

INFLUENCE OF COST STRUCTURE ON INTEREST RATE LEVEL OF MICROFINANCE BANKS IN NAKURU COUNTY, KENYA

Kimutai Ngetich Kennedy 

Jomo Kenyatta University of Agriculture and Technology, Kenya

kimutaingetich@ymail.com

Weche Eshiwani

Jomo Kenyatta University of Agriculture and Technology, Kenya

beshiwani@gmail.com

Abstract

The study examined Influence of cost structure variables and interest rates level on loans charged by MFBs in Nakuru County, Kenya. Descriptive survey study design was adopted for the study. The target population comprised 127 respondents where a sample size of 56 respondents was selected through stratified random sampling. Primary data was used which was collected using structured questionnaires. Data collected was analyzed using both descriptive and inferential statistics. Financial costs have a significant influence on interest rate level ($\beta = 0.424$, $p < 0.05$), credit administration costs have a significant influence on interest rate level ($\beta = 0.566$, $p < 0.05$), loan default costs have a significant influence on interest rate level ($\beta = 0.364$, $p < 0.05$) while cash holding costs have a significant influence on interest rate level of microfinance banks ($\beta = 0.311$, $p < 0.05$). It can be concluded that financial costs, credit administration costs, loan default costs and cash holding costs have a significant influence on interest rate level of microfinance banks. It was recommended that the microfinance banks in Nakuru County should take measures to minimize costs in order to keep their interest rates at the lowest possible level and remain competitive.

Keywords: *Costs structure, Interest rate level, Microfinance, Kenya*

INTRODUCTION

Microfinance institutions (MFIs) the world over have been identified as critical institutions to nations' quest for solutions to their development challenges (Consultative Group to Assist the Poor, CGAP, 2004). The microfinance industry, which over the past years came under pressure to fill the poverty gap and become self-sustaining, has to some respect succeeded in doing so. What once started off as microcredit, a simple service offering micro-loans to the world's unbanked populations, has evolved into complex microfinance markets operated by thousands of Microfinance Banks (MFBs) (Ernst & Young Global Limited, EYGM, 2015). Their products and service offerings aim to provide low-income people with tools to meet credit and saving needs as well as manage risk and efficiently execute transactions. Consequently, a significant number of MFBs have taken important steps towards professionalization and transformation into well organized, well-managed and commercially viable institutions that provide financial services to an increasing number of clients with proven poverty reducing impact.

Microfinance was started by Mohammed Yunus in 1976 when he launched the Grameen Bank Project in Jobra, Bangladesh to experiment with a credit system that would provide banking services for the rural poor. The bank had four objectives: to extend banking facilities to the poor, to eliminate exploitation of the poor, to promote self-employment for rural unemployed and to include the most disadvantaged (especially women) in leadership roles. In 2008 Yunus rose to the challenge to prove that micro lending was not about developing and developed – the poor faced the same challenges regardless of wherever they are in the world. He along with several corporate sponsors including Citi Foundation and Capital One launched Grameen America in New York. Since then the financial outfit – not bank - has been serving the poor, mainly women, throughout four of the city's five boroughs (Bronx, Brooklyn, Manhattan, and Queens) as well as Omaha, Nebraska and Indianapolis, Indiana. In four years, Grameen America has facilitated loans to over 9,000 borrowers valued over \$35 million (Grameen America, 2017).

In the African context, several commercial banks and other formal institutions have been reluctant to cater for the credit needs of smallholders, mainly due to their lending terms and conditions. It is generally the rules and regulations of the formal financial institutions that have created the myth that the poor are not bankable, and since they cannot afford the required collateral and, hence, are considered not creditworthy (Adera, 2005). Hence despite efforts to overcome the widespread lack of financial services, especially among microfinance in African countries, and the expansion of credit in the rural areas of these countries, the majority poor still have only limited access to bank services to support their private initiatives (Braverman & Guasch, 2006).

A case in point is Morocco where access to credit remains very difficult for large segments of the population with low or unstable incomes. They have been systematically neglected by the banking system over a long time as no bank targeted the poor, although, presently two commercial banks have established microfinance banks to provide micro credits in Morocco. Credit demand is far from being met in the country where the demand for microcredits was estimated to be between 500.000 and 1.2 million in 2000, which means that all MFIs serve only 10 – 25% of the potential market. In 2012 the supply remained limited, with an access rate of 16% (Kessy&Urio, 2013).

According to Nitin (2006), MFIs incur costs not only in sourcing funds and disbursement of these funds to microfinance clients but also in promotion and monitoring of microfinance client groups and development of processes for improving efficiencies of service delivery. Costs observed in the microfinance industry include: the cost of promotion and monitoring of group processes, the cost of taking financial services to the client doorstep, costs for service sustaining and managing, establishment expenses, process improvement, compliance and institutional development and financial costs. As an MFI matures with age, the service delivery efficiencies improve.

Many critics of microfinance accuse the sector of profiteering off the backs of poor clients with all-too often higher than necessary interest rates (Cazacu, Dolgaya, Bruckner & Kortenbusch, 2016). A 2013 CGAP study on the subject showed that the percentage of borrower interest payments that went to profits dropped from one-fifth in 2004 to one-tenth in 2011; however, interest rates have remained relatively constant since 2007, even where one would expect downward pressures to lower the rates. Discussions have since moved to be centered on examining the costs of service delivery and their effects on the level of interest rates.

A study by GIZ's Pro-Poor Growth and Promotion of Employment (SEDIN) Programme (2015) found that the prices for microloans in Nigeria are high both in absolute terms and when compared to their peers abroad. A high observed required yield indicates that Nigerian MFBs are quite inefficient; while a high APR suggests that these costs are passed on to customers. Furthermore, although high costs generally seem to drive the high APR levels found, there is no clear pattern of how MFBs use internal performance data to price their products. In Tanzania, it was found that though micro and small enterprises contribute around 32 percent of the GDP, MFIs have limited coverage and poor organizational structures, and are often donor-driven (Kessy & Urio, 2005).

Microfinance Institutions in Kenya

The main objective of the financial sector reforms in 2004 was to promote private savings and investment and lower interest rate levels and spreads through competition and the intermediation efficiency (Republic of Kenya, 2004). CBK was to uphold a financial system with market determined deposit and lending rates. One of the main aims of the financial reforms was the improvement of Microfinance activities to access savings, credit and other financial services to majority low income Kenyans. MFBs were developed in Kenya as a tool for fighting poverty through the Micro Finance act 19 of 2006 that empowered CBK to license, regulate and supervise MFBs (Bokea, 2007).

The institutions that provide Microfinance in Kenya include commercial banks, Savings and Credit Cooperatives, pure MFBs, Accumulating and Rotating Savings and Credit Associations and other money lenders. These institutions register with their umbrella body of the Association of Micro Finance Institutions (AMFI) that is funded through grants from USAID (United States Agency of International Development) and which represents MFBs internationally (CBK, 2016).

MFBs are an initiative of the government developments and effort to promote and improve credit access to low and middle class. By definition, Micro Finance is the provision of convenient financial services and products to the poor, low income households, Micro and Small enterprises (Republic of Kenya, 2004). They offer Micro credit schemes and attract savings to meet the demand for loans (CBK, 2007). The MFBs avail credit to clients who previously found it extremely difficult to access credit from commercial banks and other formal financial institutions due to high lending rates (Republic of Kenya, 2004). MFBs generate revenue through charging interest on loans. In Kenya, MFIs are given the mandate to formulate credit policy and procedure that deal with lending and the lending rates to be charged (Central Bank of Kenya, 2004).

The Micro Finance Act categorizes MFIs into two tiers: the deposit taking MFIs and Credit only MFIs. MFIs that accept deposits are further categorized into two: Nationwide MFBs which operate nationally and have a minimum capital requirement of Kshs. 60 million and Community based MFBs which operate within specific regulations with a minimum capital requirement of Kshs. 20 million. MFBs are permitted to carry out the following activities: Mobilizing savings from the general public, Providing credit or lending facilities, Domestic money transfers and providing safe custody, Collecting money or proceeds of banking instruments on behalf of their customers, Provision of payment services such as salaries, gratuity, pension for government agencies, Micro leasing facility operations, higher purchase and credit schemes

that are Micro Finance related and Mobilize clients, offer professional, financial, technical assistance, training and administration and marketing advice (Republic of Kenya, 2006).

In Kenya MFBs have been charging high interest rates as opposed to the banks that have been put on interest rate cap of 4% above the central bank rate. This regulation by the Central Bank of Kenya was meant to enhance access to credit by reducing the cost of accessing credit. Sologoub (2006) highlights that high interest rate is indicative of inefficiency in the banking sectors of developing countries, as it is now widely acknowledged that interest rate spreads are an adequate measure of bank intermediation efficiency. The interest rate spread (IRS), is an important determinant of the efficacy of the financial system in a country (Hassan and Khan, 2010).

A high interest rate spread could mean unusually low deposit rates discouraging savings mobilization and limiting resources available to finance bank credit (Mustafa & Sayera, 2009). In a FinAccess National Survey (2009), one in three Kenyans was found to be excluded from the financial system, while 27% only had access to informal financial-service providers and the remaining 40% had access to formal providers such as banks, MFBs, and savings and credit cooperatives (SACCOs). Comparison with the 2013 data shows that the proportion of the adult population using different forms of formal financial services stood at 66.7% in 2013 compared to 41.3% in 2009. Similarly, the proportion of the adult population totally excluded from financial services had declined to 25.4% in 2013 from 31.4% in 2009 (FinAccess National Survey, 2013).

Statement of the Problem

Many critics of microfinance accuse the sector of profiteering off the backs of poor clients with all-too often higher than necessary interest rates (Cazacu, et. al., 2016). A central problem is that the interest rate presented to its customers often differs radically from the actual percentage rate an MFB charges, once the calculation method, timing, upfront fees and compulsory savings are accounted for. The difference is especially large for MFBs providing the smallest loans to the poorest and most rural clients, as they have the highest operating expenses and thus must charge the highest interest rates to remain viable. The rigorous assessment methods required increase an MFB's operating costs and personnel costs account for the largest portion of total operating expenses, representing around 60–70% of the total cost, followed by other administrative expenses (Hermes et. al., 2011). This occurs even though, according to Obuobi and Polio (2010), MFBs currently provide financial services to an estimated 15 per cent of the country's total population as compared with 10 per cent for the commercial banking sector. Globally, interest rate spread between January 2002 and December 2012 averaged at 9.68

percent in comparison with a spread of 6.90 for African countries and 7.13 for East African countries (CBK, 2012).

In order for MFBs to attain financial sustainability, they must apply high but not exorbitant interest rates. However, the interest question still remains largely a delicate balancing act where too low interest rates on one hand will lead to operational challenges as the cash available cannot fully cover for the costs. Further, the operations are unlikely to be profitable. High interests on the other hand will lead to less demand for credit and higher default risks. A study by GIZ (2015) found that the prices for microloans in Nigeria are high and that there is no clear pattern of how MFBs use internal performance data to price their products leading to disagreements over the interest rates charged by MFBs (Fernando, 2006). Studies on interest regimes applied by MFBs have so far not yielded information on the influence of cost structure on the interest rates. This study, therefore, aims at finding out the cost structures of the MFBs and their contributions to the interest rates charged on their products.

General Research Objective

To examine influence of cost structure on interest rate level of microfinance banks in Nakuru County, Kenya.

Specific Research Objectives

- i. To determine influence of financial costs on interest rates level of microfinance banks in Nakuru County, Kenya.
- ii. To assess influence of credit administration costs on interest rates level of microfinance banks in Nakuru County, Kenya.
- iii. To examine influence of loan default costs on interest rates level of microfinance banks in Nakuru County, Kenya.
- iv. To establish influence of cash holding costs on interest rates level of microfinance banks in Nakuru County, Kenya.

Research Hypotheses

The following hypotheses were formulated:

H₀₁: Financing costs have no statistically significant influence on interest rates level of microfinance banks in Nakuru County, Kenya.

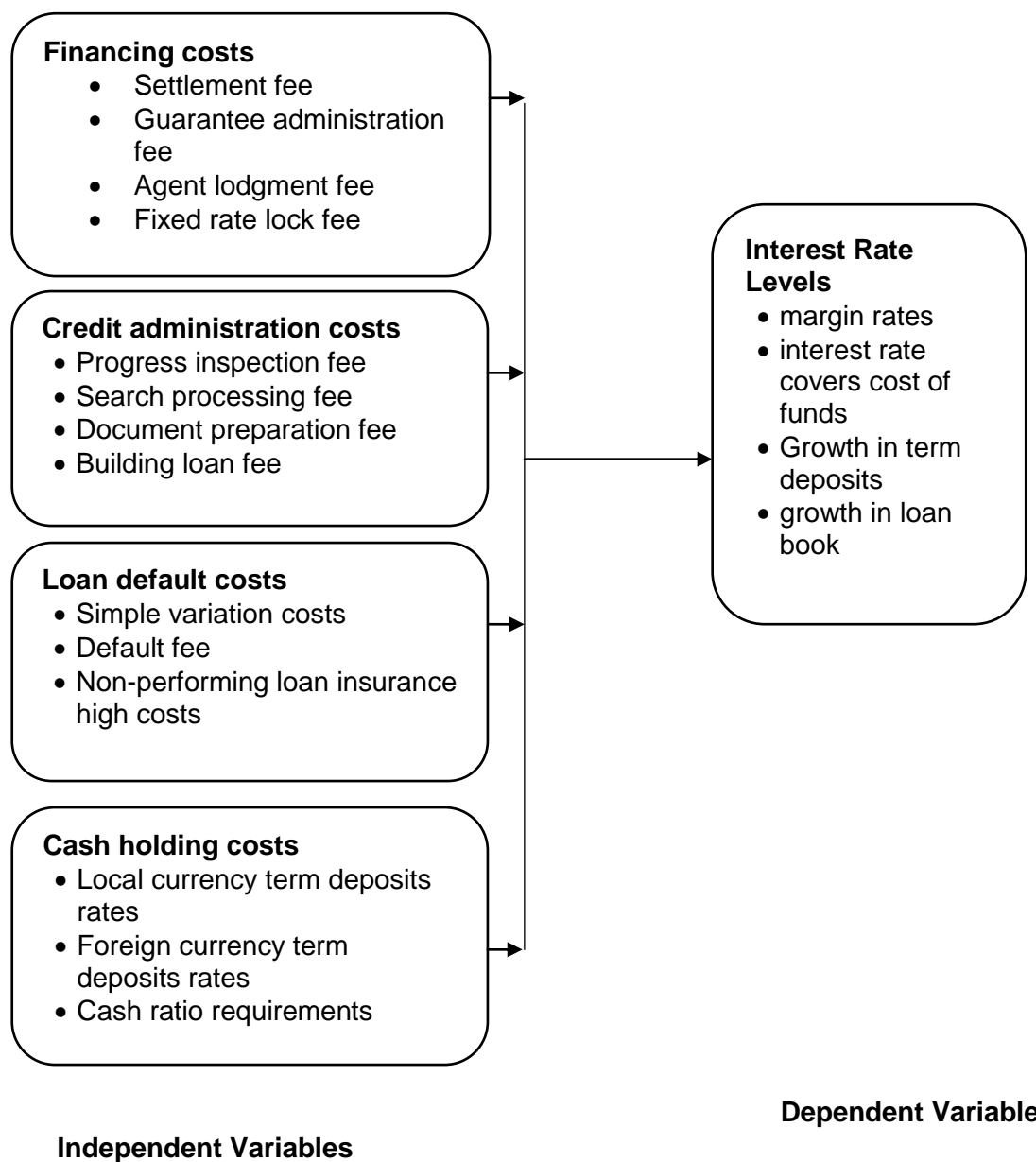
H₀₂: Credit administration costs have no statistically significant influence on interest rates level of microfinance banks in Nakuru County, Kenya.

H₀₃: Loan default costs have no statistically significant influence on interest rates level of microfinance bank in Nakuru County, Kenya.

H₀₄: Cash holding costs have no statistically significant influence on interest rates level of microfinance banks in Nakuru County, Kenya.

Conceptual Framework

Figure 1: Influence of Cost Structure on Interest Rate Level of Microfinance Banks in Nakuru County, Kenya



LITERATURE REVIEW

Theoretical Framework

The study was based on the following theories.

Conventional Economic Efficiency Theory

This theory stipulates that companies should achieve their output at the lowest possible cost per unit produced. Economies of scale may achieve optimal production, and counteracting perceptible benefit repeated by more costs associated with overstressing the existing systems. In the short run, the situation of maximum operational efficiency is the level of output at which all accessible economies of scale are taking advantage of such efficiency. In the end, lifting the capacity of existing systems can increase the optimal level of productive efficiency (Zerbe, 2001). The conventional economic efficiency theory is in two parts, allocative (price) efficiency criteria and the productive (technical) efficiency criteria. Maximum allocation efficiency is the point when the business produces the optimal output of a combination of goods and services to maximize the benefit to the business as a whole (Said, 2011).

The second element of conventional economic efficiency theory relates to the way existing resources are allocated. The logic is that high levels of competition among producers should prevent them from making excessive profits by raising their selling prices to an unreasonable level above their marginal costs. At the company level, maximum allocative efficiency is achieved when the firm produces the optimal output level of a combination of goods or services to maximize the benefit to the company as a whole. The theory takes account of the fact that company resources are finite and can be used only once, with the result that using a quantity of a material for one purpose involves an opportunity cost—that is, it denies the company the chance to use the same material for another purpose.

For microfinance banks to operate at efficient level, then all the microfinance bank products must have optimal pricing. This will in turn reduce unfair competition in the market and reduction in interest rate spreads (Zerbe, 2001). The productive efficiency takes place when the business employs all of its resources efficiently, producing the most output from the least input (Quinzi&Sujaya, 1993). Many researchers have employed the theory of conventional economic efficiency to measure efficiency in banking systems (Barr, Killgo, Siems& Zimmer 2002; Saad& El-Moussawi, 2009).

The Conventional Economic Efficiency Theory is relevant to this study since it provides a basic framework to help understand the various factors that are associated with existing operating costs. An understanding of the main principles of the theory can provide scope for managers to find ways of making some elements of their business work more efficiently. For the

microfinance managers to achieve allocative efficiency this will occur only when no other pattern of utilization of resources can deliver a better overall result in terms of the welfare of all interested parties

Financial Sustainability Theory

Long-term survival and sustainability is critical for an MFB in being able to reach its target clientele and cover administrative and other costs. While social goals of reaching the poorest and poverty alleviation are valid, sustainable standing on one's own feet is as true for low income households receiving microfinance, as for the microfinance itself. Sustainability for microfinance has internal and external implications. Internal in terms of deposit and savings mobilization, financial performance, staff motivation, loan administrative costs etc while external in terms of availability of funds for loan disbursement, and grants for community organizing (Morduch, 2002).

In terms of accounting principles, financial sustainability can be defined as: Total Income, less Total Cost (i.e. direct and indirect costs) = Surplus (financial sustainability). Financial sustainability can be defined as an organization's net income, i.e., surplus of revenues over expenses); liquidity as the cash available to pay bills and solvency as the relationship between assets and debt or liabilities (Lean, 2001). Long-term financial planning is a vital discipline for creating and maintaining financial sustainability. However, it requires a shift away from short-term perspectives associated with annual budgeting and a shift towards five to ten year perspectives not normally associated with government financial management (Bansal, 2005). The ability for an organization to sustain itself in a long-term is essential for MFBs to reach their clientele and also to be able to have sufficient funds to take care of operational costs (Wells, 2010).

The Financial Sustainability Theory is applicable in this study in microfinance banks require to remain sustainable even though their primary objective to reach and improve the living standards of poor communities. Thus the managers need to ensure that there is a surplus after deducting the total costs from the total income. Thus financial sustainability requires long-term financial planning on the part of the managers.

Free Cash Flow Theory

As Huseyin (2011) asserts, managers have an incentive to hoard cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision, (as cited in Jensen, 1986). Having cash available to invest, the manager does not need to raise external funds and to provide capital markets detailed information about the firm's investment

projects (Huseyin, 2011). Hence, managers could undertake investments that have a negative impact on shareholders wealth. Managers of firms with poor investment opportunities are expected to hold more cash to ensure the availability of funds to invest in growth projects, even if the NPV of these projects is negative(Huseyin,2011).

This would lead to destruction of shareholder value and, even if the firm has a large investment program and a low market-to-book ratio. Thus, using the market-to-book ratio as a proxy, it is likely that the relation between investment opportunity set and cash holdings will be negative. This is critical in management of liquidity in the firm and ensuring there is a balance between meeting the current obligation to mitigate liquidity short fall and investing in the interest of shareholders wealth maximization (Huseyin, 2011).

The Free Cash Flow Theory is relevant to the current study because by having cash available to invest, the manager of the deposit taking microfinance bank does not need to raise external funds and to provide capital markets detailed information about the firm's investment projects. Managers (as agents) have the tendency to pursue their interests whenever these interests are in conflict with the firm's interests, the excess cash generated by a firm will be used by the managers to pursue their selfish interest at a detriment of the owners. This will occur because the interests of the managers of the deposit taking microfinance banks are centered on financial gain; self-esteem and control.

Empirical Literature Review

Empirical literature relating to variables under study was reviewed

Financial Costs

A study by Goonzale (2009) found that the relatively high price Microfinance Institution has to pay for money they borrow contributes substantially to the interest they charge borrowers. In general, it would seem unfair to criticize Microfinance Institution managers much on this score, because even though they can control their own operations, they usually have little control over their rate of borrowing/funding costs. Most of them get funding where they can find it and tend to be price takers rather than price makers when it comes to the interest rates they pay. Increasing reliance on deposit funding will lower costs over the longer term, as regulators authorize more Microfinance Institution to take savings. However, this option is unavailable to managers of Microfinance Institution if their country does not have the enabling regulation, or if their business is not yet solid enough to meet the hurdle for depository licensing.

Financial costs are generated by various processes, including the costs of searching and collecting relevant information. Indirect costs are caused by frictions in the flow of credit funds,

preventing credit markets from reaching efficient market equilibrium (Nalukenge, 2003). According to Polski and Kearney (2001), banking activities generate two types of transaction costs, which are subject to different political and economic influences. They further note that one type of transaction costs, interest expense, reflects the costs of funds for banking activities and the second type, noninterest expense, reflects the costs of information and coordination.

Financing costs which are the cost of finance were measured through such items as settlement fee charged by lenders to process the settlement, guarantee administration fee Payable when the lender accepts a guarantee as security in connection with the loan to cover the additional administration required throughout the loan process, Agent lodgement fee payable for an agent of the lender to attend the settlement of microfinance banks' property or lodging the security interests attached to the loan and fixed rate lock fee which is charged when the microfinance banks applies for a fixed rate loan from lenders.

Credit Administration Costs

The pricing of microfinance services like any other good or service is a function of credit administration costs. Credit administrative costs include those incurred in processing loan applications, educating or training of clients and monitoring for loan repayment. The above makes it imperative to reach the conclusion that the absolute transaction cost per head of a poor person is more expensive than a client of a formal financial institution. Campion et al, (2010) found that the advent of the global economic and financial crisis in the last quarter of 2008 had further constrained liquidity in the region. It's further highlighted that administrative costs are those, which are directly attributable to the processing, delivering and administering of loans while coordination costs are those resources a financial institution dedicates to ensuring that clients adhere to terms stipulated in loan contracts (Nalukenge, 2003).

Microfinance Institutions continues to grow, but at more modest rates, since their cost of funds has increased and many were experiencing difficulties in accessing capital at any price. At the same time, the number of nonperforming loans was rising, and remittances from expatriate workers had fallen. The latter is worrisome because some Microfinance Institution had been generating substantial fee income from handling these remittances, and the recipients had often used the money toward loan repayment. The study found that most Microfinance Institutions were coping with the crisis, focusing on improving their internal procedures and operational efficiency. Meanwhile, however, many governments in the region were found to have announced new or expanded subsidized credit programs targeting the low-income population. He concluded that many of the Microfinance Institution that participates in these

programs has to adhere to fixed intermediation margins, which are sometimes insufficient to cover operating costs.

Received wisdom has long been that, lending to poor households is not worth it, due to too high costs, too great risks, too low saving propensities, and too few households capable of putting up collateral (Morduch 1999). The likely consequences of these adverse characteristics have been dealt with through alternative mechanisms such as group lending and joint liability, forced savings and small and regular loans and repayment. These mechanisms seem to prove that microfinance can be sustainable. In spite of the ingenuity of delegated screening, monitoring and enforcement, credit administration costs are up the roof and used as the main argument for high interest rates. Obvious reasons are the other strategies of microfinance operations including small amounts of loans and forced savings, remote settlements and provision of non-financial services.

Sindani (2012) in her study on Effectiveness of Credit Management System on Loan Performance: Empirical Evidence from Micro Finance Sector in Kenya found out that Credit administration costs formulated by the microfinance institutions do affect loan performance and interest rate; the involvement of credit officers and customers in formulating credit terms affects loan performance. Interest rates charged had a negative effect on the performance of the loans, the higher the interest rates the lower the loan performance. Credit risk controls adopted by microfinance institutions have an effect on loan performance, credit insurance, signing of covenants with customers, diversification of loans, credit rating of customers, reports on financial conditions, refrain from further borrowing had an effect on loan performance. Collection policies adopted by microfinance institution had an effect on loan performance, stringent policy had a great impact on loan performance, and the lenient policy had an effect but was not as great as that of stringent policy.

Credit administration costs were measured through; document preparation fee -the cost of preparing the loan documents for new loan or application, search Processing fee incurred for the bank to perform a title search or other searches relating to loan application, progress inspection fee incurred each time microfinance banks' valuer inspects building works in order to recommend that we make a progress payment and is debited to the loan account at the time of the inspection, building loan fee incurred for the additional administration required for a building loan and the administration of progress payments.

Loan Default Costs

Microfinance Institutions (MFBs) currently provide financial services to an estimated 15 per cent of the country's total population as compared with 10 per cent for the commercial banking sector

(Obuobi and Polio, 2010). Nonetheless some of the loans given out by the lending institutions unfortunately are not paid back and eventually result in bad debts with adverse consequences for the overall financial performance of the institutions. The issue of loan defaults becoming an increasing problem that threatens the sustainability of microfinance institutions. The causes of the problem are multi-dimensional and non-uniform among different literatures. Unsettled loans are always a source of misery for lenders because if a microfinance has too much of it on its balance sheet, it can adversely affect its operations in terms of liquidity, profitability, debt-servicing capacity, Lending capacity and ability to raise additional capital.

A loan is delinquent when a payment is late (CGAP, 1999). A delinquent loan becomes a defaulted loan when the chance of recovery becomes minimal. Delinquency is measured because it indicates an increased risk of loss, warnings of operational problems, and may help to predict how much of the portfolio will eventually be lost because it never gets repaid. There are three broad types of delinquency indicators: collection rates which measures amounts actually paid against amounts that have fallen due; arrears rates measures overdue amounts against total loan amounts; and portfolio at risk rates which measures the outstanding balance of loans that are not being paid on time against the outstanding balance of total loans (CGAP, 1999).

Default occurs when a debtor has not met his or her legal obligations according to the debt contract. For example a debtor has not made a scheduled payment, or has violated a loan covenant (condition) of the debt contract (Ameyaw-Amankwah, 2011). A default is the failure to pay back a loan. Default may occur if the debtor is either unwilling or unable to pay their debt. A loan default occurs when the borrower does not make required payments or in some other way does not comply with the terms of a loan (Murray, 2011).

Kazuhiro, and Yukiko, (2011) state that one of the underlying causes of Japan's prolonged economic stagnation is the nonperforming or bad loan problem. They explain that some of the loans made to companies and industries by financial institutions during the bubble era became non-performing when the bubble burst. This delayed structural reforms and prevented the financial intermediary system from functioning properly. Most of the defaults arise from poor management procedures, loan diversion and unwillingness to repay loans which makes financial institutions adjust their interest rates to cushion themselves against default risks (Kohansal & Mansoori, 2009). According to them a number of factors can cause loan defaults some of which are: Interest rate ceilings usually imposed by the government; monopoly power in credit markets often exercised by informal lenders; large transaction costs incurred by borrowers in applying for loans; and moral hazard problems.

The holders of loans can make an allowance for a normal share of non-performance in the form of bad loan provisions, or they may spread the risk by taking out insurance. Provisions for bad debt' is often a regulatory requirement for bank-led MFBs but other types of MFBs realize the importance of creating an emergency fund to provide a cushion against the risk of loan defaults. As a result, 'portfolio losses' account for 6% of interest rates charged by successful microfinance providers, according to data provided by Microfinance Information Exchange Fehmeen, 2010).

The sustainability of microfinance institutions depends largely on their ability to collect their loans as efficiently and effectively as possible. In other words to be financially viable or sustainable, microfinance institutions must ensure high portfolio quality based on 100% repayment, or at worst low delinquency/default, cost recovery and efficient lending (Addae-Korankye, 2014). Addae-Korankye (2014) further reports in a study in Ghana involving 25 MFBs that 60% of the MFBs have their default rates more than the internationally acceptable rate of 3%. This situation poses serious threats to the operations and sustainability of these MFBs which are the financial backbone of Micro, Small and Medium Enterprises in Ghana.

Loan default costs were measured items such as; simple variation costs charge for rate renegotiation or loan term extension, default fee charged any time borrowed loans are in arrears for more than 30 days, high insurance costs for non-performing loans.

Cash Holding Costs

Cash management is the process of planning and controlling cash flows into and out of business, cash flows within the business, and cash balances held by a business at a point in time (Pandey, 2004). Efficient cash management involves the determination of the optimal cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little (Ross, 2008). In addition, as stressed by Atrill (2006) there is need for careful planning and monitoring of cash flows over time to determine the optimal cash to hold. Kwame (2007) established that the setting up of a cash balance policy ensures prudent cash budgeting and investment of surplus cash.

Receivables Management means planning, organizing, directing and controlling of receivables. It deals with a shortened debtor's collection period, low levels of bad debts and a sound credit policy. Sound credit policy often improves the businesses' ability to attract new customers and accordingly increase financial performance. Therefore, there is need for a sound credit policy that will ensure that CDF funded projects' value is optimized (Ross, 2008). Costs of cash discounts, losses of bad debts and costs of managing credit and credit collections constitute the carrying costs associated with granting a credit which increase when the amount

of receivables granted are increased. Lost sales resulting from not granting credit constitute the opportunity cost, which decrease when the amounts of receivables are increased. Provision of trade credit is normally used by businesses as a marketing strategy to expand or maintain sales (Pandey, 2004).

Firms that are efficient in receivables management determine their optimal credit, which minimizes the total costs of granting credit (Ross 2008). As observed by (Michalski 2007) an increase in the level of accounts receivables in a firm increases both the fund and the costs of holding and managing accounts receivables and both lead to a decrease in the value of the firm. Lazaridis and Dimitrios (2005) found that firms that pursue an optimal level of receivables increase their profitability. Juan & Martinez (2002) emphasized that firms can create value by reducing the number of days of accounts receivables and this confirmed the finding of DeLoof (2003) that established that the length of receivables collection period has a negative effect on a firm's performance. Sushma&Bhupesh (2007) also affirm that, putting in place a sound credit policy ensures proper debt collection procedures and is pivotal in improving efficiency in receivables management hence the performance of firms. Cash holding costs were measured through; Local currency term deposit rates, foreign currency term deposit rates, cash reserve ratio requirements held by the central bank of Kenya.

Microfinance Act

Regulatory supervision is an important part of the formal banking process. As microfinance institutions have developed and multiplied, they have become more closely regulated, which has allowed many of them to evolve into more traditional banks. But there are concerns over microfinance regulation, as complying with regulatory can be costly, particularly for smaller institutions. Even in the United States, the cost of complying with regulation for commercial banks is expensive. By one estimate the cost of compliance for commercial banks in the US is between 12 and 13 percent of banks non-interest expenditures (Elliehausen 1998).

Microfinance regulation includes both prudential and non-prudential regulation. Prudential regulation is particularly important in microfinance because the vast majority of clients do not have an easy path for self-advocacy. Non-prudential regulation involves the regulatory policies governing the day-to-day functions of banks' operations. Some researchers have speculated that regulatory obstacles have made it difficult for microfinance organizations to offer savings products, since accepting deposits means that they would be facing strict regulation unlike anything they faced when they were simply providing loans (Christen et al 2012).

The primary concern regarding regulation and supervision is its effect on profitability, and the indirect effects that a decrease in profitability has on the institution's business model. Several authors have speculated that increases in supervision affect the outreach of an institution. If the profitability of a MFIs decreases because of increased supervision, the institution decreases outreach in order to maintain its profitability. Most recently, Cull et al (2011) examined 245 MFIs in 49 different countries and conclude that supervision has a negative effect on outreach.

In Kenya, the Microfinance (Amendment) Act of 2013 regulates microfinance companies licensed to carry on micro finance business by accepting from members of the public of money on deposit repayable on demand or at the expiry of a fixed period or after notice. The Microfinance Regulations issued therein set out the legal, regulatory and supervisory framework. The principal object of the Microfinance Act is to regulate the establishment, business and operations of microfinance institutions in Kenya through licensing and supervision. The Act enables Microfinance Banks licensed by the Central Bank of Kenya to mobilize savings from the general public, thus promoting competition, efficiency and access (Microfinance (Amendment) Act, 2013).

Interest rates level

A large portion of an MFI's funds are sourced from commercial banks and the cost of these funds is the market interest rate. In fact, this financial expense, combined with the fees paid on such loans and deposits taken from the public, account for 23% of the interest rate charged by profitable microfinance providers (2010 MIX Publication). The study found that personnel and administrative expenses form the largest component (62%) of interest rates charged by sustainable microfinance providers, as per the report mentioned earlier. High transaction costs are associated with disseminating and recovering a large number of small-sized loans, often to clients in geographically dispersed areas with poor infrastructure and security conditions

According to a CGAP (2013) study An MFI will need to realize on its loans, if it wants to fund its growth primarily with commercial funds at some point in the future. Pricing Formula: The annualized effective interest rate (R) charged on loans will be a function of five elements, each expressed as a percentage of average outstanding loan portfolio: administrative expenses (AE), loan losses (LL), the cost of funds (CF), the desired capitalization rate (K), and investment income (II):

$$R = \frac{AE + LL + CF + K - II}{1 - LL}$$

Each variable in this equation should be expressed as a decimal fraction: thus, administrative expenses of 200,000 on an average loan portfolio of 800,000 would yield a value of .25 for the AE rate. All calculations should be done in local currency, except in the unusual case where an MFI quotes its interest rates in foreign currency.

The regional distribution indicates that rates vary more widely in Africa and Latin America than in other regions. Also, the rates are substantially lower in South Asia than elsewhere: the relative cost of hiring staff tends to be lower there, and at least in Bangladesh the political climate and the strong social orientation of the industry have probably led managers to focus more on keeping rates low (CGAP, 2013).

Campion et al, (2010) carried out a study to examine microfinance interest rates and their determinants in order to understand how these rates might be lowered. The study used financial data from 29 institutions in seven countries over a period of four years and explored patterns of cost and efficiency in Microfinance Institutions. The study found that improved operational efficiency comes with increased competition and institutional age, and also their regression analysis shows that there are Microfinance Institutions who charges low interest rate and still make profit.

Cotler, (2010) carried out a study to find what drives the lending interest rates in the Micro finance sector. using data of Microfinance Institution from Asia, Africa and America of 1299 institution for the period 2000 to 2008 and using set of regression equation, he found that the lending interest rate is negatively correlated with the productivity of financial institutions and with the number of years these Institutions have been operating and positively correlated with the funding costs. The productivity of the micro financial institutions could be increased by either use of technology or by lowering the cost of funding.

Locally, Ndung'u and Ngugi (2000) observed that large spreads occur in developing countries due to high operating costs, financial taxation or repression, lack of a competitive financial/banking sector and macroeconomic instability, that is, risks in the financial sector are high.

Interest rate levels were measured by; Margin rate set by microfinance bank is acceptability to customers, interest rate set coverage of cost of funds for microfinance banks, loan book growth as a result of prevailing interest rate level, increase in term deposits resulting from existing interest rate level

Critique of Literature Review

According to Nalukenge (2003) financial costs are generated by various processes, including the costs of searching and collecting relevant information. Indirect costs are caused by frictions

in the flow of credit funds, preventing credit markets from reaching efficient market equilibrium. Polski and Kearney (2001) noted that one type of transaction costs, interest expense, reflects the costs of funds for banking activities and the second type, noninterest expense, reflects the costs of information and coordination. The current study seeks to determine how financial costs affect interest rates on loans in MFBs in Nakuru County, Kenya.

According to Ross (2008), efficient cash management involves the determination of the optimal cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little. This was also established by Kwame (2007) who found that the setting up of a cash balance policy ensures prudent cash budgeting and investment of surplus cash. The current study seeks to establish whether cash holding costs have a statistically significant effect on interest rates on loans in MFBs in Nakuru County, Kenya.

The study by Sindani (2012) found out that Credit terms formulated by the microfinance institutions do affect loan performance; the involvement of credit officers and customers in formulating credit terms affects loan performance. Interest rates charged had a negative effect on the performance of the loans, the higher the interest rates the lower the loan performance. Credit risk controls adopted by microfinance institutions have an effect on loan performance, credit insurance, signing of covenants with customers, diversification of loans, credit rating of customers, reports on financial conditions, refrain from further borrowing had an effect on loan performance. The current study seeks to determine how credit administration costs influence interest rates on loans in MFBs in Nakuru County, Kenya.

Research Gaps

The study by Gonzalez, and Narain (2010) found that the countries with the lowest interest rates tend to have low operating costs. Such is the case in Ethiopia (where operating costs account for 9.4 percent of the gross loan portfolio) and Sri Lanka (7.7 percent). The current study will seek to establish the Influence of cost structure and interest rates level in microfinance banks in Nakuru County. The study by Nakulenge (2003) found that financial costs are generated by various processes, including the costs of searching and collecting relevant information. Indirect costs are caused by frictions in the flow of credit funds, preventing credit markets from reaching efficient market equilibrium. Kazuhito, and Yukiko, (2011) found that one of the underlying causes of Japan's prolonged economic stagnation is the non-performing or bad loan problem. Kwame (2007) established that the setting up of a cash balance policy ensures prudent cash budgeting and investment of surplus cash. The above studies were done in other countries and not in Kenya. The current study aims at investigating the effect of financial costs, credit

administration costs, loan default costs, and cash holding on level of interest rates focusing on microfinance banks in Nakuru County, Kenya

RESEARCH METHODOLOGY

Research Design

The study used survey research design. A survey research design involves the selection of a sample of respondents and administering questionnaires or conducting interviews to gather information on variables of interest (Sekeran, 2003). In a survey design, information was collected from respondents about their experiences and opinions about a particular topic under study in order to generalize the findings to the population that the sample was intended to represent (Orodho, 2005). This design was the most appropriate for obtaining factual and attitudinal information or for research questions about self-reported beliefs, opinion, characteristics and present or past behaviors (David & Sutton, 2004). Since this study seeks to obtain descriptive and self-reported information the descriptive survey design was appropriate. The survey allowed the researcher to expose the respondents to a set of standardized questions to allow comparison.

Target Population

There are 4 registered MFBs with 17 branching units operating in Nakuru County (CBK 2017). The study therefore, targeted members of the finance, operations, credit and management departments of the MFBs in Nakuru County. From each department, the management and two staff members were targeted bringing the entire target population to 127 staff made up of 41 finance staff, 44 operations staff, and 42 credit officers. The management members were targeted because they are responsible for the overall planning including the implementation of governance decisions in their MFBs.

Sampling Procedure

The study used stratified random sampling to sample the population. Stratified random sampling is a procedure in which the elements of the target population are classified into different groups or strata from where they are randomly sampled proportionately. Stratified sampling was used to categorize the microfinance banks into four strata while random sampling was employed to determine the final respondents that were interviewed based on years of experience they had served in their respective firms.

Sample Size

Sample size refers to the number of items to be selected for observations in order to obtain accurate information on the universe (Oso & Onen, 2008). To select the desired sample size from the total population, the formula by Nassiuma (2000) was used as shown below:

$$n = (Nc_v^2) / (c_v^2 + (N-1) e^2)$$

Where n= Sample size

N= Population

C_v= Coefficient of variation (take 0.5)

e = Tolerance at desired level of confidence, take 0.05 at 95% confidence level

Substituting; $n = (127 \cdot 0.5^2) / 0.5^2 + (127-1)0.05^2$

$$n = 56$$

Thus the sample size was 56 respondents.

Table 1: Sample Size

Staff (strata) Category	Population per stratum
Faulu	33
KWFT	63
Rafiki	93
SMEP	22
Total	127

Research Instruments

In this study questionnaires were used and the procedure was hand delivery and collected later on. The type of questionnaires given out was closed ended questionnaires to ensure that questions given were relevant and also allowed respondents enough time (Mugenda and Mugenda, 2003). Enough spaces were provided in order to include all the information. Also after interviewing a section of them were filled in the information as a questionnaire as another source of information. This method was suitable and effective to the study because it creates confidentiality. The questionnaire was self designed.

Pilot Testing

To ensure validity and reliability of the research instruments, the questionnaires were pilot-tested in microfinance banks in Bomet County where sample questionnaires were distributed to a small population of about 3 MFBs in 5 branches, management and staff in the area. These

respondents were not included in the final study. Modifications, additional questions and other shortcomings found in the questions were addressed.

Validity Test

The study opted for the Content Validity method of instrument validation. Content validity which is sometimes called logical or rational validity and face validity - which is personal judgment on the respondents' capability in understanding the concepts of the instrument and whether it addresses the research problem - of the research instruments, was established in order to make sure that they reflect the concepts of devolution and service delivery in question. First, the researcher went through the instruments and compared them with the set objectives and ensured that they contain all the information to answer the set questions and address the objectives. Secondly, expert judgment of the research supervisor was used to test the validity of the research instruments.

Reliability Test

Reliability is the measure of degree to which a research instrument yields consistent results after repeated trials (Kothari, 2003). To test reliability the study employed the internal consistency method which is a correlation method that measures the reliability of alternate items in the questionnaire based on responses from the pilot study. Cronbach's Alpha was calculated and used as a measure of internal consistency. The Cronbach's Alpha is a statistical measure that is generally used as a measure of internal consistence or reliability of a psychometric instrument. It measures how well a set of variables or items measure a single one dimensional aspect of an individual. The result from the pilot study was subjected to the Cronbach's reliability test for internal consistency. According to Fraenkel & Wallen (2000), a Cronbach reliability coefficient $\alpha = 0.60$ or more indicates that the instrument is highly reliable and, therefore, usable for the study. Subsequently, modifications, additional questions and any shortcomings that were found in the questions were duly corrected at this stage.

Data Collection

To ensure easy access to the study respondents, an introduction letter was acquired from Jomo Kenyatta University of Agriculture and Technology which authorized the researcher to collect the data from the microfinance banks. The questionnaire had a combination of questions that was in written form that was given to the respondent either in person or via mail. According to Robson (2002) in his study, he says that questionnaires are a form of survey that gives a scientific reassurance ring of confidence.

Data Analysis and Presentation

The data was analyzed using both descriptive and inferential statistical methods. Descriptive analysis was done using means and standard deviations to describe the basic characteristics of the population. Inferential statistics involves the use of Pearson's Product Moment correlation and multiple regression models to determine the nature of the relationship between the variables. Data obtained from the questionnaires was cleaned and edited before being coded and subjected to further analysis. The Likert scales in closed ended questions in the questionnaires was converted to numerical codes and was scored on 1-5 point scale in order of magnitude of the construct being measured, then be entered into the Statistical Package for Social Sciences (SPSS) version 23.0 computer program. The following multiple regression model was specified as; Research hypotheses were tested at 5% significance level using regression analysis outputs.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon;$$

Where;

Y - Level of interest rates in MFBs

β_0 - Constant

X_1 - Financial costs

X_2 - Credit administration costs

X_3 - Loan default costs

X_4 - Cash holding costs

$\beta_1, \beta_2, \beta_3$ & β_4 - Regression coefficients of the independent variables respectively

ϵ - Error term

ANALYSIS AND FINDINGS

The researcher sent out a total of 56 questionnaires to the staff of MFBs in Nakuru Town. Out of the 56 questionnaires, 42 were duly returned in time for data analysis representing a response rate of 75%. According to Mugenda and Mugenda (2003), 50% and above respondents' response rate is appropriate in conclusion of research findings. Response rate obtained was therefore appropriate in achieving study's research objectives.

Reliability

The study sought to ensure that the research scales were reliable. From the pilot test results as shown on table 4.5, the data instrument returned an overall reliability of 0.799 which indicated good reliability. According to Mohsen and Dennick (2011), a reliability coefficient of .70 or higher

indicates consistency. This thus enabled the researcher to go ahead with the main data collection exercise.

Descriptive Statistics and Discussions

Financial Costs

Respondents were asked to indicate their agreement with the following financial costs statements. Each item had a 5-point Likert-type scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5). Table 2 presents the results of the responses.

Table 2: Descriptive Analysis for Financial Costs

	5 SA	4 A	3 N	2 D	1 SD	Mean	Standard deviation
Application fee charged by lenders when applying for a new loan or additional funds on the current loan is high	(19.8%)	(47.7%)	(8.3%)	(12.1%)	(12.1%)	3.51	1.075
Settlement fee charged by lenders to process the settlement of the loan is high	(28.8%)	(52.3%)	(12.9%)	(3.0%)	(3.0%)	4.01	0.904
Valuation fee which is the cost of having the security for the loan, valued by a third party is reasonable	(33.3%)	(43.9%)	(15.2%)	(5.3%)	(2.3%)	4.01	0.953
Guarantee Administration fee Payable when the lender accepts a guarantee as security in connection with the loan to cover the additional administration required throughout the loan process is high	(3.1%)	(14.4%)	(54.5%)	(15.9%)	(12.1%)	2.80	0.836

Table 2...

Agent lodgement fee payable for an agent of the lender to attend the settlement of our bank's property or lodging the security interests attached to the loan is favorable	(3%)	(5.9%)	(3.9%)	(43.1%)	(44.1%)	2.98	0.996
Fixed rate lock fee charged when the bank applies for a fixed rate loan from lenders influences interest rate level set by the bank	(28.8%)	(40.2%)	(11.3%)	(11.4%)	(8.3%)	2.370	1.235

The findings of table 2 shows that (67.5%) agreed that application fee charged by lenders when applying for a new loan or additional funds on the current loan was high (mean=3.51, SD=1.275) while 81.1% of respondents agreed that settlement fee charged by lenders to process the settlement of the loan was also high (mean=4.01, SD=0.904). According to 77.2% of the respondents, valuation fee which is the cost of having the security for the loan, valued by a third party is reasonable (mean=4.01, SD=0.953). Most respondents (54.5%) were neutral on whether guarantee administration fee which is payable when the lender accepts a guarantee as security in connection with the loan to cover the additional administration required throughout the loan process was high (mean=2.80, SD=0.836). Agent lodgment fee payable for an agent of the lender to attend the settlement of our microfinance bank's property or lodging the security interests attached to the loan was found to be unfavorable according to 87.2% of the respondents (mean=2.98, SD=0.996). Fixed rate lock fee charged when microfinance banks apply for a fixed rate loan from lenders influences interest rate level setting as agreed by 69% of the respondents (mean= 2.370, SD=1.235). The results indicate that the data was also close to the mean values of indicators since some standard deviations were close to zero. However, there was minimal disparity in respondents' opinions with some of the responses registering standard deviation values greater than 1.

Credit Administration Costs

Respondents were asked to indicate the extent to which they agreed with credit administration costs measurable indicators. These statements were ranked on a 5-point Likert-type scale,

ranging from 'strongly disagree' (1) to 'strongly agree' (5). Table 3 presents the results of the analysis.

Table 3: Descriptive Analysis for Credit Administration Costs

	5 SA	4 A	3 N	2 D	1 SD	Mean	Standard Deviation
Document preparation fee -the cost of preparing the loan documents for new loan or application determines interest rate level	(34.1%)	(47.0%)	(10.6%)	(5.3%)	(3.0%)	4.04	0.968
Search Processing fee incurred for the bank to perform a title search or other searches relating to loan application influences interest rate level	(28.8%)	(50.0%)	(14.4%)	(4.5%)	(2.3%)	3.98	0.908
Building loan fee incurred for the additional administration required for a building loan and the administration of progress payments influences interest rate level	(4.5%)	(12.1%)	(12.9%)	(39.4%)	(31.1%)	2.20	1.142
Progress Inspection Fee incurred each time our Valuer inspects building works in order to recommend that we make a progress payment and is debited to the loan account at the time of the inspection influences interest rate level	(12.1%)	(5.3%)	(0.4%)	(33.0%)	(49.2%)	4.11	0.813
Security registration fee which is the amount payable to the Government Registry where the Security will be registered determines our interest rate level	(6.1%)	(21.2%)	(40.2%)	(16.7%)	(15.8%)	2.85	1.115
Legal fees charged by the appointed external Lawyers for legal advice and representation influences interest rate level	(4.6%)	(17.4%)	(36.4%)	(28.0%)	(13.6%)	2.71	1.052

The findings of table 3 indicate that document preparation fee which is the cost of preparing the loan documents for new loan or application determines interest rate level of microfinance banks according to 81.1% of the respondents (mean=4.04, SD=0.968). According to 78.8 % of respondents, search Processing fee incurred for the bank to perform a title search or other searches relating to loan application is a determinant in interest rate setting (mean=3.98, SD=0.908). Search processing costs includes costs that are generated by various processes, including the costs of searching and collecting relevant information (Nalukenge, 2003). However, building loan fee incurred for the additional administration required for a building loan and the administration of progress payments is not a key determinant in interest rate level setting as indicated by 70.5% of the respondents (mean=2.20, SD=1.142). Progress Inspection Fee incurred each time the microfinance banks' valuer inspects building works in order to recommend that the banks make a progress payment and is debited to the loan account at the time of the inspection does not influence interest rate level according to 82.2% of the respondents (mean=4.11, SD=0.813). 40.2% held neutral opinion on whether security registration fee which is the amount payable to the government registry where the security is registered determines is a key factor in interest rate determination (mean=2.85, SD=1.115). A fair majority of the respondents (41.6%) disagreed that legal fees charged by the appointed external lawyers for legal advice and representation influences interest rate level (mean=2.71, SD=1.052). Although there was disparity in respondents' opinions with some of the responses registering standard deviation values greater than 1, the results also indicate that the data was also close to the indicators' mean values since some standard deviations were close to zero

Loan Default Costs

Regarding loan default costs, respondents were asked to indicate their agreement with the following statements. Each item had a 5-point Likert-type scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5). Table 4 presents the results of the responses

Table 4: Descriptive Analysis for Loan Default Costs

	5	4	3	2	1	Mean	Standard
	SA	A	N	D	SD		Deviation
Simple variation costs charge for rate renegotiation or Loan term extension determines the interest rate level	(18.2%)	(48.5%)	(18.9%)	(9.1%)	(5.3%)	3.65	1.048

Bad loans high recovery costs influences the level of interest rate set by the bank	(32.6%)	(48.5%)	(12.1%)	(3.8%)	(3.0%)	4.04	0.936
The loan portfolio at risk influences the level of interest rate set by the bank	(24.2%)	(46.2%)	(12.9%)	(12.2%)	(4.5%)	2.27	1.097
Default fee charged any time borrowed loans are in arrears for more than 30 days influences interest rate level	(23.5%)	(35.9%)	(31.4%)	(5.6%)	(3.6%)	4.81	0.038
Non-performing loans lead to high insurance costs which determines the interest rate level	(6.1%)	(10.7%)	(46.1%)	(24.2%)	(12.9%)	2.82	0.083

The findings of table 4 indicate that according to majority of respondents (66.7%), simple variation costs charge for rate renegotiation or loan term extension determines microfinance banks' interest rate level (mean=3.65, SD=1.048). Bad loans associated high recovery costs are key factor influencing level of interest rate set by the microfinance bank according to a larger majority (81.1%) of respondents (mean=4.04, SD=0.936). According 70.4% of the respondents, loan portfolio at risk influences microfinance banks level of interest rate (mean=2.27, SD=1.097). Portfolio losses account for 6% of interest rates charged by successful microfinance providers (Microfinance Information Exchange Fehmeen, 2010). 59.4% of the respondents agreed that default fee charged any time borrowed loans are in arrears for more than 30 days influences interest rate level (mean=4.81, SD=0.038). However, a fair majority of respondents (46.1%) showed neutrality on whether non-performing loans lead to high insurance costs which determines the interest rate level (mean=2.82, SD=0.083). The results indicate that the data was also close to the mean values of indicators since some standard deviations were close to zero. However, there was minimal disparity in respondents' opinions with some of the responses registering standard deviation values greater than 1.

Cash Holding Costs

Respondents were asked to indicate the extent to which they agreed with cash holding costs measurable indicators. These statements were ranked on a 5-point Likert-type scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5). Table 5 presents the results of the analysis.

Table 5: Descriptive Analysis for Cash Holding Costs

	5 SA	4 A	3 N	2 D	1 SD	Mean	Standard Deviation
Local currency term deposit rates determines interest rates that are offered	(22.7%)	(59.1%)	(9.8%)	(5.3%)	(3.1%)	3.93	0.901
Foreign currency term deposit Rates determines interest rates that are offered	(6.8%)	(18.2%)	(26.5%)	(34.1%)	(14.4%)	2.69	1.133
Costs incurred in securing cash balances influences interest rate level set	(0.8%)	(4.5%)	(8.3%)	(47.0%)	(39.4%)	1.80	0.833
Cash reserve ratio held by the central bank of Kenya influences the interest rate level	(33.3%)	(10.6%)	(49.2%)	(4.5%)	(2.4%)	4.02	0.941

The findings of table 5 indicate 81.8% of the respondents, local currency term deposit rates determines interest rates that are offered (mean=3.93, SD=0.901) while foreign currency term deposit rates were found not to really determines interest rate level of microfinance banks as agreed by a fair majority of respondents 48.5% (mean=2.69, SD=1.133). 86.4% of respondents disagreed that costs incurred in securing cash balances influences interest rate level set by microfinance banks (mean=1.80, SD=0.833). A fair majority of respondents (49.2%) held neutral opinion on whether cash reserve ratio held by the central bank of Kenya influences the interest rate level (mean=4.02, SD=0.941). The results indicate that the data was also close to the mean values of indicators since some standard deviations were close to zero. However, there was minimal disparity in respondents' opinions with some of the responses registering standard deviation values greater than 1.

Interest Rate Level

Respondents were asked to indicate the extent to which they agreed with credit administration costs measurable indicators. These statements were ranked on a 5-point Likert-type scale,

ranging from 'strongly disagree' (1) to 'strongly agree' (5). Table 6 presents the results of the analysis.

Table 6: Descriptive Analysis for Interest Rate Level

	5 SA	4 A	3 N	2 D	1 SD	Mean	Standard deviation
Margin rate set by the microfinance bank is acceptable to many customers	(20.1%)	(7.8%)	(60.7%)	(7.3%)	(4.1%)	3.33	0.081
The interest rate usually covers all the operational costs	(1.6%)	(20.4%)	(20.5%)	(40.4%)	(17.1%)	2.72	0.123
We do make all the necessary loan loss provisioning in our interest rates	(46.0%)	(0.5%)	(40.4%)	(3.6%)	(9.5%)	2.66	0.06
Different interest rates level exists for different clientele and on different products	(33.3%)	(43.9%)	(15.9%)	(4.5%)	(2.3%)	3.03	0.842
The interest rate set usually covers the cost of funds	(6.1%)	(9.8%)	(18.9%)	(25.8 %)	(39.4%)	3.65	0.211
The loan book has grown as a result of interest rate level	(8.3%)	(15.2%)	(18.9%)	(40.9%)	(16.7%)	3.42	0.179
Non-performing loans have decreased as a result of regularly adjusted interest rate level	(28.8%)	(9.1%)	(47.7%)	(7.6%)	(6.8%)	3.84	0.131
There has been an increase of term deposits resulting from existing interest rate level	(18.9%)	(10.6%)	(11.4%)	(15.2%)	(43.9%)	3.45	0.256

The findings of table 6 indicate that most respondents (60.7%) held a neutral opinion on whether margin rate set by the microfinance bank is acceptable by customers (mean=3.33, SD=0.081). Interest rate charged by microfinance banks do no covers all the operational costs and cost of funds as indicated by 57.5% and 65.2% of the respondents respectively (mean=2.72, SD=0.123, mean=3.65, SD=0.211). A fair majority of respondents (46.5%) agreed that microfinance banks management make all the necessary loan loss provisioning in their interest rates (mean=2.66, SD=0.06). different interest rates level exists for different clientele and on different products according to 77.2% of respondents (mean=3.03, SD=0.842). 57.6% of respondents disagreed that the loan book had grown as a result of interest rate level (mean=3.42, SD=0.179). a fair majority (47.7%) of respondents held neutral opinion on whether non-performing loans have decreased as a result of regularly adjusted interest rate level as indicated by (mean=3.84, SD=0.131). 59.1% of respondents disagreed that there has been an increase of term deposits resulting from existing interest rate level (mean=3.45, SD=0.256). The results indicate that the data was also close to the mean values of indicators since all standard deviations were close to zero.

Correlation Analysis

Correlation between variables is a measure of how well the variables are related. It seeks to first determine the degree of interdependence of the variables under study (Table 7).

Table 7: Correlations between the independent and the dependent variables

		Financial Costs	Credit administration costs	Default costs	Cash holding costs	Interest rates charged on loans in MFBs
Financial Costs	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	42				
Credit administration costs	Pearson Correlation	.076	1			
	Sig. (2-tailed)	.427				
	N	42	42			
Default costs	Pearson Correlation	.045	.321	1		
	Sig. (2-tailed)	.433	.398			
	N	42	42	42		

Cash holding costs	Pearson	.722	.166	.342	1	Table 7...
	Correlation					
	Sig. (2-tailed)	.454	.187	.401	.000	
	N	42	42	42	42	
Interest rates charged on loans in MFBs	Pearson	.677*	.724*	.542*	.636**	1
	Correlation					
	Sig. (2-tailed)	.000	.000	.000	.001	
	N	42	42	42	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation results shown in Table 7 indicate that the associations between the independent variables and the dependent variable were significant at the 95% confidence level. Also, the inter-variable correlations between the independent variables were not strong enough to affect the relationship with the dependent variable; hence, the effects of multicollinearity were minimized.

At the 0.05 significance level ($r = 0.677$, $p < 0.05$), there is a statistically significant relationship between Financial Costs and Interest rates charged on loans and deposits by microfinance banks. It is thus inferred that Financial Costs predict Interest rates charged on loans and deposits with due to the variables positive non causal relationship. The analysis also indicates that Credit administration costs has a positive relationship with Interest rates charged on loans and deposits by microfinance banks ($r = 0.724$, $p < 0.05$). This could be argued to imply that the introduction of Credit administration costs contributes to Interest rates charged on loans where if Credit administration costs were improved Interest rates charged on loans in microfinance banks would improve as result of the strong positive association. The results further indicated that Default costs had a positive relationship with Interest rates charged by microfinance banks ($r = 0.542$, $p < 0.05$). This could also imply that Default costs contributed to Interest rates charged on loans by microfinance banks, whereby if Default costs were improved Interest rates charged on loans by microfinance banks would as well improve based on the strong positive relationship exhibited by the correlation results. The analysis also indicated that Cash holding costs had a positive relationship with Interest rates charged by microfinance banks ($r = 0.636$, $p < 0.01$). This implies that Cash holding costs contributes to Interest rates charged on loans by microfinance banks whereby if Cash holding costs were improved Interest rates charged would as well improve at strong positive relationship.

Test of Research Hypotheses

A multiple regression analysis was carried out to establish the joint causal relationship between the independent variables and the dependent variable. The formulated research hypotheses were tested using multiple regression analysis.

Table 8: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.684 ^a	.467	.455	1.19188

a, Predictors: (Constant), Financial costs, Credit administration costs, Default costs, Cash holding costs.

From table 8, it's evident that there strong relationship between the independent variables and the dependent variable ($R^2=0.467$). R^2 of 0.467 indicates that 46.7 % of variation in dependent variable is explained by independent variables that are included in the model.

Table 9: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	24.9376	4	6.2344	4.3886	0.000
1	Residual	53.9828	37	1.4206		
	Total	78.9204	41			

a. Dependent Variable: Interest rate level

b. Predictors: (Constant), Financial costs, Credit administration costs, Default costs, Cash holding costs.

From the results (table 9), the mean square of the residuals is small (1.4206) compared the mean square of the regression (6.4206). F-statistics of the regression is also statistically significant proving significant relationship between the predictor variables and the dependent variable ($F=4.3886$, $p<0.05$). ANOVA results indicate that the overall model was significant.

Table 10: Multiple Regression analysis coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	2.486	.376		10.482	.000
Financial costs	.424	.056	.430	3.243	.006
Credit administration costs	.566	.073	.564	4.675	.000
Default costs	.364	.045	.412	3.527	.003
Cash holding costs	.311	.033	.321	2.132	.002

a. Dependent Variable: Interest rates level

From the results on table 10 the following regression equation was obtained using the unstandardized beta coefficients. Unstandardized beta coefficients are used in determining how a unit change in independent variable will affect change in the dependent variables.

$$Y = 42.456 + 0.424X_1 + 0.566X_2 + 0.364X_3 + 0.311X_4$$

The regression analysis results table 10 further indicates that there exist a statistically significant positive relationship between financial costs and interest rate level charged by microfinance banks ($\beta = 0.424$, $p < 0.05$). Numerically, the 0.424 beta coefficient of financial costs variable implies that for every one additional financial cost incurred, interest level increases by 0.424. The null hypothesis (H_{01}) was thus rejected by accepting the alternative hypothesis that financial costs have significant influence on interest rate level set by microfinance banks. The results are consistent with those of Goonzale (2009) who in his study found that the relatively high price microfinance Institution has to pay for money they borrow contributes substantially to the interest they charge borrowers.

The results indicated a statistically positive relationship between credit administration costs and interest rates level ($\beta = 0.566$, $p < 0.05$). This means that for every one additional credit administration cost incurred, interest rate increases by 0.566. The null hypothesis (H_{02}) was thus rejected by accepting the alternative hypothesis that credit administration costs have significant influence on interest rate level set by microfinance banks. Sindani (2012) in her study on Effectiveness of Credit Management System on Loan Performance: found out that Credit administration costs formulated by the microfinance institutions do affect loan performance and interest rate level.

It was also established that there exist a statistically significant positive relationship between loan default costs and interest rates level ($\beta = 0.364$, $p < 0.05$). This means that for every additional default cost incurred, interest rates level increases by 0.364. The null hypothesis (H_{03}) was thus rejected by accepting the alternative hypothesis that loan default costs have significant influence on interest rate level set by microfinance banks. Most of the defaults arise from poor management procedures, loan diversion and unwillingness to repay loans which makes financial institutions adjust their interest rates to cushion themselves against default risks (Kohansal & Mansoori, 2009).

Further, It was established that there exist a statistically significant positive relationship between cash holding costs and interest rates level ($\beta = 0.311$, $p < 0.05$). This implies that for any additional cash holding cost incurred interest rates level increases by 0.311. The null hypothesis (H_{04}) was thus rejected by accepting the alternative hypothesis that cash holding costs have

significant influence on interest rate level set by microfinance banks. Firms that are efficient in cash holding and management determine their optimal credit terms which minimize the total costs of granting credit (Ross, 2008).

CONCLUSIONS

It can be concluded that application fee charged by lenders when applying for a new loan or additional funds on the current loan is high are affects microfinance banks borrowing while settlement fee charged by lenders to process the settlement of the loan was also high. Conclusions can also be made that agent lodgment fee payable for an agent of the lender to attend the settlement of our microfinance bank's property or lodging the security interests attached to the loan is unfavorable. It can be concluded that financial costs have a significant influence on interest rate level of microfinance banks. There exists a positive significant relationship between the influence of financial costs and interest rate level of microfinance banks.

It can be concluded that document preparation fee which is the cost of preparing the loan documents for new loan or application, search Processing fee incurred for the bank to perform a title search or other searches relating to loan application influence interest rate level of microfinance banks. It can be concluded that credit administration costs have a significant influence on interest rate level of microfinance banks. There exists a positive significant relationship between influence of credit administration costs and interest rate level of microfinance banks.

It can be concluded that simple variation costs charge for rate renegotiation or loan term extension, default fee, bad loans associated recovery costs were reported to be key factors in influencing level of interest rate set by the microfinance banks. It can be concluded that loan default costs have a significant influence on interest rate level of microfinance banks. There exists a positive significant relationship between influence of loan default costs and interest rate level of microfinance banks.

It can be concluded that local currency term deposit rates are key determinants of interest rates level determination among microfinance banks. However, costs incurred in securing cash balances and foreign currency term deposit rates do not really determine interest rate level of microfinance banks. It can be concluded that cash holding costs have a significant influence on interest rate level of microfinance banks. There exists a positive significant relationship between influence of cash holding costs and interest rate level of microfinance banks.

LIMITATIONS OF THE STUDY

Mugenda & Mugenda (2003) explain that limitations are aspects of a research that may influence the results of the study but over which the researcher has no control. The study was limited to responses to a self-report which was acquired from the respondents who are the microfinance banks staffs. The researcher faced a lot of challenges during the study which are not limited to the following limitations; Other institutions or branches were not willing to give information as they are not allowed to answer questionnaires without authorization from the top authority. Other respondents were not willing to take part filling questioner even after being assured of confidentiality as they were busy and others are not allowed to give confidential information to public. Micro finance banks books are not detailed, only generalized as cost hence the researcher had difficulties in obtaining secondary data.

RECOMMENDATIONS

It can be recommended microfinance banks should carefully assess various sources of finance and choose those financiers whose cost of capital is not very high. This will enable microfinance banks to minimize financial costs that are related to borrowing including the application fee charged by lenders, settlement fee charged by lenders to process the settlement of the loan and the agent lodgment fee payable for an agent of the lender to attend the settlement of microfinance bank's property.

It was recommended that microfinance banks minimize costs that are related to credit administration such as document preparation fee which is the cost of preparing the loan documents for new loan or application, search Processing fee incurred for the bank to perform a title search or other searches relating to loan application interest rate level of microfinance banks. Reduction of credit administration costs will enhance loan products uptake as a result of reduced prevailing interest rates levels.

It was recommended that microfinance banks should ensure a properly and through scrutiny of customers who wish to take up a credit facility (loan). Through a thorough assessment, delinquency level will be mitigated and thus loan default costs such as bad loans recovery costs, simple variation costs and default fee will be minimized.

It was also recommended that through a gap analysis where maturity liabilities (local and foreign currency term deposit rates) is matched with maturity of assets (loans), the interest rate level will be competitive thus attracting customers and enhancing existing customers loyalty.

Further studies can be conducted to establish the other factors which affect Interest rates charged on loans in MFBs in Nakuru County apart from the factors used in this study. The

study recommends that another study be conducted in Kenya on the relationship between financial costs and economic growth to establish the contributions of financial costs on the growth of the economy. The study has not considered all microfinance banks in Kenya in its findings. Further research should be conducted widely across the microfinance banks in the country to give more representative results and to reduce any potential bias in the results. A study can be conducted to determine the benefits and challenges involved in credit administration costs on Interest rates charged on loans in MFBs in Nakuru County, as this was the variable found to be most significant in the current study.

REFERENCES

- Addae-Korankye A. (2014). Causes and Control of Loan Default/Delinquency in Microfinance Institutions in Ghana. *American International Journal of Contemporary Research*, 4(12).
- America, G. (2017). The Impact of Grameen America. Retrieved from <http://www.grameenamerica.com/impac>
- Bansal, P. (2005), Evolving sustainability. A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26 (3), 197-218.
- Campbell, J. Y., Lo, A. W. C., & MacKinlay, A. C. (1997). *The econometrics of financial markets*. princeton University press
- Campion, A., Rashmi, K., Wenner, M. (2010). 'Interest Rates and Implications for Microfinance in Latin America and the Caribbean'. IDB Working Paper No. 77.
- Cazacu, D., Dolgaya, T., Bruckner, T., Kortenbusch, M. (2016) *Increasing Measures in Financial Institutions*. Frankfurt: KfW Development Bank.
- CBK, (2017). *Directory of Licensed Microfinance Banks*. www.cbk.go.ke
- CBK, (2017). Public Notice on Unlicensed Deposit-Taking Entities and Pyramid Schemes. <https://www.centralbank.go.ke>.
- CBK, (2017, APRIL 6). public-notice-unlicensed-deposit-taking-entities-pyramid-schemes. Retrieved from <https://www.centralbank.go.ke>: https://www.centralbank.go.ke/uploads/press_releases/2131159338_Press%20Statement%20-%20Public%20Notice%20on%20Unlicensed%20Deposit-Taking%20Entities.pdf.
- CGAP (2004) *Microfinance Product Costing Tool*. Technical Tools Series No. 6. Consultative Group to Assist the Poor: Washington.
- CGAP (2010), *Consumer Protection Regulation in Low-Access Environments: Opportunities to Promote Responsible Finance*. Available here (as of April 20, 2012): <http://www.cgap.org/gm/document-1.9.42343/FN60.pdf>.
- CGAP (2013) *Microcredit Rates and Their Determinants 2004-2011*. Consultative Group to Assist the Poor: Washington.
- CGAP, (2004). *Microfinance Product Costing Tool*. Technical Tools Series No. 6. Washington: Consultative Group to Assist the Poor:.
- CGAP, (2012, APRIL 20). *Consumer Protection Regulation in Low-Access Environments*. Retrieved from *Opportunities to Promote Responsible Finance*.: <http://www.cgap.org/gm/document-1.9.42343/FN60.pdf>
- CGAP,(2013). *Microcredit Rates and Their Determinants*. Washington: Consultative Group to Assist the Poor.
- Christen, R. P. (2012). *A Guide to Regulation and Supervision of Microfinance*., Washington, DC: Consultative Group to Assist the Poor.
- Christen, Robert Peck, Kate Lauer, Timothy Lyman, and Richard Rosenberg, (2012). *A Guide to Regulation and Supervision of Microfinance*, Washington, DC: Consultative Group to Assist the Poor.
- Cotler, P. (2010). "What drives lending interest rate in microfinance sector": microfinance institution in Africa, Asia and America. *Microfinance Workshop Groningen University* 21- 28.

- Cull, R. D. (2007). Financial performance and outreach: a global analysis of leading MicroBank. *Economic Journal*.
- Cull, R. D.(2007). A global analysis of leading microbanks. *Financial performance and outreach: , F107-F133*.
- Cull, R., Demirgüç-Kunt, A. &Morduch, J. (2007) 'Financial performance and outreach: a global analysis of leading MicroBank', *Economic Journal*, 117, 107–133.
- Cull, R., Demirgüç-kunt, A., &Morduch, J. (2007). Financial performance and outreach: A global analysis of leading microbanks. *Economic Journal*, 117(517), F107-F133.
- Elliehausen, G. (1998). *The Cost of Bank Regulation: A Review of the Evidence*. Washington,: United States Federal Reserve System, Staff Studies Series.
- Elliehausen, Gregory, 1998. "The Cost of Bank Regulation: A Review of the Evidence." United States Federal Reserve System, Staff Studies Series, Number 171. Washington, DC: Board of Governors of the Federal Reserve System.
- EYGM, (2014). *Challenges in microfinance: an EY perspective*. LONDON: Ernst & Young Global Limited.
- Fehmeen, L. (2010). *Determinants of Interest Rates in Microfinance*. Retrieved from <https://creationinvestments.com>.
- Fehmeen, L. (2010). *Determinants of Interest Rates in Microfinance* <https://creationinvestments.com>.
- Fernando, N. A. (2006) 'Understanding and Dealing with High Interest Rates on Microcredit: A Note to Policy Makers in the Asia and Pacific Region Asian Development Bank <http://www.adb.org>.
- Fernando, N. A. (2006). *Understanding and Dealing with High Interest Rates on Microcredit*. Retrieved from <http://www.adb.org>.
- FSD, (2009). *FinAccess National Survey: Dynamics of Kenya's changing financial landscape*.www.fsdkenya.org.
- FSD, (2013). *FinAccess National Survey. Profiling developments in financial access and usage in Kenya*.www.fsdkenya.org.
- FSD, (2013). *FinAccess National Survey. Profiling developments in financial access and usage in Kenya*. Retrieved from www.fsdkenya.org
- FSD, (2009). *FinAccess National Survey: Dynamics of Kenya's changing financial landscape*. Retrieved from www.fsdkenya.org
- Gonzalez, A., Narain, S., & Rosenberg, R. (2007). "Efficiency Drivers of Microfinance Institutions (Microfinance Institutions): The case of Operating Costs". *Micro Banking Bulletin*, Issue 15.
- Gonzalez, N. S. (2007). *Efficiency Drivers of Microfinance Institutions (Microfinance Institutions): The case of Operating Costs*. *Micro Banking Bulletin*, Issue .
- Grameen America, (2017).*TheIm pact of Grameen America* <http://www.grameenamerica.com/impact>
- Greenbaum, S. I., Thakor, A. V., & Boot, A. (2015). *Contemporary Financial Intermediation (3rd Edition)*. Elsevier.
- Hermes, A.T. (2011). *Outreach and Efficiency of Microfinance Institutions*. In: *World Development*, Vol. 39, No. 6.
- Huseyin, Y., (2011). *Another Perspective to Corporate Cash Management: A New Model*
- IFRS (2014). *International Accounting Standard 23: Borrowing Costs*.
- Kessy, S. & Urio, F. (2006).*The Contribution of Microfinance Institutions to Poverty Reduction in Tanzania*. www.microfinancegateway.org/library.
- Kessy, S. (2016). *Contribution of Microfinance Institutions to Poverty Reduction in Tanzania*. Retrieved from www.microfinancegateway.org/library
- Laubach, T., & Williams, J. C. (2016). *Measuring the natural rate of interest redux*. *Business Economics*, 51(2), 57-67.
- Mawudor, G. B. (2016). *Financial Sustainability of Church Related Organizations: An Empirical Study on Kenya*. Geneva: Globethics.net,.
- Mawudor, G. B. (2016). *Financial Sustainability of Church Related Organizations: An Empirical Study on Kenya*. Geneva: No. 17.
- Mokeira, W. I., & Omar N. (2017). *Effect of Number of Transactions on the Financial Performance of Commercial Banks in Mombasa*. *Imperial Journal of Interdisciplinary Research*, 3, (5), 98-106.

- Mugenda, O., & Mugenda, A (2003). Research Methods: Quantitative and Qualitative Approaches, Nairobi: Acts Press.
- Mugenda, O. (2003). Research Methods: Quantitative and Qualitative Approaches, Nairobi: Acts Press.
- Nalukenge, I. K. (2003). Impact of Lending Relationships on Transaction Costs Incurred by Financial Intermediaries: A dissertation presented in partial fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University.
- Nassiuma, D. (2000). Survey Sampling; Theory and Methods. Nairobi: Nairobi University Press.
- Nassiuma, D. (2000). Survey Sampling; Theory and Methods: Nairobi University Press.
- Natamba, B., Mangeni, P., Nakabuye, Z., Akankunda, B., & Agasha, E. (2013). Transaction costs and outreach of microfinance institutions in Uganda. *Issues in Business Management and Economics*. 1 (6), 125-132.
- Nitin, A. (2006) Costing of MFBs. Microfinance Commercial Team, Rural Micro-banking & Agribusiness Group, ICICI Bank.
- Pearce, J., & Robinson, R. Jr. (2007). Strategic Management. 10th Edition. McGraw- Hill International Edition.
- RCA. (2017). What do you mean by Savings and Credit Cooperatives? Retrieved from <http://www.rca.gov.rw/> on 16th january, 2018.
- Rosenberg, R., Gonzalez, A., Narain S. (2009), "The new Moneylenders: are the poor being exploited by high Microcredit Interest Rates". CGAP Occasional Paper No. 15. Washington, D.C.
- Shepherd, R. W. (2015). Theory of cost and production functions. Princeton University Press.
- Wells, D. (2010). Sustainability in Australian Business: Fundamental Principles and Practice, Sydney: John Wiley & Sons Australia, Limited.
- Yero, J. (2017). Test Of Free Cash Flow Hypothesis: Evidence From Nigerian Quoted Food & Beverages Firms. Retrieved from <https://www.researchgate.net/publication/267452470>
- Yero, Jibril &, Aisha & Hamman, Mahmoud. (2014). A Test Of Free Cash Flow Hypothesis: Evidence From Nigerian Quoted Food & Beverages Firms. Available from: <https://www.researchgate.net/publication/267452470> [accessed Oct 09 2017].