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Effect of Credit Management on the Loan Performance: Evidence from Saving and Credit Cooperative Organizations in an Emerging Market Economy.

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ABSTRACT

The study determined the effect of credit management practices; debt management, client appraisal and lending management on the loan performance of saving and credit cooperative organisations-SACCOs in Kenya. The study was anchored on the credit management theory. The study was a census of all the 180 deposits taking SACCOs in Kenya licensed by the Sacco Society Regulatory Authority-SASRA from 2016 to 2022. The study employed a causal research design, using panel data and analyzed using regression analysis. Results established that the credit management indicators employed in the study were fit to estimate loan performance in SACCOs. Debt management as an indicator of credit management had an insignificant effect on loan performance of SACCOs. Client's appraisal has a significant inverse effect on loan performance in SACCOs. Finally lending management has an insignificant effect on SACCOs loan performance. The study recommends that firms should minimize long-term debts to equity, that governments address regulatory challenges in credit appraisals to allow a less conservative assessment of borrowers ' worthiness and that SACCOs should establish their net interest margins with little absolute caps as this hardly influences their loan performance. The study is expected to form the basis for policy, and theory formulation contribute to existing empirical literature in the field of finance and enhance loan performance and service delivery among SACCOs and other financial institutions.

Keyword: Credit management practices; debt management, client appraisal, lending management, loan performance, SACCOs.

INTRODUCTION

Credit management involves policies and procedures that promote credit quality and curtail non-performing loans. SACCOs and other financial institutions worldwide perform the functions of

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lending, taking deposits, safeguarding or handling money under guidelines set forth by regulators. Credit provision is the main product which SACCOs provide to potential customers as a main source of generating income. Non-performing loans may hinder SACCO's revenue generation opportunity and attainment of other stakeholder objectives. International Monetary Fund (IMF) report (IMF, 2019) indicated that SACCOs in developed countries such as the USA and England tend to be more stable than commercial banks, especially during financial crises, as their credit management tends to be more speculative and proactive. Reports released by the International Cooperative Alliance (ICA, 2020), the World Bank (2024), and the United Nations Department for Social and Economic Affairs UN/DESA(2019), show that most SACCOs in African countries face imminent risk of loss of income and closure due to defective credit management strategies leading to non-performing loans (Winn, 2024) and (Mutegi et al.,2023).

Extant literature has noted that the problem of non-performing loans persists in developed countries. A study by Werner (2022) conducted in the 20 eurozone member countries noted that post-COVID lending has reported increased non-performing loans in SACCOs in all the countries. The study has recommended non-conventional approaches in credit management to stabilise the problem of non-performing loans while servicing demand for credit. Further studies by Derban et al., (2023) and Schelkle (2023) recorded that Non-Performing Loans stood at more than nine per cent of GDP for the European Union as a whole by the end of year 2022. This proportion of NPL to GDP represented more than twice the 2021 figures which demonstrated a deteriorating trend in loan performance over time. A critical literature review study in the United States of America by Udenio et al.,(2018) noted a reduction in loan performance for many commercial institutions including SACCOs in the states. The study hypothesised that credit management and institution size are associated with higher loan performance. The study defined two empirical measures for credit management; debt management and lending management but failed to generate original findings. The current study adopted these credit management two measures and use original findings from Kenyan SACCOs to fill this research gap. A study by Howell (2020) conducted in Australian SACCOs noted that the performance of loans has become unpredictable therefore the institutions have adopted credit risk management to enable maximum returns.

Studies conducted in Africa have also noted problems in credit management and performance of Loans in SACCOs. A study by Malapela (2021) conducted in South African agricultural SACCOs noted a 14.0 % rate of non-performing loans in 2020 up from 10% and credited this to a lack of robust credit management in the SACCOs. A study conducted by Gwahula & Kihwele (2015) in Tanzania revealed a high rate of none non-performing loans which stood at 27% and recommended effective credit management to curb the non-performing loans. Similarly, a study by Zerfeshewa (2019) established a growing rate of non-performing loans in SACCOs in Ethiopia at 11% in 2018 up from 10% in the previous years. The study credited the non-performing loans to poor credit management in the SACCOs. Kenya's non-performing loans ratio for banks and SACCOs stood at 19.0 % in Dec 2020, compared with the ratio of 14.2 % in the previous year 2019. Out of this percentage, SACCOs contributed to more than half (10.1 %) of the non-performing loans (Sacco Society Regulatory Authority, 2024). This could be due to the level of credit management by the SACCOs (Kenya Union of Savings and Credit Co-operatives Ltd-KUSCCO report, 2020). Non-performing loans are defined as loans for which principal or interest are due and unpaid for 90 days or more, or interest payments for 90 days or more have been re-financed or rolled over into a new loan non-performing loans ratio excludes suspended interest (SASRA report, 2024).

In any County, SACCOs constitute a major component of the financial institutions. Therefore, changes in the performance of the SACCO sector have adverse implications for the country's economy (Bohnstedt, 2020). SACCOs collect money as deposits which are then lent to borrowers in the form of loans. The actual or perceived failure of SACCOs to pay the depositors money on request may cause

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panic and therefore insolvency (Saunders & Cornett, 2015). The SACCOs utilize deposits to generate interest revenues making credit amounts the main component of Sacco's assets and source of the credit risk (Basel III, 2019). Credit risk occurs upon failure by the debtor to fulfil their obligations in repayment of the loans (Lalon, 2015). It encompasses both the prospective and current risks to earnings resulting from the failure of the obligator to meet the specified contract terms (Kargi, 2019). This necessitates the SACCOs to put in place measures for identifying, monitoring, measuring, and controlling risks from the credits and adequate compensation is made in case of incurring risks (Lalon, 2015).

Non-performing loans remain to be the highest detrimental factor to the development of the financial sector (Doriana, 2015). World Bank (2024) report indicated that there was low performance of SACCOs in Kenya having a relatively high non-performing loan rate than the globally set standards of 1% with Kenyan SACCOs at 14.92% in 2018 and a five-year average of 11.07%. This raises great concern and is the reason why the study examined credit management practices and loan performance of SACCOs in Kenya. Loan performance constitutes a huge proportion of the credit risk of SACCOs as it accounts for more than 10 times the equity (Barth et. al., 2018). The total amount of money issued out as loans is referred to as a loan portfolio to different borrowers as different loan products. The loan products could be in the form of individual loans, corporate loans, salary loans or group guarantee loans. Loan performance assesses the rates of payment, number of borrowing clients, security pledged and rate of arrears recovery (Basel, 2019); (Touvras, 2024).

The current study addresses several research gaps in extant literature. First, there is still to be a consensus on the effect of credit management on loan performance measured by the rate of non-performing loans. While on one hand, credit management is viewed as a necessary effective strategy for reducing the rate of non-performing loans other studies associate it with inefficiencies which may reduce loan performance. For instance studies by Odongo et al., (2025); Ally et al., (2025) Koulafetis, 2017) and theoretical literature by the credit management theory (Baumol,1952) posit that credit management practices help in sustaining credit exposure within correct and tolerable limits leading to superior loan performance. On the other hand, studies by Nassuna et al. (2024), Teneng and Kehdinga (2024), Bolibok (2018), and Ahn et al (2018) notes that the nature of credit management in developing countries SACCOs hardly reduced the chances of loan default. It is more focused on short term appraisals and short term savings which create inefficiencies and diminishes the clients' ability to pay and reduced brand reputation. Second, extant studies could have evaluated credit management completely based on its three constructs; debt management, client appraisal and lending management as advanced by credit management models Archer, (1966); Beranek, (1963); Miller & Orr, (1966); Koulafetis, (2017) and William Baumol (1952). Third, the studies by Aicardi (2024), Mangla et al., (2022) and Rathore (2023) were critical literature review hence did not generate original findings. Fourth other studies had methodological limitations; for instance, a study by Marjamäki (2024) used chi-square tests to determine associations between the variables. Conversely, the current study is designed to address these research gaps.

RESEARCH OBJECTIVE

To establish the effect of credit management on the loan performance of SACCOS in Kenya.

Literature Review and Hypothesis Development

Credit management and sustainability of selected SACCOS in Nyamasheke District, a western Province of Rwanda was studied by Teneng and Kehdinga (2024). The study only focused on debt management which is one aspect of credit management while the current study focused on all three. The study purposively selected 15 SACCOs while the current focused on 75 SACCOs. Similarly to the current study, the study used the proportion of non-performing loans to measure the sustainability of

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SACCOs. The study used means to analyze data which did not allow for testing of relationships and associations between the variables. The study found that there was poor credit management in the SACCOs and this caused poor financial sustainability of the SACCOs which could lead to bankruptcy if not rectified.

The effect of credit management practices and loan performance was studied by Mburu *et al*., (2020). The study collected data from commercial banks in Kenya while the current study collected data from SACCOS in Kenya. The study used an explanatory research design and the research philosophy adopted was positivism. The target population was 44 commercial banks in Kenya and a census approach was used. Both primary and secondary data were used. The study found that debt collection policy and lending policy had a positive significant effect on the loan performance of commercial banks in Kenya. However, client appraisal had no significant effect on the loan performance of commercial banks in Kenya. The context of this study was in Banks focusing on one aspect of credit management. The study failed to evaluate the moderating effect of compliance with government regulations and the mediating effect of firm size on the relationship between credit management and loan performance.

The effects of credit management practices on loan performance in deposit-taking microfinance an institution in Kenya was investigated by Odongo et al., (2025). The study used both primary and secondary data. The study had only a general objective but no specific objectives. Although this study was based in Kenya it is contextualized in deposit-taking microfinance institutions and only focused on only one aspect of credit management. The study found that credit management practices influenced the rate of non- performing loans. The study presents a gap since its findings contradict Mburu et al., (2020) study on the effect of credit management and loan performance in Kenya. The study also failed to consider the amount of non-performing loans to total loans as a measure of loan performance.

The influence of credit management on the financial performance of SMEs in Nakuru County was studied by (Kosgey and Njiru, 2016). The study employed a descriptive research design on a sample of 100 respondents out of a population of 20,355 registered SMEs in Kisii County was chosen for the study. A questionnaire was used as a data collection instrument where the respondents were given a chance to answer both open and closed-ended questions regarding the study. The study findings revealed that credit management had a statistically significant positive effect on financial performance. This study however differs from the current one in that the study focused on SMEs whose operations differ from that of deposit-taking SACCOs. The study failed to conceptualize loan performance by the rate of non-performing loans.

THEORETICAL LITERATURE

The study was guided by the Credit Management Theory, which was postulated by William Baumol in 1952. The theory postulates that financial institutions need to control their credit risks to attain the performance of their credit goals. This theory seeks to determine the best practices for credit management. Credit management theory postulates that credit management involves client appraisal processes, collection of debt and sustaining credit exposure within correct and tolerable limits (Koulafetis, 2017). When organisations practice the postulates of credit management, they are expected to attain superior loan performance (Ally et al., 2025). However, the theory is critiqued for not fully explaining the elaborate credit management procedures organisations should adopt to attain superior loan performance. This gap has been addressed by the findings of the current study. This is the lead theory of the current research as it seeks to explain the relationship between credit management practices and the loan performance of SACCOS. Scholars have proposed various credit management models as advancements to Baumol's model (Archer, 1966; Beranek, 1963; Miller & Orr,

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1966; Koulafetis, 2017). William Baumol (1952) was the first to provide a formal credit management model. Baumol's model is one of the simplest, most striped down and sound models for ascertaining the optimal loan performance. According to the Koulafetis approach, the total cash management, together with the organisation's effective structure and supportive nature, is attributable to the loan performance of the organisation. This theory supports the effect of the independent variables on the loan performance of lending organisations.

RESEARCH METHODOLOGY

The study employed a causal research design using panel data. The target population was all 180 deposit-taking SACCOs in Kenya licensed by SASRA from 2016 to 2022, divided into five membership categories, as indicated in Table 1. The study was a census, which is the study of all the SACCOS licensed by SASRA by 2016 and has complete data from 2016 to 2021.

Table 1: Population of SACCOs Licensed by SASRA as per Membership Categories

Categories	**Number of SACCOs**
Government based SACCOs	36
Teachers based SACCOs	42
Farmers based SACCOs	54
Private institutions	25
Community based SACCOs	23
Total	**180**

Source: SASRA Handbook, 2022

The study employed secondary data from the audited financial statements of sampled deposit-taking SACCOs lodged with SASRA for six years (2016 to 2021). The period of six years was chosen because this is the period that has lapsed since SASRA issued circular number 3 on SACCO credit management. A request will also be made to the National Commission for Science, Technology and Innovation (NACOSTI) and the SACCOs to allow the study to be conducted and access the financial statements and the required data.

Study variables were measured and operationalized as shown in table 2.

Variable	Type of the Variable	Indicator (s)	Measurement
Loan Performance of SACCOs	Dependent	Proportion of non-performing loans to total loans	Non-performing loans / Total Loans
Credit Management	Independent	Debt Management	Long term debts *100 / Equity or Net worth
		Client appraisal	- Debt-to-income ratio
		Lending management	- Net Interest Margin

Karl Pearson's correlation helped in measuring the degree of association between different variables under consideration. Regression analysis was used to estimate the relationship among the variables. The following model was employed $\mathbf{y_{it} = \beta_0 + \beta_1 x_{1\,it} + \beta_2 x_{2\,it} + \beta_3 x_{3\,it} + \varepsilon_{it}}$

Where: $\mathbf{y_{it}}$ is Loan Performance; β_0 is regression constant, $\boldsymbol{\beta_1}$ .... $\mathbf{B_3}$ is Coefficients, x_{1it} is Debt Collection, x_{2it} is Client Appraisal, x_{3it} is Lending management, ε_{it} **is** error term. Relationship exists if any of β1.....β3 is statistically significant.

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RESULTS AND DISCUSSIONS

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	max
Loan performance	1,120	0.37	1.46	0.002	43.81
Debt management	1,120	33.03	61.88	-6.82	785.16
Client appraisal	1,120	0.78	2.41	0.002	80
Lending management	1,120	7.92e+08	1.16e+09	2.36e+07	9.87e+09

The table shows a lending performance mean of 0.37 with a standard deviation 1.46. This implies that lending performance in the SACCOs sector stood at 37% on average. A study by Maina et al. (2024) reported a lower Loan performance for deposit-taking SACCOs in Kirinyaga County, Kenya. A study by Niknafs et al. (2024) reported a much higher loan performance(75%) for SACCOs in Sweden. Similarly, Touvras' (2024) study in the United Kingdom found loan performance. This finding addresses two gaps in extant literature. First, no previous studies reviewed have used the proportion of non-performing loans to total loans to assess loan performance; second, none of the extant studies done in a developing country's SACCOs sector used more comprehensive credit management measures. However, the actual lending performance ranged from a minimum of 0.0017% to a maximum of 43.81%. The mean debt management was 33.03, deviating from 61.88 during the study period. The mean client appraisal was 0.78, with a deviation of 2.41. However, during the study period, client appraisal ranged from a minimum of 0.002 to 80. Finally, the mean lending management was 7.92e+08 which deviated by 1.16e+09.

Diagnostic tests

Since the study adopted panel data regression model, there was need to perform pre-diagnostic test to ensure reliability of the findings.

Breusch and Pagan Lagrangian Multiplier Test for Random Effects

This test was carried out to choose between ordinary least square regression and random effects model.

	Var	Sd=sqrt(var)
Lending - e	2.147399	1.465401
e	2.083014	1.443265
u	0.0286533	0.1692729
Test: var (u) = 0		
Chi square	1.36	
P-Value	0.1221	

The table indicates an insignificant chi square test results. This implied that the null hypothesis (the variance of the random effect is zero) is rejected. Based on the results, the study concluded that pooled regression could not be employed, otherwise random effects model was the preferred. However, since the study employed panel data, there was need to make a determination on which panel data regression model is best suited for the data. The study further did a Hasusman test.

Hausman Test

This test was carried out to choose the appropriate panel regression model to apply in data analysis between random effect and fixed effects models. Results of the tests are presented in table below:

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	Coefficients			
	(b) fe	(B) re	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E.
Debt Management	0.0007697	0.0010886	-0.0003189	0.0005439
Client appraisal	-0.0422917	-0.0198701	-0.0224216	0.0066847
Lending management	-1.55e-10	-1.11e-10	-4.34e-11	8.79e-11
	Chi square	12.14		
	P-Value	0.0023		

The Ho was, "difference in coefficients not systematic". b= consistent under Ho and Ha, B=Inconsistent under Ha, Consistent under Ho
The Hausman test results show a significant Chis square statistics. This implied that the null hypothesis, that the preferred model in random effects is rejected and the alternative hypothesis is accepted. The study therefore employed a fixed effects model in analyzing data.

Doornik-Hansen Test

A multivariate normality test was done to ascertain the normal distribution of multivariate data. Doornik –Hansen test reported a chi square statistic of 1.24e+06 with a p-value of 0.000. This implied that the test was significant hence the multivariate data was good for further analysis and estimation of loan performance in Sacco's.

Regression Results

The study adopted fixed effects regression model. The results are presented below:

	Coeff.	**Std. Err.**	**t**	**P-value**
Debt management	0.0008	0.0009	0.85	0.395
Client appraisal	-0.0423**	0.0195	-2.17**	0.030
Lending management	-1.55e-10	9.61e-11	-1.61	0.108
Cons.	0.5022***	0.0916	5.48***	0.000
F statistic	2.56*			0.053
Corr.	0.1446			
R-squared: within	0.0080			
R-squared: between	0.0232			
R-squared: overall	0.0094			

*, ** and *** indicates statistical significance at 10%. 5% and 1% respectively.

The table shows a significant F statistic (2.56) with a p-value of 0.05. This implied that the credit management indicators employed in the study were fit to estimate loan performance in SACCOs.
Therefore, an increase in credit management practices, debt management, client appraisal, and lending management will increase the loan performance of saving and credit cooperative organizations in terms of fewer non-performing loans and fewer total loans. Moreover, the result r-squared was 0.0095. This implies that the changes in credit management efficiency account for 0.95% of the variation in SACCO loan performance. In addition, the correlation coefficient reported was 0.1446. This implies that credit management is positively related to loan performance. Increasing credit management efficiency by 1% would lead to an increase in loan performance by 14.46%.

The coefficient of debt management was 0.0008 with a p-value of 0.395. This implied that debt management as an indicator of credit management had an insignificant effect on the loan performance of SACCOs. The conclusion arrived at can be explained on several grounds. First, in

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terms of the concerns for this study, debt management was operationalized as the long-term debts to the value equity or net worth. Therefore, the findings arrived at that debt management had an insignificant effect on loan performance can be explained by the results of a study by Njuguna (2023), which found that SACCOs emphasize their customers maintaining their net worth in order to benefit from dividends paid out by the SACCOs. Consequently, as explained by Liew et al. (2025), customers with greater net worth risk diminishing their dividends payout or their net worth in case of non-loan repayment of loans; hence, they struggle to update their loan portfolios. Second, from the descriptive findings, the study obtained a mean of 33.03, deviating from 61.88 during the study period. This high deviation raised concerns as to the reactiveness of debt management by the majority of SACCOs studies, which may explain the insignificant effect of their debt management on the rate of non-performing loans. Third, as noted by Nassuna et al. (2024), individuals with larger net worth are encouraged to borrow larger loans since larger loans are available, which may increase their chances of default.

Third, the results report a significant coefficient of client appraisal (another indicator of credit management). The coefficient obtained was -0.0423 with a p-value of 0.03. This implies that a client's appraisal significantly affects loan performance in SACCOs. The negative sign indicates a negative correlation between client appraisal and loan performance. A 1% increase in client appraisal would result in a decrease in loan performance by 4.23%. The conclusion arrived at in this hypothesis can be explained on several grounds. First, in terms of the concerns for this study, client appraisal was operationalized as the debt-to-income ratio. Therefore, the findings arrived that client appraisal had an inverse relationship with loan performance, which can be explained on several grounds. First, the debt-to-income ratio in Kenya is limited to how much a client earns compared to their debts. Kenya, SACCO Society Regulation Act (2014) requires that a SACCO client appraisal is limited to the client's level of savings with the SACCO and nothing further. As noted by SASRA (2024) and Bolibok (2018), the challenge with this appraisal method is that SACCO is blind to other debts and incomes in other financial institutions. Therefore, as noted by Ahn et al (2018), due to the dynamic nature of client credit status, a comprehensive credit appraisal may reveal crucial information in the short run, but in the long run, clients' credit status may change, leading to them evading credit. Further, as noted by Baumols (1952), in credit management theory, clients tend to update their credit portfolio when they intend to obtain loans from a bank. Therefore, the debt-to-income ratio method of client appraisal may not be effective in managing non-performing loans if it does not provide 360-degree feedback concerning a client's income and debts. Second, from the descriptive findings, the study obtained a client appraisal mean of 0.78 with a deviation of 2.41. This high deviation raised concerns as to the reactiveness of client appraisal by the majority of SACCOs in Kenya, which may explain the insignificant effect of their client appraisal on the rate of non-performing loans (Mutegi et al., 2023).

The table further shows an insignificant coefficient of lending management. The table reports a negative coefficient (-1.55E-10) with a p-value of 0.108. This implies that lending management as an indicator of credit management has an insignificant effect on Sacco's loan performance. The conclusion arrived at in this hypothesis can be explained on several grounds. First, in terms of the concerns for this study, lending management was operationalized as the net interest margin. Therefore, the net interest margin does not significantly affect an SACCO loan's performance.

Robustness Check

The study employed a dynamic model to test the robustness of the output. A GMM model was employed with the assumption that past loan performance had an effect on the present's loan performance. The results are presented in the table below.

	Coeff.	**Std. Err.**	**t**	**P-value**
Lag 1	0.0278**	0.012	2.33**	0.020

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Debt management	0.0016**	0.001	2.79**	0.005
Client appraisal	-0.0754***	0.008	-9.86***	0.000
Lending management	-8.56e-11	6.37e-11	-1.34	0.179
Cons.	0.4093***	0.060	6.88***	0.000
Chi square	98.20			0.000
No. of observations	797			
No. of groups	160			
No. of instruments	19			

*, ** and *** indicates statistical significance at 10%. 5% and 1% respectively.

From the GMM results, the coefficient signs for debt management, client appraisal and lending management were retained. In addition, statistical significance of the variables was retained except for debt management which was insignificant due to the treatment of the past SACCOs loan performance as another factor that could have an effect on the SACCOs non perming loans. Retaining of the coefficient signs and statistical significance of the variables attests the robustness of the results obtained from the analysis of data in this study.

CONCLUSION AND RECOMMENDATION

Conclusion

The study findings led to the following conclusions: First, debt management was found to negatively influence the loan performance of SACCOs in Kenya. An increase in debt management in terms of long-term debts to equity or net worth led to a decrease in the proportion of non-performing loans to total loans. Second, an increase in client appraisal would result in a decrease in loan performance, and third, lending management as an indicator of credit management has an insignificant effect on SACCO's loan performance.

RECOMMENDATIONS

The study established a significant inverse relationship between debt management and loan performance, which was found to influence the loan performance of SACCOs in Kenya negatively. Therefore, the study recommends that SACCOs reduce the value of long-term debts to equity or net worth since these aspects predict the proportion of non-performing loans to total loans. Second, the study recommends that regulators, through government policy, address regulatory and supervisory challenges that limit client appraisal to certain debts and incomes in assessing a borrower's creditworthiness. Third, the study recommends that SACCOs establish their net interest margins with little absolute caps as this hardly influences their loan performance. Finance managers and other stakeholders should analyze their situation and facility and develop a policy and plan of action that ensures a balance between long-term debts to equity, client appraisal and lending management. The current study used panel data to test the hypotheses about relationships of causality. The study recommends that future studies use alternative empirical measuring and testing methods. Due to the dynamic nature of debt management and loan performance, it is necessary for future studies to resort to case studies, cross-sectional samples or mixed research methodologies.

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