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**Determining the Effect of Process Innovation on Financial
Performance of Deposit Taking Saving and Credit Cooperative
Societies in Laikipia County, Kenya**



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Determining the Effect of Process Innovation on Financial Performance of Deposit Taking Saving and Credit Cooperative Societies in Laikipia County, Kenya

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Abstract

Purpose: To determine the effect of process innovation on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya

Methodology: The study used descriptive research design to collect data from nine deposit taking Saccos in Laikipia County. Specifically, the target population were 118 respondents who included 22 departmental managers and 96 support staff selected using census method. Notably, the study collected both primary and secondary data whereby primary data was collected in form of questionnaires from departmental managers and support staff. Secondary data was collected from financial reports such as income statement, whereby various financial ratios such as return on assets, return on equity, gross profit, net profit, liquidity ratio were noted. Further, the study conducted a pilot study in Bingwa Sacco in Kirinyaga County whose managing director, 3 departmental managers and 13 technical staff took part. The study also measured reliability using Cronbach Alpha Coefficient method while face, content and construct types of validity were measured. Further, SPSS software version 24 was used to analyze and generate various statistical reports whereby, in the analysis of the questionnaire, the study examined and generated descriptive statistics such as frequency, percentage and mean. Additionally, the study generated various linear regression statistics such as model summary and ANOVA of each independent variable. Thereafter the study generated inferential statistics to test the general model.

Results: The results indicated that 92(82%) strongly agreed and 16(14%) agreed on a mean of 4.75, that there were effective complaint management processes which clients used in case of dissatisfaction. Further, 74(67%) strongly agreed and 17(15%) agreed on a mean of 4.23 that cheque clearance took less time since the system was able to process it faster. That notwithstanding, 74(67%) strongly disagreed and 21(19%) disagreed on a mean of 2.23, the Sacco management had invested a lot in equipping the Sacco with good working computerized systems. In addition, 65(58%) strongly disagreed and 31(28%) disagreed on a mean of 2.29, that the Sacco had established updated system checks to facilitate less downtime during financial transactions.

Additionally, R was 0.864 while R-square was 0.747 at a Durbin Watson of 1.601. This meant that process innovation predicted 74.7% on financial performance which was positively correlated d at 1.601. Further, the p-value was 0.022 which was below than 0.05 and therefore, the study rejected null hypothesis.

Unique contribution to theory, policy and practice: The study concluded that Sacco's bid to incorporate ICT to assist in financial transaction such as having enough servers and skilled staff was still low hence increased system downtimes. Consistent downtime exposed the client deposits to cyber theft since the hackers noted this weakness and used to their advantage to commit crime. Therefore, the Sacco management should invest in secure servers to protect client's information from unauthorized access or use. This could also involve wither hiring new ICT personnel or sharpening the skills of the current ICT staff through training and development. Additionally, the Sacco staff should maintain a strict policy of ensuring that they do not issue passwords to anyone or leave their computers logged in in their absence even when there is a system failure to reduce cyber hacking. Further, the Sacco ICT management should expand their domains to ensure that there are minimal system failures to facilitate smooth flow of operations.

Keywords: *Deposit Taking Saving and Credit Cooperative Societies, Financial Performance, Laikipia County, Kenya, Process Innovation, ICT*

1.0 INTRODUCTION

Deposit Taking [DT] Saccos have more opportunities for gathering financial resources using different avenues and products. Therefore, it is always the purpose of any DT Sacco to maximize this function through use of available financial innovations at their disposal to improve their processes (Wu et al., 2022). This is whereby the Saccos implements new or improved service delivery methods through which its staff could easily sell their products and services (Mukanzi & Mwai, 2020). Nevertheless, this has not been easy because of challenges encountered.

Globally, American credit unions/Saccos have been facing the issue of keeping up with the rapidly changing technology (Yusheng & Masud, 2019). Further, there have been low skills and inadequate training by its staff to adapt new technology (Canadian Centre for the Study of Co-operatives [CCSC], 2021). In Europe, there have been defaults of loans by clients hence increasing credit risk since they are unable to make payments on time due to system downtime by mobile money transfer service providers (Institute for Government (2018). In China, there have been cyber insecurity causing massive loss of financial data and money from the Sacco (Macdowell, 2019)

Regionally, Saccos have experienced bank runs particularly when clients' suspect fraud caused by system failure. According to Shilimi (2021) there were low digitalization and inadequate government support particularly when operating a Sacco in Zambia. Further, Melesse (2019) found out that performance was negatively affected by increased costs of local area network service,

repair of computer hardware, and frequent downtimes. Additionally, Moki et al. (2019) complained that some of the implemented financial innovations were not user friendly for clients to use hence they avoided using them resulting to loss of purported income to the Sacco.

Locally, Kenyan Saccos have been experiencing issues related to poor client-staff relations since transactions are processed slower than expected (Moki et al., 2019). Further, there have been disconnect between what financial products and services clients want vis-à-vis what the staff are offering (Mukanzi & Mwai, 2020). For example, long timelines in approving and disbursing to client loans such that when the loan is approved the client has already outsourced from other financial institutions.

1.2 Statement of the Problem

Deposit taking saving and credit cooperative societies are financial institutions that are registered and regulated by Sacco Societies Regulatory Authority into accepting deposits and offering loans to qualified borrowers (SASRA, 2022). These institutions are beneficial since they inject capital to the economy through offering loans to various individuals, corporates and other institutions to pay back later at an agreed interest. Additionally, they provide avenues where sound financial advice on investments could be sought at a fee. Therefore, since their contribution is critical to the economy, their financial performance should be closely monitored from the perspective of a going concern.

However, Saccos have been operating under declining profitability in Kenya (SASRA, 2022). For example, in the financial year 2020/2021, the deposits of Saccos grew by Kshs 18 billion from Kshs 105 billion to Kshs 123 billion in 2020 and 2021 respectively. Nevertheless, at the same time, the profitability declined by 33% from 49% to 16% signifying a worrying trend. The declining profitability has partly been attributed to average utilization of innovations related to their processes. As a result, there has been a disconnect between what clients want as compared to what the Saccos have been offering. Persistence of this disconnect has forced clients to shift towards the commercial banks who have been giving fierce competition by offering similar products and services coupled with advanced stages of innovations.

1.3 Purpose of the Study

To determine the effect of process innovation on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya

1.4 Hypothesis of the Study

H₀1: Process innovation had no significant effect on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

Unified Theory of Acceptance and Use of Technology (UTAUT) was first developed by Venkatesh (2003) and it will explain process innovation variable. It states that for a system to be declared as working, the monitoring party needs to assess both the intention and utility pattern behavior of the users. In relation to a Sacco, that is to indicate that for a new process/ system to be termed as accepted by its staff, the management always ensures that they check on the interest and actual use of the system to boost effectiveness of the operations. In terms of improving the interest of the staff, the Sacco provides necessary training and budget for purchasing the software and hardware for the system. Additionally, UTAUT dictates that the monitoring of use of technology be engulfed with communication of expected performance metrics from users, effort expectation and social influence the user have after interacting with the new technological process.

The UTAUT guided process innovation in the sense that Saccos are always in stiff competition of expanding their clientele base, profitability and assets. In order to do so, they require advancing their technological scope to facilitate even smoother processes with less hitches. Therefore, from time to time, the technological systems change completely or the old ones are advanced. To be in a position of delivering the workload using the improved technology, the user' interests who are the staff should be motivated through training and equipping their workstation with advanced processors and software as a means of automating the bank to provide services such as ATM services. Additionally, once the staff had become conversant with the advanced technology, they will use their social influence to incorporate more users such as clientele in various functions. For example, through demonstrating mobile and internet banking to clients. Further, the mastery of technology and equipping of hardware and software, reduces lags in processes such as cheque clearance, account opening, loan processing and other facilitates within the Saccos. This theory has previously been used by other studies such as Mosweu et al. (2016) to elaborate more on the various staff use technology in records management and social networks respectively.

2.2 Empirical Review

A study by Flores-Chia and Mougenot (2022) investigated how Peru's Sacco were ensuring they had competitive edge through maintaining financial sustainability. The study used econometric analysis method on a panel data of 34 Saccos within 8 years timeframe. According to Flores-Chia and Mougenot (2022), Peru Saccos had ensured that they had consistently improved their asset base, smooth processes of transactions to attract clients, and high return on assets. Nevertheless, Flores-Chia and Mougenot (2022) used econometric analysis method which relies a lot on raw data and less consideration is given on causal mechanism of any deviations of statistics.

Further, a report by Canadian Centre for the Study of Co-operatives [CCSC] (2021) documented on what facilitated growth of credit unions in Canada and the resulted policy implication. The report pointed out that most credit unions had mastered the art of ensuring they became innovative in their processes such that every transactional need has more than one way of doing it using technology. This led to improved financial capital and asset base since income had improved.

Nevertheless, there was a concern for frequent training to the staff since most of the credit union hardly sponsored the training unless when necessary.

In addition, Akintoye et al., (2022) investigated the menace that cyber insecurity had caused on development of financial innovation of deposit taking financial institutions in Nigeria. The study worked with a sample size of 56 senior staff from the financial institutions who were purposively selected. According to Akintoye et al., (2022), when financial institutions put adequate measures to counter attack cyber insecurity, there was reliability on the introduced financial innovation products and processes. Notably, Akintoye et al., (2022) complained that many financial institutions did not regularly monitor e-banking channels such as credit and debit cards, ATM and POS hence less reliant towards supporting more financial transactions. Nevertheless, Akintoye et al., (2022) did not include junior staff in their study to provide information on the repercussions of cyber security in daily operations/ processes.

Further, Chepkorir et al. (2022) conducted a study on ascertaining how mobile banking process affected financial performance of Saccos in Kericho County. The study adopted correlational design to collect data from 108 managers in the Saccos. The managers were issued with questionnaires and analysis of Sacco reports was also done. Notably, Chepkorir et al. (2022) found out that there was a positive relationship between mobile banking and performance of the Sacco. It is also important to note that mobile banking transactions were at times affected by network hitches to a point that the clients had to seek for alternative sources. This meant that there was a gap in Saccos on system review to facilitate smooth transactions. That notwithstanding, Chepkorir et al. (2022) did not assess other processes innovation emanating from internet banking, cheque clearance, ATM services.

3.0 RESEARCH METHODOLOGY

The study used descriptive research design to collect data from nine deposit taking Saccos in Laikipia County. Specifically, the target population were 118 respondents who included 22 departmental managers and 96 support staff selected using census method. Notably, the study collected both primary and secondary data whereby primary data was collected in form of questionnaires from departmental managers and support staff. Secondary data was collected from financial reports such as income statement, whereby various financial ratios such as return on assets, return on equity, gross profit, net profit, liquidity ratio were noted. Further, the study conducted a pilot study in Bingwa Sacco in Kirinyaga County whose managing director, 3 departmental managers and 13 technical staff took part. The study also measured reliability using Cronbach Alpha Coefficient method while face, content and construct types of validity were measured. Further, SPSS software version 24 was used to analyze and generate various statistical reports whereby, in the analysis of the questionnaire, the study examined and generated descriptive statistics such as frequency, percentage and mean. Additionally, the study generated various linear

regression statistics such as model summary and ANOVA of each independent variable. Thereafter the study generated inferential statistics to test the general model.

4.0 RESULTS

4.1 Response Rate

The study administered questionnaires to 22 departmental managers and 96 support staff (finance officers, audit officers, human resource officers, quality assurance officers and administrative officers) as indicated in Table 1.

Table 1: *Response Rate*

Respondents	Sampled	Response	Percentage
Departmental Managers	22	20	
Support staff	96	92	
Total	118	112	95%

According to Table 1, 20 departmental managers and 92 support staff answered and returned the questionnaires hence a total of 112(95%) response rate. The study had this high response rate since the particular respondents were much conversant with the topic and specific objectives related to innovation. According to Wu et al. (2022), when the response rate was 80% and above, it meant that the study was successful and had excellent feedback.

4.2 Reliability Test Results

The study conducted a pilot study in Bingwa Sacco in Kirinyaga County whose 2 departmental managers and 10 support staff took part as indicated in Table 2.

Table 2: *Reliability Test Results*

Instrument	Cronbach's Alpha	N of Items
Questionnaires	0.849	12

According to Table 2, the questionnaires had a Cronbach Alpha of 0.849 and according to Taber (2018), when the results of Cronbach Alpha Coefficients were above 0.7, the research instrument was reliable. Notably, the questionnaire had a value above 0.7 indicated reliability of the

questionnaires to underpin the effect of innovation on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya.

4.3 Descriptive Statistics of Financial Performance

The dependent variable was financial performance which was measured using return on assets, return on equity, gross profit, net profit and liquidity ratio. Financial performance was examined using and the results are indicated in Table 3.

Table 3: *Descriptive Statistics of Financial Performance*

Statements	1	2	3	4	5	Mean
N=112						
Product innovation has improved ROA	2(2%)	9(8%)	0(0%)	23(21%)	78(69%)	4.48
Process innovation has improved ROE	2(2%)	18(16%)	0(0%)	40(36%)	52(46%)	4.09
Institutional innovation has improved gross profit	28(25%)	78(70%)	0(0%)	6(5%)	0(0%)	2.52
Following policies has reduced expenses	2(2%)	4(3%)	0(0%)	12(11%)	94(84%)	4.71
Reliable management structure has enhanced appropriate decisions	8(7%)	7(6%)	2(2%)	33(30%)	62(55%)	4.21

According to Table 3, 78 (69%) strongly agreed and 23(21%) agreed on a mean of 4.48, that product innovation had improved return on asset. Adding to that, 94(84%) strongly agreed and 12(11%) agreed on a mean of 4.71, that following policies had reduced expenses incurred from fines. That notwithstanding, 28(25%) strongly disagreed and 78(70%) disagreed on a mean of 2.52,

that institutional innovation has improved gross profit. The interpretation of the results is that Saccos had made realizable strides towards incorporating customized products and realizable policies which have enhanced the assets and reduced expenses respectively. Notably, there was still issues related to poor organization culture, bureaucracy, composition structure and viability on the functions of the management. These issues were inhibiting full innovation to take place which was also supported by Yusheng and Masud (2019) who complained that one of the problems that was causing stagnation in banking sector of Ghana was the high bureaucracy involved in making decision. This was a problem since when the management delayed making quick decisions affecting the operations, they frustrated the efforts of service delivery which in turn affected satisfaction levels of the customers.

4.4 Descriptive Statistics of Process Innovation

The independent variable was process innovation which was measured using bank automation, mobile banking, internet banking, cheque clearance, and ATM services. It was examined using questionnaires and the results indicated on Table 4.

Table 4: *Descriptive Statistics of Process Innovation*

Statements	1	2	3	4	5	Mean
N=112						
The staff are adequately trained on new processes	8(7%)	27(24%)	0(0%)	38(34%)	39(35%)	3.65
There are system checks to facilitate less downtime	65(58%)	31(28%)	1(1%)	14(12%)	1(1%)	2.29
There are effective complaint management processes	0(0%)	4(4%)	0(0%)	16(14%)	92(82%)	4.75
There are mobile and internet banking services	8(7%)	7(6%)	0(0%)	33(30%)	64(57%)	4.23

Cheque clearance takes less time	6(5%)	15(13%)	0(0%)	17(15%)	74(67%)	4.23
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The Sacco management has invested in good working computerized systems	74(67%)	21(19%)	0(0%)	17(14%)	0(0%)	2.23
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According to Table 4, 92(82%) strongly agreed and 16(14%) agreed on a mean of 4.75, that there were effective complaint management processes which clients used in case of dissatisfaction. Further, 74(67%) strongly agreed and 17(15%) agreed on a mean of 4.23 that cheque clearance took less time since the system was able to process it faster. That notwithstanding, 74(67%) strongly disagreed and 21(19%) disagreed on a mean of 2.23, the Sacco management had invested a lot in equipping the Sacco with good working computerized systems. In addition, 65(58%) strongly disagreed and 31(28%) disagreed on a mean of 2.29, that the Sacco had established updated system checks to facilitate less downtime during financial transactions. The interpretation of the results was that the Sacco management had made notable developments such as having efficiency in processes complaints management and cheque clearance due to increased incorporation of ICT in their operations.

However, in comparison to other financial institutions such as insurance, banks and microfinance institutions, the ICT incorporation such as having enough servers and skilled staff was still low hence increased system downtimes exposing the client funds to cyber theft. In comparison, Mukanzi and Mwai (2020) noted that Western Kenya's Sacco were also engulfed with service-related issues particularly on poor services due to increased number of network downtime which affected negatively the transactions. Notably, Mukanzi and Mwai (2020) noted that there were reported cases of attempted hack into the Sacco system registered during the system downtimes.

4.5 Model Summary of Process Innovation

The study analyzed the percentage effect of process innovation on financial performance as shown in Table 5.

Table 5: *Model Summary of Process Innovation*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.864 ^a	.747	.738	2.55010	1.601

a. Predictors: (Constant), Process Innovation

b. Dependent Variable: Financial Performance

According to Table 5, R was 0.864 while R-square was 0.747 at a Durbin Watson of 1.601. This meant that process innovation predicted 74.7% on financial performance which was positively correlated at 1.601. The other 25.3% was explained by other factors. This meant that independently, process innovation's effect was the highest hence had the greatest ability to either affect positively or negatively the financial performance. Comparatively, Mosweu et al. (2016) found out that use of e-documents and record management systems had more than 72% influence on the performance of organizations in Botswana.

4.6 ANOVA of Process Innovation

The study used ANOVA to test the null hypothesis which indicated that process innovation had no significant effect on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya. The results are shown in Table 6.

Table 6: ANOVA of Process Innovation

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	35.138	1	35.138	5.403	.022 ^b
1	Residual	708.826	111	6.503		
	Total	743.964	112			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Process Innovation

According to Table 6, the p-value was 0.022 hence below than 0.05. This meant that the study rejected null hypothesis and hence indicate that process innovation had a significant effect on financial performance of deposit taking saving and credit cooperative societies in Laikipia County, Kenya. The same was advanced by Shaikh et al. (2022) who indicated that mobile financial services had the capacity to influence profitability of financial institutions.

4.7 Regression Coefficient of Influence of Process Innovation on Financial Performance

The study's regression model in question was $Y = C + \beta_1 X_1$ where: Y was financial performance; β_i was coefficients to be estimated; C was Constant; X₁ was process innovation. The study conducted a regression coefficient analysis and its results are presented in Table 7.

Table 7: *Regression Coefficient of Influence of Innovation on Financial Performance*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	17.204	3.530		4.873	.000
Process Innovation	.276	.097	.273	2.832	.006

According to Table 7, constant was 17.204; process innovation was 0.276. Therefore, the results revealed that financial performance was increased by $17.204C + 0.276X_2$. Therefore, process innovation had a statistically significant effect on financial performance. Therefore, there should be more concentration on how more processed could be enhanced in the Saccos for optimal performance. This could be in terms of enhanced bank automation, mobile banking, internet banking, cheque clearance, and ATM services.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

The results indicated that 92(82%) strongly agreed and 16(14%) agreed on a mean of 4.75, that there were effective complaint management processes which clients used in case of dissatisfaction. Further, 74(67%) strongly agreed and 17(15%) agreed on a mean of 4.23 that cheque clearance took less time since the system was able to process it faster. That notwithstanding, 74(67%) strongly disagreed and 21(19%) disagreed on a mean of 2.23, the Sacco management had invested a lot in equipping the Sacco with good working computerized systems. In addition, 65(58%) strongly disagreed and 31(28%) disagreed on a mean of 2.29, that the Sacco had established updated system checks to facilitate less downtime during financial transactions. Additionally, R was 0.864 while R-square was 0.747 at a Durbin Watson of 1.601. This meant that process innovation predicted 74.7% on financial performance which was positively correlated at 1.601. Further, the p-value was 0.022 which was below than 0.05 and therefore, the study rejected null hypothesis.

5.2 Conclusion

The Sacco's bid to incorporate ICT to assist in financial transaction such as having enough servers and skilled staff was still low hence increased system downtimes. Consistent downtime exposed the client deposits to cyber theft since the hackers noted this weakness and used to their advantage to commit crime.

5.3 Recommendations and Contributions of the Study

The Sacco management should invest in secure servers to protect client's information from unauthorized access or use. This could also involve wither hiring new ICT personnel or sharpening the skills of the current ICT staff through training and development. Additionally, the Sacco staff should maintain a strict policy of ensuring that they do not issue passwords to anyone or leave their computers logged in in their absence even when there is a system failure to reduce cyber hacking. Further, the Sacco ICT management should expand their domains to ensure that there are minimal system failures to facilitate smooth flow of operations.

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