizations that offered most people of different backgrounds be it those in the Agricultural sector, Jua Kali sector, salaried persons at every level the avenues to save with the expectations of earning interest as well as borrowing at very low cost. Meanwhile the traditional lending institutions like banks and housing financiers did so under conditions that could be met by only a few well to do. This was the period when money was borrowed under the overdraft rules and interest on loans exceeded the loan amount. Housing schemes were undertaken at very high interest rate mortgages since these were paid over long periods of time. With the two different financing modes in existence the Co-operatives were able to perform very well since they offered a viable alternative. Current trends in the management of the Co-operative societies are changing the previous sense of financial comfort that members have had. Competition from especially mobile banking services that are offering loan and saving byproducts with better terms is also threatening its marketability.

#### **1.2 Background Information**

The competition in the financial sector that is leading to a decline in the performance of credit unions, calls for these unions to enhance financial innovation. This requires the understanding of the trends in the market landscape and how those changes are shifting member preferences. For example, (Barnes, 2018) <sup>[3]</sup> found out that consumers are interacting with their financial providers through digital channels three times as frequently as they are in-branch. Thus confirming the stiff competition faced by SACCOS from other providers of mobile service financiers since consumers tend to prefer to be served over short notices as opposed to the bureaucratic procedures and conditions dished out by cooperatives as requirements to their members in order to secure loans. According to (Chambers, 2019) <sup>[4]</sup> sixty-nine percent of consumers do not understand compound interest and more than seventy eight percent live paycheck to paycheck indicating that a large portion of the population is less savvy to their personal finances which then hinders the effective utilization of the funds

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received as loans, interest, dividends or otherwise whereby most of it is used to meet recurrent bills as opposed to being invested in income generating projects. More than eighty seven percent of millennials do not know what a credit union is and nearly forty five percent feel credit unions are less focused on digital than larger banks, according to a May 2019 article by Credit Union Journal. Thus the lack of a saving culture among this group and therefore the inevitable future inability to be self-reliant but instead the witnessed common practice of relying on their guardians at very odd ages a phenomena not experienced by the older generation. Findings from a January 2018 Epsilon report indicate personalization is extremely important to 90% of consumers. This means that members wish to be involved in major decisions made by cooperatives among them the byproducts that would be most satisfactory to them and their terms and conditions. This study set out to use members participation in decision making to determine which by products they would currently prefer and their terms and conditions sourced through digital technology. This information was then used to build the important blocks of a byproduct. To keep pace with audience needs, preferences and the current times, credit unions must focus on building digital experiences that address these market shifts and continue to provide guidance and value. Fraud, higher taxes, bad investments, stiff competition in the financial sector and now the COVID 19 pandemic are stifling the growth of savings and credit cooperatives (SACCOS) in Kenya. Thus there is need for the creation of efficient mechanisms of innovation that will address these changes and needs.

### 1.3 Statement of the problem

The SACCO sector embraces more than 10 million savers and collectively controls savings of KSh501bn and an asset base of KSh694bn. It employs half a million people and, in 2017, contributed 5.72% of Kenya's nominal GDP. Kenya has one of the most vibrant cooperative sectors in Africa, with over 15,000 registered societies and unions, only a small number of which are registered deposit-taking societies. SACCOs remain a big deal in Kenya. They offer better returns on savings than mainstream banks, as well as greater access to credit. The sector has been one of the most driven players in the real-estate market, filling a critical housing gap by funding land purchases and construction of residential houses. A survey by the SACCO Societies Regulatory Authority (SASRA), a regulatory body in charge of deposit-taking cooperatives, found that 36% of outstanding credit in 2016 was for land and housing and, importantly, they are helping to formalize the economy for example a government directive in 2010 stating that all public transportation must be part of a Sacco or a management company also helped regulate Kenya's chaotic transport sector. Credit financing to the transport sector is still relatively small compared to real-estate and trade. But various reports by (Kiruga, 2019) <sup>[9]</sup> and others continue to bring down the vibrant SACCO sector for example a report of police, tear gas and roadblocks across the Kiambu Road in Nairobi greeted investors queuing to get their money back from a savings organisation Sacco— on 18 March, 2019, one of the most promising, Ekeza SACCO, is currently under investigation for fraudulent transfers of over \$10m to its founder's personal accounts and investments =>

hence this morning's pandemonium.

The report also indicated that looser prudential guidelines that make SACCOs such a useful bridge between the formal and informal sectors can cut both ways. Most of the sector is not properly regulated and investments are not properly vetted. For example in 2015, a leading cooperative, Mwalimu National Sacco, spent \$20.4m for 75% of Equatorial Commercial Bank, a struggling tier III lender. The investment's book value is now worth just a fifth of that, with claims that the society did not do due diligence before making the purchase. The society is now struggling to service a \$5m loan from a commercial bank that it used to finance a housing project. The rapid loss in value has dampened enthusiasm for other similar purchases, such as a planned \$28m bid for government-owned Consolidated Bank by a 14-county economic bloc.

The report further indicates that in February 2019, the entire board of a power-industry investment cooperative was ousted after an audit revealed losses of over KSh500m in suspected fraudulent dealings, bad investments and creative accounting. The report cites the lack of cyber security as a cause of cyber-related fraud losses involving such societies and attributes it to limited investment in securing the systems affected and training skilled manpower for the same. This feeds into the bigger picture for lack of investment in innovation passé as a hindrance to the SACCOs progress

The COVID 19 pandemic has also impacted the SACCO sector. Most SACCOs, especially those drawing members from such sectors as Hotel and Travel, Entertainment, horticulture, and transport, are staring at low deposits from members as layoffs, pay cuts and closures affect incomes of individual members. (Okoth, 2020) <sup>[10]</sup>.

"We have been experiencing low deposits from members as well as a fall in demand for loans from members. We have been experiencing problems after suspending our sales representatives from moving from place to place collecting cash from members," said Dorothy Makena, Marketing Manager, Southern Star SACCO Limited to the Kenyan Wall street reporter. She added that even after shifting to digital platforms, this new format remains challenging because avenues for conducting member education have been shut. Considering that many financial institutions have moved to the digital platforms with success and at reduced costs the difficulty in doing so by many SACCOs will not only impact them financially but shows a lack of investment in speedy innovative mechanisms to mitigate risks which in business is a major operations risk. Thus this study has envisions a rapid innovative system of developing by products which might come in handy when others face challenges.

### 1.4 General Objective

Assessing Innovative by products for SACCOs propagation

### 1.5 Specific Objectives

1. Examining the effect of higher education loan by product on the propagation of SACCOs
2. Determining the effect of a contemporary skills training loan for produce SACCOS on the propagation of SACCOs
3. Evaluating the effect of members dependents by

products on the propagation of SACCOs

### 1.6 Questions

1. To what extent does a higher education loan by product affect the propagation of SACCOS?
2. To what extent does a contemporary skills training loan for produce SACCOS affect the propagation of SACCOS?
3. To what extent do members' dependents by products affect the propagation of SACCOS?

### 1.7 Significance of the study

The business environment is very competitive particularly the financial sector since many organizations trade in similar products and target the same customers' thus rapid innovative mechanisms could be the strategic advantage that any organization would have against its competitors. Thus the determination of a rapid innovative mechanism for identifying a byproduct in SACCOs will make it easier and faster for the SACCOs not only to adapt to the speedy technological trends but also meet the challenges of the day among them the COVID 19 risks

## 2 Literature Review

### 2.1 Theoretical Framework

Diffusion of Innovation (DOI) Theory, developed by Rogers in 1962<sup>[11]</sup>, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. This theory resonates with our study since the study is developing new by products for SACCOs by a survey that perceives their acceptance of the product an indication of how it would diffuse into the social system. (Rogers, 2003)<sup>[11]</sup>

A psychological theory of perceived risk is also applied in this study (Tversky, 1970)<sup>[13]</sup>. Under the assumptions of the theory, the risk of an option is expressible as a linear combination of its mean and variance. This paper uses a Real Risk Weighted Pricing Model (RRWPM) developed similarly to make decisions on the viable options of the investigated byproducts

### 2.2 Empirical Literature

The challenge for some cooperatives is to identify innovations that are broadly relevant and to systematically roll them out. Moreover, certain innovations may need to be adapted to the specific requirements of each territory, as they are rolled out in a "glocalization" process. (Eric Brat, 2016)<sup>[6]</sup>. This study has sort to meet this challenge by surveying potential members feedback on proposed by products and the utilization of their responses to make decisions on relevant products

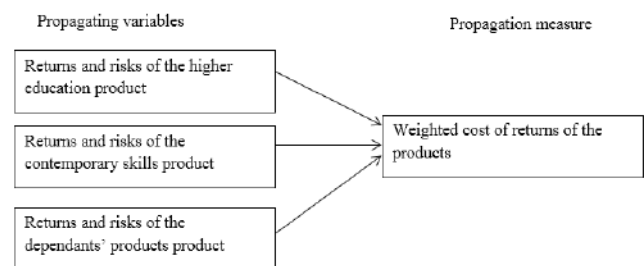
In their study (Jia, Jiang, & Shi, 2016)<sup>[8]</sup> show that in their second study after the introduction of subjects' adaptability, it affected both game theory selection process and time, which means that the process becomes more complex, presents the nonlinear characteristics, and helps them to make faster decisions in their favor, but the final steady state remains unchanged. This research thus combined the first and second study where the potential subjects were involved

at the onset and linear and non- linear characteristics were both investigated

(Shejero & Jackson, 2016)<sup>[12]</sup> in their study recommend that SACCOs should focus more on market research to have a strong basis to base their innovation and Information technology should also be well incorporated for the innovation to be sustainable. This study has conducted a digital market survey on the proposed by products in line with their recommendations.

### 2.3 Conceptual Framework

The propagating variables are the risks and returns of the investigated byproducts while the expected propagation measure is the weighted cost of return of the products



## 3. Methodology

### 3.1 Research methodology and design

Mixed methodology will be used in the study since though the survey is a collection of one's perspective the documented responses can be measured quantitatively and analyzed for decision making purposes. A casual design will be systematically applied since variables are being related i.e. the propagating and propagation measures.

### 3.2 Population and Sample frame

The population of the study was that for the whole country since the online survey was shared randomly on several What's App pages irrespective of the participant's location. The sampling method was thus simple random sampling since it was not targeted and the sample frame was thirty three participants. According to the central limit theorem sample means of a sample of 30 tends to be sufficiently normally distributed and thus a sample of 33 will suffice. If the population is normal then the means greater than 30 will be normal. Since the population is large enough we assume its normal.

### 3.3 Data Collection Method

The data was collected using an online survey shared to emails and What's Apps randomly. The questionnaire can be accessed via the following link:

[https://docs.google.com/forms/d/1GLQUNDAupf7et\\_5LWLFJEAJejw5ri2fZhgPuZvYYdb0/edit](https://docs.google.com/forms/d/1GLQUNDAupf7et_5LWLFJEAJejw5ri2fZhgPuZvYYdb0/edit)

### 3.4 Data Analysis

Data is first organized and presented in tables, then it is analyzed using the RRWPM by (Anyika, Weke, & Achia, REAL RISK WEIGHTED PRICING MODEL, 2012) which determines the weighted cost of returns as follows:

$$E(R_{l_w}) = a_{l_w} + b_{l_w} E(R_{m_w})$$

Where,

$$a_{l_w} = \sum_{i=1}^n w_i a_i, b_{l_w} = \sum_{i=1}^n w_i b_i, w_i$$

Is the weight of security  $i$ ,  $a$  is the constant return unique to security  $i$ ,  $b_i$  is a measure of the sensitivity of the return of security  $i$  to the return on the market index,  $E(R_i)$  is the weighted expected return of security  $i$ ,  $E(R_m)$  is the weighted expected return of the market index and the Non- systemic and systemic risks respectively as follows

$$D_{m_w} = (c_{l_w} + d_{l_w})^{1/2}$$

$$N_{G_w} = (c_{l_w} + e_{l_w})^{1/2}$$

Where,

$$c_{l_w} = \sum_{i=1}^n w_i^2 s_i^2, d_{l_w} = 2 \sum_{i=1}^n \sum_{j=1, j \neq i}^n w_i w_j s_{ij}, e_{l_w} = \sum_{i=1}^n s_{e_i}^2, s_j^2$$

is the sample variance of the market index,  $S_i^2$  is the sample variance of security  $i$ ,  $S_{e_i}^2$  the sample variance of random error of security  $i$ . Weights  $w_i$  and  $w_j$  are determined respectively as:

$$w_i = \frac{3 \sum_{i \neq j}^n \sum_{j=1}^n s_j (a_i + E(R_m) b_i)}{\sum_{i \neq j}^n \sum_{j=1}^n (18 s_i^2 s_j^2 - 8 s_{ij}^2)}$$

$$w_j = - \frac{2 \sum_{i=1}^n \sum_{j=1}^n w_i s_{ij}}{3 \sum_{j=1}^n s_j^2}$$

## 4. Results

### 4.1 Survey Responses

#### 4.1.1 The participants' responses can be accessed via the link below

[https://docs.google.com/forms/d/13wTkRMAGyRwSQSng-t2wJtlUz4UqqO\\_rHolQdlQOL6g/edit#responses](https://docs.google.com/forms/d/13wTkRMAGyRwSQSng-t2wJtlUz4UqqO_rHolQdlQOL6g/edit#responses)

#### 4.1.2 General Overview of the responses

- 64.4% of participants indicated that the availability of byproducts for higher education would motivate them to join a SACCO
- 51.8% of participants indicated that the availability of byproducts of contemporary skills training would motivate them to join a SACCO
- 63.7% of participants indicated that the availability of byproducts for members dependents motivate them to join a SACCO

## 4.2 Age and location Demographics of participants

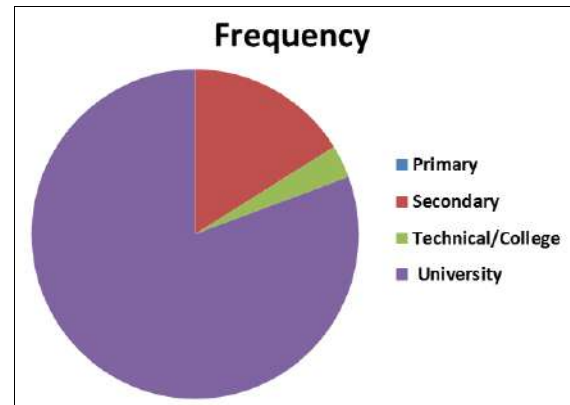


Fig 1: Level of Education Demographics

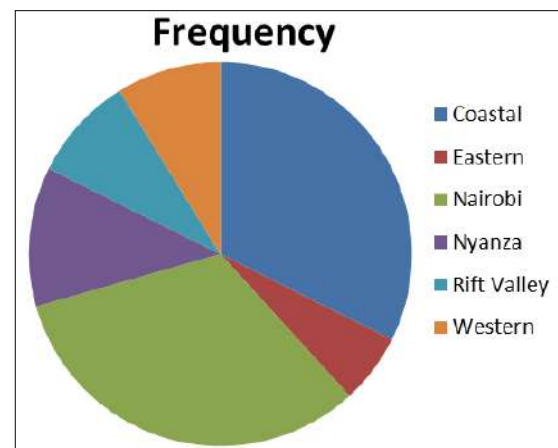


Fig 2: Location Demographics

## 4.3 Tables of Key group analytics are given below

### 4.3.1 X-% Savings for dependents and Y- Dependents Savings period

Sum of  $X = 1447.5$

Sum of  $Y = 272.5$

Mean  $X = 43.8636$

Mean  $Y = 8.2576$

Sum of squares ( $SS_X$ ) = 17971.1364

Sum of products ( $SP$ ) = 1792.6591

Regression Equation =  $\hat{y} = bX + a$

$b = SP/SS_X = 1792.66/17971.14 = 0.09975$

$a = M_Y - bM_X = 8.26 - (0.1 \times 43.86) = 3.88208$

$\hat{y} = 0.09975X + 3.88208$

4.32:  $Y$  - % size of interest on loan payment for contemporary skills and  $X$  - size of interest on loan payment for contemporary skills

### 4.3.2 Calculation Summary

Sum of  $X = 13.225$

Sum of  $Y = 1022$

Mean  $X = 0.4008$

Mean  $Y = 30.9697$

Sum of squares ( $SS_X$ ) = 2.2339

Sum of products ( $SP$ ) = 74.9958

Regression Equation =  $\hat{y} = bX + a$

$b = SP/SS_X = 75/2.23 = 33.57233$

$a = M_Y - bM_X = 30.97 - (33.57 \times 0.4) = 17.51533$

$\hat{y} = 33.57233X + 17.51533$



### 4.3.3 Y-% Size of interest on loan payment for higher education and X - size of interest on loan payment for higher education

#### 4.3.4 Calculation Summary

Sum of  $X = 47.605$

Sum of  $Y = 872$

Mean  $X = 1.4426$

Mean  $Y = 26.4242$

Sum of squares ( $SS_X$ ) = 1305.8707

Sum of products ( $SP$ ) = -504.1711

Regression Equation =  $\hat{y} = bX + a$

$b = SP/SS_X = -504.17/1305.87 = -0.38608$

$a = M_Y - bM_X = 26.42 - (-0.39 \times 1.44) = 26.98119$

$\hat{y} = -0.38608X + 26.98119$

**Table 1:** of final Results are shown below

S/NO	Variable	dependents	Contemporary Skills	Higher Education
1	$S_{ij}^2$	2950.988628	5.164704917	233.4145623
2	$S_j$	6.281323	0.260946341	0.261046
3	$S_i$	24.39525	22.19548	22.10369945
4	$a_i$	3.882	17.51533	26.98119
5	$b_i$	0.09975	33.57233	-0.38608
7	$E(R_m)$	9.970588	0.392647059	0.348529
8	$S_{ij}$	-54.32300275	2.272598714	-15.2779109
9	$S_j^2$	39.4550238	0.068092	488.5735294
10	$S_i^2$	595.1282	492.6393	0.068145
11	$w_i$	0.000230284	0.042722865	-0.01658057
12	$w_j$	0.000211375	-0.950595552	-0.000345655
14	$D_{mw}$	0.005125574	0.845337937	#NUM!
15	$Ngw$	0.005617827	0.948254469	0.004328291
16	$E(R_{lw})$	0.001122993	1.311481166	-0.445132433

### 5. Conclusions and Recommendations

The study gathered a lot of relevant data including the location, and level of education of participants. Many of the interested participants were from Nairobi and the coastal region although other regions were equally represented apart from the North Eastern region which attracted no participant a reflection of the general principle of Islamic Banking that exist in the area. The level of interest for the three by products exceeded fifty percent with the highest enthusiasm being shown for the higher education by product with over 64% level of enthusiasm. Which is reflective of the over seventy five percent participants at the University level of education.

The most promising byproduct was the higher education byproduct with very low systemic risk and negative cost of expected returns of approximately -0.445. The byproduct of dependents also has similarly very low risks and a very low cost of returns thus would be equally promising as a byproduct. The byproduct of contemporary skills training has very high risks and an equally high cost of return thus does not look promising as a byproduct thus would not be recommended

The study sought all manner of relevant data and manipulated the results incorporating these responses including the % levels of interests on loans and savings, the percentage levels of savings of each byproduct and the percentage levels of loan repayments all of which is very essential in weighing out exactly how the products can be offered and thus making the implementation of the process

of introducing, marketing and selling the products viable. It is hoped that many SACCOs will seek and show interest in this innovative process and the byproducts as well

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