Factors Affecting Use of Mobile Money Services on Loans Repayment for Saving and Credits Cooperative Societies (SACCOS) in Rombo District, Tanzania

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Abstract: *This study assessed the factors affecting the use of mobile money on loan repayment in Savings and Credits Cooperative Societies (SACCOS) in the Rombo District in Tanzania. Specifically, the study assessed the influence of perceived usefulness (PU), perceived ease of use (PEOU) and perceived risks (PR) of mobile money service on loan repayment in SACCOS. The study used descriptive and correlation analysis and a population of 17 SACCOS. Two SACCOS with a population of 2,724 borrowers were used to select the sample size of 120 borrowers using a systematic random sampling technique. The findings indicated that only 36% of borrowers repaid loans using mobile phones. Through correlation analysis, the results indicated that PU and PEOU did not significantly influence the mobile loan repayment while PR negatively and significantly influenced the mobile loans' repayment. The study recommends the formulation of policies that will guide mobile money loan repayment in Tanzania. The study further recommends that SACCOS clients should be trained on the importance of repaying loans through mobile money. This will enable tracking of the repaid loans and increase the loans repayment performance which seems to be a challenge for most of the SACCOS in Tanzania.*

Keywords: Mobile money services, Loan repayment, Savings and Credits Cooperative Societies (SACCOS), Tanzania

1.0 Introduction

Mobile money payment is any financial transaction done using a mobile phone device (Mas & Radcliffe, 2010). The use of mobile money in payments of various transactions in Tanzania was estimated to be over 3.6 billion U.S. dollars in 2019 where the services were provided by M-Pesa, Airtel Money, Tigo Pesa and EzyPesa, HaloPesa and TTCL Money (O'Dea, 2020).

This study was conducted to assess the factors affecting the use of mobile money on loan repayment in Savings and Credits Cooperative Societies (SACCOS) in the Rombo District in Tanzania. The study was conducted at Rombo District in the Kilimanjaro Region which hosts the Kibo and Mawenzi peaks of Mount Kilimanjaro. According to the population census of 2012, the population of the Rombo District was 260,963 inhabitants. The people of Rombo District engage in agriculture (90%), small businesses (7%) and workers employed in diverse sectors (3%). Rombo District had 17 SACCOS which provides financial services to residents (Rombo District Council Profile, 2021).

Savings and Credit Cooperative Societies (SACCOS) are voluntary associations from which members regularly pool their savings and subsequently obtain loans used for different purposes (Ndiege, Mataba, Msonganzila & Nzilano, 2016). SACCOS offer services such as; remittances, deposits, savings, training and insurance (URT, 2017). The first SACCOS was formed by the Ismailia group in 1938 in the Moshi town of Tanzania. Nevertheless, SACCOS grew in number in the 1960s while in 1975 were abolished because parastatal village crop authorities performed their functions during the establishment of communal villages (Maghimbi, 2010). In the 1990s they resurfaced again (Bee, 2007). Loans issuance in SACCOS meets the mission of poverty alleviation for clients and the profitability of SACCOS (Ibtissem & Bouri, 2013).

According to Qin and Ndiege (2013) and Bwana and Mwakujonga (2013), SACCOS contribute to about 40% of Tanzania's GDP, employ secondary school and college leavers and finances the small and medium enterprises (SMEs) in both urban and rural areas. The Government of Tanzania has recognized the significance of SACCOS in promoting socio-economic development, in both urban and rural areas and hence encouraged their spread (Ndiege et al., 2016). Therefore, over the past decades, Tanzania has experienced rapid growth of SACCOS because of government sensitization (Magali, 2013). According to Magali (2018), the challenges facing SACCOS in Tanzania are credits default for most of the SACCOS, poor credit risk management practices, embezzlement, lack of strong leadership, operations inefficiency, dishonesty, fraud, insufficient capital, lack of investment skills, poor corporate governance practices and inadequate supervision from the government.

Tanzania Cooperatives Development Commission (TCDC) (2019) reported that in 2018 out of 6,137 SACCOS that appeared in the Tanzania directory of Cooperative Registrar 44.11%, 35.16 %, and 20.73% were active, dormant and untraceable respectively. Moreover, the audit reports for the year 2018/19 showed that number of audited SACCOS were only 2,707 or 44% of all SACCOS in Tanzania. Moreover, the report revealed that only 53.49% of the audited SACCOS were active and only 18.02% had a clean audit report. Loan delinquency is the main challenge that threatens the performance of SACCOS (Mitei, Bosire & Kirui, 2016). According to URT (2017), non-repayment of loans is still a problem for some SACCOS in Tanzania. Magali (2013) declared that poor loan repayment affects both the performance and sustainability of SACCOS. According to Rombo district cooperative department, by December 2018, loans issued to 8,496 borrowers were Tanzanian Shillings (TZS) 14,319,284,648 (equivalent to 6,198,824.5 USD). The loans outstanding were TZS 3,075,277,955 (1,331,289.2 USD), out of which 16% were defaulted.

Mobile money services facilitate saving, borrowing and receiving remittances and hence reduces transaction costs (Munyegera, 2015). Mbiti and Weil (2011) have asserted that electronic payment for goods and services is the secondary function of mobile money payment. Kamande, Kamanzi, Kituyi, and Qureshi, (2021) have further asserted that distance between SACCOS and clients sometimes limit service provision in the rural area and hence mobile phone services can overcome the distance problem.

The empirical literature review indicates that some of the studies which have assessed the factors affecting mobile money technology acceptance in Tanzania include Anthony and Mutalemwa (2014), Lema (2017) and John, Gwahula and Msemwa (2018). Abdinoor and Mbamba (2017)

and Richard and Mandari (2017) concentrated on the banking, telecommunication industry and SMEs. Moreover, To and Trinh (2021) revealed the positive influence of perceived ease of use, perceived usefulness, and enjoyment on the adoption of mobile wallets in Vietnam. Akinyemi and Mushunje (2020) asserted that acceptance of mobile money technology in rural Africa was possible because it was faster, safer, easier, more trustworthy and more convenient. Flavian, Guinaliu, and Lu (2020) disclosed that the adoption of credit cards payment in Spain and the USA were influenced by perceived ease of use, mindfulness, perceived usefulness attitude and subjective norms.

Opare (2018) revealed that mobile money services improve the efficiency of the transaction for commercial banks in Ghana. Aron (2018) and Chirchir and Simiyu (2016) stressed that mobile payments facilitated trade that contributed to the profitability of SMEs owners in Kenya. Moreover, Klapper (2017) argued that digital payments may increase the profitability of the firm by reducing travel time and expenses. Klapper (2017) opined that digital payments may increase the profitability of the firm by reducing travel time and expenses. Lubutse (2020) revealed that age, gender, occupation, membership status, agent experience, service time and possession of a smartphone influenced access to mobile banking services for SACCOS clients. However, his study did not assess how mobile money services affected loan repayment.

The variables of this study relate to the technology acceptance model (TAM) which was proposed by Davis in 1989. Davis asserted that perceived usefulness (PU), perceived ease of use (PEU), attitude towards use, intention to use and behavioural intention to use influence the adoption of the technology. Other scholars such as; Davis et al. (1989) and Venkatesh and Davis (2000) modified TAM and included the variables of demographics (Omol, et al., 2017; Akinyemi & Mushunje, 2020), social pressure, community trust and culture (Wamuyu, 2014), education (To & Trinh, 2021; Burke, Goldman, et al., 2016; Perkins & Annan, 2015), consumers' awareness (Sudhir et al., 2012; Abdinoor & Mbamba 2017), preference (Kumar & Seri, 2014; Light, 2013). This study applied TAM with variables proposed by Omol et al. (2013) because the variables capture well the variables of PU, PEOU and PR and to the best of our knowledge, the link between the variables of TAM and loans repayment performance is missing in the previous literature. This study contributed to the TAM model by assessing the extent to which the variables of the model such as; PU, PEOU and PR are essential for promoting the mobile repayment of loans in SACCOS.

2.0 Methodology

The study used a descriptive research design, a population of 17 SACCOS and a sample size of 2 SACCOS with a population of 2,724 SACCOS' members with loans. The surveyed clients were selected by using systematic random sampling and the structured questionnaire was used for data collection. The questionnaire contained the demographic and technology adoption variables. The 5-Likert scale of 1 strongly disagree, 4 disagree, 3 neutral, 4 agree and 5 strongly agree were used to rate the adoption-related variables. The sample size was determined based on the formula developed by Yamane (1967).

$$n = \frac{N}{1 + N(e)^2}$$

Whereby; n = estimated individual sample size, N = total number of people within the study area (2,724 members), e = standard error, which is 5% (0.05) was used to obtain manageable respondents. Therefore, n = 2,724/ (1 + 2,724$(0.05)^2$; n = 349. Due to the homogeneity of SACCOS' clients, the study surveyed only 120 borrowers. However, 117 of them returned the questionnaires equivalent to 95% response rate. According to Mugenda and Mugenda (2003), 50% of the response rate is adequate for a social science survey.

The respondents' consent was sought, confidentiality was considered and all used works were cited thoroughly to curb the problem of plagiarism. The questionnaires were checked to confirm the data completeness and follow-up using mobile phones was done in the case of incomplete or unclear information. Also, the researchers checked if there were outliers and two questionnaires with a high amount of loans than the average borrower was excluded in the analysis and the researchers replaced the outliers with other borrowers in the population list. The researcher numbered the questionnaires before entering the data in SPSS to enable tracking of entries. The variables from the questionnaire were coded and data were entered into SPSS software. The analysis of data was done using descriptive and correlation analysis.

The draft questionnaire was discussed with the Rombo District Council Cooperative Officer to enhance its validity. Similarly, the variables from the questionnaire were adopted from Omol et al. (2017), who assessed the factors influencing acceptance of mobile money applications in enterprise management in Kenya. Furthermore, the questionnaire was pre-tested to 10 SACCOs clients before the data collection (Cooper and Schindler, 2014). The reliability of the data used the test-retest method, which examines the correlation among the variables. This technique uses Cronbach alpha statistics to discern the reliability of data. Quansah (2017) declared that if the ranges of Crobanch alpha lies between 0.70 to 0.95, then the data are reliable. The results of Cronbach alpha from Table 3.1 indicate that the data did not face the reliability problem.

Table 1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.817	0.704	6
0.796	0.752	4
0.827	0.793	4
0.853	0.816	3
0.817	**0.704**	**17**

3.0 Results and Discussion

3.1 Demographic information

3.1.1 Sex of borrowers

The study findings showed that 42.1% of the respondents were males while 57.9% of the respondents were females. The results indicated that females participated more in SACCOS activities than males. This could partly be due to the female's responsibilities in their families and their motive to overcome the challenges of poverty. The results are in tandem with the study by Amiry (2013) who indicated that females were more attracted to join SACCOS to access capital for their businesses in Kinondoni District, Dar es salaam.

3.1.2 Age ranges

The findings showed that the majority (63.2%) of SACCOS' clients were aged between 18 and 40 years while those who were aged between 41 and 60 years and 61 and above were 35.1% and 1.8% respectively. The data implies that most of the respondents belonged to the active age group and hence can participate actively in economic activities. The study revealed that youths preferred paying their loans using mobile money than other groups (youths were 28% while the elders were 8%). The results suggested that if youths could be the best loans payers, SACCOS could prefer to lend them because of their flexibilities in loans repayments and this could make more youths engage in economic activities and boost both domestic and national economy. Modiglian (1970) indicated that age structure may influence private saving behaviour. In this case, it may influence loan borrowing and investment. Assaker (2019) also revealed that older aged travellers were the main users of online generated content. Lubutse (2020) further revealed that age determined the mobile money payment for SACCOS' clients.

3.1.3 Education level

The study manifested that 34.2% of respondents had primary education, 43% secondary education, 12.3% college and 10.5% university education. The findings showed that the majority of SACCOS borrowers possessed the basic education which may help them to utilize the loans borrowed from SACCOS properly. Kilemile (2017) found out that education affected positively the financial sustainability of SACCOS. These results were contrary to Magali (2013) who found out that the education of the SACCOS' staff negatively influenced the loans' repayment for rural SACCOS in Tanzania. Therefore, the study concluded that possessing a higher level of education for SACCOS staff and clients was not enough to promote loan repayment, if not used wisely.

Table 2: Borrowers' Demographic information (N=117)

Sex	**Frequency**	**Percentage (%)**
Male	48	42.1
Female	66	57.9
Age range		
18-40	72	63.2
41-60	40	35.1
61 and above	2	1.8
Education level		
Primary	39	34.2
Secondary	49	43.0
College	14	12.3
University	12	10.5
Modes of loan repayment		
Cash	72	63.2
Mobile money	41	36.0
Both	1	.9

3.1.4 Modes of loans repayment

The study noted that 64% of borrowers repaid loans using cash while 36% repaid loans using the mobile money service. The findings further revealed that 0.9% of the borrowers used both cash and mobile money service. Despite this, the World Bank (2012) has witnessed that electronic bill payment is more transparent, safe and cost-effective. The findings from this study revealed that the majority of SACCOS of borrowers were not sensitized enough to use mobile money services in the repayment of loans. The majority of respondents asserted that they preferred cash repayment to avoid high transaction charges and the possibility of losing money when making mobile money transactions. Chale and Mbamba (2014) have revealed that the cash model of payment dominated when it comes to purchasing stock and payment of goods and services.

3.1.5 The Influence of Perceived Usefulness (PU) of Mobile Money Service on Loan Repayment in SACCOS

The perceived usefulness as a stimulator for repaying the loans through mobile money received the following responses: 74.6% of borrowers agreed that quick repayment of the loan was a motivating factor for using the mobile money service while 47.8% of borrowers accepted that payment through mobile money reminded them the time to repay the loans. The findings further revealed that 91.2% and 88.5% of borrowers perceived that the use of mobile money reduced the time and costs of the transaction respectively (Table 2). The findings indicated that the majority of SACCOS' clients were aware that using mobile money services in repayment of loans reduced time and financial resources.

However, only a few borrowers agreed that paying through mobile money was quick compared to cash payment (Table 2). The findings correspond with Adam and Walker (2016) who indicated that mobile phone payment was quicker compared to cash payment. The payment mode also helped the rural population who had few options for formal monetary transactions. Anthony and Mutalemwa (2014) uncovered that the high cost of mobile money services discouraged users. The findings of the current study further indicated that the SACCOS'

borrowers perceived that it was useful to repay the loans using the mobile money service. The results correspond with To and Trinh (2021) and Abdinoor and Mbamba (2017), who acknowledged the usefulness of mobile money services in the payment of various transactions.

Table 3: The Influence of Perceived Usefulness (PU) of Mobile Money Service on Loan Repayment in SACCOS

Responses	Frequency	Percent
Enabled quick repayment of loans	85	72.6
Reminded borrowers to repay loans	56	47.8
Made borrowers save time	104	91.2
Made borrowers reduce costs	101	88.5

3.1.6 The Influence of Perceived Ease of Use (PEOU) of Mobile Money Service on Loans Repayment in SACCOS

The findings on the perceived ease of use (PEOU) on repayment of loans through mobile money services are indicated in Table 4. The findings show that more than half (57.8%) of SACCOS members agreed that using mobile money on loan repayment was easy. Moreover, the findings showed that only 46.4% agreed that it was simple to correct mistakes that occurred during the mobile money transactions. The response relating to this question was less than 50% indicating that there were challenges associated with the correction of mistakes that occurred during the mobile money transactions. The results, however, indicated that the majority (62.3%) of respondents agreed that no need for special training regarding repaying loans using mobile money, implying that repaying loans through mobile money services was perceived to be easy. The results are supported by Flavian et al. (2020), Richard and Mandari (2017) and Abdinoor and Mbamba (2017).

Table 4: The Influence of Perceived Ease of Use (PEOU) of Mobile Money Services on Loan Repayment in SACCOS (N=117)

Responses	Frequency	Percent
Using mobile money on loan repayment is easy	66	57.8
It is simple to correct mistakes during mobile money transaction	53	46.4
No need for special training	71	62.3

3.1.7 The Influence of Perceived Risks (PR) of Mobile Money Service on Loans Repayment in SACCOS

On the variables of the perceived risk of using mobile money on loan repayment, the responses were as follows: About 86.3% agreed that repaying loans through mobile money avoided stealing of money (Table 5). This implies that using mobile money in loans repayment reduced the risks of moving with cash, which may attract thieves to steal it. The findings further indicated that the majority of the SACCOS' clients avowed that repaying the loans through mobile money enhanced the good record-keeping since the mobile money companies keep the electronic mobile money transactions. The SACCOS' clients further agreed that repaying loans using mobile transactions avoided expending the loan money. The findings implied that when borrowers stay

with cash while waiting for repayment of loans, they may be tempted to use it for other unplanned expenditures. However, mobile money transaction enables immediate repayment of loans. Furthermore, 77.8% of borrowers stated that repaying loans through mobile money reduced the risk of corruption to the loan committee to seek the loans repayment delay favour. Scholars emphasized that perceived risk influenced the acceptance of mobile money payment such as Omol et al. (2017), Lema (2017), John et al. (2018) and Richard and Mandari (2017).

Table 5: The Influence of Perceived Risks (PR) of Mobile Money Service on Loan Repayment in SACCOS

Responses	Frequency	Percent
Perceived risk theft avoidance	101	86.3
Perceived risk enhances good record keeping	94	80.7
Perceived risk-avoiding using the money for other expenditure	95	81.2
Perceived Risk anti-corruption means	91	77.8

4.0 The Results from Correlation Analysis

The results from the correlation analysis in Table 6 indicate that PU and PEOU do not significantly influence the mobile loan repayment while PR negatively and significantly influences the repayment of the loan through mobile phones. The implication of the results is that majority of the SACCOS' borrowers did not use the mobile money services in the repayment of loans because they did not understand its usefulness or because they did not perceive it as easy to use it. Rather, the findings show SACCOS borrowers did not use mobile money in repayment of loans because they perceive that it is risky to use it.

Table 6: Correlation Tests of Independent variables and loans repayment

Variable (s)	Value	Sign
Perceived usefulness	0.083	Positive
Perceived Ease use	0.096	Positive
Perceived risk	-0.292**	Negative

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 7: Correlation Table

Correlations

Variable		The logarithm of the loan repaid	Total Usefulness	Total Perceived of Ease use	Total Perceived Risk
Logarithm of the loan repaid	Pearson Correlation	1	.083	.096	-.212*
	Sig. (2-tailed)		.382	.309	.023
	N	114	114	114	114
Total Usefulness	Pearson Correlation	.083	1	.091	.513**
	Sig. (2-tailed)	.382		.334	.000
	N	114	114	114	114
Total Perveived of Ease use	Pearson Correlation	.096	.091	1	.033
	Sig. (2-tailed)	.309	.334		.729
	N	114	114	114	114
Total Perceived Risk	Pearson Correlation	-.212*	.513**	.033	1
	Sig. (2-tailed)	.023	.000	.729	
	N	114	114	114	114

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

5.0 Conclusion and Recommendations

The findings indicated that only 36% of borrowers repaid loans using mobile phones and the rest (64%) hesitated to lose their money when making mobile money transactions. Moreover, the correlation analysis revealed that perceived risk was negatively correlated with payment of loans using mobile phones and other variables while the influence of perceived usefulness and perceived ease of use were not significant. The study recommends the formulation of policies that will guide the electronic (mobile money) repayment of loans in Tanzania. URT (2019) declared that its electronic bill payment maintains bill consistency, enhance timely availability of data and prevents the risk of losing money and SACCOS may reveal these benefits if the majority of borrowers will repay loans through mobile money services. Therefore, the policymakers dealing with SACCOS should formulate policies that will promote the use of mobile money services in loans repayment. The study further recommends that SACCOS borrowers should be trained on the importance of repaying loans through mobile money services should be conducted. Mobile money payment seemed to be an effective way of revenue collection in various areas, such as in government agencies. Most of the SACCOS are located in rural areas where some face the challenges of distances and communication barriers. Hence, repaying loans through mobile money services may improve the loans repayment performance for SACCOS located both in urban and rural areas.

This study contributed to the TAM model by revealing that variables of the model such as; PU, PEOU and PR are essential for promoting the mobile money repayment of loans in SACCOS. However, analyzing data using descriptive and correlation analysis was the major limitation of this study. Since, advanced quantitative data analysis methods, such as regression or Structural Equation Modeling could produce more precise results. Moreover, the use of mixed-method designs and the application of the moderating variables are recommended for future studies. Future research may also investigate how transaction charges influence mobile loans repayment in SACCOS.

6.0 References

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