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Performance of Loan Repayment Determinants in Ethiopian Micro Finance - An Analysis

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Abstract

Micro finance involves the provision of micro-credit, savings, and other services to the poor that are excluded by the commercial banks for collateral and other reasons. Microfinance is relatively new to Ethiopia and came to existence during 1994-95. Out of which Sidama Micro Finance Institution (SMFI) is one among 31Micro Finance Institutions (MFIs) to serve needy people in Ethiopia. Based on this researchers' intended to study major socio- economic factors and loan related factors that determines loan repayment performance of borrowers in SMFI. In fact, the identifying and analyzing such determining factors of loan repayment rate is vital in the achievement of profitability and sustainability of MFIs. In this connection, researchers' collected data from primary and secondary resources and analyzed by using Binary logistic model is used. Through the study 14 determinants' are selected for evaluation, out of which 9 variables are significant and remaining insignificant are found. Based on the analysis, researchers are recommended that proper training should be provided, reasonable amount of loan which should be useful to their business. Further, more age people and well business experience people can able to repay their loan amount` timely to micro finance institution.

Keywords: *Micro Finance, Loan Repayment, Performance of Borrowers, Institution.*

JEL Code Classification: *G21, G20, G30, G02*

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1. Introduction

In developing countries, including Ethiopia, micro financing institutions (MFIs) emerged with unique opportunity to serve poor people who do not have access to commercial banks. Microfinance involves the provision of micro-credit, savings, and other services to the poor that are excluded by the commercial banks for collateral and other reasons. Microfinance is relatively new to Ethiopia and came to existence during 1994-95 with the government's licensing and supervision of microfinance institution proclamation (Zerai and Rani, 2012). The main objective of the these institutions are they deliver micro-loans, micro-savings, micro-insurance, money transfer, leasing, etc to a large number of productive resource-poor people in the country in a cost-effective and sustainable way.

The objective of microfinance institutions as development organizations are to service the financial needs of un-served or underserved markets as a means of meeting development objectives such as to create employment, reduce poverty, help to develop existing business or diversify their activities, empower women or other disadvantaged population groups, and encourage the development of new business (Bayeh, 2012).

A large number of MFIs in Ethiopia has progressed significantly in terms of sustainability. Although the development of MFIs started very recently, however, the industry showed a remarkable growth. As of 2007, there are 27 MFIs registered under National Bank of Ethiopia(NBE) had an active loan portfolio of about birr 2.7 billion delivered to 1.7 million active clients. At the same year they also mobilized about 951 million birr of savings. Moreover about 38% of the clients of the MFIs are females (Amaha, 2008). While the end of 2011, the total number of MFIs has risen to 31 with 433 branches and 598 sub branches. At the same year the study shows 10 – 25% of the total micro finance demand in the country. The institutions have extended total credit of 6.9 billion ETB to 2,470,611 active borrowers (Mohana and Ludego, 2013).

1.1. Statement of Problem

One way to tackle the loan repayment problem is to investigate the factors which affect the loan repayment of MFIs., (Onyeagocha et al,2012) although loan repayment is determined by willingness, ability and other characteristics of the borrowers; businesses characteristics and characteristics of the lending institutions including product designs and suitability of their products to borrowers. Regarding the characteristics of borrowers, repayment of loans depends on the willingness and ability of the borrowers to repay. Therefore, individual borrowers can either repay their loans or choose to default. It is also true that the factors influencing loan repayment capacity among borrowers are not only likely to differ by programs but also differ from country to country depending on the domestic business and economic environment (Tundui and Tundui, 2013).

Sidama Micro financing institution (SMFI) is one of major micro financing institutions of Ethiopia working to provide credit and saving services to urban and rural poor who do not have access to financial services from formal banks in Sidama Zone. However, to outreach large number of poor and lift themselves out from poverty, the numbers of defaulters have been challenging the institution's social as well as financial objectives by retaining large amount of loan, as a result this hinder it not to combat to ward poverty reduction strategy and its realization of sustainability by diminishing loan repayment rate. Therefore, to alleviate aforementioned problems the researcher intended to study major socio- economic factors and loan related factors that determines loan repayment performance of borrowers in SMFI.

1.2. Objective of the Study

The main objective of this study is to analyze and identify the determinants of loan repayment performance of the borrowers in SMFI and specific objectives are:

- To analyze and identify the major socio-economic factors that influence loan repayment rate of the borrowers.
- To investigate and differentiate loan and business related factors that affect loan repayment performance of borrowers in SMFI
- To assess the problems and challenges that affects both institution and borrowers regarding loan repayment process.

1.3. Significance and Limitations of the Study

The primary objective of micro financing institutions is providing financial services to improve the living standards of the poor. For these the institutions to be able to render such a services on the permanent basis, it has to realize its profitability and sustainability. However, the profitability and sustainability of MFIs depends on the borrowers' action toward the loan repayment rate. The borrower's action toward loan repayment performance is determined by various factors.

During the study researchers find some limitations. These includes: shortage of money, lack of enough time, lack of transportation access, and absence of respondents at planned time during data collection. The data were collected from respondents and study was conducted only in three branches out twenty one branches of SMFI.

2. Micro Finance in Ethiopia

2.1. Overview of Micro Financing in Ethiopia

Many of the MFIs in Ethiopia provide similar financial products and use predominantly the group lending methodology, while individual lending is employed to a limited extent (Amaha, 2008). Group lending schemes induce borrowers to engage in assertive matching wherein local knowledge about each

other's assets, capabilities, character traits are used to sort and self select (Rejaul and Karim, 2008).

2.2. Sidama Micro Financing Institution (SMFI) Sharing Company

Though SMFI, evolved from the Sidama Rural Women's Credit and Savings scheme that was started in December 1994 and finally got operational license from National Bank of Ethiopia in 1998 in accordance proclamation No. 40/1996.. It is operating only in Sidama Zone; the Head quarter is in Hawassa, capital of SNNPRG in Sidama zone.

The total number of employees in the institution is 270, out of which 67 are loan officers; excluding 68 supportive staffs others are different level experts and managers. In June 30, 2013, there were 16,716 loan clients; on average one loan officer supervises around 250 loan clients.

Table 1: Performance of SMFI during June 2009-2013 (SMFI, 2013).

Year	June 2009	June 2010	June 2011	June 2012	June 2013
No. of clients	3611	5335	10717	11485	16716
Average loan size	4747	4464	3974	5486	6157
Repayment rate%	82%	92%	94%	98%	96.94%
Default rate %	18%	8%	6%	2%	3.06%

Source: Sidama micro financing institution S.C (SMF, 2013)

2.3. Empirical studies on loan repayment performance

Several studies have been conducted in different developing countries regarding determinants that affect loan repayment performance. The following are determinants of loan repayment performances.

2.3.1. Empirical studies of other countries

The determinants of loan repayment under the indigenous financial system in southeast, Nigeria (Eze and Ibekwe, 2007). They employed descriptive statistics and multiple regressions to analyze the data. The analyzed data reveals that amount of loan received, age of beneficiaries, house hold size, educational attainment, and occupation can influence loan repayment.

Determinants of loan repayment performance of fishermen, Ghana employed multiple regression analysis in their study. Their results revealed that low level of education, lack of alternative income generating activity, cumbersome loan processing procedures, they are likely to have high loan default. The study identified fishing income, amount borrowed and size of loan invested into fishing as significant predictors of loan repayment (Acquah and Addo, 2011).

The factors affecting loan repayment performance among Yam farmers in the Sene District, Ghana are analyzed. Based on analysis, the factors that affect loan repayment, he employed the Tobit model. According to the finding education,

experience, profit, age, supervision and off-farm income have positive effects on loan repayment performance (Wongnaa and Awunyo,2013).

The causes of loan default within micro finance institutions in Kenya studied on Causes of loan default within micro financing institutions in Kenya. The study found out that loan repayment default was as result of non supervision of borrowers by the MFIs (Okibo,2013).

2.3.2. Empirical Studies in Ethiopia

The loan repayment and its determinants in small scale enterprises financing are investigated and evaluated, in case of private borrowers around Ziway area in Ethiopia. The estimation result employed Tobit model. His result reveals that having other source of income, education level, work experience in related economic activity before the loan and engaging on economic activities other than agriculture are enhancing loan repayment (Abrham,2002).

Factors that influence micro finance and loan repayment performance were studied with particular reference to the Oromia Credit and Savings Share Company (OCSSCO) in Kuyu, through the application of descriptive statistics and the probity model, shows that education, income, loan supervision, suitability of repayment period, and availability of other credit sources are important and significant factors that enhance the loan repayment performance (Abafita,2003).

The determinants of loan repayment performance were studied with the specific reference of Addis Credit and Saving Institution, Addis Ababa, Ethiopia (Fikirte, 2011). She applied, on repayment performance of borrowers, the weighted logit model. Her result reveals that age was found to be statistically significant i.e as age increased; the probability of being defaulter is decreased.

3. Methodology of the study

3.1. The description of study area

Out of 31 Micro Finance institutions of Ethiopia, researcher selected SMFI for study of the above title. Sidama Administration Zone is found in SNNPR regional state and it is one of the 13 zones in the region. This survey mainly considers three worda's branches of Arbegona, Bona, and Bensa in the Sidama Zone. Averagely woredas'(District) covered an area of 372.81 km^2 and total population of 507,825(Male 255704, and Female 252121).

3.1.1.Research Design

The study employed explanatory research design with quantitative and qualitative methods. The quantitative aspect of the data focused on description of socio-economic variables, loan and related variables, and business related variables and analysis of relationship among the dependent and explanatory variables of SMFI for the study.

3.2.2. Data Sources

The study employed both primary and secondary sources. Primary data sources are the sample loan borrowers of both defaulters and non defaulters from each branch. In support of primary sources, secondary data sources were obtained from both head office, and branches' managers concerned other officers and unpublished works also.

3.2.3. Sampling Techniques

For this study multi-stage probability sampling techniques were used. At the first stage, the Sidama micro finance institution was selected purposively due to so far there is no scientific studies has been taken regarding to loan repayment performance in this study area. So, researcher motivated to identify and analyze the determinants of loan repayment performances of borrowers in SMFI. At the second stage, all 21 branches were stratified in to three groups (A,B, C) based on their organizational grades. Out of these groups, group "C" was randomly selected for the study purpose. Out of it three branches of microfinance were selected based on their long term of service provision.

At the fourth stage, the total borrowers' populations of branches were stratified as defaulters and non-defaulters. From total population of 2960 borrowers, 296 (10%) sample respondents were selected through using simple random sampling technique. The sampling respondents were taken from all active clients that have been participated in the program during 2013.

4. Result and Discussion

The results of analysis have been conducted to address main and specific objectives of the research. This part is divided in to five major sections. The first section of this part presents socio-economic characteristics of respondents. Loan and related characteristics of respondents in the study area are presented in the second section. In the third section, business and related characteristics of respondents are analyzed. Challenges and problems of institution are presented in forth section. In last section presents the econometric analysis that identifies the most important determinants that affect borrowers' loan repayment performances.

In generally, this part presents the results from the descriptive and econometric analysis. The descriptive analysis made use of tools such as mean, standard deviation, percentage, and frequency distribution. In addition the t-test and chi-square statistics were employed to compare defaulters and non defaulters group with respect to some explanatory variables.

4.1. Descriptive Analysis

The socio-economic, loan and business related characteristics of the respondents such as sex, age, educational level, marital status, average family size, average number of dependents, saving behavior, disbursement, repayment period,

repayment status, loan sufficiency, loan diversion, business types, business related experience, repeatedly borrowing, training, supervisions, and the related variables of defaulters and non defaulters were analyzed by using descriptive statistics.

4.1.1. Socio-Economic Characteristics of Respondents Based on Continuous Variables

In Table 2 disclosed that, age of sample respondents range from 24 to 58 years. Accordingly, the respondents' age range from 24 – 34 constitutes 43.6%, the age range from 35 – 45 constitutes 45.9%, and the remaining 10.5% of respondents were constituted under the age ranges of 46 – 58. The proportion of defaulters' age was highest in the age range of 24 – 34 by constituting 58.1%, and lower in the age range of 46 – 58 representing 4.1%. While the non-defaulters respondents comprises 54.1% in the age range of 35 – 45 and 16.9% in the range of 46 – 58. Thus, this indicates that the borrowers at younger stages become more defaulter than at older age. This is because as age of borrowers' increases they became settled and accumulate wealth; acquire experience in business management and credit use than youngsters. Then these and related positive variables enables elder borrowers to be better payers than youngsters.

Table 2: Age of Respondents

Variables		Defaulters (N = 148)		Non-defaulters (N = 148)		Total sample (N= 148)		X^2-Value
Age (in year)	24 -34	86	58.1%	43	29.1%	129	43.6%	X^2=30.214 P = 000*
	35 -45	56	37.8%	80	54.1%	136	45.9%	
	46 -58	6	4.1%	25	16.9%	31	10.5%	

Source: Survey result, 2013.

From the following table 3, regarding to family size, sample respondents ranged from 1-10 persons, with average family size of 4.23 and standard deviation of 2.001. Of these, the average family size of the defaulters was 4.51 and a standard deviation of 2.23, while the average mean and standard deviation for non-defaulters were 3.96, and1.706, respectively.

Table 3: Characteristics of Respondents Based on Family Size, and Dependants

Variables	Defaulters (148)		Non-defaulters (N=148)		Total sample (N=296)		t-test
	Mean	St.dev	Mean	St.dev	Mean	St.dev	
Family size (in number)	4.51	2.23	3.96	1.706	4.23	2.001	2.371*
Dependant(in number)	4.01	1.909	3.39	1.482	3.70	1.737	3.162*

Source: Survey result, 2013. * Significant at 5% probability level

Therefore, based on the survey result the average family size of defaulters is greater than the average family size of non-defaulters. This indicates that as family size in the household of borrowers' increases then they allocate their business

incomes, which was financed by credit loan, to cover different household's expenses. As a result, this impacts the borrowers' loan repayment performance negatively. The significance value is .018, which is less than .05; therefore based on this researcher can say that there is a significant difference between defaulters at 5% significance level (table 3).

4.1.2. Socio-Economic Characteristics of Respondents Based on Discrete Variables

As regard to marital status, from the total sample respondents 72.6%, 17.2%, 6.4%, and 3.7% were married, single, divorced and widowed, respectively. The marital statuses of defaulters were married, single, divorced, and widowed with the percentage of 68, 21.1, 6.8, and 4.1, respectively. Whereas the marital statuses of non-defaulters were married, single, divorced, and widowed with the percentage of 77.2, 13.4, 6, and 3.4, at the same order. Statistically, it was found that the percentage differences between the two groups were insignificant (Table 4). This indicates that being single, married, divorced, and widowed have the same status either to repay or not to repay.

As regards to sex composition, 94(31.8%) were female respondents, whereas, 202(68.2%) were male respondents. The proportion of defaulters was 44(29.7%) for females, whereas, 104(70.3%) for male counter parts. This reveals that from their respective sex composition, females' respondents were found having more repayment performance than male respondents. However, the chi-square result shows that the association between sex and loan repayment is insignificant (X^2= 4.561, at P=.454) table 4. This indicates that being either sex doesn't determine loan repayment rate.

Table 4: Marital Status, Sex, and Income Source of Respondents

		Defaulters (N=148)		Non-defaulters (N=148)		Total sample (N=296)		X^2-Value
		N	P	N	P	N	P	
Marital status	Single	31	21.1%	20	13.4%	51	17.2%	X^2 = 4.549 P= .314**
	Married	100	68%	115	77.2%	215	72.6%	
	Divorced	10	6.8%	9	6%	19	6.4%	
	Widowed	6	4.1%	5	3.4%	11	3.7%	
Sex	Male	104	70.3%	98	66.2%	202	68.2%	X^2= .561 P= .454**
	Female	44	29.7%	50	33.8%	94	31.8%	
Income source	Agriculture	64	43.2%	82	55.4%	146	49.3%	X^2=7.967 P=.019*
	Business	62	41.9%	39	26.4%	101	34.1%	
	Salary	22	14.9%	27	18.2%	49	16.6%	

Source: Survey results, 2013 * significant association ** Not significantly associated

N= number of respondents, P = number of respondents' percentage.

According to income source of respondents, the survey result shows that 49.3% of respondents had their income from agriculture, 34.1% had from business which was generated by loan, and 16.6% had from salary. From these respective source of

income, the proportion of defaulters were found more from respondents who had their income from the business only, which was financed from the loan 62(41), than the respondents who had additional source of incomes from agriculture 64(43.2), and salary 22(14.9%) table 4. In same line research, Acquah and Addo (2011) reveal that lack of alternative income generating activity have the probability of high loan default.

Table 5 disclosed that, from the total respondents, 21.6% respondents are illiterates, 22.6% respondents are primary school (1-8), 19.3% respondents are high school (9-19), 17.9% respondents are certificates, and 18.6% respondents are diploma and above.

The educational level of defaulters were: 34.5% respondents illiterates, 33.8% respondents primary school (Grade1-8), 13.5% respondents high school(Grade 9-12), 10.1% respondents are certificates, and 8.1% respondents are diploma and above, while for the non defaulters it is 8.8%, 11.5%, 25%, 25.7%, and 29.1 at the same order. This indicates that the level of education and dependant variable has direct relationship. It has positive implication on loan usage and managing the business or using loan for income generating activities. Statistically, the chi-square results also confirmed the presence of strong and significant association between educational level and loan repayment rate at 0.05 significance level (X^2= 69.017, P = 000).

Table 5: Respondents Characteristics Based on Educational Attainment

Variable		Defaulters (N=148)		Non-defaulters (N =148)		Total sample (N =296)		X^2-Value
		N	P	N	P	N	P	
Education Level	Illiterates	51	34.5%	13	8.8%	64	21.6%	X^2= 69.017 P = 000*
	1-8	50	33.8%	17	11.5%	67	22.6%	
	9-12	20	13.5%	37	25%	57	19.3%	
	Certificate	15	10.1%	38	25.7%	53	17.9%	
	≥Diploma	12	8.1%	43	29.1%	55	18.6%	

Source: Questionnaire, 2013. * Significantly associated

4.1.3. Loan and Related Characteristics of Respondents Based on Discrete Variables

With respect to lending methodology about 64.2% of respondents were engaged in group lending scheme, while 35.8% of respondents were borrowed loan under individual lending scheme. The finding indicates that 61.5% of defaulter's proportions were involved in group lending methodology, whereas the remaining 38.5% of defaulters were categorized under individual lending methodology. In group lending methodology respondents had the chance to gate loan easily without formal collateral and personal guarantee, joint liability of group members used as collateral.

According to group member relationships of respondents, they formed group with family 14.8%, friends32.8%, and neighbors52.8%. Of these, the proportion of defaulter borrowers were group formed with family13.2%, friends 30.8%, neighbors56%. More than half of defaulter respondents were found in group formed with neighbors.

With regarding to purpose of loan was borrowed, 105(35.5%) borrowers were used loan for the purpose of starting new businesses, whereas, 191(64.5%) of respondents used loan to expand the already existing businesses. The proportion of defaulters' respondents were a little bit more in borrowers who are engaged in already existing businesses (51.4%) than those who were in new businesses (48.6%).

With the relation to loan utilization, 78% of respondents were utilized it for intended purposes of businesses, while 22% of respondents have diverted the loan for unintended purposes. 91.9% of respondents who utilized the loan to intended purposes were found as non defaulters, whereas, 8.1% of non-defaulters proportion were from those who are diverted the loan. Finding also shows that out of 65(22%) borrowers, who have diverted the loan, 53(35.8%) of respondents were found as defaulters, while from 231(78%) borrowers, who were utilized the loan for intended purposes, only 95(64.2%) were defaulters. As per survey respondents the main reason to divert loan were to repay another credit14 (21.5%, consumption purposes16 (24.6%), covering educational fees for their children15 (23.1%), and to engage in other businesses 20 (308%). However, out of those borrowers who have diverted the loan to run another business (91.7%) were found as non-defaulters while those who are diverted loan for other purposes become defaulters. Statistically, chi-square result also confirms that there is strong and significance association between loan diversion and loan repayment at 5% (X^2= 33.139, at P = 000) could find from Table 6.

In terms of sufficiency of loan size, loan amount was found sufficient by the 64.2% of the respondents, while the remaining 35.8% complained that it was not sufficient for their intended purpose. Out of defaulter respondents more numbers of defaulters (54.1%) was those respondents who complained loan as it was not sufficient, whereas, 82.4% of respondents of non defaulters group were those borrowers who found loan size as sufficient to their purposes. Therefore, there is a mismatch of loan size and borrowers' intended purpose has some implication for loan diversion could find from Table 6. Statistically, chi-square result reveals the strong and significant association between loan size and loan repayment at significant level 5% (X^2=42.857, at P = 000).

In regarding to training, majority of respondents 83.1% indicated that they had received some kind of training on business and about institutional services before receiving loans, while 16.9% responded that they had not received any training before receiving loans. However 49% of respondents commented it as useful but not organized, whereas, remaining 41% of them found it very useful and organized.

The proportions of defaulter respondents were higher in respondents group who judged training was useful but not organized, 79(72.5%). On the other hand, only 30(27.5%) of respondents who replied training was very useful and organized become defaulters.

Table 6: Characteristics of Lending Scheme, Purpose, Usage, and Size of Loan

Variables		Defaulters	Non-defaulters	Total sample (N=296)		X^{2-} P value
				N	P	
Loan scheme	Group lending	91(61.5)	99(66.9%)	190	64.2%	X^2=.941 P=.332
	Individual lending	57(38.5%)	49(33.1%)	106	35.8%	
Reason for involving in group	Easy to gate loan	36(39.6%)	47(48%)	83	43.9%	X^2= 5.152 P= .076
	It is mandatory	43(47.3%)	31(31.6%)	74	39.2%	
	Friends' initiation	12(13.2%)	20(20.4%)	32	16.9%	
Group members relationship	Family/relatives	12(13.2%)	16(16.3%)	28	14.8%	X^2=.985 P=.611
	Friends	28(30.8%)	34(34.7%)	62	32.8%	
	Neighbors	51(56%)	48(49%)	99	52.4%	
Purpose of loan	Starting new business	72(48.6%)	33(22.3%)	105	35.5%	X^2= 22.449 P= 000*
	Expanding existing business	76(51.4%)	115(77.7%)	191	64.5%	
Loan usage	For intended business	95(64.2%)	136(91.9%)	231	78%	X^2= 33.139 P = 000*
	For unintended purpose	53(35.8%)	12(8.1%)	65	22%	
Is Loan size sufficient	Yes	68(45.9%)	122(82.4%)	190	64.2%	X^2=42.857 P = 000*
	No	80(54.1%)	26(17.6%)	106	35.8%	
Reason of spending for unintended purpose	To repay another credit	14(26.4%)	0%	14	21.5%	X^2=25.917 P =000*
	To engage in other business	9(17%)	11(91.7%)	20	30.8%	
	To cover educational fee	14(26.4%)	1(8.3%)	15	23.1%	
	Consumption purpose	16(30.2%)	0	16	24.6%	

Source: Survey result, 2013. N = number of respondents P = percentage of respondents

As table 7 shows almost all respondents of non-defaulters were those who took training on business. Hence, the training variable has direct impact on loan repayment performance either to increase or decrease defaulting rate. Statistically, chi-square also confirms the presence of strong and a significant association

between training and dependant variable at 5% level of significance (X^2=41.741, at P=000)

Table 7: Training, Disbursement, and Repayment Period

Variables		Defaulters (N=148)		Non defaulters (N= 148)		Total sample (N=296)		X^2-value
		N	P	N	P	No.	P	
Availability of training	Yes	109	73.6%	147	99.3%	246	83.1%	X^2=41.741 P = 000
	No	39	26.4%	1	0.7%	50	16.9%	
How was training	Very useful and well organized	30	27.5%	75	51%	105	41%	X^2= 14.284 P = .000*
	Useful but not organized	79	72.5%	72	49%	151	49%	
Disbursement Time	Timely release	73	49.3%	116	78.4%	189	63.9%	X^2=27.063 P=000*
	Delay	75	50.7%	32	21.7%	107	36.1%	
Reason for delay	Unavailability of employees	17	23%	12	37.5	29	27.4%	X^2 = 2.376 P =.305
	Unnecessary appointment	29	39.2%	10	31.2%	39	36.9%	
	Long procedure	28	37.8%	10	31.2%	38	35.8%	
Repayment period	Suitable	70	47.3%	136	91.9	206	69.6	X^2 =69.546 P=000*
	Unsuitable	78	52.7%	12	8.1%	90	30.4	
Reason for unsuitability	Grace period is too short	24	30.8%	3	27.3%	27	30.3	X^2= .056 P =.813
	Repayment period is short	54	69.2%	8	72.7%	62	69.7	
Saving type	Voluntary	27	18.2%	64	43.2%	91	30.7%	X^2= 21.722 P = 000*
Saving place	SMFI	130	87.8%	122	82.4%	252	85.1%	X^2=1.709 P =.191
	Banks	18	12.2%	26	17.6%	44	14.9%	
Residence place near to SMFI	Yes	78	52.7%	117	79.1%	195	65.9%	X^2=22.859 P=000*
	No	70	47.3%	31	20.9%	101	34.1%	
Business place near to SMFI	Yes	77	52%	123	83.1%	200	67.6%	X^2= 32.622 P=000*
	No	71	48%	25	16.9%	119	32.4%	

Source: Survey result, 2013. * Significant association

With respect to loan disbursement, 63.9% of respondents have been answered that they took loan timely. On the other hand, 36.1 % of respondents portrays that loan disbursement was delayed for number of weeks. The table 7 below shows that the higher proportion of non-defaulters 78.4% were found from those respondents who received timely disbursed loan, while only 21.7% of non-defaulter respondents were a group from who have received the loan delayed on disbursement.

According to respondents, this delay of disbursement was due to the absence of loan officers and managers on the work time 27.4%, unnecessary appointment 36.9%, and taking long procedure to finish precondition to deliver loan service 35.8%. The chi-square result also shows the presence of strong and significant association between disbursement and dependant variable at 5% significance level (X^2=27.063, at P=000).

In regard to suitability of repayment period, 69.6% of respondents indicated that the loan repayment period was suitable; on the other hand 30.4% of other respondents revealed it was not. Based on findings, more defaulters' number (78%) of respondents was found in the group that replied period was not suitable, while large numbers of non-defaulters (91.9%) were those who reported period was suitable. For the 30.4% respondents who disagreed on suitability of period; the main reason was the shortness of grace and repayment period. The chi-square result also shows the presence of strong and significant association between repayment period and dependant variable at 5% significant level(X^2 = 69.546, at P=000) (table 7).

As per saving services, all the SMFI's service users are required to save compulsory saving as mandatory since it seen as collateral. However out of total respondents 91(30.7%) said that they have voluntary saving account in plus to compulsory saving, and on other hand from total respondents 44(14.9%) of them reported that they save their money in the other formal banks. This indicates the voluntary saving among the sample clients was not sufficient. This may be because of the low awareness of clients. Out of voluntary savers respondents 64(70.3%) of them are non-defaulters. Therefore, the voluntary saving has positive implication on repayment rate disclosed by table7.

As table 7 shows most of respondents' residence and business place were near to lending institution office in 65.9% and 67.6% respectively. These enable loan officers to make continuous supervision as well as advisory visits on the way of borrowers' loan usage and loan repayment.

4.1.4. Loan characteristics based on continues variables

The average business experience of the respondents was 2.04 years with the standard deviation of 1.414. The mean business experience of defaulters was 1.80 with the standard deviation of 1.375, while that of non-defaulters was 2.28 with the standard deviation of 1.414. From the t-test, 2-tailed is less than 0.05. This means that there was a significant difference between defaulters and non-defaulters groups in terms of business experience at 5% significance level (Table 8). This implies that having the more business experiences enhances the probability to repay loan more than having less business experience.

On an average, respondents obtained the loan credits for 2.84 rounds with the standard deviation of 1.405. It was found that defaulters had credit 1.95 rounds

while non-defaulters had 3.62 rounds with a standard deviation of 0.994 and 1.241 respectively. Moreover, the mean difference between defaulters and non-defaulters was statistically significant at 5 % level (table 8). This implies that if client borrow loan for the number of rounds, then they aware obligation and responsibility on loan usage as well as repayment more than those who are the first time borrowers.

With respect to supervision and advisory visits of borrowers, on average the sample respondents have got 3.19 times supervision and visit services. The mean supervision of defaulters was 2.24 times with the standard deviation of 1.351 and that of defaulters was supervised 3.67 times with the standard deviation of 1.002. The significance value is 000 (which is less than 0.05). Therefore there is a significant statistical difference between defaulters and non-defaulters in these averages, at 5% significance level (Table 8). This indicates that the continuous follow up of borrowers reminds them to pay attention toward their business and enables to increase their perception of responsibility toward loan repayment.

Table 8: Summary of continuous variables

Variables	Defaulters (148)		Non-defaulters (N=1480)		Total sample (N=296)		t-test
	Mean	St.dev	Mean	St.dev	Mean	St.dev	
Business experience	1.80	1.375	2.28	1.414	2.04	1.414	-3.000*
Repeatedly borrowing	1.95	.994	3.62	1.241	2.84	1.405	-11.644*
Supervision/visits	2.24	1.351	3.67	1.002	3.19	1.313	-7.367*

Source: Survey result, 2013. * Significance at 5% level.

4.1.5. Business Related Characteristics

Respondents were found to engage in various business activities. For this study purpose the most important businesses are categorized in to two parts namely agricultural type businesses(cattle fattening and selling, and selling of coffee, chat, grain, and other staple crops) and non-agricultural type businesses (shop and kiosk, handcrafts, small restaurant and cafeteria, and service providing like beauty salon, barbering).

With respect to the purpose for which loan was taken, 40.5% of sample respondents took the loan to engage in agricultural type business in rural areas, whereas, another activity for which most of the borrowers took loan was non-agricultural type businesses, 59.5%.

In table 9, the survey result shows that the proportions of defaulters were 56.1% and 43.9% for agricultural and non-agricultural businesses respectively.

On another hand, 75% of the respondents, those who engaged in non agricultural type businesses, have repaid their loan better than those who were engaged in agricultural type businesses, 25%. In generally the survey result indicates that respondents who engaged in non-agricultural types of business was found that

they had better loan repayment performance than respondents who were engaged in the agricultural types of businesses. This indicates that the type of business may have some implications on the loan repayment performance.

Table 9: Business types of defaulters and non defaulters

Business types	Defaulters (N=148)		Non defaulters (N=148)		Total sample (N=296)	
	N	P	N	P	N	P
Cattle fattening and selling	54	36.5%	21	14.2%	75	25.3%
Selling of coffee, chat, grain and other staple crops	29	19.6%	16	10.8%	45	15.2%
Shop and kiosk	18	12.2%	38	25.7%	56	18.9%
Handcrafts	23	15.5%	26	17.6%	49	16.6%
Small restaurant and cafeteria	12	8.1%	32	21.6%	44	14.9%
Service providing	12	8.1%	15	10.1%	27	9.1%
Total	148	100%	148	100%	296	100%

Source: survey result, 2013
N = number of respondents P = percentage of respondents

4.1.6. Business Specific Characteristics (Discrete Variables)

In terms of business research, almost all respondents did not conduct formal marketing research before their engagement in certain businesses. As the survey result shows that the reasons for not conducting market research were: some of them had business experience from their pre-existing businesses before already starting new business53.4%, had knowledge from their friends' businesses 34.5%, and uses different mass media sources like television and radio 12.2% (table 10).

Table 10, which was constructed from survey data, reveals that almost 43.9% of defaulters' business was successful while 81.1% of non-defaulters business was successful. However due to many reasons defaulters are not willing to repay their loan. According to defaulters, their plan to pay their loan was borrowing other sources of credit 4.6%, selling their assets 45.5%, from their income sources 17.4%, and 32.1% of respondents replied that they have no any sources to pay the loan.

Table 10: Business Information and Its Successfulness

Variables		Defaulters (N = 148)		Non defaulters (N = 148)		Total sample (N = 296)		X^2-Value
		N	P	N	P	N	P	
Business information	Own experience	56	37.8%	102	68.9%	158	53.4%	X^2=4.131 P = 000*
	Friends' business	81	54.7%	21	14.2%	102	34.5%	
	Mass media	11	7.4%	25	16.9%	36	12.2%	
Business successful	Yes	65	43.9%	120	81.1%	185	62.5%	X^2=43.604 P = 000*
	No	83	56.1%	28	18.9%	111	37.5%	

Source: survey result, 2013. *Significance at 5% level. N=number of respondents, P=percentage of respondents.

According to loan repayment status of respondents, it was found that 34.8% of non-defaulters had fully repaid on maturity time, and only 4.5% of them paid it fully but too late. The fully repayment of loan enables non-defaulters to gate the advantages of next higher loan 13%, having good relationship with the lending institution 13%, keeping their socially status in the society 7.2%, realizing their freedom from any penalty 6.1%.

Whereas, according to defaulters group, 30.3% of respondents had paid loan partially on maturity period and 9% of the same group had paid too late.

As elaborated above topics, the SMFI have been giving micro loan to rural and urban poor to engage in various business activities through different terms of loan. However, some borrowers (defaulters) have been challenging the institution's loan collection performance.

4.2. Challenges and Problems of Institution

4.2.1. Internal Challenges

- Lack of adequate loan or equity capital to increase loan able fund.
- Management information problem/ system constraint.
- The presence of highly experienced employees' turn over to other governmental and non-governmental organizations.

4.2.2. External Challenges

Omo Micro Financing Institution(OMFI) is one that is highly competing in the same area of institution. In addition, the other source of competition rises from local cooperatives and some traditional associations like Ikub, in relation to saving mobilization.

4.3. Determinants of Borrowers' Loan Repayment Performance in SMFI

The result of binary logistic model on determinants of loan repayment performance of borrowers is presented in table 11. A total of 14 explanatory variables were considered in the econometric model. Out of which ***nine variables*** were found to be significant. These were age, education, time laps between loan application and disbursement, loan size, loan diversion, repayment period, number of dependants, training, and supervision. The coefficients of these all significant variables were negative except education level and time laps between loan application and disbursement.

On the other hand, *five variables* were found insignificant on dependent variable namely family size of respondents, repeatedly borrowing, business experience, agricultural type business, and non-agricultural type business. Overall, the binary logistic model successfully predicted factors contributing to 89.9% of micro credit loan repayment problem among SMFI.

1. **Age of respondents**: the age variable was negatively and significantly influencing loan repayment at 1% significant level. If the other variables held constant, a unit increase in the respondents' age decreases the probability of being defaulter by.055 (table 11). This implies that through time aged respondents acquire experience in business, became settled and accumulate more wealth than youngsters.

2. **Education level**: the education level was positively and significantly influencing loan repayment at 1% significance level. An increase in one year schooling increases the probability of the loan repayment rate by 4.939, ceteris paribus. This figure revels that the borrowers whose educational level increased have the probability of increasing the loan repayment performance four times more than the borrowers who have lesser education level/ illiterates (table 11). This suggests that more educated borrower may have access to business information.

3. **Time laps between loan application and disbursement:** This variable was positively and significantly influencing borrowers' loan repayment performance. It became significant predictor of borrowers' loan repayment performance at 5% significance level. As indicated table 11, timely disbursement of loan increases the borrowers' loan repayment probability by 3.369 (table 11). Therefore, these positive preconditions enable borrowers to enhance loan repayment performance better.

4. **Loan size:** this variable also was found to influence borrowers' loan repayment performance negatively and significantly at 1% significance level. Keeping the other factors constant, having sufficient loan size and operating business with adequate amount of capital decreases the probability of being defaulter by 0.165 (table 11).

5. **Loan diversion:** this variable was found to influence negatively and significantly the borrowers' loan repayment performance at 1% significance level. An application of entire loan for intended and productive business lessens the probability of defaulting by 0.084 (table 11).

6. **Repayment period:** this variable was found to influence negatively and significantly the borrowers' loan repayment rate at 1% significance level. The arrangements of suitable loan repayment period for borrowers decrease the chance of being defaulter by 11.4% (table 11).

7. **Number of dependants within and out household:** This variable was found to determine negatively and significantly borrowers' loan repayment performance at 1% significance level. If other variables held constant, having non-dependants or lower number of dependants' decreases the probability of defaulting by the 15.8%.

8. **Training**: this variable was also found to influence negatively and significantly the borrowers' loan repayment performance at 1% significance level. If other variables holds constant, the delivering of well organized and sufficient training properly for borrowers lessen the probability of being defaulter by 0.016.
9. **Supervision and advisory visits:** this variable was to have negative and significant association with the dependant variable. It is significant predictor loan repayment performance at 1% significance level. If other variables held constant, continuous follow up and visit of respondents reduces their probability of being defaulter by 0.102.

Table 11: Results of Binary Logistic Model

Independent variables	B	SE	Sig.	Exp(B)
1. Age of the respondents	-2.892	.685	000	.055
2. Education level of the respondents	1.597	.572	.005	4.939
3. Family size in the household	-.791	.611	.195	.453
4.Time laps between loan application and disbursement	1.215	.497	.015	3.369
5. Repeatedly borrowing	-.690	.698	.323	.502
6 Loan size	-1.799	.501	000	.165
7. Loan diversion	-2.474	.638	000	.084
8. Business types(Agri. Type and Non-Agri. type)	-.474	.601	.430	.623
9. Business experience	.826	.576	.151	2.285
10. Repayment period	-2.172	.521	000	.114
11. Number of dependants	-1.846	.665	.005	.158
12. Training	-4.161	1.182	000	.016
13.Supervision and advisory visits	-2.286	.609	000	.102

Source: Survey result, 2013. B=regression coefficient, Exp (B) = odds ratio
Overall, correct prediction = 89.9% Sig. = significance S.E = standard error
-2 Loglikelihood = 140.640 Cox & Snell R Square = .598

5. Summary, Conclusion and Recommendation

5.1. Summary

Micro financing institution services is very useful to enhance people's livelihood providing credit for those poor. For micro financing institution achieving highest loan repayment performance enables to accomplish this mission for expanding and delivering quality services to the poor without suffering financial shortages. The poor loan repayment performance undermines the financial position of MFI, which further hiders the cyclical flow of funds between institution and borrowers. The financial data of SMFI indicates that the defaulting rate of institution has been shown the decreasing rate since 2009 to 2012. However in the year of 2013 the defaulting rate becomes again increased.

Therefore, this study was intended to identify and analyze determinant factors which affect borrowers' loan repayment performance in SMFI. For data analysis purpose both descriptive statistics and binary logistic model were employed.

The descriptive statistics findings shows that there were significant association between dependant variable with respect to education level, loan diversion, loan size, training, time laps between loan application and disbursement, repayment period and all business types. Researcher found the significance difference between defaulters with respect to age, family size, and number of dependants, business experience, repeatedly borrowing, and supervision. On the other hand, fourteen explanatory variables were entered in to binary logistic model and out of which nine variables were found significant to determine loan repayment performance of borrowers except family size, business experience, repeatedly borrowing, agricultural types businesses, and non-agricultural types businesses.

The descriptive statistics result shows that the percentages of defaulter respondents decrease from youngsters group to elders group. Proportion of defaulting group was higher in respondents who were illiterate and obtained elementary school level, whereas, the percentages of non-defaulters increases as their level of education increases.

Similarly for about 69.6% of respondents' loan repayment period was found suitable. Further, almost 83.1% of respondents have got training services. However, the majority of respondents commented the quality of training was useful but not organized.

The sample respondents were engaged in different types of businesses both in urban and rural areas. The highest proportion of defaulters respondents were found in the agri-based business. Whereas, better repayment performance had shown, who engaged in the businesses of provision shop, handcrafts, small restaurant and service providing.

About 43.9% of defaulters' businesses were successful and they could able to pay. However, due to other reasons they were not willing to pay. The remaining defaulters were unable to pay due to business failure.

5.2. Conclusion and Recommendation

The finding of this study revealed that the age of respondents negatively and significantly determines the loan repayment performance of borrowers. This indicates that the elder respondents have better repayment performance than youngsters. And the elders were more responsible to repay loan than youngsters. The researcher not recommends excluding youngsters. However, the care must be taken when starting from applicants' screening to through repayment periods, the special attention for follow up and supervision is necessary.

The education level determines loan repayment positively and significantly. The borrowers who attained higher education level able to pay better than the borrowers who were in lower level schooling and/or illiterates. Therefore, institution should motivate educated people and also easy to provide training.

Time lag between loan application and disbursement should be reduced to increase repayment rate. The complicated loan processing procedures, which might lead to delay in disbursement, further, it will increase default rate.

The supervision made by the loan officers and borrowers ratio should be reduced and it leads to increase follow-up services. However, it is recommended that institution should compute thoroughly the borrowers' business proposal loan size before approving and sanctioning.

Borrowers who have small number of or no dependants in the household perform better in loan repayment. The borrowers who support large number of dependants also perform well with proper supervision.

Loan diversion was also found as essential and significant determinant of loan repayment rate negatively. This means, diverting loan into non-income generating activities increases default rate. Therefore, it is recommended that the institution should give attention to continuous follow-up on proper loan utilization.

Repayment period is also found to be a significant determinant of loan repayment performance of borrowers. Suitability of loan repayment period for borrowers was found to significantly increase the probability of repaying loan. Therefore, the institution has to give enough time to clients so that they will be able to work with the loans they have borrowed and arrange the time to collect loan that will be suitable for them to sell their business output.

Finally, this study has focused on certain variables related to determinants of loan repayment performance of borrowers. However, loan repayment performance on behalf of institution was not investigated. Thus, further researches can conduct on this issue to breach the gap in this area.

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