Influence Of Firm Characteristics On Credit Rationing In Micro Finance Institutions In Eldoret Cbd, Uasin Gishu County

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Abstract: Business firms' accessibility to credit is vital for success. However, credit rationing due to internal factors makes it difficult for most firms to access credit or adequate credit at the prevailing rate of interest even if they are willing to pay higher interest rate. This called forstudying how firm level factors affects credit rationing by micro finance institutions in Eldoret Town, Uasin Gishu County, Kenya. The study specifically addressedthe effect of information asymmetry on credit rationing by Microfinance Institutions in Eldoret Town. This objective was informed by credit rationing theory .The study adopted exploratory research design with a sample frame of credit officers drawn from 12 micro-finance institutions within Eldoret Town, Uasin Gishu County with a target population of 257 respondents. A sample size of 154 respondents calculated by Krejcie and Morgan Formulae was adopted. Datawas collected and analysed using descriptive and inferential statistics using SPSS Version 22. Information asymmetry had a positive and significant (r=0.487, p=0.000) effect on credit rationing from the study findings.In conclusion most non-performing loans are of those clients who gave scarce information. The study recommends presentation of relevant and accurate financial statements of their business when applying for a loan.
Key words:Credit Rationing,Firm Characteristics, Microfinance Institutions
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I.   Introduction

Credit promotes the growth of small business by enabling them to make strategic investments as well as adopting the latest technology that increase efficiency (Galindo &Micco, 2005). Micro and small enterprises particularly those in developing countries need a range of enabling and sustainable financial services in order to enable them effectively exploit abundant resources in their areas and fulfil their productive potential (Alexander, Nico & Christian, 2008). However, (Okurut & Botlhole, 2006) opines that in developing countries, credit is generally characterized by small loan amounts, short maturity periods and high interest rates, which are not conducive for long-term enterprise development. This is informed by characteristics of a potential borrower which has a major impacton the credit rationing behavior of most financial institutions (Jebiwott & Jagongo, 2013).

The firm characteristics compounded by undeveloped credit market ingrained by credit rationing poses credit constraints to entrepreneurs hence a reliance on self-financing or borrowing from friends or relatives. Momanyi, et al., (2014) argues that credit rationing precipitates inaccessibility to long-term credit for small enterprises forcing them to rely on high cost short term finance from microfinance institutions. Credit rationing of most businesses in the society is almost universally incriminated for lack of access to credit and undercapitalization.

Credit rationing is a situation in which the demand for credit exceeds the supply of credit at the prevailing interest rate (Foltz, 2004; Petrick, 2005). According to Abor &Biekpe, 2006; Piga&Atzeni, 2007;Freel, 2007, Credit rationing by formal financial institutions stifles the growth of SMEs in some developing countries inconsequence informal financial institutions have strived to meet the ever growing credit demand by SMEs but laments their limited resources (Atieno, 2001). Evidence shows that for SMEs shorter financing is the most appropriate but they are credit rationed if their terms of access to credit market implies that its unable or unwilling to exploit some socially profitable investment (Hoque, Nilufar&Thalil, 2016).

According to Cunningham (2005) in Canada there is credit rationing of both bank credit and trade credit, but because inputs are harder to divert than cash and suppliers have a monitoring advantage for input use, suppliers can provide credit when banks cannot. He further avows that trade credit is more accessible than bank credit due to inability to divert the specific goods on credit. Darlberg (2011) underpins the fact that small firms in developing countries have a major problem of assessing credit .In South Africa it is apparent that credit

rationing is determined by such factors as lack of collateral security, refusal to use own collateral, failure to make a remarkable own contribution, blacklisting, and failure to review attractive financial records and/or Business plans (Angela &Motsa, 2004). Undercapitalization is envisioned as a root cause of business failures in most cases in South Africa (Deakins*et al*., 2008).

According to Kenya Annual Supervision Report (2008), the financial institutions in Kenya experience cases of default which are attributed to reckless lending and poor policies of credit control. The fear of default has invariably caused many financial institutions in Kenya to carry out credit rationing. Kagondu (2002) studied factors influencing credit rationing in order to determine how commercial banks in Kenya ration credit. Okurut and Botlhole (2006) opines that institutions do not lend to everybody who can afford the price of credit, but apply some degree of credit rationing using non-price mechanisms. Financial sector in Kenya is liberalized, the existence of imperfect information in the credit market may explain the credit rationing behaviour of financial institutions to maximize their profits.This has set the stage for interrogating the effect of information asymmetry as a firm characterist on credit rationing by microfinance institutions in the Kenyan perspective. The study was a dispatch from the previous studies which majored on commercial banks. The study focussed on the microfinance Institutions that finance small firms in Eldoret Central Business District, Uasin Gishu County.

1.1 Statement of the Problem

Kenya's financial sector was expected to result in efficient financial intermediation and make access to loanable funds easier for potential borrowers, thereby bringing about increased investments, higher productivity among all economic units in the economy, and creation of employment opportunities (Jebiwott .K & Jagongo, 2013). Microfinance remains the fulcrum for the achievement of many MDGs and plays a key role in many MDG strategies.This is informed by their role of MFIs in the growth of SMEs (Wanjiku, 2010).HoweverKimuyu and Omiti (2000) observe that 18.4% of the small firms in Kenya cite access to adequate credit as their second most severe constraint after market access. MSEs experience severe rationing of credit due to increased information asymmetry as a firm characteristic. The rationed credits and credit rationed firms cannot contribute to employment generation and poverty alleviation (Morewagae, Seemule, &Rempel, 1995). There is evidence of constrained access to bank credit by SMEs despite the major role that they play in the fight against poverty in Kenya (Kimutai&Jagongo, 2013).Gitman and Hennessey (2008) noted that financing is necessary to spur business up to profitability. Studies have been done on the factors influencing credit rationing (Kagondu, 2002; Foltz, 2004; Petrick, 2005; Abor &Biekpe, 2006; Cunningham, 2005). Most of the studies are done in the perspective of the supply side of the financial sector. The current study aims at filling the gap that exist where the borrowers do not understand what the creditors use to ration their creditby establishing how information asymmetry affects credit rationing in Microfinance Institutions in Eldoret CBD, Uasin - Gishu County, Kenya.

1.2Research Objectives
General Objective
The main objective of the study was to investigate the influence of firm characteristics on credit rationing in Micro Finance Institutions in Eldoret CBD, Uasin Gishu County.
Specific Objective
To establish influence of information asymmetry on credit rationing in Microfinance Institutions in Eldoret CBD, Uasin Gishu County.
1.3 Research Hypothesis
Ho: Information asymmetry has no significant influence on credit rationing in Microfinance Institutions.

II. Literature Review
2.1 Theoretical Review
2.1.1 Credit Rationing Theory

Credit rationing theory was advanced by Stiglitz and Weiss in as cited in (Banerjee, 2008). The theory is based on imperfect credit markets characterized by information asymmetry, which makes it too costly for financial institutions to obtain accurate information on the borrowers and to monitor the actions of the borrowers. The credit rationing theory assumes the existence of many financial institutions that seek to maximize their profits through their choice of interest and collateral and many potential borrowers who seek to maximize their profits through the choice of projects.

Lapar and Graham (1988) At the screening stage of credit rationing bank manager interviews the potential borrower to determine their eligibility for credit (in terms of their creditworthiness, loan requirements and the terms desired). Collateral serves as the last resort for recovery of the loan in case of default reduces the information asymmetry between the firm and the financial institution. This theory is relevant to the current study as it reveals the factors that lead to both pure credit rationing and redlining. Okurut and Botlhole (2006) notes a

number of factors, which include the borrower's observable characteristics, firm characteristics and loan characteristics.

Credit rationing theory is relevant to the current study since it investigates the elements that exists in borrowing firms that would lead microfinance institutions to deny credit even in the event they are willing to pay higher interest. This theory assisted the study gain understanding of the dependent variable in that the rationale for the credit rationing was being expounded by studying the effect of firm level factors on the same.However Credit rationing theory has been criticised for concentrating mainly on how banks allocate existing resources and disregarding the endogenous creation of money (Piegay, 1999).

2.2 Information Asymmetry

In micro-credit business, most companies depend on the prior information to make a decision on how much loan to give to a borrower. Ekumah and Essel (2003) notes that information asymmetry is a situation in which not all parties know relevant information involved in an undertaking. In financial markets, information asymmetry arises between borrowers and lenders because borrowers generally know more about their projects than lenders do. Information asymmetry entails absence of accurate, timely, complete, quantity and quality information about the borrowers' ability and willingness to pay back the loan (Nott, 2003).

Although lending institutions demand that borrowers disclose all the required information, borrowers often conceal information that is likely to work in their disfavour. In a market with asymmetric information, it is hard to identify good borrowers, and there may be adverse selection and adverse incentive effects. In these circumstances, it is important to screen borrowers to identify those who are more likely to repay. In addition, it is important to monitor the actions of the borrower ex post, to ensure that they use the funds properly and avoid undue risks (Agostino, Silipo&Trivieri, 2008).

Information asymmetry in most cases affects both the lender and borrower (Maina, 2013). This implies that in some cases genuine loan applicants are denied credit due to scarce information on the lender's side. For example, an applicant may have very healthy turnovers reflecting in the bank statement but in the absence of business contracts, invoices and or agreements it would be very hard for a loan officer to determine the source of such debits and credits. The applicant when asked for such information may feel infringed or reluctant to obtain the same thereby failing to understand the importance to the financial institution and repercussion to him or herself (Maina, 2013).

Since credit markets are characterized by imperfect information and high costs of contract enforcement, an efficiency measure that exists in a perfectly competitive market will not be an accurate measure against which to define market failure, (Alexander, Nico & Christian, 2008).The problems leading to credit rationing in credit markets in developing countries are basically the problems of adverse selection and moral hazard (Dong &Ozkan 2008). Adverse selection arises because in the absence of perfect information about the borrower, an increase in interest rates encourages the borrowers with the most risky projects, hence those who are least likely to repay, to borrow, whilst those with the least risky projects cease to borrow, (Engers, Hartmann., & Stern., 2009).

Interest rates will thus not play the allocative role of equating demand and supply for loanable funds and will affect the average quality of lenders' loan portfolios. Moral hazard occurs basically because projects have identical mean returns but different degrees of risk, and lenders are unable to discern the borrowers' actions. Both effects stem directly from the residue of asymmetric information which persists, even after the evaluation of the loan applications. Both effects emerge as a result of the non-coincidental interest between banks and borrowers. This in turn creates difficulties for banks to distinguish between risky and relatively less risky borrowers (Agbonlahor, Oke&Adeyemo, 2007).

Meghana, Demirgüç-Kunt and Maksimovic (2006) pointed out information asymmetry as a key determinant of any decision to extend a loan and the conditions attached. This could be considerably reduced by adopting clear accounting standards, setting up independent, competent, and reputable accounting firms and creating more credit registries that supply data on the solvency of firms. This has led to the evolution of credit bureaus. Credit bureaus allow commercial banks to share information on the credit worthiness of different clients by listing defaulters. Clients who are listed cannot access credit until they have cleared the amount leading to the listing and where the amounts are significant the banks are reluctant to extend credit because they feel such clients would be troublesome hence not credit worthy.

In developed countries, credit bureaus collect information from various sources and provide such records as the repayment behaviours of individuals and firms for a variety of uses, thereby reducing information asymmetries so lenders are able to screen borrowers at a lower cost. As a result, lenders can make credit decisions faster and reduce risks, hence increasing lending. The quality and quantity of information desired by banks in most developing countries is still low and hence complicating sound decision making, (Tara & Kaufmann, 1999). Countries with better credit information systems provide more loans to individuals even after controlling for income per capita and contract enforcement. Despite the benefits however, credit information

systems are still in their infancy in many developing countries, and information sharing among lenders remains weak.

In this study information asymmetry was measured on the basis of information quality and quantity, where quantity is the adequacy of information according to the perception of the receiver adopted from Stiglitz., Joseph, & Andrew, (1981). The quality of information is determined by the level of its completeness, correctness, and the impartiality with which it is collected. The more accurate it is the higher the quality. Information is of good quality if it is reliable, timely, complete, fair and consistent, and presented in clear and simple terms, relevant and understandable to its users. Information quality can be enhanced through increased information disclosure. Increased information disclosure has an incentive of reducing information search costs and promotes informed lending practice. Information sharing avails more information to parties involved which further reduces on the risks of information asymmetry (Stiglitz., Joseph & Andrew, 1981).

III. Research Methodology

Research Design : Research design is a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings (Burns & Grove, 2003). Exploratory research design was adopted in this study . The exploratory research provided insights, concepts and general possible explanations on the determinants of credit rationing (Kothari, 2004; Sekaran&Bougie, 2010)

Population of Study: Target population refers to the entire group of individuals, objects, item, cases, articles or things with common attributes or characteristics from which samples are taken for measurements (Mugenda&Mugenda, 2003). The study targeted 257 credit officers out of which a sample was drawn. The 257 respondents were expected to fill in questionnaires.

Sampling Frame: A sample frame is the set of people that has a chance to be selected, given the sampling approach that is chosen (Fowler, 2002). Kothari (2004) defines sample frame as a source list from which the sample is to be drawn; it contains the names of all items of a given population. The current study selected the credit officers from Microfinance institutions within Eldoret Town, Uasin - Gishu County. The sampling frame consisted of all the microfinance institutions operating in Eldoret Town, Uasin Gishu County.

Sampling Technique : Sampling is choosing a given number of subjects from a distinct population as representative of that population (Cooper & Schindler, 2003). The study adopted Simple random sampling to select the credit officers asit reduces the sampling inaccuracy in the population, hence increases the precision of any estimation methods used.

Sample Size : Sample is the segment of the population that is selected for investigation (Bryman & Bell., 2003). The sample size describes the number of items to be selected from the population to constitute the desired sample for a given study; the ideal sample should neither be excessively large nor too small Kothari (2004).

According to Krejcie& Morgan, (1970) calculation table the sample size of 154 respondents are appropriate for the study. The sample was equitably distributed as shown in table 3.1

$$S = \frac{X^2 NP\ (1-P)}{d^2(N-1)+\ X^2 P(1-P)}\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(i)$$

Where

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

$$SampleSize = \frac{3.841 \times 257 \times 0.5(1-0.5)}{0.05^2(257-1)+\ 3.841 \times 0.5(1-0.5)}$$

Sample size=$\frac{246.79}{1.60}$ =154

The sample size was proportionately distributed as shown in table 3.1 below

Table 3.1 Sample size distribution (Credit officers)

	MICROFINANCE INSTITUTIONS	TARGET RESPONDENTS	SAMPLE SIZE
1	Faulu DTM Kenya	33	20
2	SMEP DTM	22	13
3	KWFT DTM	41	24
4	Rafiki DTM	25	15
5	Real people	18	11
6	Platinum credit	17	10
7	Eclof	21	13
8	Opportunity Kenya	15	9
9	Ngao credit	18	11
10	Select Microfinance	16	9
11	Izwe Microfinance	17	10
12	JuhudiKilimo	15	9

	Total	257	154

Research Instruments An instrument is the means through which the researcher collects data from the sample population and as is stated by (Mugenda&Mugenda, 2003).5 point likert scale questionnaires were used as it offered the researcher the potential to reach a large amount of prospective respondents in a range of locations within a shorter time since most of the information will be easily described in writing. The secondary data was derived from the Microfinance Institutions in Eldoret Town. Before administration of the questionaires validity and reliability was tested .

Data Analysis and presentation Data was analysed by use of descriptive and inferential techniques. Under descriptive statistics, frequency, percentages, standard deviation and mean was used to analyse data. Under inferential statistics Karl Pearson's coefficient of correlation and Multiple regression by means of the Statistical Package for Social Sciences (SPSS) version 21.0. The analysis made the assumptions that there is linear relationship (Cohen et al., 2003).

The regression model was as follows:

Y= α +β₁X₁ + ε **………………..(ii)**

Where:

Y = Credit rationing (Dependent Variable)

α= constant   X= Firm Level Factors   ε = error term X_1=information asymmetry

Data Presentation was done by use oftables to allow for visual simplicity of presented data and frequency tables that quantify data inconsonance to the narration of the research results.

IV. Research Findings And Discussions

4.1 Response Rate

The number of questionnaires that were administered to the credit officers in the microfinance institutions operating in Eldoret CBD, Uasin Gishu County were 154. A total of 121 questionnaires were properly filled and returned. According to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of above 50% is adequate for a descriptive study. Babbie (2004) also asserted that return rates of above 50% are acceptable to analyze and publish, 60% is good, 70% is very good while above 80% is excellent. Based on these assertions from renowned scholars, 78.57% response rate is excellent for the study.

4.2 Reliability

The Cronbach's Alpha coefficient ranges between 0 and 1 (De Vaus, 2002). Higher alpha coefficient values means that scales are more reliable. As a rule of thumb, acceptable alpha should be at least 0.70 or above (Hair et al., 2007). The Cronbach alpha in this study was been computed for the purpose of measuring the reliability of the administered questionnaire. This was achieved through the subjection of seven questionnaires to a randomly selected 15 credit officers. The conclusion reached is that all the variables could be relied upon as the Cronbach alpha achieved was above 0.7 which is what has been used as the hurdle rate of reliability for the study. Table 4.1 summarizes the reliability results.

Table 4.1: Reliability

Variable	No of items	α=Alpha	Comment
Information Asymmetry	7	0.7543	Reliable
Credit Rationing	7	0.8211	Reliable

4.3 Information Asymmetry and Credit rationing

The results revealed that majority of the respondents who were 85.10% (46.3% + 38.8%) agreed with the statement that borrowers always provide adequate information for credit assessment. These results agree with Meghana, Demirgüç-Kunt and Maksimovic (2006) who pointed out information asymmetry as a key determinant of any decision to extend a loan and the conditions attached. In addition the results showed that majority of the respondents (80.2%) agreed with the statement that most borrowers present to the MFI financial statements of their businesses when applying for a loan. The results further revealed that majority of the respondents (81.00%) agreed with the statement that most Borrowers disclose to the MFI all information about their outstanding loans with other financial institutions or lenders.

The results further revealed that majority of the respondents (63.6%) agreed with the statement that they use Credit Reference Bureau (CRB) information when appraising loans. These results agreed with Alexander, Nico & Christian, (2008) who stated that credit markets are characterized by imperfect information and high costs of contract enforcement, hence an efficiency measure that exists in a perfectly competitive market will not be an accurate measure against which to define market failure.

The results further revealed that majority of the respondents (71.9%) agreed with the statement that they the MFI emphasizes on non- financial information like borrowers' characters & behavior. The results further revealed that majority of the respondents (76%) agreed with the statement that borrowers usually inform the MFI in case of any changes in their line of business. The results further revealed that majority of the respondents (77.7%) agreed with the statement that most Non performing loans are those clients who gave scarce information.

On a five point scale, the average mean of the responses was 3.97 which mean that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 1.07.

Table 4.2: Information Asymmetry and Credit rationing

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Dev
Borrowers always provide adequate information for credit assessment	1.70%	6.60%	6.60%	46.30%	38.80%	4.14	0.92
Most borrowers present to the MFI financial statements of their businesses when applying for a loan	3.30%	5.80%	10.70%	40.50%	39.70%	4.07	1.02
Most Borrowers disclose to the MFI all information about their outstanding loans with other financial institutions or lenders	5.00%	5.00%	9.10%	44.60%	36.40%	4.02	1.05
We use Credit Reference Bureau (CRB) information when appraising loans	5.00%	9.90%	21.50%	28.90%	34.70%	3.79	1.17
The MFI emphasizes on non-financial information like borrowers' characters & behavior	1.70%	6.60%	19.80%	35.50%	36.40%	3.98	0.99
Borrowers usually inform the MFI in case of any changes in their line of business	6.60%	6.60%	10.70%	38.80%	37.20%	3.93	1.16
Most Non performing loans are those clients who gave scarce information	7.40%	5.80%	9.10%	45.50%	32.20%	3.89	1.15
Average						**3.97**	**1.07**

Secondary data results were analyzed and results are as shown in Table 4.8. The results revealed that the percentage number of SMEs with profit and loss account was 48%. However the percentage number of SMEs with profit and loss account rose to 51% in the year 2015 but remained constant in the year 2016. This implies that the percentage number of SMEs with profit and loss account have been increasing over the years.

It was further evident that the percentage number of SMEs with balance sheet was 51%. However, the percentage number of SMEs with balance sheet rose to 54% in the year 2015 and further rose to 57% in the year 2016. This implies that the percentage number of SMEs with Balance Sheet have been increasing over the years. Lastly it was evident that the percentage number of SMEs with cash flow statement was 44%. However, the percentage number of SMEs with cash flow statement rose to 50% in the year 2015 and further rose to 53% in the year 2016. This implies that the percentage number of SMEs with cash flow statement have been increasing over the years.

Table 4.3 Secondary data results on Information asymmetry and Credit Rationing

Year	Number of firms with Profit and loss accounts	Number of firms with balance sheet	Number of Firms with cash flow statements
2014	48%	51%	44%
2015	51%	54%	50%
2016	51%	57%	53%

4.4 Credit Rationing

The results revealed that majority of the respondents who were 73.6% (33.9%+ 39.7%) agreed with the statement that the demand for credit is greater than supply in the market. The results further showed that majority of the respondents (62.0%) agreed with the statement that firms are denied credit even if they have ability to repay. The results further showed that majority of the respondents (64.0%) agreed with the statement that firms most borrowers do not qualify for the amount of loans they apply.

The results further showed that majority of the respondents (79.4%) agreed with the statement that most lenders delay to disburse the loans. The results further showed that majority of the respondents (81.8%) agreed with the statement that high interest rates do not discourage borrowing. In addition the results showed that majority of the respondents (85.1%) agreed with the statement that most borrowers borrow from multiple

financial organizations. The results further showed that majority of the respondents (77.7%) agreed with the statement that it is difficult to access loans from financial institutions.

On a five point scale, the average mean of the responses was 3.98 which mean that majority of the respondents were agreeing with most of the statements; however the answers were not varied as shown by a standard deviation of 0.95.

Table 4.4: Credit rationing

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std.Dev
The demand for credit is greater than supply in the market	1.70%	4.10%	20.70%	33.90%	39.70%	4.06	0.96
Firms are denied credit even if they have ability to repay	14.90%	9.10%	14.00%	37.20%	24.80%	3.48	1.35
Most borrowers do not qualify for the amount of loans they apply	0.00%	7.40%	28.10%	38.00%	26.40%	3.83	0.91
Most lenders delay to disburse the loans	1.70%	0.80%	18.20%	49.60%	29.80%	4.05	0.81
High interest rates do not discourage borrowing	2.50%	3.30%	12.40%	37.20%	44.60%	4.18	0.95
Most borrowers borrow from multiple financial organizations	0.80%	2.50%	11.60%	43.80%	41.30%	4.22	0.81
It is difficult to access loans from financial institutions	0.00%	6.60%	15.70%	45.50%	32.20%	4.03	0.87
Average						**3.98**	**0.95**

Secondary data on credit rationing was analyzed and the results were as summarized in table 4.5. The results revealed that the percentage number of firms that are given less than 25% credit were 78.00%. However, the percentage number of firms that are given less than 25% decreased to 72.00% in the year 2015 and further declined to 50.2% in the year 2016. This implies that the Number of firms that are given less than 25% credit have been increasing over the years.

The results revealed that the percentage number of firms that are given 25% - 50% credit were 66.00%. However, the percentage number of firms that are given 25% - 50%increased to 72.00% in the year 2015 and further increased to 78.00% in the year 2016. This implies that the Number of firms that were given 25% - 50%have been increasing over the years.

The results revealed that the percentage number of firms that are given 51% - 99% credit were 88.1%. However, the percentage number of firms that are given 51% - 99%declined to 73.4% in the year 2015 and further decreased to 50.6% in the year 2016. This implies that the Number of firms that were given 51% - 99%have been increasing over the years.

Table 4.5 Secondary data results on Credit Rationing

Year	Number of firms that are given less than 25% credit	Number of firms that were given 25% - 50%	Number of firms that were given 51% - 99%
2014	78.0%	66%	88.1%
2015	72.0%	72%	73.4%
2016	50.2%	78%	50.6%

4.6 Inferential Statistics
Inferential analysis was conducted to generate correlation results, model of fitness, and analysis of the variance and regression coefficients.
4.6.1 Correlation Analysis
The results revealed that information asymmetry and credit rationing are negatively and significant related (r= -0.487, p=0.000). These findings agreed with that of Meghana, Demirgüç-Kunt and Maksimovic (2006) who pointed out that information asymmetry as a key determinant of any decision to extend a loan and the conditions attached.

Table 4.6: Correlation analysis.

		Credit rationing	Information Asymmetry
credit rationing	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Information Asymmetry	Pearson Correlation	-0.487**	1.000
	Sig. (2-tailed)	0.000	

4.6.2 Regression Analysis for information asymmetry

From the results in table 4.7 Information asymmetry was found to be a satisfactory variable in credit rationing. This was supported by coefficient of determination also known as the R square of 23.7%. This meant that Information asymmetry explain 23.7% of the variations in the dependent variable which was credit rationing. The results further meant that the model applied to link the relationship of the variables was satisfactory.

Table 4.7: Model Fitness for information asymmetry

Indicator	Coefficient
R	0.487
R Square	0.237
Adjusted R Square	0.231
Std. Error of the Estimate	0.4763

The results indicated that the overall model was statistically significant. Further, the results implied that the information asymmetry is a good predictors of credit rationing. This was supported by an F statistic of 37.019 and the reported p value (0.000) which was less than the conventional probability of 0.05significance level.

Table 4.8: Analysis of Variance for Information Asymmetry

	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.4	1	8.4	37.019	**0.000**
Residual	27.001	119	0.227		
Total	35.4	120			

Regression of coefficients results in table 4.18 revealed that information asymmetry and credit rationing are negatively and significant related (r=-0.357, p=0.000).

Table 4.18: Regression of Coefficient for Information Asymmetry

	B	Std. Error	t	Sig.
(Constant)	2.562	0.237	10.808	0.000
Information Asymmetry	-0.357	0.059	-6.084	**0.000**

In addition, the hypothesis was tested. The acceptance/rejection criteria were that, if the p value is greater than 0.05, the Ho$_1$ is not rejected but if it's less than 0.05, the Ho$_1$ fails to be accepted. The null hypothesis was that information asymmetry has no significant effect on credit rationing in Microfinance Institutions. Results in Table 4.17 show that the p-value was 0.000 (p<0.05). This indicated that the null hypothesis was rejected hence there is a significant relationship information asymmetry and credit rationing by Microfinance Institutions

IV. Conclusion

The findings revealed that information asymmetry had a negative and positive relationship with credit rationing. These findings agreed with that of Meghana, Demirgüç-Kunt and Maksimovic (2006) who pointed out that information asymmetry as a key determinant of any decision to extend a loan and the conditions attached. the study concluded that information asymmetry had a negative and positive relationship with credit rationing. In addition the study concluded that use Credit Reference Bureau (CRB) information when appraising loans minimizes credit rationing. The study also concluded that most non-performing loans are of those clients who gave scarce information.

Recommendations

The study recommends that borrowers should always provide adequate information for credit assessment. In addition borrowers should always be present to give information of their businesses when applying for a loan from a financial institutions. They should also present the financial statements of their business. Borrowers should also disclose to the MFI or any other institution all information about their outstanding loans with other financial institutions or lenders once they are in need of credit. In addition borrowers should always inform the MFI in case of any changes in their line of business. the study focused only on one firm level factors affecting credit rationing. Other studies can focus on more firm level factors like cost of borrowing.

References

[1]. Agbonlahor, M., Oke, J., &Adeyemo, R. (2007). An Empirical Analysis of micro credit Repayment by Farmers in Southwestern, Nigeria. *Humanity and Social Science Journal* ,vol 2(1) pp. 63-74.
[2]. Alexander, B., Nico, K., & Christian, N. (2008). Performance Measurement in SMEs: Literature Review and Results from a German Case Study. *International Journal of Globalisation and Small Business*, Vol. 2(4), pp. 411-427.
[3]. Angela &Motsa, A. (2004). *SMME Finance Sector Background Paper: A Review of key documents on SMME Finance 1994-2004.* Johannesburg: Fin Mark Trust.
[4]. Atieno, R. (2001). Formal and Informal institutions' lending practices and access to credit by small-scale enterprises in Kenya: An empirical assessment. *African Economic Research Consortium (AERC) research paper*, Vol(111), pp.1-2.
[5]. Banerjee, S. (2008). *Credit Rationing with Neo-Classical Banks and Production Firms*. Retrieved from: http://artsci.wustl.edu/~econgr/gradconference/08
[6]. Bryman, B. (2003). *Business Research Methods; Oxford,.* Oxford University Press.
[7]. Burns, N., & Grove, S. (2003). *The practice of nursing research:Conduct, critique and utilization.* Toronto: WB Saunders
[8]. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences (*3rded.). Mahwah, NJ: Lawrence Erlbaum Associates.
[9]. Cooper, D.R., & Schindler, P.S. (2003). *Business Research Methods.* (8th ed.). Boston: 15McGraw-Hill Irwin.
[10]. Cunningham, R. (2005). Trade credit and credit rationing in Canadian firms Workingpaper. *social science research network*, 49.
[11]. Darlberg. (2011). *Report on Support to SMEs in Developing Countries Through Financial Intermediaries.*
[12]. Deakins, D, & G., A. W. (2008). *SMEs' Access to Finance: Is therestill a debt financegap?* Belfast: Institute for Small Business &Entrepreneurship.
[13]. Dong, M., & A, O. (2008). "Institutional investors and director pay: An empirical study of UK companies." .*Journal of Multinational Financial Management*, Vol. 18 ,(1).; pp.16-29.
[14]. Du Plooy, G. (2002). *Communication Research: Techniques methods and applications.*Landsdowne: Juta and Co. Ltd.
[15]. Ekumah, E. K., &Essel, T. (2003). Information is power: The Problem with Credit Accessibility in Rural Banks In Ghana. .*Unpublished report University of Capetown.*
[16]. Engers, M., Hartmann., M., & Stern., S. (2009). "Are Lemons Really Hot Potatoes?". *International Journal of Industrial Organization*, Vol 27.; 250-263.
[17]. Fowler, F. (2002). *Survey research methods. Thousand Oaks, CA* . Sage Publications.
[18]. Foxcroft, M., E. Wood., J. K., Herrington., M., &N.Segal, (2002). *Global Entrepreneurship Monitor South African Executive Report.* Cape Town.: Graduate School ofBusiness: University of Cape Town.
[19]. Gitman, L. J., & Hennessey, S. (2008). *Principles of corporate finance2nd Canadian.)..*Toronto: Pearson Addison Wesley.
[20]. Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business.* Chichester, West Susseex: John Wiley & Sons, Inc.
[21]. Kagondu, G. ((2002)). *Factors Influencing Credit Rationing by Commercial Banks in Kenya.* unpublished thesis University of Nairobi.
[22]. Kimutai, C., &Jagongo, A. (2013). Factors Influencing Credit Rationing by Commercial Banks in Kenya. *International Journal of Humanities and Social Science*, Vol.(3), No. 20.pp 14-56 .
[23]. Kimuyu, R., Green, C., Manos, P., &Murinde., V. (2002). How Do Small Firms in Developing *Countries* Raise Capital? Evidence from a Large-Scale Survey of Kenyan Microand Small Scale Enterprises. Economic Research Paper .*Centre for International*, Vol, 02 (6), pp.56-78.
[24]. Kothari, C. R. (2004). *Research Methodology; Methods and Techniques:* .Prakashan; Mumbai.
[25]. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, . Vol. 30, 607-610.
[26]. Lapar, M., & D.H. Graham, D. (1988). *"Credit Rationing Under a Deregulated Financial System*. Retrieved from Working Paper Series : http://www3.pids.gov.ph/ris/wp/pidswp8819.pdf
[27]. Maina, D., (2013). *Unlocking Housing Potential: Housing Finance: Initiation of Coverage.* Old Mutual: Kenya
[28]. Meghana A. Demirgüç-Kunt and Maksimovic V, (2006). "*How Important Are Financing Constraints? The Role of Finance in the Business Environment.*" World Bank Policy Research Working Paper 3820.
[29]. Mislevy, R. (2004). Can there be reliability without reliability. *Journal of Educational and Behavioral Statistics*, Vol 29, 241-244 No. 20.pp 14-56 .

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