Factors influencing self-sufficiency of microfinance institutions in Kinondoni and Temeke municipalities, Dar es Salaam, Tanzania

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ABSTRACT

Microfinance institutions (MFIs) are considered important in that they offer small-scale loans to poor, low-income people and communities who are considered unbankable. The study was conducted to examine factors influencing self-sufficiency of microfinance institutions in Tanzania. The study was guided by profit incentive theory. The research design that was adopted in this study was a cross-sectional design. The simple random sampling technique was used in selecting microfinance institutions at Kinondoni and Temeke municipal councils. A quantitative research approach was preferred in the current study. This study used a total of 327 registered microfinance institutions as the population of this study. Thus, a sample size of 10 microfinance institutions was used, and secondary data was extracted from annual reports that span from 2015 to 2024. Penal regression analysis was used in analyzing quantitative data collected. The findings revealed that there was a positive and significant relationship between the number of borrowers and the self-sufficiency of MFIs. Firstly, the findings revealed that there was a positive and significant relationship between the amount of loan and the self-sufficiency of MFIs. Secondly, the findings revealed that there was a significant relationship between revenue diversification and self-sufficiency of MFIs. Finally, the findings revealed that there was a positive and significant relationship between the size of microfinance and the self-sufficiency of MFIs. The study concluded that factors that influence self-sufficiency of MFIs include average loan size, firm size, number of active borrowers, and revenue diversification. The study recommended that managers of MFIs should increase the size of loans, the geographical area covered, the retention of active borrowers, and engage in revenue diversification.

Keywords: Kinondoni and Temeke Municipalities, Microfinance, Microfinance Institution, Self-Sufficiency, Tanzania

I. INTRODUCTION

Microfinance market is considered to be important given that it enhance sustainable finance and it is fairly established and considered to grow at an estimated compound annual growth rate (CAGR) of more than 15% by 2020 (Halouani, 2025). Microfinance institutions [MFIs] are keeping growing and statistics show that there are around 130 million clients of microfinance institutions across the world (Remer & Kattilakoski, 2021). Efendić and Hadžiahmetović (2019) argued that there is a widespread belief that MFIs will not be able to achieve their social goals without achieving sustainable profitability. Therefore, there is a need for these institutions to ensure proper balance between social performance on one side and financial performance on the other side.

Berg (2016) examined financial self-sufficiency of microfinance institutions and revealed that there is a positive relationship between average loan size and financial self-sufficiency of m microfinance institutions. Furthermore, Chaudhury et al. (2022) revealed that average loan size provided by microfinance institutions is a key determinant of self-sufficiency of microfinance institutions. Essampaly and Kumar (2016) argued that microfinance institutions which have larger number of active borrowers are likely to more self-sufficient as compared to microfinance institutions which have smaller number of active borrowers. Furthermore, Masanyiwa et al. (2022) revealed that sustainability and self-sufficiency of microfinance institutions is influenced by the number of active borrowers.

Githaiga (2022) revealed that there is a positive relationship between revenue and self-sufficiency of microfinance institutions. The author argued that microfinance institutions which are capable of adopting capital diversification are the ones which can generate enough profit which makes them self-sufficient. (Masanyiwa et al., 2022) revealed that number of active borrowers and loan portfolio had a positive relationship with operational self-sufficiency of microfinance institutions. Maholtra and Baag (2022) revealed that self-sufficiency and sustainability of microfinance institutions is brought by number of borrowers as institutions with larger number of female borrowers are likely to achieve sustainability than those with smaller number of female borrowers.

In the context of Tanzania, the government was committed at increasing effectiveness and efficiency of financial system through financial sector reforms of 1991. One of the issues of concern in these reforms was establishment of the notion of microfinance institutions. This has been helpful in allowing banking institutions operate on a commercial basis, making their businesses and management decisions less interfered by outside interventions within the norms of prudential supervision (United Republic of Tanzania [URT], 2019). Also, the government in collaboration with donor community ensured formulation of the National Microfinance Policy of 2000 which was then refined in 2017 with the intention of ensuring effective operation of microfinance institutions in Tanzania (Yusuph & Danga, 2019).

Furthermore, the Bank of Tanzania formulated several regulations which aimed at governing microfinance institutions and ensure their growth and self-efficiency. Also, the government formulated the Microfinance Act of 2019 with the aim of supervising and regulating microfinance institutions in Tanzania and lead to their sustainability and self-sufficiency (URT, 2019). However, performance of MFIs in Tanzania has continued to be an issue of concern given that they fail to achieve their targeted objectives (Felek, 2016). Therefore, the current study was conducted to examine factors influencing self-sufficiency of microfinance institutions particularly at Kinondoni and Temeke municipalities.

1.1 Statement of the Problem

The government of Tanzania was keen in ensuring growth and self-sufficiency of microfinance institutions. This is why the government formulated the Microfinance Policy of 2001 which was implemented with the purpose of ensuring sustainable microfinance industry in the country (Randhawa, 2003). Furthermore, the Bank of Tanzania formulated several regulations which aimed at governing microfinance institutions and ensure their growth and self-efficiency. Also, the government formulated the Microfinance Act of 2019 with the aim of supervising and regulating microfinance institutions in Tanzania and lead to their sustainability and self-sufficiency (URT, 2019). Furthermore, the Government of Tanzania formulated The Microfinance (Non-Deposit Taking Microfinance Service providers) regulations of 2019 which intended to ensure proper functioning of microfinance institutions (URT, 2019). This could in turn contribute to increased self-sufficiency of these institutions.

Despite of the efforts made by the government, microfinance institutions in Tanzania still face difficulties to ensure sustainability and self-efficiency. Yusuph and Danga (2019) reported that there is still limited growth and sustainability of microfinance institutions in Tanzania. Muyongo (2017) revealed that Kinondoni municipality is among centers of most of microfinance institutions at Dar es Salaam and they have contributed to improvement in life of people. However, performance of most of these microfinance institutions has still been non-consistence due to limited improvement in services provided. Similarly, Monge (2016) revealed that MFIs at Temeke Municipality have helped small and medium enterprises in growth. However, they still face the challenge of limited financial sustainability to the extent of closure of some of institutions. However, there are still limited literatures in Tanzania which have investigated the factors that influence self-sufficiency of microfinance institutions in Tanzania. Therefore, the current study was conducted to examine factors influencing self-sufficiency of microfinance institutions particularly at Kinondoni and Temeke municipalities.

1.2 Research Objectives

i. To examine the influence of average loan size on self-sufficiency of microfinance institutions at Kinondoni and Temeke municipalities
ii. To examine the influence of number of borrowers on self-sufficiency of microfinance institutions at Kinondoni and Temeke municipalities
iii. To examine the influence of revenue diversification on self-sufficiency of microfinance institutions at Kinondoni and Temeke municipalities
iv. To examine the influence of size of MFI on self-sufficiency of microfinance institutions at Kinondoni and Temeke municipalities

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Profit Incentive Theory

The profit incentive theory originates from the writings of Adam Smith in 1776 in his book “The Wealth of Nations. The theory suggests that poverty can be reduced with sustainable microfinance providers (MFPs). The theory further provides that donor’s funding is limited in amount and therefore cannot find microfinance institutions at mega-scale considering the growing demand of microfinance. The belief of the theory is that microfinance institutions strive to ensure that they maximize revenue, they minimize operational costs, cover expenses as well as building surpluses

(Bogan, 2012). The theory relates to this study especially considering that it provides that microfinance institutions which do not have self-sufficiency but rather depending on donations cannot be able to match with cost minimization and profit maximization pressure. Therefore, there is a need for microfinance institution to find different alternatives to ensure that they generate their own financial resources.

2.2 Empirical Review

2.2.1 Average loan size and self-sufficiency of MFIs

Berg (2016) revealed that operational efficiency and quality of the loan portfolio had a significant positive impact on the financial self-sufficiency of MFIs, while higher operating costs and excessive outreach negatively affected their sustainability. Khan et al. (2017) showed that operational efficiency, yield on loan portfolio, and institutional size had a positive and significant impact on self-sufficiency, while high operating expenses and poor portfolio quality reduced sustainability. Cautero (2022) revealed that micro financing enhances access to capital, encourages entrepreneurial activities, and promotes economic development in marginalized communities.

2.2.2 Number of borrowers and self-sufficiency of MFIs

Maholtra and Baag (2022) revealed that managerial inefficiency, MFI size, leverage, breadth of outreach, and loan intensity significantly affected financial sustainability. Noor and Ayaz (2023) revealed that percentage of female borrowers had a positive relationship with operational self-sufficiency of microfinance institutions. Saud (2024) revealed that number of active borrowers had a small but significant relationship with financial self-sufficiency of microfinance institutions. Other factors revealed in the study which had significant relationship with self-sufficiency of microfinance institutions included age of microfinance institutions, return on asset, return on equity as well as debt-to-equity ratio.

2.2.3 Revenue diversification and self-sufficiency of MFIs

Mahali and Ansari (2024) revealed that income diversification had no significant effect on either financial performance or self-sufficiency. Talel (2024) revealed that deposits and equity capital had a significant and positive effect on financial sustainability. Githaiga and Bitok (2023) revealed that revenue diversification had a significant and positive effect on the financial sustainability of MFIs. Le et al. (2020) showed that a lower operating expense ratio, better portfolio quality, and higher yield significantly improved operational self-sustainability, while a high portfolio at risk reduced it. Serrano-Cinca et al. (2023) revealed that the mostly significant strategy to increase self-sufficiency of microfinance institutions is lowering operational costs followed by control of credit risks. Ahamad et al. (2024) revealed that MFIs were in an intermediate stage of self-sustainability, with retained earnings and equity significantly enhancing their efficiency. Remer and Kattilakoski (2021) revealed that return on assets, total expenses to assets ratio, and financial revenues-to assets ratio were significant determinants of OSS. Chidi (2024) revealed that microfinance institutions are more sustainable if they do not depend on external assistance. Furthermore, it was revealed that size of companies had significant positive correlations with operational self-sufficiency of institutions.

Studies by Ahmad et al (2024), Berg (2016), Hadžiahmetović (2021), Khan et al. (2017), Malhotra & Baag (2022), Masanyiwa et al (2022), Muriithi (2017) and Tam et al (2020) have focused on microfinance institutions in different settings. These studies have shown the extent to which microfinance institutions strive to ensure they are self-sufficiency. Most of the previewed studies were conducted outside Tanzania. This leads to limited knowledge on factors influencing self-sufficiency of microfinance institutions in Tanzania. Therefore, the current study was conducted to assess the factors influencing self-sufficiency of microfinance institutions in Tanzania

III. METHODOLOGY

This study employed a cross-sectional research design in order to cut down costs of conducting the study as well as to compare different variables simultaneously. Cross-sectional design was preferred in this study given that it was relatively cheap and less consuming time. The research approach adopted in the current study was quantitative approach as results of nature of data is numerical variables and analyzed using panel regression to examine the influence of average loan size, number of borrowers, revenue diversification and size of MFI on self-sufficiency of microfinance institutions. The study was conducted at Kinondoni municipality and Temeke municipality which are located at Dar es Salaam region, Tanzania. The target population of this study was 327 microfinance institutions operating at Kinondoni and Temeke municipalities.

Simple random sampling technique was used in selecting microfinance institutions at Kinondoni and Temeke municipal councils. The researcher used random name picking method in selecting 5 MFIs from Kinondoni municipality and 5 MFIs from Temeke municipality listed by the register of microfinance services providers. Revision of documents was considered important in obtaining published data of selected microfinance institutions.

Documentary review was used in order to obtain data from published reports of the institutions such as financial statements and annual financial reports.

Data collected in this study were analyzed using descriptive statistics and inferential statistics. Descriptive statistics was used to determine the mean and standard deviation of the data. . In inferential statistics, panel regression analysis was used in measuring the relationship between dependent variable (self-sufficiency) and the independent variables (average loan size, number of borrowers, revenue diversification and size of MFI).

3.1 Empirical Model

The empirical model shows the arrangement of both outcome variable and predicator variables incorporated in the panel regression model. The dependent variable is self-sufficiency of MFIs while exogenous variable includes average loan size, number of borrowers, revenue diversification and size of MFI as shown in following equation;

$$Y=\beta_0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3+\beta_4 X_4+\mu_i \ldots\ldots 3.4$$

Where:

Y_i = Self-sufficiency of MFIs
X_1 = Average loan size
X_2 = Number of borrowers
X_3 = Revenue diversification
X_4= Size of MFI

IV. FINDINGS & DISCUSSION

4.1 Descriptive Statistics

Findings from Table 1 show that, average loan amount for selected Microfinance Institutions (MFIs) was approximately TZS 2,060,000, with a small standard deviation (TZS 1,780,000), this indicates small variability among institutions. The smallest recorded loan was just TZS 350,000, while the largest was TZS 11,000,000. This small range implies that MFIs in the sample operate at small different lending capacities mostly focusing on very small-scale loans. Moreover, findings of number of Borrowers for Microfinance Institutions (MFIs) results show that, average number of borrowers of 3,471.3 per MFI, with a small standard deviation of 2,697.7. The finding implies the small disparities in outreach amongst institutions. The minimum number of borrowers recorded was 528, while the maximum is 6,109.

Moreover, Table 1 show that finding of Total Asset which used on calculating the size of Microfinance Institutions (MFIs). The mean total asset value was TZS 340 million, but the standard deviation (TZS 211 million) which shows small variability in institutional size and capacity. The smallest MFI had assets worth TZS 81,5410, while the largest reached TZS 695 million. The current difference implies small diverse financial strength profile amongst MFIs.

In addition, 1 show the results of Size of MFIs, results show that the sizes, measured as a continuous index, averaged 15.55, with values ranging from 10.59 to 21.23. The relatively moderate standard deviation (2.46) suggests that while there are size differences, they are not as extreme as in monetary measures like assets or loans. Larger MFIs may have better infrastructure and greater market reach compared to smaller ones.

In addition, Table 1 display the descriptive statistics of revenue diversification where findings show that, on averages the revenue diversification ratio was 0.302, with a relatively small standard deviation of 0.05989. The values of revenue diversification range from 0.17 to 0.44. Findings mean that, while some MFIs depend on much on a single income stream, others have more diversified revenue bases. Higher value of revenue diversification generally associated with increases financial stability and resilience to market fluctuations.

Table 1 also revealed the descriptive statistics of Operational Self-Sufficiency (OSS) where findings established that, on average, OSS stood at 0.718, meaning that most MFIs in the sample are not fully self-sufficient and may require external funding to cover their operating expenses. The minimum OSS recorded was 0.451, and the maximum was 0.947, showing that some institutions come close to full cost recovery, while others face significant financial sustainability challenges.

Similarly, this study shows the results of descriptive statistics of Natural Logarithms of Loan. Findings show that, mean log of loan size was 16.53, with a S.D of 2.97, findings imply the presence of moderate variability in the distribution of loan sizes after logarithms transformation. Moreover, finding of Natural Logarithms of Number of Borrowers indicates the average of 9.96, with a S.D of 1.88.

Table 1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Average loan	110	2,060,000	1,780,000	350,0000	11,000,000
Number of borrowers	110	3,4712.3	2,697.7	528	6,109
Total Asset	110	3.40E+08	2.11E+08	815410	6.95E+08
Size of Microfinance Institutions (MFIs)	110	15.54701	2.462127	10.59374	21.23164
Revenue diversification	110	0.302	0.05989	0.17	0.44
Operational Self-sufficiency (OSS)	110	0.718254	0.132208	0.450924	0.946873
Natural logarithms of loan	110	16.52719	2.965456	9.043785	21.71066
Natural logarithms of number of borrowers	110	9.955456	1.875856	5.793014	13.74628

4.2 Inferential statistics

4.2.1 Multicollinearity

Multicollinearity refers to the extent of correlation among independent/explanatory variables that causes unfavorably effect of parameter estimates (Hair et al., 2010). To recognize possible problems of collinearity among variables, two main approaches were employed namely tolerance and the variance inflation factor (VIF). Under tolerance and VIF collinearity is existing if tolerance is a smaller than 0.1 as well as VIF score is greater than 5 (Gujarati & Porter, 2012; Ghozali. 2018). Table 2 established that, variable amount of loan associated with VIF of 2.52; size of Microfinance Institutions (MFIs) scored VIF of 2.22; number of borrowers attained VIF of 1.28 and revenue diversification has VIF of 1.1. Finding mean that, all independent variables scored VIF value below 5. Moreover, findings of mean VIF show the mean VIF of 1.78, this scored value less than 5.

Table 2

Multicollinearity

Variable	VIF	1/VIF
Amount of loan	2.52	0.397434
Size of Microfinance Institutions (MFIs)	2.22	0.450889
Number of borrowers	1.28	0.782518
Revenue diversification	1.1	0.910463
Mean VIF	1.78	

4.2.2 Heteroskedasticity

Heteroskedasticity occur when the variance of error term isn't constant. In this study we used Modified Wald test for group-wise heteroskedasticity for a fixed effects model to examine whether all cross-sectional units have the same error variance. Findings from Table 3 indicates that, since the p-value (0.0957) is greater than 0.05 at the 5% significance level, we fail to reject the null hypothesis. This means there is no strong statistical evidence of heteroskedasticity in our panel data model. In the context of this study, the error variances are assumed to be constant across groups, which validates the reliability of your regression estimates. However, because the p-value is relatively close to 0.10, at the 10% significance level, we suggest that no potential heteroskedasticity. But for conventional levels (5% or 1%), the data do not show heteroskedasticity. Thus, we conclude that there is no strong statistical evidence of group-wise heteroskedasticity.

Table 3

Heteroskedasticity

Modified Wald test for group-wise	heteroskedasticity
chi2(10)	17.41
Prob > chi2	0.0957

Ho: Constant variance

4.2.3 Model Specification Test

In model specification, this study used Hausman test as a statistical procedure used in panel data analysis to determine whether a Fixed Effects (FE) model or a Random Effects (RE) model is more appropriate. Findings in Table 4 show the chi2 value of 0.72 with probability value of 0.9494 which is larger than 0.05; thus, random effect regressions model is a suitable model to use in the current study.

Table 4

Hausman Test

	Coefficient			
	b(fixed)	**B(random)**	**b-B (Difference)**	**sqrt(diag(V_b-V_B)) S. E**
Number of borrowers	0.011055	0.010715	0.000339	0.000909
Amount of loan	0.020307	0.020128	0.000179	0.000942
Revenue diversification	0.308729	0.284553	0.024176	0.049864
Size of Microfinance Institutions (MFIs)	0.025464	0.026171	-0.00071	0.000864

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 0.72
Prob>chi2 = 0.9494

4.2.4 Fixed Effect Model

Table 5 summarizes the results of the fixed-effects regression model. It shows how well the selected predictors explain variations in operational self-sufficiency (OSS) both within and between groups over the 10-year period.

Table 5

Fixed Effect Model

OSS	Fixed Effect Model		
	Coef.	Std. Err.	P>t
Number of borrowers	0.011055	0.003827	0.005*
Amount of loan	0.020307	0.003434	0.000*
Revenue diversification	0.308729	0.119332	0.011**
Size of Microfinance Institutions (MFIs)	0.025464	0.003830	0.000*
_cons	-0.21655	0.067327	0.002
sigma_u	.01232245		
sigma_e	.06430633		
rho	.03541813		
Number of obs	110		
Number of groups	10		
R-square within	0.7707		
between	0.9159		
overall	0.7838		
Wald chi2(4)	F(9, 96) = 0.39		
Prob > chi2	Prob > F = 0.9352		

Note: * & ** stand for significant at 1% & 5% respectively.

Finding of fixed-effects regression model was estimated using 110 observations across 10 years, this makes the mean of 11 observations per group. Findings from Table 5 on right hand side established that the model explains a large proportion of the variation in operational self-sufficiency (OSS). Precisely, the within-group R-squared is 0.7707, suggesting that about 77% of the variation in OSS over time within groups is described by the predictors. The between-group R-squared is 0.9159, this mean that differences across groups are also strongly captured by the model, while the overall R-squared is 78%. The F-statistic of 80.66 ($p < 0.001$) further confirms that the overall model is statistically significant.

Findings of coefficients expose that the predictors included in the model significantly influence OSS. Starting with the number of borrowers has a positive and significant effect, which show that 1% increase in borrowers associated with a 0.011-unit increase in OSS ($p = 0.005$). In the same way, the amount of loan shows a strong and highly significant effect on OSS, where a 1% rise in loans increases OSS by 0.020 units ($p < 0.001$). Revenue diversification similarly shows a positive and significant effect (coefficient = 0.309, $p = 0.011$), which tell us that microfinance institutions (MFIs) with more diverse revenue sources achieve greater sustainability.

In addition, MFI size was found to have one of the strongest influences on OSS, with a coefficient of 0.025 ($p < 0.001$). Findings means that larger MFIs are more operationally sustainable, possibly due to economies of scale and

improved capacity to absorb risks. The constant term (-0.217, p = 0.002) was negative and significant, though its substantive interpretation is limited since it represents the expected OSS when all predictors are zero, which is not realistic in practice. Taken together, these findings demonstrate that the core operational characteristics of MFIs borrower base, loan portfolio, size, and diversification are all vital factors for sustainability.

Moreover, finding of the error component analysis exposed that only about 3.5% of the variance (rho = 0.035) is attributable to unobserved group effects, with greatest variation described by the included variables. The F-test of fixed effects (F(9, 96) = 0.39, p = 0.9352) was not significant. This mean that differences across years do not meaningfully contribute to variations in OSS. This suggests that year-specific effects are negligible, and that the observed variation in sustainability is largely driven by institutional characteristics rather than time-related factors. Thus, while the fixed-effects model tells us the significant of MFI operational variables, the insignificance of group-level effects recommends that a random-effects model may similarly offer efficient estimates.

4.2.5 Random Effects (RE) Estimates

After the results from Hausman test, study revealed that the Random effect model is appropriate to be employed. The model consists of 110 observations divided into 10 groups based on the year variable, with each group having 11 observations, thus our study used a balanced panel data structure. Moreover, findings from Table 6 show the R-squared values show that the model explains 77.05% of the variation within groups (years), 91.92% of the variation between groups, and 78.39% of the overall variation in the dependent variable. Thus, our model tells us we have a strong model fit both within and across years.

In addition, a finding of the Wald chi-square statistic of 380.95 with a p-value of 0.0000 strongly rejects the null hypothesis that all regression coefficients are zero, meaning the model as a whole is statistically significant. Findings of coefficient for number borrower is 0.0107 and is statistically significant at 1% (p=0.003). Finding means that a 1% increase in the number of borrowers is associated with approximately a 1.07% increase in operational self-sufficiency (OSS). Moreover, finding of coefficient for amount of loan is 0.0201 with high significance (p<0.001) at 1%, which implies that a 1% increase in loan size corresponds to about a 2.01% increase in OSS.

Moreover, revenue diversification has a coefficient of 0.2846 and is statistically significant at 1% (p=0.007). Findings imply that, higher revenue diversification positively affects OSS, increasing it by roughly 28.5% per unit increase. The Size of Microfinance Institutions (MFIs) has a coefficient of 0.0262, and significant at 1% (p<0.001). Finding implies that larger microfinance institutions tend to have higher OSS, increasing it by about 2.62% per unit increase. Also, the intercept (_cons) is -0.2139 and statistically significant (p=0.001), indicating that when all independent variables are zero, the expected OSS value is approximately -0.214 on the log scale.

Table 6

Panel Regression Estimates

OSS	**Random Effect model**		
	Coef.	**Std. Err.**	**P>z**
Number of borrowers	0.010715	0.003614	0.003*
Amount of loan	0.020128	0.003208	0.000*
Revenue diversification	0.284553	0.104949	0.007*
Size of Microfinance Institutions (MFIs)	0.026171	0.003628	0.000*
_cons	-0.2139	0.062929	0.001
sigma_u	0.000		
sigma_e	0.064306		
Rho	0		
Number of obs	110		
Number of groups	10		
R-square within	0.7705		
between	0.9192		
overall	0.7839		
Wald chi2(4)	380.95		
Prob > chi2	0.0000		

Note: * & ** stand for significant at 1% & 5% respectively.

4.3 Influence of Average Loan Size on Self-Sufficiency

Table 6 show that amount of loan is significant at 1% (p<0.001) and has positive effect on self-sufficiency of microfinance institutions. Finding show that, 1% increase in amount of loan is associated with increased 2.01% (operational self-sufficiency) self-sufficiency of microfinance institutions. Thus, we concluded that amount of loan is associated with increased (operational self-sufficiency) self-sufficiency of microfinance institutions. This implies that microfinance institutions which are able to provide loans frequently to customers are more likely to achieve self-

sufficiency given that they have huge opportunity of gaining adequate loan interests. Provision of loans to borrowers goes hand in hand with timely payment of loans.

These results align with previous studies for instance Hermes and Lensink (2011), who found that higher loan amounts contribute positively to financial sustainability by increasing revenue streams. Similarly, Berg (2016) revealed that there was a positive relationship between average loan size and financial self-sufficiency of m microfinance institutions. Moreover, findings consistence with Tam et al. (2020) who revealed that self-sustainability of MFIs was influenced by factors such as the growth of loan portfolio. Likewise, Serrano-Cinca et al. (2023) form China revealed that there was a positive relationship between increase in loan size and self-sufficiency of microfinance system. Li et al. (2023) revealed that factors which influenced self-sustainability of microfinance institutions included size of institutions, loan size, financial condition, operational technology as well as external environment.

4.4 Influence of Revenue Diversification on Self-Sufficiency

Table 6 show that revenue diversification has a coefficient of 0.2846 and is statistically significant at 1% (p=0.007). Finding show that, 1% increase in revenue diversification is associated with increased 28.5% (operational self-sufficiency) self-sufficiency of microfinance institutions. Thus, we concluded that revenue diversification is associated with increased (operational self-sufficiency) self-sufficiency of microfinance institutions. Findings imply that microfinance institutions (MFIs) that generate income from multiple sources beyond just interest on loans tend to have higher operational self-sufficiency. Revenue diversification included earnings from fees, savings products, insurance services, training programs and other financial offerings.

Similarly, Hadžiahmetović (2023) revealed that operational self-sufficiency of microfinance institutions was influenced by factors such as higher revenue, MFI profitability as well as decrease in credit risk. Also, Githaiga (2022) revealed that there is a positive relationship between revenue and self-sufficiency of microfinance institutions. In addition, Talel et al. (2024) revealed that microfinance institutions which engage on non-lending activities such as deposit services, payment services, and financial advisory services are likely to increase their sustainability. In line with Profit Incentive Theory, diversification enhances profit potential by creating multiple revenue channels, which buffer MFIs against shocks in any one income source (Zeller & Meyer, 2002).

4.5 Influence of Size of Microfinance Institutions (MFIs) on Self-Sufficiency

The Size of Microfinance Institutions (MFIs) has a coefficient of 0.0262, and significant at 1% (p<0.001). Finding implies that larger microfinance institutions tend to have higher OSS, increasing it by about 2.62% per unit increase. Thus, we concluded that Size of Microfinance Institutions (MFIs) is associated with increased (operational self-sufficiency) self-sufficiency of microfinance institutions. This means that larger microfinance institutions (MFIs), regularly measured by total assets, number of clients, or loan portfolio size, tend to achieve higher operational self-sufficiency. The findings relate to those in the study by Li et al. (2023) who revealed that factors which influenced self-sustainability of microfinance institutions included size of institutions, financial condition, operational technology as well as external environment. Also, Khan et al. (2023) revealed that factors which had positive relationship with financial self-sufficiency of these institutions included size of the microfinance institution and loan portfolio to the total asset.

Moreover, the findings relate to those in the study by Chidi (2023) whose study revealed that size of companies had significant positive correlations with operational self-sufficiency of institutions. Ahamad et al. (2024) indicated that MFIs were in an intermediate stage of self-sustainability, with retained earnings and equity significantly enhancing their efficiency. Size of microfinance institution was revealed to be one of factors influencing sustainability of institutions. Capital Theory suggests that bigger institutions have broader and stronger networks, enhancing their reputation and trustworthiness, which can lower borrowing costs and default risks (Coleman, 1988). Size also signal stability to clients and investors, facilitating access to external funding and partnerships.

4.6 Influence of Number of Borrowers on Self-Sufficiency

Table 6 show that number of borrowers is significant at 1% (p<0.003) and has positive effect on self-sufficiency of microfinance institutions. Finding show that, 1% increase in number of borrowers is associated with increased 1.07% (operational self-sufficiency) self-sufficiency of microfinance institutions. Thus, we concluded that number borrower is associated with increased (operational self-sufficiency) self-sufficiency of microfinance institutions. Finding established that as the number of borrowers in a microfinance institution increases, its operational self-sufficiency (the ability to cover its costs from its own income) also improves. The findings relate to those in the study by Mateen et al. (2024) whose study revealed that percentage of female borrowers had a positive relationship with operational self-sufficiency of microfinance institutions. Also, the findings relate to those in the study by Saud (2024) whose study revealed that number of active borrowers had a small but significant relationship with financial self-sufficiency of microfinance institutions.

Moreover, findings consistence with Muriithi (2017) who revealed that the main factors which had greater influence on sustainability of microfinance institutions include number of clients served by the institutions and volume of credit transacted. Similarly, Masanyiwa et al. (2022) revealed that sustainability of microfinance institutions was influenced by low capital base. The findings further revealed that number of active borrowers had a positive relationship with operational self-sufficiency of microfinance institutions. In addition, Esampally & Kumar (2016) argued that microfinance institutions which have larger number of active borrowers are likely to more self-sufficient as compared to microfinance institutions which have smaller number of active borrowers. According to Profit Incentive Theory, serving more borrowers allows MFIs to increase their interest and fee income, thus improving profitability and sustainability (Rhyne, 1998). From the Social Capital Theory viewpoint, an expanding borrower base strengthens community networks and trust, which facilitates information flow, collective monitoring, and peer pressure, reducing default rates and improving loan recovery (Bourdieu, 1986).

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

We conclude that the average loan size significant influences the operational self-sufficiency of MFIs in Kinondoni and Temeke. A 1% increase in loan size is associated with a 2.01% increase in operational self-sufficiency, indicating that larger loans contribute positively to the financial sustainability of MFIs. Also, number of borrowers has a positive and significant impact on the operational self-sufficiency of MFIs. The findings indicate that a 1% increase in borrower numbers leads to a 1.07% increase in self-sufficiency, highlighting the importance of expanding client outreach for financial sustainability. Furthermore, revenue diversification plays a critical role in enhancing operational self-sufficiency among MFIs. Findings show that a 1% increase in revenue diversification corresponds to a substantial 28.5% increase in self-sufficiency, emphasizing the benefits of multiple income streams. Furthermore, size of MFIs, measured by total assets, is positively associated with operational self-sufficiency.

5.2 Recommendations

It is recommended that MFIs must consider adjusting their loan sizes to balance profitability and customer affordability. While increasing loan amounts increase operational self-sufficiency, it is significant to maintain access for lower-income borrowers to avoid excluding vulnerable groups. Also, MFIs must invest in outreach strategies and build strong community relationships to attract and retain more borrowers. Expanding the borrower base should be accompanied by robust credit assessment and monitoring systems to manage risks and ensure portfolio quality, thereby supporting long-term operational self-sufficiency. Furthermore, MFIs are advised to provide and market a range of financial services and products that go beyond common lending, like training initiatives, insurance, and savings accounts.

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