

# Assessing Borrower's and Business' Factors Causing Microcredit Default in Kenya: A Comparative Analysis of Microfinance Institutions and Financial Intermediaries

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## Abstract

A major concern on microcredit repayment remains a major obstacle to the Micro Financial Institutions (MFIs) and Financial Intermediaries (FIs) in Kenya. The health of MFI sector in Sub Sahara Africa (SSA) is a cause of concern due to the increased portfolio at risk (PAR). This region records the highest risk globally. Its PAR 30 is greater than 5 percent. This study sought to investigate causes of loan default within MFIs and Financial Intermediaries (FIs) in Kenya. The study addressed the following specific objectives; (1) to evaluate the influence of borrower's characteristics on loan default in MFIs and FIs (2) to investigate the relative influence of business characteristics on loan default in MFIs. A target population of 294 MFIs institutions and 76 Financial Institutions was used. A multistage sampling procedure was used to save time and cost by narrowing down on the regions and branches since they were widely spread, a sample of 106 MFIs and 40 FIs was selected. Random sampling was used and primary data collected by use of a questionnaire. Data was analyzed by quantitative methods by use of SPSS; Version 21. Descriptive statistics and inferential statistics were employed to make generalizations while Factor Analysis was done to reduce the high numbers of factors to a smaller number which were significant. A multiple regression model and Pearson correlation were used to establish relationships among the variables. The findings of the study indicated that two variables namely; borrower's characteristics and business characteristics were significant among MFIs and FIs but with some differences in the parameters measured for the two variables.

**Keywords:** Microcredit Default, Micro Financial Institutions (MFIs), Financial Intermediaries (FIs), Portfolio at Risk (PAR)

## 1. Introduction

Microcredit is an important strategy being used to reduce poverty among many countries across the globe. The world has over 7,000 Microfinance Institutions (MFIs) that serve over 25 million clients (Crabb and Keller, 2006). Microcredit is as an 'extremely small loan given to impoverished people to help them become self-employed' (Nawal, 2010). Ruben (2007) defines it as a 'grant loan to the poorest of the poor without requiring collateral' with an assumption that the beneficiaries have the survival skills that facilitate for credit worthiness. The government of Kenya has introduced various support initiatives for provision of credit to Micro and Small Enterprises (MSEs). These initiatives include provision of Public Entrepreneurial Funds (PEFs) such as; Women Enterprise Funds (WEF), Youth Enterprise Development Fund (YEF), Kenya Industrial Estates (KIE) Fund and Uwezo Fund. These funds are disbursed by some Financial Intermediaries (FIs) that are willing to partner with the government and are set aside to; improve competition of MSEs, to promote social-economic development, reduce poverty among entrepreneurs, increase financial accessibility, productivity and innovation (Gitau and Wanyoike, 2014). The funds are disbursed to promote economic empowerment among youth and women. Empowerment is a 'process of obtaining basic opportunities, encouraging and developing skills for self-sufficiency with a focus of eliminating the future for charity or welfare in the individuals of a group' (Wikipedia, 2014). It involves mobilization of poor or disadvantaged sections of the population by increasing accessibility of resources and opening opportunities for income generation (SLE, 2010). Microcredit is a tool that enhances economic development to the poor in the society.

The health of MFI sector in Sub Sahara Africa (SSA) is a cause of concern due to the increased portfolio at risk (PAR) {MIX, 2011}. The region records the highest risk globally whose PAR 30 is greater than 5 percent, coupled by poor reporting, control systems, poor information systems and credit management (ibid). Most countries in Sub-Sahara Africa face problems in microcredit debt payment (Buss, 2005) and as a result most MFIs have unreliable financial and portfolio information and are poorly equipped in managing their credit portfolio or protecting customers' savings (CGAP, 2013). Most of these MFIs in SSA, their financial performance recorded showed the following challenges; (a) falling returns especially East Africa and South Africa, (b) high operating expenses as a result of high staff expenses, high outstanding loans, high transaction costs and management costs (ibid).

Kenya is rated the best in Africa and also the second best in provision of a conducive business environment for MFIs and the top ten in the world (EIU, 2010). Kenya's borrower rate is rated the second largest

(Mix and CGAP, 2010). Kenya also has the largest SACCOs (Johnson, 2006). However, the case of default is still raising concern in the MFIs and FIs sectors. The default rate among MFIs' sector is relatively higher compared to commercial banks with default rates ranging from 10% -20% while commercial banks have less than 5% default rate (Kiraka et al., 2013). In their study, the constituency women enterprise recorded 20-30% default rate. Youth Enterprise Development Fund (Yedf) in 2009, disbursed funds to 8586 youth groups totaling Ksh 376,923,810 only was 83,732,085 (22.2%) repaid while the outstanding balances of 293,191,724 (77.8%) was not paid (YEDF, 2009).

In Kenya, MFIs are supervised by a body called Association of Microfinance Institutions in Kenya (AMFIK) which was registered in 1999 to ensure quality service provision to the low income people and assists MFIs in building their capacity (AMFIK, 2013). These institutions are rated internationally by an agency called Microfinanza Rating. AMFIK has four strategic pillars namely; policy advocacy and lobbying, capacity building, networking and linkages, research and knowledge management. These institutions have registered a gradual growth for the last three years amounting to 298.4 billion by December 2012 (AMFIK, 2013). The active clients in the sector stand at 1,732,290 and excluding banks clients' total is 914,859 (ibid). The dominant banks are Equity bank which consists of 72 per cent total assets, the rest are K-REP, Post Bank and Jamii Bora Bank. KWFT become a fully pledged bank named Kenya Women Finance Bank in 2014; others are still Deposit Taking Microfinance (DTMs) such as SMEP, Uwezo, REMU and Faulu. The microfinance institutions have received substantial support from both bilateral and multilateral donors (Chowdbury, 2009). By December 2012, a report showed that MFIs had 669 branches across the country. According to the report, Nairobi has the highest (136 branches) followed by Rift Valley (112) and Central region (90) and the least branches are found in Western (32) and North Eastern (5) branches. The sector has employed 12,377 staff and the sector without the banks has 4,856 (AMFIK, 2013). According to ACCA (2011), management of information asymmetry to detect early signs of those who are likely to default is paramount in avoiding serious cases of delinquencies. This calls for proper investment in resources such as; management skills, human and capital. This in return facilitates the growth of Microfinance Industry.

By December 2012, the group lending model had a better portfolio than the individual lending model as shown in Table 1.1. Portfolio at risk (PAR) shows all arrears of outstanding loans. Portfolio at risk 30 (PAR 30) are outstanding balance on loans with arrears greater than 30 days/Gross outstanding portfolio. It is an indicator to the financial institution on the current losses likely to incur and also in the future if no payments are made at all (Warue, 2012). This implies that loan default among the individuals at 13.7% is quite high compared to groups at 5.9%, any amount over 5 percent calls for concern (United Nations, 2011).

**TABLE 1. 1: PORTFOLIO AT RISK 30 PER CATEGORY**

PAR30 per credit methodology	Sector without banks	Whole sector
Individual lending	8.1%	13.7%
Group lending	5.9%	4.2%
Individual and group lending	14.6%	N/A

**Source: AMFIK, 2013**

Table 1.2 presents the PAR of various MFIs in Kenya per AMFIK (2013). Some of these MFIs indicate very high PAR such as; Rafiki DTM, Milango Financial Service Ltd, Jamii Bora and SMEP, have had their PAR 30 at high levels over the last three years.

**TABLE 1. 2: PORTFOLIO AT RISK (2012)**

MFI	2010 (%)	2011 (%)	2012 (%)	Loan outstanding portfolio USD
RAFIKI DTM	-	-	30.8	6,099,612
MILANGO FINANCIAL SERVICE LTD	3.0	7.7	17.2	1,300,406
SMEP	8.7	8.9	17.2	18,292,400
K-REP BANK	22.4	16.6	15.8	87,861,297
JAMII BORA BANK	-	44.8	15.2	16,283,488
	-	31.0	14.7	3,952,665
CENTURY DTM LTD.	-	-	14.5	302,503
REMU DTM LTD.	-	6.8	14.2	1,033,189
ECLOF – KENYA	14.0	10.9	10.9	5469728
SPRING BOARD CAPITAL LTD	-	11.8	10.3	661,091
AAR SERVICES	5.3	5.1	8.6	5,206,656
PAWDED	7.5	7.8	7.8	8,103,878
SUMAC DTM LTD.	5.0	7.1	7.3	1,218,035
SISDO	8.9	9.6	7.1	3,540,786
EQUITY BANK - WHOLE - MFI	6.2	3.5	6.4	1,471,300,267
	13.6	7.4	10.6	135,144,007
YEHU	1.9	3.4	6.2	3,132,076
KADET LTD	11	11.2	5.8	4,974,942
KWFT	15.5	6.1	5.7	153,125,517
FAULU KENYA DTM	10.8	5.2	5.2	58,749,756
MICRO AFRICA LTD	4.4	3.6	4.9	8,737,175
JITEGEMEE CREDIT SCHEME	6.5	2.6	3.5	4,636,641
JUHUDI KILIMO LTD	2.5	4.1	3.2	4,133,747
KEEF KENYA	-	-	1.9	861,214
SAMCHI CREDIT LIMITED	-	-	1.8	177,593
OPPORTUNITY KENYA LTD	0.6	0.8	1.4	5,113,534
RUPIA MICRO-CREDIT LTD.	-	2.1	1.3	303,194
TAIFA OPTION MFI LTD	-	-	1.2	375,749
MOSONI KENYA	-	4	1.1	1,876,427
GREEN LAND FEDHA	-	-	0.6	14,606,178

**Source: AMFIK, 2013**

Table 1.3 presents the geographical coverage of MFIs in Kenya by regions, amount of loans borrowed, the numbers of active borrowers in each region and the average outstanding loans. The regions with the highest outstanding loan amounts were; Nairobi, North Eastern, Rift Valley, Central, and Eastern regions in that order.

**TABLE 1. 3: MFI AND ENTREPRENEURS GEOGRAPHICAL COVERAGE BY REGIONS (DEC 2012)**

Regions	Gross Loan Portfolio (Ksh billion)	% of the Whole Sector's GLP	Number of Active Borrowers	Average Outstanding Loan Amount(Ksh Million)
Nairobi	13.6	30%	129,183	104,926
Rift Valley	10.3	23%	175,403	58,777
Central	5.9	13%	103,451	57,441
Eastern	5.5	12%	109,657	50,075
Nyanza	4.4	10%	92,837	46,965
Coast	4.0	9%	88,844	45,428
Western	1.9	4%	45,273	42,693
North Eastern	0.1	0%	1,279	90,632

**Source: AMFIK, 2013**

**Loan default** appears to be a major problem everywhere. CGAP (1999) defines loan default as a loan whose payment is late. Warue (2012) defines it as a loan whose chances of recovery are minimal. Yegon et al., (2013) defines loan default as 'inability of a person to repay the loan when due'. Moti et al., (2012) defines default as 'loss arising from a borrower who does not make payments as promised' also called credit risk. Loan default is generally said to be a serious problem in Africa and has been experienced in some cases in many

countries. Ethiopia has 27 MFIs registered by National Bank of Ethiopia and massive default has been reported among small-scale holders which threatened Development Bank of Ethiopia until provision of inputs for credit by government was eventually stopped (Sileshi et al., 2012). The MFIs provide microcredit through group lending to the rural smallholders to narrow the gap between the demand and supply of credit (CBE, 2010). A report from Pamoja (2010) indicated that in Kerugoya District loan default advanced to groups increased from 7.17 percent to 28.22 percent. This affects the sustainability capacity of MFIs. According to Adem et al., (2012), incidence of default in financial institutions when observed increases risk to lenders. A study by Kiraka et al., (2012), noted that WEF had high default rates between 10-20 percent as recorded in most MFIs in Kenya while commercial banks have less than 5 percent default rate. The reasons given in the study were; poor information dissemination and a misconception that the funds are grants from the government and politically motivated and hence no need for repayment. The cost of administering the loan was also high due to small amounts' disbursements. Ngahu and Wagoki (2014) explored the influence of group lending management on loans among MFIs, Moti et al., (2012) concentrated on the effectiveness of credit management on loan performance in MFIs and Warue (2012) examined the external factors and group factors on loan default in MFIs. From these studies much has been done on economic factors and group factors and their influence on loan default. The current study examined two variables namely borrower's characteristics and business characteristics both in MFIs and FIs which had not been previously done. The study sought to assess borrower's and business' factors causing microcredit default both in MFIs and FIs disbursing public entrepreneurial funds in Kenya.

### **1.1 The Statement of the Problem**

Both Microfinance Institutions and the Kenyan Government have initiatives to reduce poverty among the poor through provision of microcredit and disbursements of funds to youth and women respectively. The issue of loan default is a major concern in Kenya as per the AMFIK (2013). When loans are disbursed, it is not clear how the money is utilized and the follow up by lenders is a challenge. Many credit institutions have registered heavy losses as a result of loan default (Kiraka et al., 2013; Bichanga and Aseyo, 2013), YEDF for example registered an outstanding balance of 77.8% out all loans that were disbursed (YEDF, 2009). Loan default causes the defaulter to lose chances of accessing more credit in future while the lender increases losses and non-performing loans which consequently reduce funds to advance to more businesses and risks institution's sustainability. The success of credit institutions largely depends on management of credit advanced and therefore the need to minimize loan default rates. This study therefore sought to investigate borrower's and business' factors causing high microcredit default in both MFIs and FIs with an aim of reducing portfolio at risk in these institutions and making recommendations to MFIs, FIs and policy makers.

### **1.2 Objectives of the Study**

The study sought to address the following specific objectives:

- i) To explore the influence of borrower's characteristics on loan default in MFIs and FIs
- ii) To examine the influence of business characteristics on loan default in MFIs and FIs

### **1.3 Research Hypotheses**

The research sought to address the following hypotheses;

- i)  $H_{01}$ : Borrower's characteristics are not significant in influencing loan default within MFIs and FIs
- ii)  $H_{02}$ : Business characteristics are not significant in influencing loan default within MFIs and FIs.

### **1.4 Significance of the Study**

The study aimed at carrying out a comparative study on borrower's and business' factors that affect loan default among MFIs and FIs. The results will be beneficial to small businesses, financial institutions, policy makers and scholars.

## **2. Literature Review**

Microfinance is the provision of financial services to the unbanked and under-banked households and small businesses (Reserve Bank of Zimbabwe, 2012). Globally microfinance fulfills one objective of facilitating accessibility of financial services to the "poor and marginalized sections of the community" (ibid). MFIs provide small loans and at times also expand their products to include micro-deposit and micro-insurance products (Orrick et al., 2001). Microfinance has been a channel through which the poor alleviate poverty by adopting the following strategies as outlined by Dadzie et al., (2012); (a) engaging the informal economy whereby 50 percent of people derive their source of livelihood (b) helps in mobilization of micro-saving therefore expanding the MFIs deposits and increase the capital base of these institutions (c) mostly invest in women hence increases economic equality and improves the life of women and their households. They are empowered with skills, education and economic rights (d) facilitates national and international money

remittances (e) facilitates development of local private sectors and helps to invest in innovation (f) promotes slum conditions for slum dwellers such as homes and income generation activities and (g) promotes rural areas and food production. This promotes food security hence geared towards achievement of Millennium Development Goals( MDGs).

A Group Summit held on 10<sup>th</sup> June, 2004 (CGAP, 2004) came up with some MFIs principles as follows; (i) MFIs should provide a range of services in addition to loans. (ii) Microfinance should reduce poverty by empowering the clients with better nutrition, accumulation of wealth, health, education and housing (iii) should serve the poor in the society through increased financial systems (iv) MFIs should be self-sustaining by reducing costs and charging interest to cover its costs (v) should be permanent by avoiding over dependence on donors and therefore able to attract some savings domestically that can be recycled as loans and provide other services to their members (vi) should incorporate other services to meet the basic needs of the poor people such as grants, employment and formal training and improving infrastructure in areas that are needy (vii) should charge affordable interest rates to avoid hurting the poor who may not afford to pay. Therefore, interest rates should neither be too high nor too low to avoid losses (viii) the government should create favorable policies that protect deposits of clients, ensure stability of the economy by controlling interest rates to stabilize markets. Also fight corruption and facilitate market accessibility for small businesses (ix) donors have the obligation to provide grants, loans and equity for microfinance which facilitate capacity building of MFIs. To monitor MFIs, clear targets should be set and ensure these institutions are financially stable and sustainable (x) MFIs should ensure that their leadership is well trained and equipped with the necessary skills and ensure management information systems are in place for smooth running of institutions (xi) It is imperative that disclosures are made on the performance and operations of MFIs for accountability and transparency. The public, donors and customers as supervisors need accurate and standardized information on both social and financial information. This includes; interest rates, repayment of loans, recovery costs and number of customers (CGAP, 2004). Microfinance has four features namely; group lending method, targets women, offers graduated loans and their interest rates are higher than traditional banks (Ruben, 2007).

Interest rates and type of product for MFIs in Kenya are outlined in Table 2.1, the highest being 43 % on reducing balance and 42% flat rate.

**TABLE 2. 1: MFIS RATES OF INTEREST ON TYPES OF LOANS IN KENYA**

Product	No. of Credit-only MFIs, DTMs and Banks	Interest rate (Min / Max) Per Annum	Fees	compulsory Savings (Min/ Max)	Term (Min-Max) Months	Amount (Min - Max) KES
Business Group Loans	3 Banks	20 - 22% flat	1% - 1.5%	20% - 50%	1 - 36	1000 – 1m
		43% reducing				
	5 DTMs	16% - 24% flat	2% - 3%	10% - 20%	1 - 60	5,000 – 20m
		24%-34.8% reducing	1.25% -2%			
	13 Credit Only MFIs	18% -24% flat	1% - 4%	10% - 40%	1 - 55	5,000 – 5.5m
		18%-43% reducing	1.6% -3%			
Business Individual Loans	3 Banks	17% - 25% flat	1% - 1.5%	20% - 22%	6 - 60	5,000 - 1m
		38.5% reducing	-			
	7 DTMs	16% - 42% flat	1.5% - 3%	10% - 25%	1 - 60	1,000 – 20 m
		16%-34.8% reducing	2%			
	11 Credit Only MFIs	15% - 24% flat	1% - 4.5%	10% - 30%	1 - 60	5,000 – 5 m
		18%-42% reducing	1% - 3%			
Agriculture Loans	4 DTMs	16% - 25% flat	1% - 3%	10% - 20%	3 - 60	5,000 – 5m
		34.8% reducing				
	10 Credit Only MFIs	15% - 22% flat	1% - 4%	15% - 36%	1 - 36	3,000 – 3 m

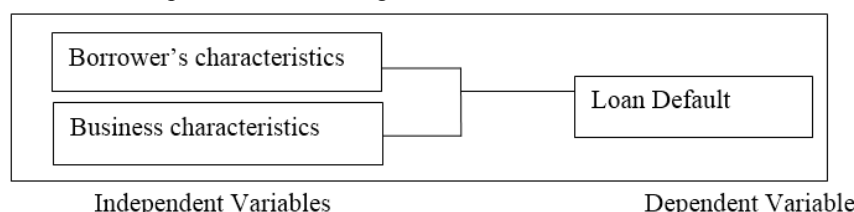
**Source: AMFIK, 2013**

Abdullah et al., (2011) examined the critical factors affecting the repayment of microcredit schemes in Amanah Ikhtiar Malaysia (AIM), the country's largest microcredit organization. Group based model was used to provide credit to the poor who made repayments on a weekly basis for; income generating activities, education, and housing. The study concluded that training and development programs should be introduced to the poor households to enhance proper utilization of credit and emphasized on the need for households to grasp employment generating opportunities and explore new income generating activities. Nawai and Mohd Shariff (2013) sought to find the determinants of repayment performance in microfinance programs in Malaysia and applied an individual lending approach and used mixed methodology to collect data from 401 respondents. They used a research framework built on four factors namely; individual factors, firm factors, and lender's factors as independent variables and repayment performance as the dependent variable. The findings of the study in terms of borrower's characteristics indicated that entrepreneur's religious education level was significant. Mokhtar et al., (2012) studied the determinants of microcredit loans repayment problem among MFI borrowers in Teken and Yum areas of Malaysia and used a logistic regression model to predict the effect on borrowers' characteristics and microcredit loans characteristics on loan repayment problem. He concluded that age, gender and type of business were significant.

Sileshi et al., (2012) also investigated loan repayment performance of government credit to small holder farmers in East Hararghe, Ethiopia. The credit was meant to increase production and productivity through improved agricultural technologies. The findings indicated that agro-ecological zone, off-farm activity and technical advice from extension officers positively influenced loan repayment performance, while production loss, informal credit, festivals and loan-to-income rate negatively influenced loan repayment at 95 percent confidence level. Ben (2008) in Tunisia examined determinants of a successful group loan repayment by use of 286 groups of clients. He used a logit model to predict a model on loan repayment. The study's results indicated that loan repayment was positively influenced by internal rules of members' conduct, the same business, and earlier knowledge of members prior to formation, peer pressure, self selection, sex, education, and non-financial services. Further it was noted that homogeneity and marital status negatively influenced loan repayment. Olagunju and Adeyemi (2007) investigated the determinants of loan payment among small holder farmers in South Western Nigeria and used a three stage multistage sampling technique from a sample of 180 respondents from bank branches in Oyo and Ondo states. A Tobit regression showed that farm experience, location of the farm, loan cost, loan frequency and education were statistically significant. Udoh (2008) conducted a study on loan default among beneficiaries of a state government in Nigeria and used a sample of nine local government areas, thirty from each zone, selected through a multi-stage sampling. The study tested explanatory variables such as age, education level, visits by supervisors which were insignificant in the model while sex, household size, farm size, primary occupation of the beneficiary, credit from other sources, disbursement period, farm expenditure were significant at 0.05 significance level. Wang and Zhou (2011) sought to find out whether additional financial indicators predict the default of SME in China by taking samples from the SME database in Beijing. A binary logistic regression model with forward stepwise method was used to predict the loan default. The findings of the study indicated that the main features of the enterprise, such as duration of the cooperation with banks was significant in predicting loan default while traditional financial indicators such as profitability, growth, liquidity, solvency and operational capacity of the business were not significant in predicting the default of SMEs. Yegon et al., (2013) examined the determinants of seasonal loan default among beneficiaries of a state owned agricultural loan scheme in Uasin Gishu, Kenya and tested socio-economic characteristics of the respondents and their influence on loan default. A stratified random sampling was used on a sample of 272 farmers who were beneficiaries of AFC loan in the period 2005 to 2010. They used a logistic regression to generate a model that predicts loan default among small scale farmers. In their study, personal factors and farming factors were significant whereas facility factors were insignificant in determining loan default. Munene and Guyo (2013) addressed factors influencing loan default in MFIs in Imenti North, Kenya and tested business characteristics such as; type of business, age of the business, number of employees, business location business manager and profits among MFIs. The sample involved both MFIs and loan beneficiaries. The findings showed that type of business, age of business, number of employees and business profit were significant in influencing loan default. Munene and Guyo left out other factors such as borrower's characteristics. They also left out business characteristics on government credit which the study wished to test.

## 2.1 Conceptual Framework

The conceptualization of this research attempted to link loan default, the dependent variable, to the independent variables. The independent variables used in study were; borrower's characteristics and business characteristics. This relationship is illustrated in Figure 2.1



Borrower's characteristics are factors relating to the individual client who borrows credit from MFIs and FIs such as; age, ability, family size, gender, credit history and marital status. Business characteristics are factors relating to the business itself that is operated by the borrower such as; size, age, type and product portfolio. Many researchers have identified individual characteristics as factors that influence loan default (Mokhtar et al., 2012; Oke et al., 2007; Tundui and Tundui, 2013; Ben Sultane, 2008 and Antwi et al., 2008). Some of the factors include; family size, gender, educational level and borrower's business experience. A relationship between gender and loan performance has been established by various researchers. Yegon et al., (2013) found out that 60 percent of small scale farmers in Uasin Gishu County in Kenya were women. They found out that 74 percent of men were defaulters while only 27 percent female defaulted. Women demonstrated higher repayment and savings rate than their male counterparts (Proscovia, 2003; Magali, 2013). Magali (2013) found out that it is more risky to provide men with loans compared to women in the rural SACCOs' in Tanzania

(15 percent male defaulted while 7 percent female defaulted). A study by Antwi et al., (2012) in Ghana found sex insignificant to their study on loan default. Male borrowers were said to be less responsible in making loans repayment than females (Mokhtar et al., 2012). Gender plays a key role in the performance of businesses as Tundui and Tundui (2013) noted that women had better investment plans than men, had lower moral hazard and hate embarrassments caused by loan default. Men often get credit from banks, investors and their personal funds while women solely rely on personal savings (Hisrich et al., 2008). Kamanza (2014) revealed that loan default was predominant among the married due to multiple and competing gender rules which hinder women from concentrating on their businesses and therefore experience challenges in generating money and loan diversion. He studied WEF in Msambweni constituency and investigated the effect of loan diversion, business failure, and gender roles and borrowers entrepreneurial skills on loan default. The findings of the study revealed that; (a) the funds granted was inadequate for investment (b) competing gender roles robbed the women time to do business (c) many women did not find it necessary to undergo training and (d) loan diversion led to high default rates. A large family size increases household expenses which are mostly financed by loan granted by credit institutions hence reducing loan repayment performance (Majeed Pasha and Negese, 2014).

MFIs have various considerations they examine in individual borrowers such as economic ability that addresses capacity of that individual in maximizing loan granted to generate profits hence able to repay back (Udoh,2008). Sangoro et al., (2012) in Kenya observed that social responsibilities of many women enterprises negatively influenced loan repayment due to such activities such as; feeding children, house rents and hospital bills. Kiraka et al., (2013) in Kenya, recorded high cases of loan diversion due to unrelated business cases such as; school fees, buying goods for the household or for domestic purposes. Tundui and Tundui (2013) in Tanzania noted that borrower's characteristics determine the willingness and ability of the individual to pay while some may choose to default. Those refusing to pay depend on the moral hazard behavior of the individual concerned (Tedeschi, 2006). Nawai and Mohd Shariff (2010) in Malaysia pointed out that "besides characters of the borrowers, collateral requirements, capacity or the ability to repay and conditions of the market should be considered before granting loans".

Several studies have been carried out on the relationship between business characteristics and loan default. Munene and Guyo (2013) conducted one on the influence of business characteristics as a variable on the loan default in Imenti North District, Kenya. They used a sample of 400 borrowers and 37 loan officers and measured parameters such as; age, type, location, profit, business management and the number of employees to measure business characteristics. The results showed that loan default was high in the manufacturing sector at 67.9%, followed by the service industry and thirdly agriculture. It was noted that businesses that had operated between 5-11 years had the highest loan default and those located within the municipality recorded high default cases. Out of the parameters measured the following factors considered significant; type of business, age of the business, number of employees and business profits. Most businesses involved in agriculture, animal husbandry and fisheries have a possibility of loan default than others as a result of weather changes that affect production (Mokhtar et al., 2012). Magali (2013) noted that default rate of 13 % was recorded for those in agricultural activities while the rest registered 9 percent. Sileshi et al., (2013) in their study in Ethiopia established that adequate rainfall in agro-ecological area reduces the probability to default by 22.73 percent and increases the rate of loan repayment by 12.69 percent. According to Proscovia (undated), no significant difference was found between trade and agriculture in his study, however he found formal agricultural performance better than trade especially the animal husbandry sector which contradicts a study by Ledgerwood (1998), who noted that agricultural business credit demonstrated higher risk due to fluctuations in production causing differential loan performance. Findings from Majeed Pasha and Negese (2014) revealed that 75% of clients involved in non-agricultural businesses paid their loan better than those in agricultural businesses.

Addisu (2006) in Ethiopia noted that the amount of monthly sales are directly related to loan nonpayment, businesses mainly finance their loan repayments by use of cash flow that is created by the firm (Wang and Zhou, 2011). According to Chen (2004) in China, the following factors are important in determining capital structure of the firm: profitability, size, growth opportunity, asset structure, cost of financial distress and effects of tax shields. Weele and Markowich (2001) in their study on how to manage high and hyperinflation, a case of Bulgaria and Russia, pointed out that high or hyper inflation economic conditions contribute significantly in reducing businesses' ability to repay loans. Tundui and Tundui (2013) in Tanzania revealed that multiple enterprises are negatively and significantly related to loan repayment. This implies that, the more businesses the borrower has the less the problems of loan repayment. This is because the borrower is able to use profits generated from those other businesses to pay the microcredit granted to the firm. Magali (2013) in Tanzania noted that more years in business experience reduces loan default as a result of skills accumulated by the individual over time. Skills help one to manipulate business environments and hence able to prevent loan default. Addo and Twum (2013) argued that substantial business experience improves productivity and capital base which in return reduces the possibility of loan default. Business location is another factor to consider in loan default. According to Proscovia (undated), in Uganda, business location was found to relate to loan default

considering the business income and assets. They argued that a favorable business location improves business sales and subsequently its profit and income.

Loan Default as the dependent variable measured by Portfolio at Risk (PAR) in MFIs. This ratio shows loans in arrears that are likely to go unpaid, experts recommend that PAR should not exceed 5 percent which is taken as a benchmarking figure that rates the quality of any institution (any amount over 5 percent calls for concern) (United Nations, 2011).

### 3. Research Methodology

Research methodology involves procedures used for examining the research objectives (Oso and Osen, 2009). The study was based on positivism philosophy which adopts a quantitative approach to investigate phenomena that is based upon values of reason, truth and validity hence focuses on facts gathered through observations and experience and easily proved by quantitative methods (Warwick and Lininger, 1995). This research used a descriptive research design in order to thoroughly investigate the population through the sample in relation to the factors that contribute to loan default in MFIs and FIs in Kenya. Research design describes the pattern, the plan or strategy for conducting the research (Oso and Osen, 2009). Both quantitative and qualitative methods were used to address the stated objectives.

The study targeted a finite population of all 294 MFIs registered and operating in Kenya as per AMFIK (2013) and 76 FIs registered as per WEF (2014). Oso and Osen (2009) define target population “as the total number of subjects of interest to a researcher”. The study used multistage sampling technique because it progressively selects smaller areas into stages until the individual members of the sample have been selected through a random procedure (Bryman, 2003). This study used purposeful sampling 36% of MFIs (36% \*294=106) and 53% of FIs (53%\*76=40) in support of Cochran (1977) who suggests that a sample of 30% is sufficient. The sample consisted of 40 FIs out of 76 FIs and 106 MFIs out of a population of 294 MFIs as shown in Table 3.1. The primary data was collected from the sample that involved collecting first hand information from the respondents by trained enumerators. A questionnaire with closed and open questions with responses presented on five Likert scale was used to balance the quality and quantity of data collected and completed by loan officers who were randomly selected. The researcher carried out a pilot study to measure validity of the instrument which was not included in the analysis. Prior to launching a full-scale study, the questionnaire was pre- tested in MFIs in Mukurweini Town to ensure its workability in terms of: structure, content, flow and the time it takes to complete it. Reliability was tested by use of Cronbach Coefficient Alpha to confirm internal consistency of each variable measured. Borrower’s characteristics had a Cronbach Coefficient Alpha of 0.668, business characteristics had 0.804, According to Kathuri and Pals (1993) a co-efficient of 0.70 is high in research and less than 0.3 is low reliability and therefore reliability of the instrument was adequate for further analysis.

**TABLE 3. 1: SAMPLE SIZE OF MFS AND FIS**

Regions	Counties	MFIs	FIs
Nairobi	CBD	25	10
Rift Valley	Kajiado, Nakuru, Uasin Gishu	31	10
Central	Nyeri, Nyandarua, Kirinyaga,	23	10
Eastern	Meru and Machakos	27	10
TOTAL		106	40

Primary data was coded and keyed in the SPSS Version 21 and then analyzed. Data was presented by use of tables, bar graphs and pie charts and the sample statistics were used to make conclusions about the population. Descriptive statistics were used and also inferential statistics used to draw conclusions about existing relationship and differences in the research results already found. Factor analysis was used to estimate the most significant variables which were tested in the model. A multiple regression model and Pearson correlation was used to establish relationship among variables.

**Factor analysis:** Factor analysis was performed on all parameters that measured each independent variable to examine the extent of correlations, and summarize and reduce the less important variables as per their factor loadings. Exploratory Factor Analysis was performed to measure internal consistency /reliability of the measuring instrument (questionnaire) by calculating Cronbach alpha coefficients. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett’s Test of Sphericity were used to test the suitability of the data and number of factors to be extracted. KMO index (ranges between 0 to1) with at least 0.50 considered suitable while Bartlett’s Test of Sphericity is considered significant at  $p < 0.05$  (Hair et al., 1995).

**Correlations:** The correlation statistical technique was used to explain the degree of association between the variables. The square of the coefficient ( $r^2$ ) determines the percent of variation of the independent variable(X) in the dependent variable (Y) for instance an  $r$  square of 0.50 means that the independent variable (X) accounts for 25% of the variation in Y (dependent variable).

**Regression Analysis:** Multiple regressions were performed on all the parameters of each category of factors



against the dependent variable in order to test the following null hypotheses i)  $H_{01}$ : Borrower's characteristics are not significant in influencing loan default within MFIs and FIs ii)  $H_{02}$ : Business characteristics are not significant in influencing loan default within MFIs and FIs. Regression analysis is formed from correlation coefficients of independent variables that is expressed in form of  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$  which is an equation for the best line of fit. This model had three parts to be interpreted; the regression statistics, ANOVA and table of coefficients. The regression statistics gives R Square (coefficient of determination) which ranges between 0-1 and explains the variation of the independent variables in the dependent variable. ANOVA (the analysis of variance) compares means of one or two samples and F- statistic tests the significance of the overall model. Hypothesis testing was done by use of statistics to check if the sample statistic was significantly different from the population value. In the study F test, t- statistic and the p-values each independent variable were used to interpret each variable at a significant level ( $\alpha$ ) of 0.05. A decision was made if;  $p \leq \alpha$ , null hypothesis was rejected and when  $p \geq \alpha$ , then we failed to reject the null.

#### 4. Data Analysis, Presentation and Interpretation

##### 4.1 Descriptive Data Analysis

Descriptive data analysis carried out in the study included; mean median variance and standard deviation. Data was presented in tables, pie charts and bar charts. The survey had targeted to interview 106 MFIs and 40 FIs. The participants who responded were 89 MFIs and 36 FIs. The response rate of 84 % and 90% respectively was very good and therefore representative of the population. According to Mugenda and Mugenda (1999) response rate above 70% is considered good. The study revealed gender parity in MFIs and FIs. In MFIs 68.5 % were males while in FIs the males constituted 63%. This implies that majority of the loan officers were men. Majority of MFIs clients were individuals accounting for 53.93% as shown in Figure 4.1. This explains that possibility of default may be high since individuals of microloans do not use collateral unlike self-help groups that use social collateral i.e. its members are used as guarantors against any loan given to a member. These credit institutions should lay more emphasis on group funding other than individual funding to reduce defaults. This concurs with Tundui and Tundui (2008) who observed that group lending model has various advantages in that it assists MFIs to classify and identify risks, tests cases of diversion and facilitates loan enforcement in members' repayment.

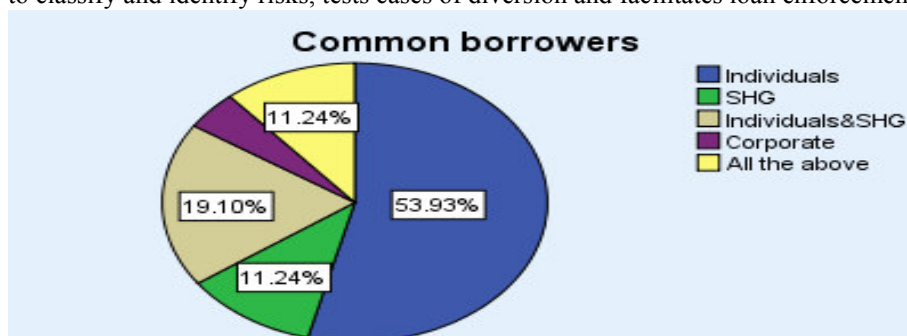
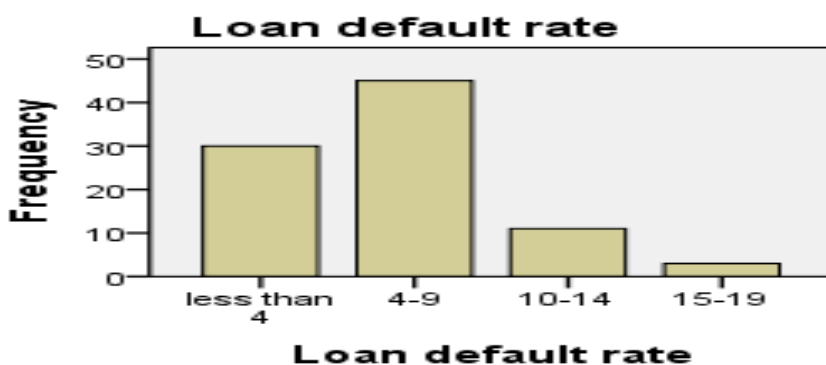


FIGURE 4. 1: MFIS CLIENTS

In MFIs, the respondents with less than 2 years experience constituted 33.7% and 2-3 years 39.3 % and 23% above 3 years. Therefore those with less than 3 years experience constituted 73 % while in FIs majority of the respondents had less than 2 years experience (58.3%), 2-3 years was 25% and over 3 years was 16.7%. This implies that 83.3% had worked as loan officers for less than three years. This study concurs with Gatimu et al., (2014). This means that majority of loan officers are less experienced in handling loans, possibility of tracking the clients' history may be a challenge and therefore the need for institutions to place officers who are well exposed to loan procedures to manage the credit section hence reduce loan default.

Age of respondents in MFIs indicated that less than 25 years was 37.1%, 26-35 years was 55.1% and over 35 presented 7.9 %. These two groups constituted 92.1% while the same groups in FIs had the following percentages; those with less than 25 years were 19.4% and 26-35 years were 72.2%, both groups constituted 91.6 % and those over 35 % presented 8.4 %. The implies that most loan officers are less than 35 years which is a clear indication that most loan officers offering microcredit in MFI and FIs are the youth and coupled with little experience as found out in the study may result to high default rates in these institutions. Onyego et al., (2012) concluded that the higher the loan officer's experience, the higher the possibility of recovering greater amount of loan.

The average default rate for MFIs in the year 2014 was 6.91% which is relatively high while that one for FIs was at 6.25. This was slightly lower than for MFIs. The bar graph shows the average loan default among the MFIs for the last three years (2012-2014). The highest number of institutions had a default rate between 4 - 9% consisted of 50.6 % and 10-14 were 12.4 %. According to United nations (2011), the accepted world default rates is less than 5%, this implies that the credit institutions need to take critical measures to revert this trend.



The respondents perception on borrower’s characteristics were measured using a Likert scale of 5, where 5 is strongly agree and 1 is strongly disagree. The parameters with the highest mean were; borrower's credit history (4.47), borrower’s ability (4.37), domestic factors (4.01) and diversion of loan (4.00). These factors were later tested to check whether they were statistically significant.

Descriptive statistics on business characteristics showed that the key parameters with the highest mean were; business entrepreneurial skills (4.07), business size (4.28), business' portfolio, borrower's experience in business (4.26), firms' industry (3.81), business location (3.81), business operation period (3.58) and market competition (3.51). These results indicate that these parameters were key in causing loan default.

#### 4.2 Validity and Reliability

The validity of the data instrument was done by use of research experts who read through the questionnaire and did the necessary adjustments. A pilot study was also carried out earlier before the actual study to check on any ambiguity in the data instrument. The statistical analysis of the data was carried out by using SPSS version 21. The composition and characteristics of the sample were analyzed using descriptive statistics, whereas the construct validity and reliability of the measuring instrument were respectively examined by performing exploratory factor analysis and calculating Cronbach alpha coefficients. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy tested the suitability of the data for factor analysis. KMO measured 0.644 and Bartlett’s test of Sphericity with a p value of 0.000. This implies that the data was suitable for factor analysis and was in order for us to extract reliable factors.

Reliability of the questionnaire was evaluated through Cronbach’s Alpha which measures the internal consistency. The closer the reliability coefficient gets to 1.0, the better. A measure of less than .60 would be considered poor and at least 0.80 was considered good. Each independent variable’s Cronbach’s alpha statistic was computed and interpreted as mentioned. Borrower’s characteristics reliability coefficient of 0.668 and business characteristics had 0.804. This illustrates that the two scales were reliable as their reliability values exceeded the prescribed threshold of 0.6 as shown in Table 4.1.

**TABLE 4. 1: RELIABILITY COEFFICIENTS**

Scale	Cronbach's Alpha	Number of Items
Borrower’s Characteristics	0.668	8
Business Characteristics	0.804	8

Factor analysis was performed to reduce the number of variables to a few factors. The relationship between the extracted factors was examined by means of correlation analysis. Finally, *t*-tests and regression analysis were carried out to examine the relationship between hypothesis and the extracted factors. Regression analysis aimed at; measuring whether instruments had acceptable construct validity, measuring whether the instruments has acceptable reliability, establishing whether there was a correlation (relationship) between the constructs in the conceptual framework as measured by the instruments and also test the hypotheses which included; i)  $H_{01}$ : Borrower’s characteristics are not significant in influencing loan default within MFIs and FIs ii)  $H_{02}$ : Business characteristics are not significant in influencing loan default within MFIs and FIs. An Exploratory Factor Analysis (EFA) was conducted to assess the discriminant validity of the items measured to predict factors that cause loan default in Microfinance Institutions (MFIs) and FIs. The exploratory factor analysis (Rotation by using Varimax with Kaiser Normalization) resulted in the extraction of the two factors. Correlations between the loan default and the two factors above recorded borrower’s characteristics ( $r = 0.676$ ) and business characteristics ( $r = .592$ ). Accordingly to Taylor (1990), these two factors were moderately strong. Multicollinearity among variables was less than 0.7 which was moderate as measured by the Pearson Correlation Coefficient.

### 4.3 Borrower's Characteristics and Loan Default

The first objective of the study was to explore the influence of borrower's characteristics on loan default in MFIs and FIs. The study sought to test the first null hypothesis that stated;  $H_{01}$ : *Borrower's characteristics are not significant in influencing loan default within MFIs and FIs*. The followings tables present the regression results on borrower's characteristics on MFIs. Table 4.2 shows the overall model summary of MFIs' borrower's characteristics. The regression statistics indicated a correlation coefficient (R) of 0.909 which shows a high positive relationship with the dependent variable. It has an adjusted R square of 0.805. This implies that the independent variables measured account for 80.5 percent variations in loan default.

**TABLE 4. 2: MFI S BORROWER'S CHARACTERISTICS-MODEL SUMMARY**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909 <sup>a</sup>	.827	.805	1.22073

Table 4.3 shows ANOVA on MFIs Borrower's characteristics after an F test was performed. It indicated that the overall model was useful or significant ( $F = 370.43$ ,  $p = 0.000$ ). This means that borrower's characteristics are good predictors of loan default.

**TABLE 4.3: MFI S BORROWER'S CHARACTERISTICS-ANOVA<sup>B</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	220.805	4	55.201	37.043	.000 <sup>a</sup>
	Residual	46.195	84	1.490		
	Total	267.000	88			

T –test was performed to examine the relationship between the independent variables and the dependent variables as shown in Table 4.4. The following factors positively and significantly influenced loan default since all their p values were less than 0.05. These were; borrower's credit history (BCH) had a  $p = 0.000$ , borrower's ability BA had  $p = 0.000$ , domestic factor (DF) 0.030, GF-gender factor ( $p = 0.023$ ), LD- loan diversion (0.014) and MS-marital status (0.010). The coefficients of independent variables in the column marked B were used to generate a regression model to predict loan default as;

$$Y = 1.998 + 5.006 \text{ BCH} + 6.362 \text{ BA} + 3.179 \text{ DF} + 4.049 \text{ GF} + 5.612 \text{ LD} + 1.710 \text{ MS}$$

**TABLE 4. 4: MFIS' BORROWER'S CHARACTERISTICS- COEFFICIENTS<sup>A</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.998	1.348		1.482	.148
	Borrower's credit history (BCH)	5.006	.281	.503	-.023	.000
	Borrower's ability (BA)	6.362	.288	.652	1.259	.000
	Domestic factors (DF)	3.179	.283	.436	7.709	.030
	Gender factor (GF)	4.049	.160	.508	6.574	.023
	Loan Diversion (LD)	5.612	.157	.602	1.712	.014
	Marital status(MS)	1.710	.157	.689	1.812	.010

a. Dependent Variable: Loan default

In FIs, the regression statistics shown Table 4.5 indicated a correlation coefficient (R) of 0.670 which shows a moderate positive relationship with the dependent variable. The results had an adjusted R square of 0.436. This implies that borrower's characteristics in FIs accounted for 43.6 percent variations in loan default.

**TABLE 4. 5: FI S BORROWER'S CHARACTERISTICS-MODEL SUMMARY**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670 <sup>a</sup>	.449	.436	.2.79797

An F test performed as presented in Table 4.6 indicated that the overall model was useful and therefore sufficient evidence that there is some relationship between the borrower's characteristics and loan default ( $F = 4.026$ ,  $p = 0.035$ ).

**TABLE 4. 1: FIS BORROWER'S CHARACTERISTICS -ANOVA<sup>B</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.557	7	.794	5.126	.000 <sup>a</sup>
	Residual	21.666	28	.774		
	Total	27.222	35			

At test performed on individual variables to test their relationship with the dependent variable as shown

in Table 4.7 indicated that many variables were significant with p values less than 0.05. These were; BA-borrower’s ability (p = 0.005), DF-domestic factors (p = 0.027), GF-gender factor (p = 0.032), C-number of children (p= 0.000), A- age (0.030) and MS-marital status (p = 0.031). The general linear multiple regression model the study examined was given by;  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$ ; The regression model generated to predict loan default was generated is ;  $Y = 6.871 + 0.781 BA + 0.6DF + 0.49 GF + 0.632 C + 0.046 A + 0.249 MS$ .

**TABLE 4. 7: FIS’ BORROWER’S CHARACTERISTICS-COEFFICIENTS<sup>A</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.871	2.900		6.200	.000
Borrower’s Ability (BA)	.781	.300	.825		.005
Domestic factors(DF)	.600	.147	.510		.027
Gender Factor(GF)	.490	.090	.467		.032
No. of children (C)	.632	.156	.649		.000
Age (A)	.046	.026	.296		.030
Marital Status(MS)	.249	.118	.397		.037

a. Dependent Variable: Loan default

It was evident from the models generated to predict loan by examining borrower’s characteristics that some independent variables were significant both in MFIs and FIs which included borrower’s ability, domestic factors, gender factor and marital status. But loan diversion and borrower’s credit history were significant in MFIs only while age and number of children going to school were significant in FIs only. It was also noted from the findings that borrower’s characteristics in MFIs accounted for a very high percentage of 80.5% while in FIs at 43.6 % which signify their importance in predicting microcredit default. The findings in both MFIs and FIs showed that the overall models were statistically significant after F test was performed which confirmed that there exists some relationship between borrower’s characteristics and loan default since none of the coefficients of the independent variables was equal to zero and hence the null hypothesis was rejected.

#### 4.4 Business Characteristics and Loan Default

The second objective of the study was to explore the influence of business characteristics on loan default in MFIs and FIs and therefore test the null hypothesis that stated;  $H_{02}$ : Business’ characteristics are not significant in influencing loan default within MFIs and FIs. In business characteristics, independent variables were regressed against the dependent variable separately for MFIs and FIs and their results shown in Tables 4.20 to 4.25. In MFIs, regression results shown in Table 4.8 produced an Adjusted R Square = 0.643, which imply that the independent variables accounted for 64.3% variation in the dependent variable.

**TABLE 4. 2: MFIS’ BUSINESS CHARACTERISTICS MODEL SUMMARY**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802 <sup>a</sup>	.643	.577	1.76386

Table 4.9 shows the overall model after performing an F test was significant with F = 9.728 and p value= 0.000 which implies that independent variables strongly influence on loan default

**TABLE 4. 9: MFIS BUSINESS CHARACTERISTICS -ANOVA<sup>B</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	151.331	5	30.266	9.728	.000 <sup>a</sup>
	Residual	84.002	83	3.111		
	Total	235.333	88			

Table 4.10 shows the variables that were statistically significant at 5% significant level. These were; BS-business size (p =0.000), BE-borrower’s experience in business (p = 0.022), BF-business portfolio (p =0.010), FI- firm’s industry (p = 0.037) and BL-business location (p = 0.020). MC- market competition (p = 0.041). Business operation period had a p value of 0.356 therefore insignificant.

**Table 4.10: MFIs Business Characteristics -Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.281	.672		.419	.678
	Business size (BS)	6.135	.098	.757	10.377	.000
	Borrower's experience in business (BE)	4.503	.148	.439	5.146	.022
	Business' Portfolio(BF)	5.062	.077	.515	9.801	.010
	Firms' Industry(FI)	3.085	.115	.334	3.737	.037
	Business Location(BL)	4.327	.136	.437	4.725	.020
	Market Competition (MC)	.136	.176	.152	.754	.041
	Business Operation Period (BOP)	.168	.170	.189	.952	.356

a. Dependent Variable: Loan default

A multiple regression model derived from individual co-efficient of these variables was generated as follows;  $Y = 0.281 + 6.135 BS + 4.503 BE + 5.062 BF + 3.085 FI + 4.327 BL + 0.136 MC$ .

In FIs, business characteristics produced an adjusted R square of 0.150 accounting for 15% of variation in loan default as shown in Table 4.11. This was low compared with MFIs variation of 64.3%. This means that in FIs, 85% of the variables are unaccounted for in the model.

**TABLE 4. 3: FIS BUSINESS CHARACTERISTICS -MODEL SUMMARY**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.452 <sup>a</sup>	.204	.150	0.880

The overall model given by F test was significant with a p value of 0.000 at 5% significance level ( $P < 0.05$ ) as indicated in Table 4.12, which shows that the model is good in predicting loan default.

**Table 4.12: FIs Business Characteristics-ANOVA<sup>b</sup>**

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.557	7	.794	4.626	.000 <sup>a</sup>
	Residual	21.666	28	.774		
	Total	27.222	35			

In order to estimate the effect of each individual variable a t test was performed as shown in Table 4.13 that indicated three significant variables whose p values were less than 0.05 namely; BS-business size ( $p = 0.015$ ), BE-borrower's experience in business ( $p = 0.018$ ) and MC-market competition ( $p = 0.040$ ). This confirms that loan default has some relationship with business size, borrower's experience in business and market competition.

**TABLE 4. 13: FIS BUSINESS CHARACTERISTICS -COEFFICIENTS<sup>A</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.294	1.994		-1.151	.260
	Business size (BS)	5.326	.319	.786	7.023	.015
	Borrower's experience in business(BE)	.207	.252	.153	.822	.018
	Business' Location (BL)	.162	.275	.109	.322	.560
	Market Competition(MC)	.138	.184	.154	.751	.040
	Business Operation period(BOP)	.171	.180	.187	.951	.350
	Firms' Industry (FI)	.169	.165	.180	.950	.360

a. Dependent Variable: Loan default

In summary, it is evident that there are more parameters causing loan default in business characteristics

within MFI's than in FIs. In MFIs firm's industry, business location and business portfolio are significant while they are insignificant in FIs. Therefore a multiple regression model was generated for FIs as;  $Y = -2.294 + 5.326 BS + 0.207 BE + 0.138 MC$ .

It is evident from the findings in both MFIs and FIs that the overall model is statistically significant after F tests were performed. This implies that there exists some relationship between business characteristics and loan default within MFIs and FIs from the two models generated  $Y = 0.281 + 6.135 BS + 4.503 BE + 5.062 BF + 3.085 FI + 4.327 BL + 0.136 MC$  for MFIs and  $Y = -2.294 + 5.326 BS + 0.207 BE + 0.138 MC$  for FIs.

#### 4.5. Discussion of Results

Borrower's characteristics play a key role in influencing loan default in MFIs and FIs. The following factors significantly influenced loan default in MFIs ; borrower's credit history, borrower's ability, domestic factor, gender factor and loan diversion and marital status while for FI, the significant factors were; borrower's ability, domestic factors, gender factor, number of children, age and marital status.

Credit history of the borrower is very important in MFIs and therefore all clients who intend to borrow loans should be vetted thoroughly. This is consistent with a study done by Moti et al., (2012). Credit institutions should thoroughly screen the borrower to select the "good" from the "bad" borrower and make follow up to ensure loans are used for the intended purposes (Stiglitz and Weiss, 1981). This facilitates prompt payment of loans when the track history of the borrower is known and his economic prospect is put into consideration to determine the likelihood of the client to pay (ibid).

The predictor on loan diversion was significant in MFIs and therefore diversion of loans for other uses increased risk of loan repayment. Bichanga and Aseyo (2013) affirm that 64 percent of the clients interviewed in their study indicated that loans advanced to them were diverted to other uses. Borrowers are likely to misuse funds or use it for unprofitable activities therefore increasing chances of default. This can be reduced by actual visits to their premises and keen follow up on their business operations as confirmed by Warue (2012), Kamanza (2014) and Yegon et al., (2012).

A large household size (high number of children) was found to be positively related to loan default in FIs in that family commitments were likely to cause loan diversions to pay fees or buy food therefore causing loan default which is supported by Tundui and Tundui (2013). Tundui and Tundui found that large household size increases expenditure for health and consumption and therefore impacts negatively on loan performance. This is in agreement with Majeed Pasha and Negese (2014) who found out that the number of dependents within and without a household is significant in causing loan default. Their results indicate that a decrease in one dependent reduces default rate by 0.158.

Domestic factors influence loan repayment in both MFIs and FIs. Some of the domestic factors include family obligations and social responsibilities. Sangoro et al., (2012) observed that social responsibilities of many women enterprises negatively influenced loan repayment due to activities such as; feeding children, house rents and hospital bills. Kiraka et al., (2013), recorded high cases of loan diversion to unrelated business cases such as; school fees, buying goods for the household or for domestic purposes.

Credit officers in both FIs and MFIs should be keen to check on borrower's ability by observing clients' cash flow as confirmed by Moti et al., (2012). Moti et al., suggested that observing cash flow statements where they exist and proper business projections facilitate one to estimate future default rates.

Gender factor influences loan default both in MFIs and FIs. This is in line with Magali (2013) and Yegon et al., (2013) who noted that men have higher default rate than women. Sileshi et al., (2012) suggested that male headed households had high default rates than female headed at 71.43 % and 28.51% respectively. Women demonstrate high repayment and savings than their male counterparts (Proscovia, 2003; Magali, 2013). Magali (2013) found out that it is more risky to provide men with loans compared to women in the rural SACCOs' in Tanzania. His findings indicated that 15 percent male defaulted while only 7 percent female defaulted.

Marital status was found to be significant in both MFIs and FIs. This is supported by Ayagyam et al., (2013) who suggested that married farmers who belong to groups displayed more responsibilities in loan repayments. Ayagyam et al.,'s findings disagree with Kamanza (2014) who established that loan default was predominantly common among the married as a result of multiple and competing gender rules which hinder women from concentrating on their businesses and therefore have challenges in generating money and loan diversion. This disagrees with Majeed Pasha and Negese (2014) who both in their study on loan performance in Ethiopia found out that marital status of a borrower is not significant in influencing loan repayment. Pollio and Abuodie (2010) also found no relationship between marital status and loan default.

Age is a factor that significantly influence loan default in FIs in that older borrowers are likely to make better payments than the younger group especially if one has business experience and able to control unnecessary expenditures. Majeed Pasha and Negese (2014) argue that an older entrepreneur is in a better

position to pay loans than the youngsters since he is settled, has accumulated wealth, is experienced in business management and has credit accessibility than the young people. This is in agreement with Oni et al., (2005) and Yegon et al., (2013) but disagrees with Udoh (2008).

Borrower's business experience was statistically significant in both MFIs and FIs. Experience in business gives the entrepreneur opportunities to seize in generating income as supported by Tundui and Tundui (2013) in Tanzania. Tundui and Tundui found out that experienced business people are likely to have less repayment problems. This concurs with Magali (2013) who pointed out that a borrower with some business experience accumulates skills that help him to manipulate business environments and hence able to prevent loan default. This is in line with Addo and Twum (2013) who argued that substantial business experience improves productivity and capital base which in return reduces the possibility of loan default. Pollio and Abuodie (2010) also suggested that increased business operation period decreases loan default by 28% since borrowers are able to increase productivity and consequently lowers default rate.

Market competition is a major cause of loan default among FIs. This is supported by a study done by Ijaza et al., (2014) who suggested that recipients of government funds face stiff market competition as a result of selling homogeneous products that lack differentiation and diversification.

Business size is a key factor in influencing loan default both in MFIs and FIs. Credit officers' should consider the size of business in terms of stock and turnover before credit approval as this is important. This is consistent with Moti et al., (2012) who suggested that business size is an important predictor of loan default. Mashatola and Darroch (2003) in their study on loan status of sugarcane farmers in Kwazulu – Natal supports the finding in that business size and liquidity are major factors in determining loan repayment.

The type of activities a business engages in greatly determines the extent to which a loan is repaid. A study done in Tanzania (Magali, 2013) indicates that crop failure caused by rain shortages, deaths of the animals as a result of diseases led to high default rates to farmers who had loans. Udoh (2008) also argues that business failure as result of agricultural activities "increases the risk of portfolio default". Ledgerwood (1998) concurs with those findings and reported that agricultural businesses are risky due to fluctuations in production causing poor loan performance. Findings from Majeed Pasha and Negese (2014) revealed that 75% of clients involved in non-agricultural businesses paid their loan better than those in agricultural businesses which contradict Proscovia (undated) who noted that there was no significant difference between trade and agriculture. This was affirmed by Munene and Guyo (2013) that businesses in manufacturing sector recorded the highest default cases, followed by service industry and agriculture and trade in that order. Sileshi et al., (2013) in their study in Ethiopia established that adequate rainfall in agro-ecological area reduces probability to default by 22.73 percent and increases rate of loan repayment by 12.69 percent. Technological advancement in Kenya is equally rendering some business outdated and obsolete and therefore one must keep abreast with the relevant technology.

The location of the business is positively related to loan payment as a favorably located business attracts more customers hence able to enhance loan effectiveness. This concurs with Proscovia (undated) in Uganda who argues that a favorable business location improves business sales and subsequently its profit and income.

## 5. Conclusion and Recommendations

The summaries of findings per objective were as follows; the first objective was to find the relationship between borrower's characteristics and loan default within MFIs and FIs. The researcher tested the null hypothesis that stated;  $H_{01}$ : *Borrower's characteristics were not significant in influencing loan default within MFIs and FIs.* A linear equation was generated that predicts the relationship between borrowers characteristics and loan default in MFIs which was given by  $Y = 6.871 + 0.781 BA + 0.6DF + 0.49 GF + 0.632 C + 0.046 A + 0.249 MS$ , where BA represents borrower's ability, DF(domestic factors), GF(gender factor), C(number of children going to school), A(age) and MS(marital status) . In FIs  $Y = 1.998 + 5.006 BCH + 6.362 BA + 3.179 DF + 4.049 GF + 5.612 LD + 1.710MS$  where; BCH represents borrower's credit history, DF(domestic factors), GF(gender factor), LD(Loan Diversion) and MS(marital status). This therefore shows a positive relationship between borrower's characteristics and loan default. Therefore the null hypothesis was rejected.

The second objective was to find the relationship between business characteristics and loan default within MFIs and FIs. The null hypothesis tested stated;  $H_{02}$ : *business' characteristics were not significant in influencing loan default within MFIs and FIs.* A linear equation was generated that predicts the relationship between borrower's characteristics and loan default. In MFIs it was found out that  $Y = 0.281 + 6.135 BS + 4.503 BE + 5.062 BF + 3.085 FI + 4.327 BL + 0.136 MC$  where; BS represents business size, BE(borrower's experience in business), BF (business portfolio), FI (firm's industry), BL (business location) and MC (market competition). In FIs, the model generated was  $Y = -2.294 + 5.326 BS + 0.207 BE + 0.138 MC$  where; BS presents business size, BE (borrower's experience in business), MC (market competition). This therefore implied a positive relationship between business characteristics and loan default in both MFIs and FIs hence the null hypothesis was rejected. From the study it was noted that borrower's characteristics and business

characteristics were significant in both MFIs and FIs.

Based on the findings of this study, we recommend that all financial intermediaries handling government funds should strongly consider borrowers' characteristics that greatly influence loan repayment before they grant these loans. Proper borrower's scrutiny is very important in order to assess the character, ability to pay back (capability), assess projects' viability for which the loan is intended, and also the amount to approve. It is evident from the study that this factor accounts for 80.5% in MFIs and 43.6 in FIs of variability and therefore contributes significantly to loan default. Credit officers offering loans should involve borrower's spouse fully where possible. Lack of spouse involvement leads to loan diversion, family conflicts, separation and the spouse should be used as a co-guarantor in credit accessibility.

There is need to provide loans to MSEs that have been in operation for at least one year. Business operational period and the clients' experience in business are important factors to consider when disbursing loans. This acts as an assurance to the financial institution continuity for some time. The size of business and its location are important factors to consider when appraising loans and therefore there is dire need to physically visit the premises to assess business capability to repay loans. The government should empower sub-county officers who approve credit to individuals and increase the number of financial intermediaries to enhance loan delivery. The government should give financial intermediaries ample time to disburse and to refund the money.

### Areas for Further Study

The researcher recommends the followings areas for further study that were not covered by this study:

1. Explore other factors that cause loan default among government entrepreneurial funds that were not explained in the model.
2. There is need to do a comparative study on loan performance among MSEs that receive public funds and those receiving microcredit from MFIs.
3. The same study can be duplicated in the commercial banks and explore the four variables examined in this study.

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