Implication of Credit Supervision Practices on Portfolio at risk of Microfinance Institutions in Tanzania

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Abstract

This study seeks to establish the implication of credit supervision practices on portfolio management of microfinance institutions in Tanzania. Utilizing multivariate regression technique over sampled 219 microfinance institutions from Dar es Salaam, Morogoro and Dodoma regions, it documents two plausible results. First, the study finds that timely loan release and number of borrowers per loan officer have positive and statistically significant impact on portfolio at risk of microfinance institutions. Second, it reveals that operation cost per borrower and provision of training sessions to borrowers have negative and statistically significant impact on portfolio at risk of microfinance institutions.

These results suggest that microfinance institutions can diminish portfolio risks by (1) decreasing number of days for processing clients' loan applications and releasing funds; (2) decreasing number of clients per each loan officer in order to increase efficiency of loan management of the officers; (3) increasing training sessions on various skills given to their borrowers which will increase knowledge and skills of clients on the best ways to keep their business records and proper utilization of funds, and so successful repayments; (4) allocating enough budgets for overall supervisory purposes including loan appraisal processes, disbursement procedures and collection of funds from their clients.

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1. Introduction

Microfinance institutions need to be financially stable to sustainably execute effective credit services to financially excluded communities (Navajas et al., 2000; Nyamsogoro, 2010). These institutions target the typically low-income individuals who are self-employed or low-paid people (Biosca et al., 2011). Loan services are offered through innovative techniques of group lending, relationship lending and individual lending methodologies (Kiliswa and Bayat, 2014). The established repayment schedules are made to attract clients fulfill their obligations to ensure sustainable service delivery. The lending institutes need to ensure lower portfolio at risk by collecting their disbursed loans efficiently and effectively (Moti et al., 2012). This means that microfinance institutions (MFIs) have to maintain a high-quality portfolio based on high percentage repayment rate (Nguta and Huka, 2013). Lagat et al. (2013) observed that performing microfinance institutions with lower portfolio at risk need to have strict internal credit supervision and good financial management practices. The existence of such inbuilt strategies to the microfinance institution is likely to provide a dependable solution to the problem of portfolio at risk of most microfinance companies.

Granting credit to low income individuals is faced with high credit risk (Simone, 2011) which may cause high level loan losses, consequently failure of the financial institution (Richard et al., 2008; Dahir, 2006). The Tanzanian microfinance sector also incorporates ineffective credit risk management. It has badly affecting financial performance of most microfinance institutions (Warue, 2012). It arises from a potential borrower who is either unwilling to perform on an obligation or their ability to perform is impaired, causing economic loss to lending institutes (Fight, 2004). Navajas et al. (2010) and Colquitt (2007) point out that weak credit supervision practices have been the main cause of business failure including financial institutions. Thus, effective credit supervision may be considered a necessary road map into a safety approach to enable sustainable loan portfolio performance of microfinance institutions.

Several studies have been conducted on sustainable microfinance credit supervision, but the level of significance of factors varies with studies. Evidences from empirical findings have reported mixed results about the effect of credit supervision on microfinance portfolio performance. Setargie (2013), Bichanga and Aseyo (2012), Nawai and Shariff (2012), Korankye (2014), Rahman and Mazlan (2014), Pasha and Negese (2014), and Kinde (2012) find that training practices, number of borrowers, loan disbursement lag, loan monitoring and regular installments negatively influence the portfolio at risk of microfinance institutions. On the other hand, findings by Nyamsogoro (2010), Magali (2013), Tehulu (2013),

and Abreham (2002) portray inconsistent conclusion on the influence of these factors on portfolio performance of microfinance institutions.

Despite the essential contributions made on previous empirical studies, much of past research suffers from mixed findings leading to ambiguous results. Some past studies dwelt on member-based microfinance institutions while others focused on specific microfinance programme. Consequently, they have been inefficient in establishing the factors for effective credit supervision on portfolio at risk of microfinance institutions in Tanzania. This study is comprehensive in coverage and focused on non-member-based microfinance institutions. It intends to fill that gap by establishing the current state of the effects of credit supervision practices on portfolio at risk of microfinance institutions in Tanzania and delivers plausible results. The paper is organized such that the following section provides an overview of related literature. Section three describes about data and methodology used in this study. Results and discussion of findings are presented in the fourth section, whereas summary and conclusion are presented in the last section of this study.

2. Literature Review

Credit supervision practices are essential to optimizing performance of the financial institutions. Effective system that ensures follow up measures to borrowers helps in dealing with communication problems which may results to unsustainable loan service provision (Zohair, 2013). Various attempts to eliminating credit risk by microfinance institutions may have little effect unless credit supervision form an integral part of institution's operations. Microfinance institutions should manage credit risk in the light of a manner that does not spread out of control of organization. On the other hand, loan portfolio performance of microfinance institutions is affected when the rate of repayment from loan beneficiaries declines. As such high risk of microfinance loan portfolio may indicate incompetency of the lending institutes to effectively monitor clients after credit has been delivered (Onyeagocha et al., 2012).

This study anchors on two theories that form basis in developing study variables in support of empirical studies: asymmetric information and transaction cost theories. According to Akerlof (1970) the asymmetric information theory relates the unbalanced distribution of information among various economic entities. The withholding and meandering of information by one-part emerges problems in business transaction between them. On the other hand, transaction cost theory refers undertaking transactions that reduce risks emphasizing the need for parties in business to be aware of explicit and implicit costs involved in

any transaction (Coase, 1960). In other words, it is a cost incurred in making an economic exchange. In this respect, microfinance institutions require constant analysis of their financial performance in order to evaluate the extent, direction and impact of their services to low-income individuals.

Periodic follow up of borrowers is considered necessary to ensure reduced risk of loan portfolio of microfinance institution. Kashuliza (1993) and George (2015) reveal effective monitoring process and follow up procedures enable microfinance institution identify possible dangers of diversion of loan from intended purposes by borrowers that could result into problems in repayment and increase risk of microfinance loan portfolio. Study by Bofondi and Gobbi (2003) suggests that microfinance institution need to build monitoring teams to remind borrowers of their obligation to service loans principal and interest as per agreed contract. Follow up efforts to microfinance borrowers should commence immediately when loan amount is disbursed. This will ensure repayment and minimize threat to gross loan portfolio. However, a study by Polio and Obuobie (2010) delivers contradictory result that follow up measures hardly influence positively on financial performance. Instead, effective appraisal and selection procedures are negatively associated to portfolio at risk of microfinance institutions[1].

Notably, Hooman (2009) and Johnson and Rogaley (1997) state that timely loan release to borrower influences portfolio at risk of the microfinance institutions. Lending institutions that disburse loan to borrowers timely is unlikely to be diverted to non-intended purposes. In addition, timely loan disbursement is crucial when such credits are required to deal with seasonal activities like agriculture. Microfinance institutions should not set complex appraisal and approval procedures that might delay disbursement of funds. Similarly, Kimando et al (2012) point out that microfinance loans have to be disbursed timely when all requirements relating to the loan are met. During disbursement lenders must ensure proper documentation is in place and security requirements are considered prior to fund release which would enable reduced risk of microfinance gross loan portfolio[2].

Moreover, Wongnaa and Awuyno (2013) argue provision of education and training of low-income borrowers improves repayment as well as financial

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[1]*Assumption 1: There is no relationship between follow up period measures of microfinance institutions and portfolio at risk of microfinance institutions.*

[2]*Assumption 2: There is no relationship between timely loan release of microfinance institutions and portfolio at risk of microfinance institutions.*

performance of microcredit companies. Firafis (2015) also attaches a great importance in educating microfinance staff members about techniques and strategies on how to address clients with repayment problems. He adds that high communication skills of loan officers also help to attract customers on existing microfinance products. Moreover, provision of training is also needful in understanding accurately usage of regular loan collections for institutional financial performance and managing them. In this respect, Roslan and Karim (2009) reveal that microfinance borrowers who were not given any training in relation to their business and project management skills tend to experience higher probability of loan default than their counterparts. Thus, microfinance institutions need a good number of loan officers to ensure provision of necessary training to clients for sustainable loan portfolio financial performance[3].

On the other hand, Kinde (2012) observes that microfinance institutions need to determine manageable ratio of borrowers per loan officer to enable provision of prompt loan services to customers. Monitoring and supervision by credit officers or loan committee enable identify financial status of borrowers to ensure borrowed fund is repaid. However, Magali (2013) and Field and Pande (2008) record insignificant contribution of the ratio of borrowers to loan officer on portfolio at risk of microfinance institutions[4].

Similarly, microfinance institutions need to be conscious in the management of operation costs involved for each borrower of microfinance institution. An understanding of the cost per borrower enables the lending institution figure out how much it costs to provide loan services for each customer. Fernando (2008) and Anduanbessa (2009) comment that efficient operation cost per borrower facilitates reduction of microfinance institution from exposure to non-repayment of loans. Moreover, it enhances ability to compete in the market with other well-established financial institutions like banks. Thus, microfinance institutions are required to be informed of all necessary costs associated with extension of credit services to their clients for continued organizational operations[5].

Lastly, Pasha and Negese (2014) reveal that microfinance institutions have to design proper monitoring of clients and follow up actions in order to ensure good

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[3]**Assumption 3:** *There is no relationship between training sessions of microfinance institutions and portfolio at risk of microfinance institutions.*

[4]**Assumption 4:** *There is no relationship between number of borrowers per loan officer of microfinance institutions and portfolio at risk of microfinance institution.*

[5]**Assumption 5:** *There is no relationship between microfinance institutions operation cost per borrower and portfolio at risk of microfinance institutions.*

repayment. The loan portfolio performance of most microfinance institutions is affected due to inappropriate handling of such factors. In addition, Ledgerwood (2000) notes that loan payments by microfinance borrower can be made on installment basis (weekly, biweekly, monthly) or in a lump sum at the end of the loan term depending on capability of the borrower. Ciborra (2006) points out that convenience in loan installment period enables borrowers to utilize the loan proceeds into intended purposes and comply with institutions' repayment schedule. Therefore, microfinance institutions need to balance between cost of transaction associated to frequent payments employed and the risk of default resulting from to infrequent loan repayments required by microfinance borrowers[6].

3. Data and Methodology

This study involves cross-sectional research design as it facilitates the use of large number of study participants. Also, it is not geographically bound in finding relationships between variables at one moment in time. The study is carried out in three regions of Tanzania: Dar es salaam, Morogoro, and Dodoma. These regions are purposively selected, because Dar es Salaam is a commercial center with higher number of microfinance institutions than other regions in Tanzania. Whereas, Dodoma is the central region and Capital City of Tanzania with a mix of economic sectors, while Morogoro favors agricultural activities, especially, crop cultivation including small, medium, and large business activities are undertaken. Finscope[7] identifies this region to constitute 46.5% of the adult population who access financial services from microfinance institutions. The sample frame for microfinance institutions that do not require clients be registered members in order to access credit facilities (non-member-based microfinance institutions) is provided by the Bank of Tanzania (Microfinance section)[8], the Ministry of Industry and Trade via the licensing department[9], Tanzania Association of Microfinance

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[6]*Assumption 6: There is no relationship between microfinance institutions repayment periods and portfolio at risk of microfinance institutions.*

[7] Micro-finance Survey in Tanzania, Financial Sector Deepening Trust, Dar es Salaam, (FSDT) Tanzania

[8] Bank of Tanzania, Tanzania Microfinance Institutions Directory, Dar es Salaam, Report 2010

[9] Ministry of Industry and Trade, Microfinance Licensing Department, Dar es Salaam, Report 2014, Tanzania

Institution (TAMFI)[10], and the SELF Microfinance Fund[11]. After eliminations due to data availability, 219 non-member-based microfinance institutions from the districts of Kinondoni, Ilala and Temeke in Dar es Salaam region; Morogoro Urban district in Morogoro region; and Dodoma Urban district in Dodoma region are selected as a final sample size for this study.

Stratified random sampling method is employed to identify participants involved in the study. The technique enables separation of the target population into regions of interest and then, accordingly into identified study districts. Sampling process is undertaken by drawing the representative samples from each of the stratum (smaller population groups) using simple random sampling. The data for this study are collected using semi-structured, pre-tested questionnaire to the identified microfinance institutions. The use of questionnaire tool enables participants to give their responses in a free environment while encouraging confidentiality and limits effect to its validity and reliability.

Table 1. Explanation of independent and control variables

Independent Variables	Explanation (Measure)
Number of borrowers per loan officer	Total number of borrowers divided to loan officers for the period
Operation cost per borrower	Operating expenses divided to number of borrowers for the period
Frequency of training sessions	Number of MFI training sessions to borrowers per year
Timeliness of loan release	Average number of days to process and disburse loans to borrowers
Follow up periods	Average number of times to follow up (tracking) borrowers until final payment
Convenience of repayment periods	Average number of days for borrowers to making regular installments
Control variables	
MFIs size	Total assets of microfinance institution in TZS.
MFIs age	Number of years since the establishment
Manager experiences	Number of years of working in microfinance industry
Manager education qualifications	Education qualification attained by the MFI manager. 1=Secondary education; 2=Technical education; 3=University education

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[10] Tanzania Association of Microfinance Institutions, Members Directory, Uporoto Street, Dar es Salaam,Report 2015

[11] Self-Microfinance Fund, Ministry of Finance and Planning, Dar es Salaam, Report 2015, Tanzania

The dependent variable in this study is portfolio at risk of microfinance institutions which is measured as following:

$$PAR\ 90 = \frac{Outstanding\ principal\ balance\ of\ all\ loans\ overdue\ by\ 90\ day}{Outstanding\ principal\ balance\ of\ all\ loans}$$

The data collected are analyzed using linear regression model. This model estimates relationship between portfolio at risk and explanatory variables of credit supervision of MFIs. The ordinary least square estimation method aids to approximately determine the unknown parameters located in a linear regression model (Keenan and Stevens, 2016). The study considered this model most appropriate for cross-sectional data and for financial function hence was chosen.

The linear regression model is of the following form:

$$PAR = \beta_0 + \beta_1 BOR_t + \beta_2 COST_t + \beta_3 TRA_t + \beta_4 TIM_t + \beta_5 FOL_t$$
$$+ \beta_6 REPAY_t + \sum_{i=1}^{4} \theta_i \psi_{it} + \varepsilon_t$$

where *PAR* is dependent variable stands for portfolio at risk; *BOR* is number of borrowers per loan officer; *COST* is operation cost per borrower; *TRA* is training sessions given to borrowers; *TIM* is timeliness of loan release; *FOL* is follow up period measures; and *REPAY* is convenience of repayment period. The ψ is a set of control variables such as MFI size, MFI age, manager experience (*MANEX*), and manager education (*MANEDU*).

3.1. Data Analysis

The data obtained from the questionnaires are analyzed by descriptive statistics in the form of mean, minimum, maximum and standard deviation. This information intends to describe characteristics of what is being studied.

Table 2 below exhibits the records of surveyed microfinance institutions on average of borrowers per loan officer during the study period to be the ratio mean value of 157.1872. Moreover, it falls within a range of 49.0 (minimum) and 401.0 (maximum) ratios. The mean indicates that microfinance institutions in the study areas have manageable ratio of borrowers to a loan officer. Therefore, they are likely to be effective in monitoring clients to ensure repayments and reduced problem loans. The table also presents microfinance institutions' average duration on loan release to borrowers to be a mean value of 4.278 days. The variable also records a minimum and a maximum of 1.0 and 14.0 days taken to process and

disburse loans to their clients. This distribution indicates that the sampled microfinance institutions complete process and release credits to loan applicants within two weeks time. This encourages the clients to use requested funds timely into intended business projects and manage repayments. The variable training sessions to borrowers had a mean of 34.3014 sessions in a year. Furthermore, the variable depicts a minimum of 5.0 and maximum of 80.0 sessions in a year respectively. It means that the sampled microfinance institutions already have been providing necessary amount of training to their clients. These trainings help borrowers to utilize funds and, more importantly, to recover the credited amount to the firm as expected.

Table 2. Descriptive Statistics of Credit Supervision variables in surveyed MFIs

Variables	Mean	Std. Dev	Min	Max	N
Borrowers per loan officer	157.1872	88.4232	49	401	219
Timeliness of loan release	4.2785	2.4345	1	14	219
Training sessions	34.3014	19.8036	5	80	219
Follow up measures	57.5068	29.1396	10	140	219
Repayment period	22.379	9.4867	7	30	219
Operations cost per borrower	151746.18	107892.97	25000	350000	219

Table 2 portrays minimum and maximum follow up measures on disbursed loans to borrowers to be between 10.0 and 140.0 frequencies during the year under study. The variable similarly recorded a mean of 57.5068 frequencies. The mean value indicates that the sampled microfinance institutions have not invested much in monitoring their clients. This may lead to diversion of loans from intended purposes, failure to manage repayments and increase portfolio at risk. On the other hand, the variable repayment period shows a mean of 22.38days. The study again exhibits a minimum and maximum of 7 and 30 days. It is worth noting that the study considers repayment duration of borrowers to be convenient to loan beneficiaries during the whole study period. Therefore, risky loans are likely to be reduced since clients have been offered repayment terms that suits their ability to obey loan installments given.

Lastly, the average operation costs per borrower ranges between minimum of TZS 25,000.00 (equal to USD 10.813[12]) and maximum of TZS 350,000.00 (equal to USD 151.384) during the study period with a mean value of TZS 151,746.18 (equal to USD 65.634). This mean indicates that these institutions incur high operations costs in their business that may lead to charge high interest rates to recover necessary costs. Consequently, the borrowers would unlikely be able to bear cost of loans and shy away from repayments.

3.2. Preliminary checks of the data for model analysis

This study uses multiple linear regression model to investigate the relationship between predictor variables of credit supervision practices and portfolio at risk of microfinance institutions as response variable. In order to produce consistent and unbiased results, we employ preliminary tests such as normality, multicollinearity, linearity, homoscedasticity and independent of errors to comply with OLS assumptions. The study tested whether there is multicollinearity problem using variation inflation factor (VIF) as well as correlation matrix. The maximum VIF among regressed variables does not to exceed 2.50 in all the variables. Thus, it indicates the data for this study are free from the multicollinearity problem. Moreover, table 3 below presents correlation matrix among variables for credit supervision practices on portfolio at risk of microfinance institutions. We employ this analysis in order to show absence of multicollinearity among variables that are used in our OLS model. The table reveals that explanatory variables have statistical significant relationship with dependent variable *PAR*. The relationship among themselves (explanatory variables) is not significant to bias our model results any collinearity problems (Hair et al., 2010).

Normality of dependent variable and most of predictor variables are also tested by visual check of histogram and probability plots including the Shapiro-Wilk and Kolmogorov-Smirnov tests. The tests are statistically insignificant with a p-value 0.20 and 0.21, respectively, which indicates data for this study are almost normally distributed. Furthermore, we test linearity by visual inspection of scatter plot matrix, which depicts straight line relationship between variables. Independence observation was tested by Durbin Watson test statistic which indicated a p-value of 2.072, hence, data for this study are free from autocorrelation. Lastly, homoscedasticity was checked by visual inspection of scatter plot. The test observed residuals were proximately equal in width at all

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[12] Exchange rate applied is 1 USD = TZS 2312 as of 14th February 2019.

values of the predicted dependent variable (Keenan & Stevens, 2016 and Ho, 2006).

Table 3. Correlation matrix among the study variables

Variables	PAR	BOR	TIM	COST	TRA	FOL	REPAY	MAN EX	MFI AGE	MFI SIZE	MAN EDU
PAR	1										
BOR	0.169*	1									
TIM	0.161*	0.021	1								
COST	-0.210**	-0.064	0.131*	1							
TRA	-0.142*	0.001	-0.066	0.012	1						
FOL	0.017	0.010	0.032	-0.013	-0.016	1					
REPAY	-0.040	0.028	-0.073	0.108	0.021	-0.080	1				
MANEX	0.088	0.029	-0.060	-0.055	-0.031	0.009	-0.130	1			
MFI AGE	-0.063	-0.017	0.008	0.002	0.071	0.002	-0.020	0.026	1		
MFI SIZE	0.157*	0.003	0.015	-0.112	-0.037	0.020	-0.159*	0.048	-0.133*	1	
MANEDU	0.021	-0.112	-0.048	0.014	0.065	0.101	0.005	-0.090	0.127	-0.077	1

Notes: The * and ** indicate statistical significance at 5% and 1% levels respectively (2-tailed)

4. Results and Discussion

Table 4 displays results of OLS analysis for the above presented equation. The level of significance (p-values) was used to test the influence of each variable on portfolio at risk of MFIs. An overall model fit was used to test the combined effect of all variables on portfolio at risk. The overall model was significant at $F_{(11, 207)}$ = 15.227; p = .002 < 0.05. Results estimated by OLS analysis portrays nearly 45% of variations in portfolio at risk of microfinance institutions (*PAR*) is successfully captured by explanatory variables at 5% statistical significance level. This reveals that selected credit supervision practices such as *BOR*, *TIM*, *COST*, and *TRA* are statistically significant predictors of portfolio at risk of microfinance institutions.

The results render that timeliness on loan release (*TIM*) is positively related with *PAR* at 5% significant at level. Its coefficient 0.1670 indicates that, if the other factors are held constant (*ceteris paribus*), an increase in number of days for processing and releasing clients' loans causes an increase of 0.17 units in portfolio at risk of the microfinance institution. In other words, microfinance companies should undertake shorter number of days for processing clients' loan applications and releasing funds in order to reduce portfolio at risk of their gross loan

portfolio. This would enable borrowers to utilize the borrowed amount in their planned investment opportunities including committing funds into other social requirements. This finding is in line with Crabb and Keller (2006) and Gyamfi and Boateng (2013) who point out that loan disbursement influences borrower repayments. Therefore, microfinance institutions that provide loans to their clients timely are likely to encourage effective utilization of the borrowed amount, thus, to reduce loan repayment problems.

Table 4: Model Results for Credit Supervision practices on Portfolio at risk of MFIs

Variables	Coefficients	Variables	Coefficients
BOR	0.0060*** (0.0020)	MANEX	0.0570 (0.0600)
TIM	0.1670** (0.0830)	MFIAGE	-0.0570 (0.0900)
COST	-1.1830** (0.5370)	MFISIZE	1.5240 (0.7860)
TRA	-0.0220** (0.0100)	MANEDU	0.6360 (0.6320)
FOL	-0.0010 (0.0070)	Intercept	5.2520 (8.3230)
REPAY	-0.0030 (0.0210)		
R-square	0.4470	F-stat.	15.2270
Adj.R-square	0.4150	Durbin-Watson	2.0720

Notes: The asterisks of *, **, and *** imply statistical significance levels of 10%, 5%, and 1% respectively. The total observation number is accounted as 219.PAR is dependent variable stands for portfolio at risk; BOR is number of borrowers per loan officer; *COST* is operation cost per borrower; *TRA* is training sessions given to borrowers; *TIM* is timeliness of loan release; *FOL* is follow up period measures; and *REPAY* is convenience of repayment period. The *MFISIZE* is microfinance institutions size; *MFIAGE* is microfinance institutions age; *MANEX* is manager experience; and *MANEDU* is manager education qualification.

Similarly, the variable for borrowers per loan officer ratio (*BOR*) also earns positive and statistically significant estimate at 1% level with coefficient magnitude of 0.06. It indicates that the higher the ratio of borrowers to a loan officer, the higher the rate of microfinance portfolio at risk. Put differently, microfinance institutions that maintain higher number of clients to be supervised by one loan officer may result to an increase portfolio at risk of those respective MFIs. It goes without saying that the extent of outstanding loans to the

microfinance institutions is attributed by increasing the number of microfinance borrowers that have to be under single loan officer. The ability of the credit officer to manage big number of clients is likely to be reduced which will result in increased deliquescent and financial underperformance of the institution. Similar results are documented by Kariuki (2010) and Mwangi (2016) who observe the influence of number of borrowers to credit officer for effective portfolio microfinance performance.

On the other hand, the variable training sessions conducted by the microfinance institutions as shown in the regression output table derives negative and statistically significant estimate of -0.0220 at 5% significance level. This renders that a unit increase in training sessions will shrink the portfolio at risk (*PAR*) of microfinance institutions by approximately 0.02 units. Thus, microfinance institutions that increase training sessions on various skills to their borrowers result in decrease of the rate of risk of microfinance gross loan portfolio. Logically, an increase in frequency of training sessions of the microfinance institution to their borrowers would mean an increase of the necessary knowledge and skills on the best ways to keep their business records and proper utilization of funds. According to Edgcomb and Barton (1998) and Ibtissem and Bouri (2013), the provision of non-financial services such as training develops the economic ability of the borrower to repay their loans including making relationship with MFIs, hence, reduced portfolio at risk.

Furthermore, the variable operational cost per borrower (*COST*) gets a negative and statistically significant coefficient of -1.18 at 5% significant level. The magnitude implies greater sensitivity of *PAR* to the *COST*, thus, it appears significant determinant of microfinance portfolio performance. This suggests that a unit increase in microfinance operational cost (budget) for managing individual borrower of the microfinance institution causes 1.183 units reduction in loan portfolio at risk of microfinance institution. Thus, the microfinance companies should pursue cost optimization and cost minimization policies in order to obtain superior performances in their portfolios. They need to allocate enough budgets for overall supervisory purposes including loan appraisal processes, disbursement procedures and collection of funds from their clients. This will help to ensure effective credit supervision, monitor borrower's obligations to repayment, and hence, sustainable financial functioning of the lending institution. This finding is parallel with results of Ameyaw-Amankwah (2011) and Rahman and Mazlan (2014) who document that MFIs with sufficient budget to cater for costs per borrowers are able to undertake effective appraisal procedures, follow up client business, hence, high loan recovery.

5. Conclusion

The study examines impacts of credit supervision practices on portfolio performance of microfinance institutions in Tanzania. Conclusively, it finds that training of microfinance clients, timeliness of loan release to microfinance borrowers, microfinance borrowers per loan officer, and microfinance operational cost per borrower influences portfolio at risk of microfinance institutions. The timeliness of loan release and borrowers per loan officer have positive and statistically significant impact on portfolio at risk of microfinance institutions; whereas, training to microfinance clients and operational cost per borrower have negative and statistically significant impact on portfolio at risk of microfinance institution. These results suggest that microfinance companies can utilize these four empirical relationships in order to reduce portfolio at risk of their gross loan portfolio: (1) They should undertake shorter number of days for processing clients' loan applications and releasing funds; (2) They should increase number of loan officers in order to decrease number of clients per each loan officer; (3) They should increase training sessions on various skills given to their borrowers which will increase knowledge and skills of clients on the best ways to keep their business records and proper utilization of funds, and so successful repayments; (4) They should allocate enough budgets for overall supervisory purposes including loan appraisal processes, disbursement procedures and collection of funds from their clients.

The study extends empirical justification and quantification on the extent to which some additional factors that influence portfolio performance of microfinance institutions. It provides insightful reasons for the need to be conscious against determinants that threat loan portfolio of MFIs. The findings of the study make clear that microfinance sector in Tanzania is prone to significant reputational impact due to existing loan portfolio underperformance. Therefore, empirical evidence of this study offers valuable suggestions to microfinance institutions and interested parties of microfinance operation in Tanzania by attaching an importance on timeliness of loan release, borrowers per loan officer, training to microfinance clients, and operational cost per borrower and their influences on portfolio at risk.

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