

Analsing Effect Usage of Deposit–Taking Sacco Financial Products on Financial Inclusion, In Nyandarua County, Kenya

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Abstract

Financial inclusion is the effective use of wide range of quality, affordable and accessible financial products provided in a fair and transparent manner through formal financial institutions. DT Saccos offers access to financial products to low-income groups excluded by formal financial institutions. This study aimed at analyzing the Deposit Taking (DT)-SACCOs financial products usage effect on financial inclusion in Nyandarua County, Kenya from 2016 to 2020. The study was grounded on Modern development, Cultural and financial growth nexus theories. All DT SACCOs operating in the county formed the target population. Sampling frame was obtained from SASRA. A descriptive survey research design was adopted. Stratified and simple random sampling methods were used. Primary data was collected through Likert scale questionnaire. The information was sorted, corded and analysed through SPSS. Mean, standard deviation, correlation and regression were used to establish the relationship between the variables. The study found that savings and deposit products had positive but insignificant level at $p=.845$ which was above the threshold of $.05$. There existed no relationship between credit products usage and financial inclusion in Sacco’s industry, attributed to the fact that the value of $p=.000$ had no significance relationship. There was no significant relationship between mobile banking product usage and financial inclusion based on the significant level of $p=.000$ and finally there existed a significant positive relationship between share products usage and financial inclusion whereby the p value was at 0.871 which showed a reliability context above the threshold of $.07$. The study recommended that to deepen financial inclusion through saving products, there is need to showcase safeties with the current clients to advance in ensuring effectiveness of conveniency and simplicity aspects. On credits products usage, different tactics should be embraced in product application and processing making them simple and transparent. Mobile money products need to be unique, and the Shares product should attract competitiveness dividend.

Key Words: *Deposit-Taking SACCOs, Financial products, Financial inclusion.*

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I. Background to the study.

Quality, accessible and affordable financial resources remain elusive to those who lack substantial income or are unable to raise collaterals. This is more prevalent in rural populace who are systematically sidelined by the mainstream financial institutions whose profit motive overrides social transformation (KIRA, 2014). DT-Saccos sole purpose is to mobilize savings and advance credit on collateral to promote economic interest of its members within the confines of the seven principles of cooperative movements, bridge this gap (UN HABITAT, 2011). Under the current competitive financial system, they use mobile platforms which are simple and efficient such as agency banking and mobile money to remain afloat (Oluoch, 2016).

In 2016, the world had 68,000 DT-Saccos serving 235 million members (WOCCU, 2016). In 2017, the number increased to 89,026 and the membership to 260 million (WOCCU, 2018). This underscores economic transformation brought by their financial inclusiveness guided by Grameen bank principle as initiated in the 70’s in Bangladesh, studied and used as a powerful tool of financial inclusion and social economic transformation as evidenced by cumulative asset value equivalent to the nominal GDP of Canada, by 2019 or aggregate sub-Saharan Africa GDP (World Bank, 2013.). They are over 5000 in USA serving 101 million members with mortgage financing being a popular product. (Edge, 2020). Europe has 3400 mature ones based on membership and the asset value serving 9 million members (EU Credit Union Network, 2020).

Asia AACCU operates within 22 countries having an excess of 45,000 DT Saccos (Credit Unions) serving 40.2 million members, of whom 11million are financial excluded with health financing as the strongest incentive (AACCU, 2019).Africa, has 39,666 with 37 million members of whom 8.5 million are Kenyan being 9% of the world DT Saccos, 21% and 53% of the continent and East Africa region respectively. The penetration rate stands at 13.44%, 3.89 points above the global average, but below Caribbean at 66.08%, North America at 49.44% and Latin America 14.03 % (WOCCU, 2019).East Africa, have 15.6 M members in 15,564 DT Saccos. Penetration rate differs with Uganda at 4.39%, Tanzania at 7.88%, Kenya at 27.86% and Rwanda highest rate at 52.33% (WOCCU, 2019).

Nyandarua is one of the counties located in central Kenya with an area of 3245.2 km. The economy of the county is agriculture where daily farming and Irish potatoes are the majors. It had 638,289 people distributed equally to both males and females with four commercial Banks, 3 microfinance institutions and 32 Saccos 8 being DT (Nyandarua County Government, 2019).Tower Sacco is the largest with Ksh 11.16 billion in assets, Ksh.8.63 billion in deposits, Ksh.9.58 billion in loans and an income of Ksh.1.59 billion. Taifa DT Sacco with assets at Ksh 3.34 billion, Ksh 2.44 billion in deposits and an income of Ksh 480 million annually follows. Smaller players are Muki, Nyala vision and Nanyuki equator have below Ksh 750 million in assets.

1.1. DT Sacco products.

DT Saccos have front office like banks to offer products as indicated by the acronym “Deposit Taking”. Their products relate savings and deposits crafted innovatively to satisfy members need and purpose coming together. A lot of similarity exists in having Savings, Term deposit, Minors, shares and also certificate of deposit accounts. Loans may be secured or unsecured, variable interest or fixed interest, development or personal. Flexibility, innovation in the number, range and terms of any product rhyme with prevailing season or economic situation. Basically, most loans are consumer in Africa, health in Asia Mortgage loans and finance housing in the USA and Europe. Share forms another investment purposed product where dividend is paid. Tower Sacco for instance offer shares with divided sustained at 20% for the last 5years. Mobile money operated on digital platforms has formed another cluster of products offered. Increased in mobile phones has eased mobile based accounts opening and transactions. Savings, loan repayment, lending, money transfers are some of the products provided on digital platform. Some DT Saccos are involved products geared towards financial planning consultancy and online brokerage.

1.2. Financial inclusion in DT-Saccos

Due inability of formal financial system to cater for low-income segment, Saccos were given a formal status by policy and put under regulators to protect the members deposits (Vishavavidyalaya, 2014). This became the idea behind cooperative banks in Southern Africa, Credit Unions in Europe and America and DT-Saccos in the rest of the world (SASRA, 2017) The idea is the ingrained principles of cooperative movement weaved together with the banking principle of accepting deposits and offering withdrawable savings account. Low-income who had remained unbanked were included based on understanding their business model and advancement of capacity building services rather than collateral (RBZ, 2016). Access, Availability and Usage are strong indicators of financial inclusion. Accessibility measures the ability of individuals or corporates to obtain financial services in reasonable time, limitations and at a fair cost. Availability may loosely indicate accessing the resource as and when it’s needed packaged in a reasonable way. Time. Usage of the financial products to satisfy a need completes the financial inclusion matrix.

In 2016, there were 68,000 DT Saccos, and in 2019 a total of 86,055 were reported in 118 countries. This is a strong indicator of strengthening of access as a variable in financial inclusion. Similarly, 235 million members were served in 2016 while there was an increase of 56 million by the 2019, a change that indicate more products availability. In Kenya there were 464 branches and 638 physical presence delivery channels spread across the country serving 3.5 million members by end of 2017 (SASRA, 2017). They were located in small market and trading center’s where they are the only known formal financial institutions. Further, 114 DT Saccos are connected to ATM Platforms; 120 use mobile enabled technology and; 107 are active in provision of Agency banking.

1.3. DT-Saccos in Nyandarua County.

There are eight DT-Saccos operating 19 branches (SASRA, 2018).Tower Sacco focuses on employed advancing loans on check off system (Tower Sacco, 2019). Muki Sacco focus on Dairy (Muki Sacco, 2019). Nyala vision Sacco, K-Unity, Nanyuki Equator, Taifa, Wananchi and VIKTAS is Multipurpose within the 313 trading centres.

1.4. Problem statement

Fin Access report (2019) indicates Sacco product usage has been declining. In 2006 the usage was at 13.1% which dipped to 9% in 2009 before registering a rise to 11% in 2013. The house hold survey indicated that in 2016 the usage stood at 12% but dipped to 11.3% in 2019 (FSD Kenya, 2019). While the Kenyan adult population has been on the rise, the proportion using the SACCO financial products has not matched the pace. In 2006 survey, 2.0M adults were using SACCOs financial products which slowed to 1.7M in 2009 and a marginal rise to 2.3M in 2013. In 2016 a further rise in usage was registered to 2.7M which has marginally risen to 2.8M in 2019. The usage of loan products from the SACCOs stood at 4.1% in 2006 but declined to 3.0% in 2009. Usage of the saving products also faced a similar plight declining from a high of 12.8% in 2006 to a low of 8.9%. The FSD survey (2019) indicate daily usage of SACCO financial products declined from 3% in 2016 to 0.5% in 2019 while the weekly usage moved from 9.1% in 2016 to 5% in 2019. The incline in monthly usage from 67.5% in 2016 to 79% in 2019 may only be an indicator of SACCO financial products only being used by the salaried. The usage frequency of over ones in more than a month which dived from 20.4% in 2016 to 15% in 2019 may be a positive indicator. By 2016 SASRA had noted the decline in the products usage and advised DT-SACCOs in its annual report (2017) that they must immediately delve deep into innovative world of repackaging their financial services and product offerings to address issues the decline (SASRA, 2017). Nyandarua County, with only 4.2% urban population and financially served by three bank branches, three MFIs and 32 Saccos including 8 DT-SACCOs was ideal for this study DT-SACCOs forms basic access to financial products. (Nyandarua County Government, 2019).

1.5. Objectives.

- i. To analyse the usage of the deposit taking Saccos financial products usage effect on financial inclusion in Nyandarua county, Kenya. To establish the effect of saving and deposit products usage on financial inclusion in Nyandarua County, Kenya.
- ii. To examine the effect of credit product usage on financial inclusion in Nyandarua County, Kenya.
- iii. To understand the effect of mobile banking product usage on financial inclusion in Nyandarua County, Kenya.
- iv. To examine the effect of shares product usage on financial inclusion in Nyandarua County, Kenya.

II. Literature Review.

2.1 Reviewed Theories

The Modern Development theory argues that in developed financial systems, information gatherings, appraisal systems and related mechanisms are mature. Maturity of the developed financial system enables such systems to finance even activities, firms and individuals who are in the cut line of financing, thereby facilitating their growth activities (Hoff & Stiglitz, *Modern Economic Theory and Development.*, 2001). Cultural theories explain financial inclusion in the traits of the poor themselves. These theories advances by David M. Schneider (1970) projects poverty as the valuational, attitudinal and behavioral patterns of the poor which prevent them from being socially mobile (Ed., Krollokke, Myong, Adrian, & Tjornhoj-Thomsen, 2016). The finance growth nexus theories are hinged on the demand and supply concept as argued by Bagehot (1873). He argued that financial development creates an environment for growth through 'supply leading' and 'demand following'. Supply leading side argues that the financial markets represented by formal financial institutions, responds to increased demands for financial services from an already budding economy. The demand following view argues that the financial systems do not spur growth but responds to developments in the real sector.

2.2 Saving and deposit Products on financial inclusion

Oluoch (2016) did a study on the determinant of saving mobilization of Saccos in Kenya basing the study on all the Saccos in Mombasa County, Kenya. The study found that low interest on loans does not attract individuals to take credit from Saccos. Interest rates increment rise increases the rate of default. The study concluded that there is a positive correlation between the interest rate, income, and access to financial institutions. Interest rates for savings should be high to attract more members to save with the Sacco thus creating a bigger pool of finances.

Githaiga (2015) studied effect of financial services offered by MFIs have on financial inclusion. The study identified deposit mobilization (savings), micro credit, micro insurance and money transfer as the services rendered by the MFIs in Kilifi County Kenya. All variable had a positive correlation with financial inclusion. The study found that financial inclusion can be enhanced through innovative deposit collection and lending strategies to scale up the deposits and reduce default rates. Further, training on finance and available products in the MFIs basket were key to deepening financial inclusion the study concluded. The design of the saving products and the market environment should satisfy the target market. Clarity of the product, assurance of the safety of the account and convenience of operating the product are key parameters of saving product design.

In the study of the role the saving product play in financial inclusion, the ability of the products to mobilize savings becomes a factor. It remains apparent that financial discipline, savers friendly products offering and aggressive outreach by the DT Sacco can satisfy the needs of savings by members and generate high levels of liquidity (WOCCU, 2019). It's further important to understand whether the saving products are voluntary or involuntary and the motivation to either of the categories. In particular, involuntary saving products are formulated to cultivate a saving culture and provide funds for lending. It has however been concluded that involuntary saving products do not provide sufficient funds for loans thereby encouraging voluntary saving products uptake for sustainable low-cost funding. The core purpose for savings in a DT-Sacco remains to use the savings as collateral for loans. The number of people using the saving products and the average monthly amounts saved was used to measure this parameter.

2.3 Credit products on financial inclusion

Credit implies a trust which allows one party to provide a resource to another party where the second party is bound to reimburse the first party the amounts plus a consideration in future. It is influenced by the market and the level of the savings they are able to mobilize rather than external financing. In designing the product, compulsory saving which is illiquid forms the first collateral to any loan advanced. The amount of savings indicates the loan leverage in lending. Tower Sacco lends up to five times the savings where additional collateral may be guarantors. While formal financial institutions base credit on Character, Collateral, Capacity, Capital and Conditions (5C) DT-Saccos credit products is based on an intimate understanding of the business model and the borrower. It is also suited to specific needs of the borrower, and comes with an element of capacity building services and support to the borrower. (Reserve Bank of Zimbabwe, 2016).

Normal loans are popular with repayment ranging from 13 months to 72 months at a reducing balance rate and an interest rate of 1% per month. Emergency loans attract a premium interest and mostly payable within 12 months. Development attracts a long-range repayment of up to 72 months on reducing balance. Sector based loans focus on education, farming, business and groups while age-based loans focus on life events such as marriage. The capacity to borrow is enhanced by savings as it's a good indicator of the capacity to generate sufficient cash flow to repay the principal and interest which is the ultimate goal of lending (Segal, 2017).

In Kenya, SASRA 2019 report underscores the quality of the loan products where loan book and the Non-Performing Loans (NPLs) are good indicators of the quality. The loans advanced by the DT Sacco increased 12.9% points in 2018 to Ksh. 419.55 in 2019 which indicates more members are taking up the products. Similarly, performing loans maintained a high of 89.57% in 2018 and 89.29% in 2019 and indication of stability of the credit products in the market. Further to NPL/Gross loan ration remained constant at 6.14%, 6.30%, and 6.15% in years 2017, 2018 and 2019 respectively. Successful loans issued and repaid together with the number of clients in the loan book was used to assess this aspect in this study.

2.4 Mobile Money products on financial inclusion

Technological changes since 2007 have significantly affected the financial sector. Phone based money products popularly known as mobile money have become the key thing in all financial institutions. DT Saccos are no exemption as the mobile money platform have been used in products design to save, receive and send cash to different users. The introduction of *M-pesa* and *M-shwari* by Safaricom, Airtel Money by *Bharti Airtel* money and *Yu-cash* offering simple and cost-effective money transfer and payment, forced formal financial sector to adopt technological based product (Kenyonu, 2013). A study of factors affecting the adoption of the mobile banking by the DT Saccos in Kenya, observes that revenues and profits migrates toward DT Saccos which acquire, adopt, and use ICT platform in enabling their members to access core services, as this positively impact on their operating efficiency and capacity (Gathoni, 2015). A study has identified proximity to a service center as one of the challenges to saving mobilization in Mombasa County, Kenya as one has to spend a whole day seeking a financial service contrary to mobile banking that one interfaces with it at their convenience (Oluoch, 2016). Presently, mobile money becomes an ideal solution to the challenge as account inquiries, deposits and payments can be done away from any physical service point to the convenience of the member.

Gathoni (2015) in descriptive research designed study of the factors affecting the adoption of mobile banking featuring in all the 18 DT Sacco based in Kiambu county using secondary data, established that innovation have a positive statistically significant effect on mobile banking. The study recommended investment upscaling on the mobile banking as profitability would follow suit. The 15 million users of mobile money with a daily transaction value of 2 billion can only be leaped according to the study by the DT Saccos who adopt the robust mobile banking platform. Wireless and mobile technology product have therefore to be welcomed in the boardroom to grant the much-valued freedom to pay bills, plan payments and many other services while either stuck in the traffic jam or moving about (Ndegwa & Koori., 2019). In this study the frequency of using these other services per month and the amount involved was used to determine this aspect.

2.5 Share products on financial inclusion.

Purchase of shares which forms the basis of ownership as envisioned in the seven principles of cooperative have been adopted by a majority of DT Saccos. Some DT Saccos requires a member to hold some certain number of shares while others require a monthly commitment in terms of deposit that is translated into shares (Ijeoma & Simeon, 2013). The shares so contributed are non-withdrawable but are transferable. Other than the ownership, shares form the prerequisite to other products in the DT Sacco. For loan product, cumulative shares are multiplied by a certain factor to arrive at the loan limit one may be advanced. These affect the normal shares which attracts dividend and collateral to advances (Devi, 2014).

In yearly statistical reports by WOCCU, savings and shares are seen as synonymous since they both represent the interest held in trust. A “month a share” contribution has been a philosophy that ensures cumulatively liquidity in the DT Sacco is maintained, a source of finance cheaper than bank loans is embraced, and a saving tradition as envisioned by the cooperative principles are upheld (Githaiga, 2015). Kiaritha, (2015) did a study on the banking based saccos. The study asserts that cumulative shares has been the basis of any loans advancement as its an indicator of commitment to the cooperative principle and participation on the democratic principle.

To further enhance inclusion through share based products, some DT Saccos maintain share draft accounts. These accounts operate within the principles of current accounts and some consideration is charged. Investment share based accounts are sustained for those with excess liquidity and a desire to invest. Special share accounts are operated with a promise to buy back the shares in future. The flexibility with which the share based products can be deployed as a saving product or a loan product is the aspect that promotes economic interest and general welfare of the member hence financial inclusion (UN HABITAT, 2011).

2.6 DT Saccos and Financial inclusion

Financial inclusion relates to a process of availing the required financial products at a fair price and at the right place and form without discrimination (Aduda & Kalunda, 2012). It envisions effective use of wide range of quality, affordable and accessible financial services, provided in fair and transparent manner through formal entities (RBZ, 2016). It aims at drawing the unbanked as a remedy for financial exclusion, by making formal financial services accessible and affordable to all (Mwai, Njeru, & Memba, 2020). Navin and Arnav (2010) did a study on financial inclusion focused on the slums of Mumbai. The study aimed to identify the extent of financial inclusion among the slum dwellers. In pursuit of the main purpose, the extent of slum dwellers inclusion and financial awareness was studied. The study concluded that although financial inclusion has been touted for by formal financial institutions, its miles to be accomplished for the urban slum population.

Musau (2018) did an empirical analysis of the synergies and tradeoffs between financial inclusion, bank competitiveness and credit risk of commercial banks in Kenya. The study relied on secondary data from the Central Bank of Kenya annual reports for 2007-2015. It was found that bank competitiveness mediates the relationship between financial inclusion and credit risk. The study recommended that banks formulate policies to ensure they remain stable and competitive while accommodating activities to deepen financial inclusion over.

Products availability, accessibility usage and competitiveness have been used as variable in a study of relationship of financial inclusion and credit risk (Musau, Muathe, & Mwangi, 2018). Penetration level, Usage and Quality of the services were used as dependent variables in financial inclusion study (Githaiga, 2015). Navin and Arnav (2010) in a yet another used the extent of awareness of banking services, availability, provision of the services and the efforts made to promote bank products and services as variables. It's against this backdrop that this study will use accessibility, availability and usage as indicators of financial inclusion.

III. Research Methodology

3.1 Research Design

A descriptive survey design was used in the study. Data was collected from a determined sample, reduced and analyzed for a period of five years. A five-year period is necessary to trend as it is sufficient time to identify major changes and turning points (Alexander, Britton, Hoogendoorn, & Mourik, 2014). It also facilitates investigations of the reasons underlying those changes (Gibson, 2009). All the 19 branches of 8 DT Saccos formed the target population of the study. Stratified sampling technique was used due to overlapping subsets. Simple random sampling used to obtain the sample. A manager was chosen randomly from all the 19 branches of the 8 DT Saccos as there are only two in a branch in a typical branch. Two customers of different gender randomly choose to constitute the sample

3.2 Data collection instruments and procedure.

Primary data was obtained by use of a questionnaire. The scale five anchors likert scale was used to measure the level of agreement or disagreement. Kiaritha (2015) contends that the scale is good in measuring

perception, attitude, values and behaviors and has scales that assist in changing qualitative responses to quantitative values.

3.3 Data Analysis and Presentation

Data was verified, compiled, coded and summarized by using Statistical Package for Social Sciences (SPSS). Multiple regression model correlations was used.

$$(Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \hat{\epsilon}).$$

Y = Financial Inclusion, β_0 = Y intercept, X_1 = saving products, X_2 = Lending products.
 X_3 = Mobile money products, X_4 = Share products, $\hat{\epsilon}$ = Error

IV. Research findings and discussions.

4.1 Biodata

The study utilized the two types of questionnaires for the management and frequent clients. After data coding and tabulation, it was found out that from a total of 19 questionnaires that were issued to the managers, 79% were fully returned. Based on the client's perspective, a total of 38 questionnaires were distributed whereby 79% were fully filled and returned. These responses were sufficient for data analysis and presentation in relation to Mugenda and Mugenda (2012) point to a response rate of above 50% being considered sufficient for data analysis and presentation. Male respondents were 70% while female was 30%. This corresponds with the findings of SASRA where women constituted 34.23% of the DT Saccos constitution (SASRA, 2019).

The study noted that 13% were below the age of 25 while between the age bracket of between 26-35 years were 37%. The 36-45 years was presented by 27% of the respondents and 46- 55 years accounted for 13%. The above 56 years accounted for 10% respondents. This was an affirmation that youths were engaging these DT Sacco's. On education levels 30% had secondary level 33% were diploma holders while 37% were degree holders. This revealed that the clients of the different DT-Sacco's were well educated. On member duration in the DT Saccos below one year were 17%, 23% were between 1-5 years, within 6-10 years were at 27% and beyond 10 years were rated at 33%. This signified that respondents had adequate knowhow of their operations based on membership period.

Based on average monthly income, those below Ksh. 20,000 were 10%, Ksh. 20,001 -50,000 were at 30%, between Ksh 50,000-100,000 summed up to 37% and those above Ksh. 100,000 were 23%. These signified that the members of these Sacco's were well off based on average monthly income. Those earning were from employment were 27%, agribusinesses were 43% and from merchandising were 30%. On marketing, 33% came to know more about their respective DT-Sacco's through their friends, 30% through marketing team, 23% through media and 13% through social media. As for reason for joining the DT Sacco, for loans were rated at 37%, Deposit and Saving were 13%, for salary remittance were 40% and for becoming members as some indicated were rated at 10%.

4.2 Clients' perspective

The analyzed data based on the response from the respondents in relation to the issue of their respective Sacco having simple, safe and attractive products aligned to all members' needs established that it had a mean of 3.4667 and standard deviation of 1.00801. This signified a low parity rate of response as those who positively agreed with the statement were the majority. More also it was found out that response based on this aspect was due to flexible terms of saving and borrowing.

The respondents use products as and when they need on offer exposed a mean response of 4.1000 with a standard deviation of .88474 which signified that those who agreed were the majority which signified that when the clients are obliged to have any offer of the products, they are obliged to borrow frequently. The study established that majority of the respondents had invariance concept aligned to the study statement on whether technology-based platforms are used to offer products making them more convenient to use. The response exposed a standard deviation of 0.75886 and a mean of 4.1000. This response was an affirmation that the majority of the respondent had a positive feedback based on use of technology which aligned to the study findings of Gathoni (2015) on how technology had impacted on performance of DT-Sacco's through mobile banking as the technological component.

The study in relation to the response aligned to the study statement that sought of the products respondents consume are affordable making them attractive for investment purpose after data coding and tabulation resulted to a mean of 4.1667 an standard deviation of .74664 which signified that there was high parity of response especially to those who strongly agreed to the study statement and this signified that the products which the clients consumes pulled them towards different investments contexts.

Based on the aspect of Member issues on products are discussed and satisfactorily settled in the AGM, it posited a mean response of 3.9667 and standard deviation of .92786 which revealed discrepancies in relation to the response variance. After analysis based on the aspect of proper marketing has on making the specified Sacco and products offered well known in the county exposed a mean of 4.5667 with a standard deviation of .62606 which was an affirmation that those who agreed with the statement were the majority. These findings were in conformity to those of SASRA 2019 report on how the quality of products and services offered by any DT-Sacco pulls the attention of different clients to investments.

The study from the analysis established that cost of failure to meet products terms and conditions are punitive but encourage compliance which posited a mean of 4.0667 and standard deviation of .25371 which revealed that the respondents are not affected much by the products conditions as those of strongly agreed were the majority thereby an assurance of a continuity with their complacency aspect. More also it was established that those who agreed on the issue of the respondents always align personal capital expenditure on dividend payout for its always significant as the mean posited was 3.6667 with a standard deviation Of .95893 signifying a higher parity of effectiveness of dividends payouts.

There was a high rate of discrepancies in response based on the study statement that sought response from clients on issue of their Sacco of interest having a big room for product innovation to match others operating in the county as the mean posited was 4.3000 and standard deviation of .46609 which meant that those who agreed were the majority but there was invariance in response. This correlates to the findings of WOCCU, (2019) report on how DT-Sacco's are prone to satisfying the needs of their members.

The respondents affirmed that they have gained financial freedom through products they had consumed in this Sacco as based on their response, those who strongly agreed were the majority thereby positing a higher parity response with a mean of 4.533 and standard deviation of .68145. More to that, it was established that those who positively responded to the issue of other than this Sacco, the clients use no other financial institution for savings, loans and investment were equally to those who had different opinions as the mean exposed had a great invariance to the standard deviation at 3.9667 and 1.24522.

On other hand, it was established that there was higher discrepancies in response on the issue of the respondents using Mobile money platforms in all products transactions as it saves on other costs as the mean exposed was 3.8333 and standard deviation of 1.11675 which meant that those who agreed were the majority and this related to the findings of Gathoni, (2015) on innovativeness in Sacco's and their contribution towards the overall enhancement of the well being of its stakeholders at large.

4.3 The managers context

4.3.1 Saving and deposit Products on financial inclusion

The study analyzed the response from the managers on issue of savings and deposit products on financial inclusion whereby different responses were articulated and discussed. There was a variance in response in relation to study statement that sought to understand on whether the different DT Sacco's from managers point of view saving products are term, normal and current. The mean was 4.6000 and the standard deviation .50709 which signified that those who strongly agreed were the majority. A mean of 4.3333 and standard deviation of .81650 was established.

In terms of whether diverse saving platforms are availed in the saving products, this led to establishment that those who agreed were the majority as the mean exposed was 4.5333 with a standard deviation of .74322. This meant that with diversified savings, there was improvement of the Sacco wellbeing. These findings correlate to those of Githaiga (2015) who found out that with financial inclusivity through enhanced innovative deposit collections and lending which is a multi-facet function of financial institutions leads to low default rate while enhancing their financial outcome.

Based on issue of a monthly minimum deposit being required in all saving products established, there were higher discrepancies in response rate as the mean exposed was 2.8000 with a standard deviation of 1.42428 which signified that the managers were mostly involved in assuring that their members were entitled to save a certain amount as their deposits on monthly basis. The study more also established a mean of 4.1333 and a standard deviation of .83381 on whether competitive interest is offered in saving products to encourage saving. This revealed that majority of the respondents strongly agreed with the statement which signified that through offering of competitive interest rates by these Sacco's, they pulled crowd of clients who were obliged to save with them. Based on these findings, Oluoch (2016) in his study noted that the interest rates, income and access to financial institutions by clients exposed a positive correlation which signified that they promote an aspect of savings.

In terms of whether member's uptake of saving products has consistently grown in the last 5 years led to establishment of a mean of 4.6000 and standard deviation of .50709. The study found a mean of 3.8000 and standard deviation of 1.08233 on the statement that sought of whether cumulative saving products value have significantly grown since 2016 which meant that there was a great aspect of savings that led to tremendous

growth of the DT-Sacco's thereby enhancing their survival rate. These findings relate to those of Tower Sacco, (2019) which revealed on how cumulative are based on low cost which promotes the well being of the members.

In terms of whether the saving products attract the highest number of clients of all product categories, from the analysis it led to the establishment of a mean of 4.4667 and a standard deviation of .83381 which implied that those who positively responded were the majority an assurance of the positivism of the fact that there is a correlation between different products categories with the clientele pool. The study found a mean of 3.8667 and standard deviation of .91548 on the issue of whether among the DT Sacco's in the county, our saving products are most unique and effective which signified a higher parity of discrepancies on the response.

In relation to the issue of establishing a saving culture is the main theme of our DT Sacco saving products, the study noted that after the data analysis a mean of 4.2667 and standard deviation of .88372 was expositied which implied that those who positively responded to the statement were the majority. These findings were invariance to those of Karlan, Ratan and Zinman (2013) based on the reason why people don't save as lack of trust among others cannot be a hindrance for individual accumulation of wealth

4.3.2 Credit product usage on financial inclusion

The study found out that there was a higher rate of variance response based on the issue of whether the managers of different DT-Sacco's have personal, group and business loan products as the mean expositied was 3.8000 and standard deviation of 1.01419 which signified that there was high parity rate based on those who positively responded and those whom the statement wasn't effective at the moment.

In terms of whether the loan products are guided by a written lending policy, the study established that there was response invariance as those who agreed were the majority based on the mean expositied of 4.2000 and the standard deviation of 1.42428. On other hand, those who strongly agreed with an overall of positive response were the majority based on the statement response on whether loan product application and processing is simple and transparent. This was based on the mean outcome after the data analysis affirmed that the mean was 4.2667 and standard deviation of .59362. This meant that there is higher rate of transparency and simplicity when the clients are applying for the loan products. These findings correlate to those of SASRA (2019) on the quality of credit products offered to both performing and non-performing loans.

Based on the study statement which sought whether all our loan products are secured on the savings and guarantors, expositied a mean of 4.0000 and standard deviation of 1.25357 which signified that the response rate from this statement was invariance as there was almost equalized positive feedback and vice versa. The study established that majority of the respondents strongly agreed on the statement on whether the specific DT-Sacco loan book value has increased exponentially since 2016 whereby the mean expositied was 4.2000 and the standard deviation of .67612 which implied that there was exponential increment of the loan book offering based on book value.

Those who agreed with the study statement on the issue of advanced loans products have grown significantly since 2016 were the majority based on the response which exposed a mean of 3.4667 and standard deviation of 1.18273. These correlated to the findings of Reserve Bank of Zimbabwe, (2016) on the fact that loan terms are dependnet on the Specific DT-Sacco's internal operationalization.

The study analysis based on the issue of non-performing loans has remained below 10% since 2016 led to a mean of 4.3333 and standard deviation of .72375 which implied that those who strongly agreed were the majority in order to minimize the rate of exposure to default rate of the DT-Sacco's. In relation to the study statement of whether different platforms are availed to advance and repay loan products in this DT Sacco, the study after data analysis revealed that those who positively responded to the study statement were the majority based on the fact that the mean expositied was 4.2667 and standard deviation of .45774.

The analysis of the study on issue of whether within the county our products are most unique and effective in credit advancement led to establishment of a mean of 3.0667 and standard deviation of .79881 which signified that the uniqueness of the specific DT-Sacco's gave them an added advantage over the others in the county. The study also found that the mean expositied by the study statement which sought to understand whether the managers of the specific DT-Sacco's contribute best to financial inclusion through member driven loan products had a mean of 4.3333 and standard deviation of .72375. This meant that those who strongly agreed with the study statement were the majority thereby expositied a higher parity level of being more confidant with their undertaking.

4.3.3 Mobile banking product usage on financial inclusion

This was to affirm on how DT Saccos valued the usability of mobile banking platform in ensuring financial inclusivity. The analysis on issue based on whether mobile money is a major platform in DT Sacco expositied a mean of 4.2667 and standard deviation of .79881 which implied that those who strongly agreed with

the study statement were the majority. This was based on the fact that the standard deviation was at a lower caliber.

In terms of if DT-Sacco's had skilled and competency to provide safe, secure and efficient mobile based products, posited a mean of 4.4000 and standard deviation of .63246 which implied that those who positively responded to the statement were the majority. The study found a mean of 4.3333 and standard deviation of .72375 on the issue based on whether the DT-Sacco's mobile money products are available as and when a member request. This meant that their rate of exposure to the products availability to members was welcoming. In relation to the study issue of the cost of the Mobile money product service is surcharged on the customer established a mean of 3.6000 and standard deviation of 1.24212 which signified that there was higher invariance rate from the response perspective. These findings contrary to those of Oluoch, (2016) on how mobile banking is a solution for accounts challenges.

In relation to the study statement that sought on whether products and services offered via mobile money platform have grown since 2016 exposit a mean of 4.4000 standard deviation of .50709 which signified that those who positively responded were the majority. On other hand, it was found out that after data analysis, the mean posited was 4.1333 and sd. deviation of .74322 on the statement of whether there is a value limit on products provided on mobile money platform which implied that those who strongly agreed were the majority.

The study found a higher level of response discrepancy on the study statement based on members requesting use of mobile money have expanded since 2016 as the mean posited was 3.8667 and sd. Deviation of .99043 which signified that there was minimal number of members who requested use of mobile money expansion. Based on these findings, they were in relation to those of Bernhardt & Azar, (2012) who found out that the role of mobile banking is to mitigate risk hence with its usability, there is higher chances of survival of the DT-Sacco's.

The study reponse based on whether mobile money products have facilitated reaching more members exposed a higher response of positivism whereby the mean was 4.1333 and standard deviation of .74322. More to that, the study found out that those who agreed to the study statement on issue were the majority as this exposit a mean of 3.8000 and sd. deviation of .86189 which implied that their use of mobile money was an effective strategy.

On the issue of whether the specific DT-Sacco's mobile money products are unique from other DT Sacco's and competitive established that those who positively responded were the majority which as the response had a mean of 4.3333 and standard deviation of .61721. This signifies that use of mobile money products is key in enhancing survival rate of DT-Sacco's in this County which was in line with study findings of Ndegwa and Koori (2019) on the effectiveness of technology in enhancing services delivery.

4.3.4 Shares product usage on financial inclusion

Based on whether as a prerequisite to be a member a minimum no. of shares is required. This statement response exposit a mean of 2.9333 and standard deviation of 1.22280 which implied that there was a high rate of response discrepancies based on the response analytical outcome. In terms of whether a basic one share value deposit is a requirement to sustain membership, a mean 4.0667 and standard deviation of .79881 got implied that those who strongly agreed were the majority. On issue of the share products being available to members as and when required, a mean of 3.6667 and standard deviation of 1.29099 was got which signified that there was high rate of response invariance based on the fact that the standard deviation was at a high rate. These findings correlate to those of Githaiga, (2015) on how DT-sacco's ensures that their share capital is offered on basis of its implementation.

On the statement of whether share product is a strong investment product for members, it led to establishment of a mean of 3.4667 and standard deviation of 1.24595 which implied that those who agreed to the study statement were the majority. More to that, the study found a mean of 3.6667 with a standard deviation of 1.17514 based on the study statement on whether Cumulative share value forms the primary collateral to loan products access which signified that the response rate was invariance.

Concerning the study statement on issue of the respondents Sacco's declares competitive dividend on shares always annually exposit a mean of 4.0000 with a sd. deviation of .75593 which implied that those who positively respondents to the statement were the majority. On other case, the study established that those who agreed to the study statement concerning the issue of the DT Sacco members have grown exponentially from 2016 were the majority. This was based on the mean and standard deviation exposit of 3.5333 and 1.40746 respectively. These findings correlate to those of SASRA, (2017) on the functions of DT-Sacco's incorporation which is to enhance transaction the business of mobilization of savings and advancement of credit.

On other cases, the study found out that the specific Sacco's share value has since 2016 increased consistently which was agreed upon by the majority of the respondents based on the mean exposit of 3.6667 and standard

deviation of 1.29099. More to that, the study found out the mean and standard deviation exposit by the statement which sought articulation on whether within the county, the specific DT-Sacco's share products have highest value were 3.2667 and 1.16292 which signified that those who positively responded were slightly higher than those who were not in study congruency.

The study after data analysis based on the specific DT-Sacco's share products contribute immensely to member's financial growth exposit a mean of 3.7333 and standard deviation of 1.27988 signifying that there was higher response discrepancy rate. These correlates to the findings of Clement, Ambrose, and Martin (2013) on the basic principle of DT-Sacco's when it comes to issue of share products usage and financial inclusivity of the members.

4.4 DT-Sacco's and financial inclusion

The study sought to have a clear knowhow on how DT-Sacco's had influenced financial inclusion and therefore different statements that sought response from the respondents were drawn. In relation to whether there is an assurance of security of the membership savings, the study established that it posited a mean of 4.5333 and standard deviation of .51640 which signified that those who strongly agreed and in general who posited a positive response were the majority.

The study also found out that in relation to whether as long as there is deposit, the rate of lending is always higher posited a mean of 3.9333 and std. deviation of 1.09978 which implied that there was response high level of discrepancy. Based on whether if there is equalization of share products at all time, the study from the analyzed data posited a mean of 4.2000 and standard deviation of .94112 which meant that those who strongly agreed with the statement were the majority.

On the other hand, the study found out that the statement on whether mobile money products are always available at any given time whereby a mean of 3.9333 and standard deviation of 1.22280 was exposit. This meant that the study response was invariance based on the respondent's point of view. These findings relate to those of Musau (2018) on how financial inclusion posited a significant effect on stability of commercial banks in Kenya.

4.5 Regression Analysis

Based on the study main objective of seeking to understand on whether there is any relationship in existence between DT-Sacco's financial products usage and financial inclusions, the study carried out a multiple linear regression.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.912 ^a	.793	.804	.02134

The above analysis represents the findings from the model summary after analysis whereby it was established that the coefficient of determinants which was from Pearson concept R was .912 which implied that there existed a strong and strong relationship amongst DT-Saccos financial products usage and financial inclusion. More to that on R² percept, it was determined by the aspect of it being at .793 which was equivalent to 79.3% in terms of variance aspect based on dependent variable lance which is financial inclusion. This means that the 79.3% is ascertained by DT-Sacco's financial product usage which are not mentioned in this study or are outside the study concept in relation to any change in financial inclusion.

4.6 Analysis of Variance

The study was indebted to determine the analysis of variance so as to ascertain the best fit for the data thereby resulting to the clear understanding of the existence of the relationship amongst the study variables. The regression model was carried out effectively so as to meet the study obligation whereby the results were as presented in below.

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.069	4	.019	46.237	.004 ^b
	Residual	.021	10	.013		
	Total	.090	14			

- a. **Dependent Variable:** financial inclusion
- b. **Predictors:** (Constant), savings and deposit products, credit product usage, mobile banking product usage, share product usage

The findings of the model were presented whereby it was established that the probability value was 0.069 with a significant level of $p=0.004$ which signified that the model which is regression model was significant I relation to predicting the relationship between DT-Saccos financial products usage and financial inclusion based on DT-Sacco’s in Nyandarua County.

4.7 Model Coefficients

The study considered testing for the coefficient variability of the model so as to conceptualize more on the co-integration of the study variables under the study. This means that model coefficient was carried out as below.

Model Coefficients

Model	Coefficients ^a				T	Sig.
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta			
(Constant)	.006	.013			1.463	.151
saving and deposit products usage	.002	.002	.013		.196	.845
credit product usage	.059	.004	.228		2.789	.000
mobile banking product usage	.007	.011	.646		5.825	.000
shares product usage	.0093	.000	.012		.164	.871

- a. **Dependent Variable:** financial inclusion
- The study carried out a regression model which was in relation to the study main objective to examine whether there existed any positive or negative relationship amongst the study variables. This therefore extrapolated nay determinant that would result to co-twinning the study parametrical aspect between dependent and independent variable. This was aligned as presented in the equation shown below.

The study conducted a regression model to examine the relationship that exists between business characteristics and performance. The regression model equation representing the relationship is.

$$Y = 0.006 + .002X_1 + .059X_2 + 0.007X_3 + 0.0093X_4 + \epsilon$$

Whereby: Y= financial inclusion, X_1 = saving and deposit products usage

X_2 = credit product usage, X_3 = mobile banking product usage, X_4 = shares product usage

4.8 Model Explanation

4.8.1 Saving and deposit products usage

On establishing whether savings and deposit products usage had any effect towards financial inclusion, it was noted that from the basic analysis, it was significant at $p=.845$ which signifies an in significant level as it is above the 95% significant level. This conforms to study findings of Githaiga (2015) which stipulated that the investment minded look for the interest rates, while day to day household needs, emergencies and education needs holds the priority in that order for an average saver. It also relates to those of Oluoch (2016) who confirmed that Interest rates for savings should be high to attract more members to save with the Sacco thus creating a bigger pool of finances that can be used to develop properties for members to buy at lower cost than the market rate.

4.8.2 Credit product usage.

In consideration on how the credit product usage had affected financial inclusion the study noted that it had a significant level of below 95% whereby at $p= .000$ from the model point of view. This implied that there existed a positive significant relationship amongst credit product usage and financial inclusion. This was based on the fact that there is an increase in units of credit product usage which leads to financial inclusion increment. From these findings, different studies were in congruency to this such as the findings of SASRA 2019 which

stated that the loan book and the Non-Performing Loans (NPLs) are good indicators of the quality of the product on offer.

4.8.3 Mobile Money products on financial inclusion

In relation to establishing whether mobile money products had any effect on financial inclusion, it was established that there is an increase of business strategy by 0.007 and this has a significant level of $p=0.000$ which is below the accepted significance level of 95%. In this, it signifies that there is an improvement of mobile money products and inclusivity of financial inclusion. From literature point of view, Kenyora (2013) based on the concept of mobile banking impact on cost effective money transfer and payment, forced formal financial sector to adopt technological based product.

4.8.4 Share products on financial inclusion.

There was significant relationship as p value was $=.871$. This was based on a 5% significance level whereby the criteria used for comparing whether their existence an insignificant level between predictor variables in the model through the corresponding probability value and $\alpha=0.05$. This depicted that share products and financial inclusion was statistically significant as the value of $p=.871$ was reliable hence the hypothesis presented a positive relationship between share products and financial inclusion. These findings were in consistent to those of Devi (2014) whereby he asserted that for loan product, cumulative shares are multiplied by a certain factor to arrive at the loan limit one may be advanced. These affect the normal shares which attracts dividend and collateral to advances. This was also based on the findings of Kiaritha, (2015) whereby he stated that as a collateral ,DT Saccos allows to a greater extent personal shares to be the base guarantee for any loan which meant that they were able to meet their financial needs through use of the shares which leads to financial inclusivity of the DT-Sacco's which are in cognisant with the current study.

V. Summary of findings, conclusions and recommendations.

5.1 Summary of Findings

It was found out that savings and deposit products had positive but insignificant level at $p=.845$ which was above the threshold of $.05$. This signified that increase in savings and deposit products usage in terms of operations that were carried out led to an increment in financial inclusion. On analyzing the effect of credit product usage and financial inclusion after data analysis it was found out that there existed no relationship. This was attributed to the fact that the value of $p=.000$ had no significance relationship. This implied that the credit product usage was not key in business evaluation. On finding out how mobile banking product usage affect financial inclusion no significant relationship with financial inclusion based on the significant level of $p=.000$. This meant that through different mobile banking product usage in enhancing financial inclusivity of it did not affect the aspect of financial inclusion. On determining the effect of shares product usage and financial inclusion the study found that there existed a significant positive relationship whereby the p value was at 0.871 which showed a reliability context above the threshold of $.07$. This meant that whenever the shares product usage was applied it led to improved financial inclusivity.

5.2 Conclusions

The study concluded that, having a wider scope of savings and deposit platforms increases the level of financial inclusion of these DT-Sacco's. This is more also contributed by the fact that even the employees are able to understand the objective of the business. A large pool of clients plays a significant role in assessing the quality of credit product usability. This is facilitated by having clients who engages with these DT Sacco's in order to ensure their money is well secured and have access to loans. Further, focusing on membership depositing using mobile banking enhances financial inclusion which is attributed by having great pool of clients who are entrusting the systems. This means that there is high rate of mobile banking transactions. Share product is a strong investment product for members. A basic one share value deposit is a requirement to sustain membership and have great impact towards financial inclusion.

5.3 Recommendations.

That in order for the DT-Sacco's to experience high financial inclusion in terms of the saving products are safe, secure, convenient and simple, they need to showcase their safeties with their current clients so that they advance in ensuring that there is effectiveness in ensuring the aspect of conveniency and simplicity aspect. This implies that the savings and deposit product usage of their current businesses are performing through their application of tactics so that they remain competitive. The credits products usage should be tactical such as to ensure loan product application and processing is simple and transparent. There's need to ensure that mobile money products are unique and competitive to elimination unhealthy competition to improve their financial inclusion. On effect of Shares product usage, the study recommends that the DT Sacco declares competitive

dividend on shares always annually as the share products have highest value and cumulative share value forms the primary collateral to loan products access.

5.4 Areas for Further Study.

There should be frequent studies on determining how different DT-Sacco's are hindering financial inclusion in Kenya at large and with key consideration of the most successful DT Sacco's. Secondary should be used in order to avoid scenario of respondents unwilling to respond to questionnaires and also avoid respondent's victimization.

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