# Risk-Return Trade off and Loan Default Consideration in Lending Decisions: A Case Study of Whence Financial Services

**BY**

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# DECLARATION

I declare that this research project is my own work and it has not been submitted for any degree or examination in any other University.

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This research project has been submitted for examination with my approval as university supervisor

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# DEDICATION

I would like to dedicate this research project to my father Mr. Teddy Chiyokolu Chikweti, my wife Naomi Nchepeshi Chikweti and my daughter Jessica Chikweti. They have been a great source of motivation and inspiration, especially in regard to ensuring that I never give up on my dreams and aspirations. I thank them for every sacrifice they have made to enable me reach this far.

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# ABSTRACT

In a bid to construct a decision making model to remedy the contradictions encountered in lending decisions, the study explored the dysfunctionality caused by risk-return and loans default considerations in lending decisions. Whence Financial Services, a microfinance institution was selected as a case study on the basis of being a good representative of the type of institutions that have exploited the niche under review in terms of size, capacity and range of services offered. Documentary review, survey questionnaire, in-depth interviews and a workshop were used to collect data for the study. Through analysis of this data, the study found that the dysfunctionality was primarily due to risk considerations and the risk was mainly due to information asymmetry between lenders and borrowers. Therefore, the decision making model was constructed through establishment of a series of actions to be taken before a lending institution settles for guidelines to inform lending decisions, subject to the information asymmetry challenge. The model ensures the risk is managed through weaving together risk management measures to deal with the information asymmetry. The study established that the risk of default was at about 36% and this was way too high compared to the 2% residual risk internationally accepted for microfinance institutions. Therefore, in order to reduce this risk to acceptable levels, the Government and the central Bank of Zambia (BoZ) should take keen interest in local microfinance start-ups which usually start out operations using the money lenders certificate and support them through regulation and constant monitoring. This would greatly help in managing their risk exposure which is core to the dysfunctionality under review which continues to adversely affect the entire finance industry through moral hazard, adverse selection and excessive indebtedness. This is because such a development would increase customer and other stakeholder confidence in the microfinance institutions and this in turn would be vital as it would enable microfinance institutions to collaborate with other stakeholders, a development central to resolving the information asymmetry constraint.

**Keywords**: Risk, Loans default, Microfinance, moral hazard, adverse selection, excessive indebtedness and information asymmetry.

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# Chapter one

# Introduction

## 1.1 Background of the study

The amount of lending by Commercial banks to households increased by 642% from 2007 to 2016 in Zambia, this was part of the 200% increase in the numbers of borrowers from 88,098 in 2007 to 263, 447 in 2016, (Bank of Zambia, 2007, 2016). The Central Bank of Zambia (BoZ) produces several statistics that are important for planning purposes, analysis and to facilitate evidence based policy formulation and decision making. One of such publications is the annual booklet on financial and other statistics which provides information on various aspects of the Zambian financial system and economy. This booklet is designed to be used by researchers, investors and the general public to gain insight primarily on developments in the financial sector and other statistics. In view of the foregoing, the aforementioned statistics from the booklet under consideration highlights a phenomenon that changed the financial services landscape in Zambia. This was because the increase in lending to households brought about a niche (a clientele cluster) in the market place for clients that needed short term financing as they serviced their long term loans with commercial banks whenever they were faced with urgent financial needs that did not require relatively big amounts of money to sort out.

The genesis of the whole development can be traced to the aforementioned period, 2007 to 2016 when a lot of households got long term loans from mostly commercial banks. The development was further propelled by the described phenomenon being characterized with a majority of the households who got the loans under consideration either getting them for the first time despite having worked for some time or were new entrants (newly employed staff in the market) hence were not experienced in productively using such long term loans (Bank of Zambia, 2007, 2016).

The other aspect as would be expected of a novice borrower was that most of these loans were not invested in money generating ventures despite reasonably reducing the respective borrower's net income after the commencement of loan deductions.

It is also worth noting that the long term loans under review were mostly gotten by two (02) kinds of borrowers, those who got them to buy land with the view of venturing into real estate and those who bought consumables like household goods or vehicles. For the group that got the loans to venture into real estate, the total loan amount was usually not enough to complete their projects hence they started working on their projects slowly with whatever residual income they remained with. On the other part, those who bought household goods or vehicles also had a similar challenge of reduced income either due to maintenance or fuel costs for those who bought vehicles, which were mostly refurbished ones, or due to the fact that the household goods were not generating any income. It is also worth acknowledging that these borrowers under review justifiably planned to live by the residual income for the period of the loan deductions. However, due to a poor saving culture, a less developed insurance industry in Zambia and generally the failure for mortals to fathom the future, they found themselves unable to deal with unforeseen short term financial demands. This then led to the creation of a niche of borrowers for short term loans who were servicing long term loans with other financial institutions. This was because the reduced net income made it extremely difficult for individuals to deal with any unforeseen short term financial challenges in light of the long term financial commitment for their long term loans.

In view of the foregoing, it is now ideal to state that despite this development bringing about new opportunities in the Zambian financial services market, commercial banks and other big financial institutions did not show much interest in serving the niche. This has been attributed to the constituents of the niche mostly being classified as high risk clients and in most cases the cost of reducing the risk associated with such borrowers outweighing the benefits relative to the risk appetite of investors in the respective commercial banks or financial institutions. This is what led to the mushrooming of several financial institutions such as the case study organization, Whence Financial Services which were small enough to have the flexibility required to somewhat manage the risk associated with the niche under review. However, due to the high default risk associated with borrowers in this niche, financial institutions tended and have continued to charge high interest rates relative to commercial banks (Ghysels, Santa-Clara, and Valkanov, 2005).

It is also worth appreciating that despite this niche continuously growing during the period under review, it has continued to be associated with high default rates. Quiet alright, lot of factors have been attributed to this development but most of them according to several studies border on high loan interest rates (Dash and Kabra, 2010;Asari, et al., 2011). This association of high loan interest rates for high risk borrowers and high defaults consequently brings about the predicament of how to sustain the niche by striking a balance between lenders charging an interest rate high enough to compensate them for servicing a high risk clientele while at the same time not charging too much that it leads to a huge debt burden on the respective borrowers, leading to defaults.

### 1.1.1 Background of Whence Financial Services

Whence Financial Services is a dully registered financial services business unit of Whence Limited which is a conglomerate start-up company registered under the Companies Act of 2017 in Zambia. Whence Financial Services is headquartered in Lusaka Zambia in which it has three (03) branches and the other branches are found in North-Western and Copperbelt Provinces of Zambia. It started lending money in 2014 when the niche under consideration that was created by the increase in households who had gotten long term loans from commercial banks was approaching its peak. Whence Financial Services was chosen as an ideal case study organization because it started operations using the money lenders certificate hence its major business had since been money lending. Whence Financial Services target niche has been clients who meet the risk profile of the borrowers under consideration and its offerings have since been tailored to the risk profile of the respective borrowers in terms of loan size, duration and general conditions.

### 1.2 Statement of the Problem

When lending institutions are pricing loan facilities (establishing interest rates), they take a lot of factors into consideration. However, most such factors seem to always border on the risk involved, which primarily is a consideration of the prospective borrowers' ability to pay back the loan (client not defaulting) subject to the lenders' desired return. The foregoing highlights two (02) considerations as being key to lending decision making, the risk-return trade off and loans

defaults considerations. The problem comes in when establishing to what extent either consideration should be considered to arrive at the best decision for both lenders and borrowers. This best decision is one which encourages a sustainable status in which lenders are able to charge interest rates high enough to sustain operations profitably while the same rates not being too high so much as to cause financial distress on borrowers. This challenge mainly stems from the fact that on the one hand, we have the risk-return trade off consideration supported by the standard capital market theory which states that the more risk one is willing to take, the higher the return one should be able to get or is expected to get as compensation for taking on high risk, (Fama and MacBeth, 1973; Ghysels, Santa-Clara, and Valkanov, 2005), this usually justifies charging high risk clients high interest rates. On the other hand, several researchers have tested the association of loan defaults with high loan interest rates regardless of risk considerations and concluded that loan defaults were highly correlated with high loan interest rates as a result of increased debt burden on borrowers (Hoque and Hossain ,2008; Adela and Iulia ,2010; Dash and Kabra, 2010;Asari, et al.,2011).

In light of the foregoing, the risk-return trade off and loans default considerations somewhat conflict with each other, especially considering that they do not seem to guide to what extent which consideration should influence the lending decision to avoid dysfunctionality. This development consequently creates a predicament for lending institutions, especially those that offer short term loan facilities to a high risk clientele like the case study organization. This is because institutions like the case study organization usually service clients with an already reduced net income due to servicing long-term loans with other financial institutions and the risk is further increased by the requirement for such clients to bring in payments on their own at agreed time frames. It is against this background that a problem arises when coming up with an interest rate that is high enough to compensate the lenders for the high risk of servicing a high risk clientele while at the same time ensuring that such a rate was not so much high that it led to a huge debt burden on the borrower, subsequently leading to defaults. This study is necessitated by the observation that despite most stakeholders being alive to this dilemma, very little has been done to harmonize the situation as it is still not known how the predicament can be synchronized. Therefore, the unresolved predicament almost always creates an unsustainable status because a slight bias towards any of the two considerations during loan pricing decision making works against one of the key stakeholders (lenders or borrowers).

It is worth highlighting that most of the studies that have been done in this area thus far have been in isolation, that is, they have either concentrated on the risk return trade-off hypothesis or over the high loan interest rate and high default rate correlation. The challenge has been that such studies despite highlighting the respective relationships do not solve the problem as they have not led to the construction of a composite model that addresses the predicament under review. It is against this background that a study that explores the aforementioned perspectives and constructs a composite model which could aid better decision making in the regard under consideration is necessitated, hence the significance of this study.

The study is therefore very important to policy makers, Small and Medium Scale Enterprises (SMEs), individuals and financial institutions. Especially those that can be categorized as SMEs such as the case study organization which have capitalized on the opportunities brought about by this niche despite its risk profile. If the study is not done, the predicament might lead to more undesirable developments such as financial distress on borrowers, more defaults, liquidity constraints for lenders and several other stakeholders, consequently adversely affecting the general economic welfare of Zambia or any jurisdiction with a similar market niche.

## 1.3 Purpose of the Study

The study explores the contradiction between two (02) considerations which are widely used in establishing loan interest rates. This is the Risk-Return trade off and loan defaults considerations. Therefore, the purpose of this study is to construct a composite model that aids decision making while significantly reducing or removing the adverse effects of a bias towards any of the considerations. It is believed that such a model would facilitate better lending decisions making by striking a balance between charging an interest rate high enough to compensate for servicing a high risk clientele while at the same time not charging too much that it leads to a huge debt burden on the respective borrowers, leading to defaults. This would consequently lead to a sustainable relationship between lenders and borrowers.

## 1.4 Research objective

➢ To explore the contradiction of risk return trade off (i.e, interest charged on loans) and loans default consideration in lending decisions and construct a composite decision making model to remedy the contradiction.

## 1.5. Research questions

➢ What is the extent of defaults in Whence Financial Services (Realist ontology)?
➢ What would be the effect of loan interest rates on the risk profile of lenders (Realist ontology)?
➢ How would lenders manage default risk (Pragmatic)?
➢ How could the predicament of Risk-return trade off and Loan defaults to lenders and borrowers be resolved (Pragmatic)?

## 1.6. Scope of the Study

This is a study within Accounting and Finance. It takes a mixed methods approach and is restricted to Whence Financial Services operations in Lusaka over a period four (04) years. The study is biased towards clients who get short term loans and have to personally take in payments to liquidate the loans on their own at agreed periods or by being deducted directly from the borrowers bank account at specific dates

## 1.7. Conceptual Framework

In response to the need for a principle-based guidance to help entities design and implement effective enterprise-wide approaches to risk management, COSO issued the Enterprise Risk Management (ERM) Integrated Framework. This framework defines essential enterprise risk management components, discusses key principles and concepts. The basic premise is that the whole school of thought is designed around identifying risks, measuring and prioritizing the risks, designing possible solutions, selecting amongst the possible solutions and implementing, and monitoring the results, ERM (2004). This basic rationale is to identify risks, measure the risk and prioritise it, design possible solutions, select from the possible solutions and implement, monitor the results and get back to identifying risk in a cyclical manner as illustrated in the diagram below:
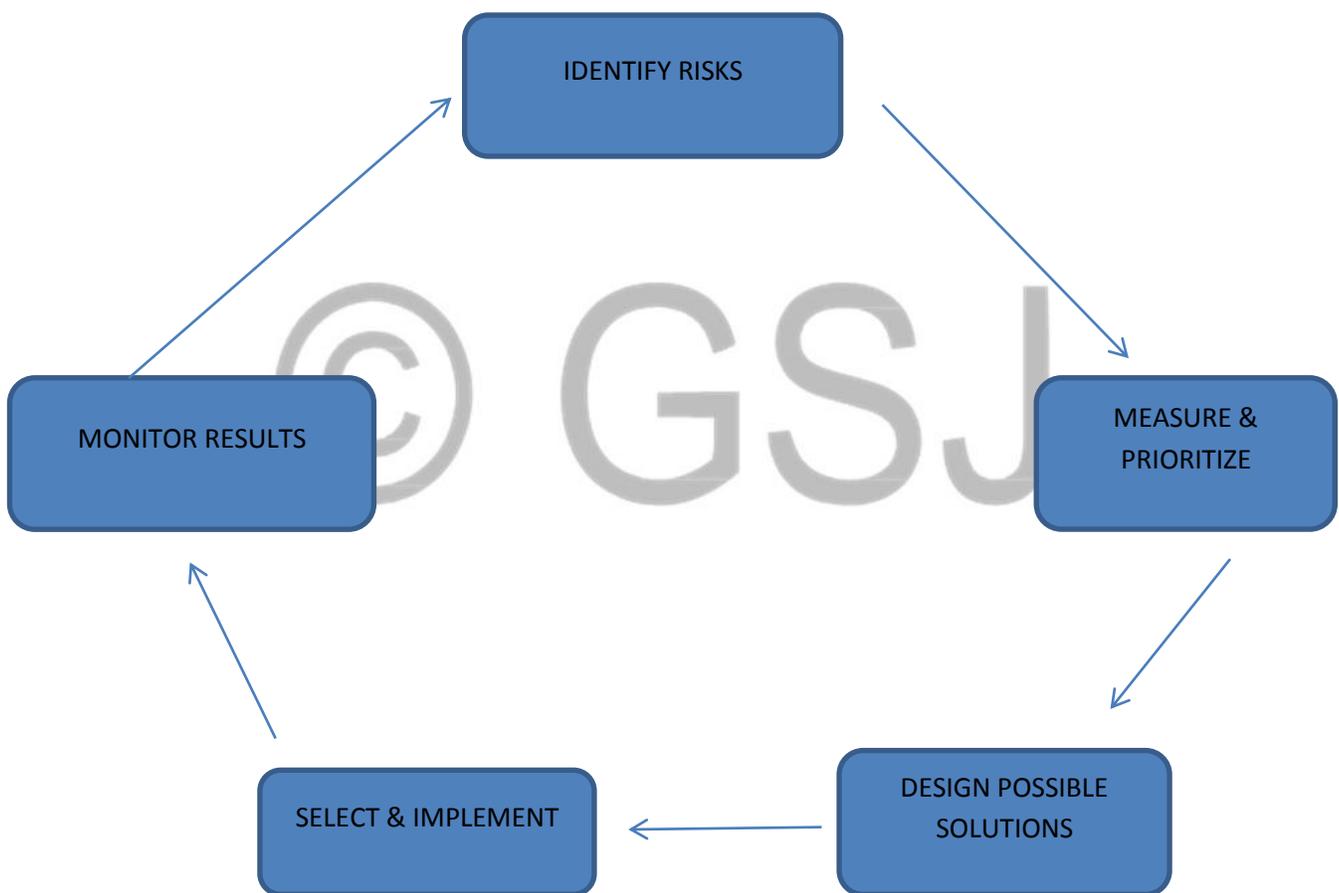


**Figure: 1.1: Enterprise Risk Management Framework Tenets**

**(Adapted from ERM, 2004)**

# Chapter two

# Literature Review

## 2.1. The Concepts of Loan Delinquency and Loan Default

In order to appreciate the dilemma presented to lenders and borrowers in determining loan interest rates as guided by the risk-return trade off and relatively high loan interest rates leading to high defaults theories, it is paramount to understand the genesis of the predicament, which is Loan delinquency. Such an understanding is very important as it guides on measuring of the extent of defaults in any lending organisation affected by the development. There are several definitions or descriptions of Loan delinquency and defaults by different academia. However, the most appropriate for this study is the definition by The Consultative Group to Assist the Poor (CGAP), which states that a loan is delinquent when a payment is past its contractual due date (CGAP, 1999). The CGAP contend that a delinquent loan becomes a defaulted loan when the chance of recovery becomes minimal. Therefore, CGAP further guides that delinquency measurement is significant 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 (03) 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).

Loan delinquency then leads to default which according to Ameyaw-Amankwah occurs when a debtor fails to meet their legal obligations according to the debt contract. This essentially means a debtor has not made a scheduled payment, or has violated a loan covenant (condition) of the debt contract (Ameyaw-Amankwah, 2011). Therefore, a default is the failure to pay back a loan.

The basic premise is that a default may occur if the debtor is either unwilling or unable to pay the debt. This is supported by Murray who advances that 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).Likewise, Pearson and Greeff (2006) defined default as a risk threshold that describes the point in the borrower's repayment history where he or she missed at least three instalments within a 24 month period. It is also worth appreciating that the aforementioned definitions do not mean that the borrower had entirely stopped paying the loan and therefore had been referred to collection or legal processes; or from an accounting perspective that the loan had been classified as bad or doubtful, or actually written-off. Loan default can be defined as the inability of a borrower to fulfil his or her loan obligation as at when due (Balogun and Alimi, 1990).

## 2.2. Causes of Loan Delinquency/Default

A lot of causes of Loan defaults have been advanced by many researchers of such studies and it is only fair to sample a few as most have a lot of similarities despite being presented differently. According to Ahmad (1997) causes of loan default include; lack of willingness to pay loans coupled with diversion of funds by borrowers, wilful negligence and improper appraisal by credit officers. Balogun and Alimi (1988) also added to the list by stating that the major causes of loan default as loan shortages, delay in time of loan delivery, high loan interest rate, age of borrowers, poor supervision and none profitability of SMEs. Furthermore, Akinwumi and Ajayi (1990) attributed the causes of loan defaults to net income size of the borrower, family size for households, scale of operations for SMEs, family living expenses and exposure to sound management techniques for SMEs. In the same vein, Olomola (1999) attributed the ordeal to loan disbursement lags and high loan interest rates contending that these could significantly increase borrowing transaction costs and adversely affect repayment performance.

The aforesaid findings are further supported by Berger and De Young (1995) who after surveying different banks in India identified the main causes of default of loans from industrial sector as improper selection of an entrepreneur, deficient analysis of project viability, inadequacy of collateral security/equitable mortgage against loans, unrealistic terms from the perspective of

borrowers such as high interest rates and schedule of repayment, lack of follow up measures and default due to natural calamities. This is further verified by the study conducted by Okorie (1986) in Ondo State in Nigeria which revealed that the nature, time of disbursement, supervision and profitability of borrower/enterprises which basically a consideration of how much needs to be paid back relative to how much is available, contributed to their payment ability and consequently the rate of default. Okorie's study brought out other critical factors associated with loan delinquencies apart from the ones already mentioned such as type of the loan; term of the loan; interest rate on the loan; poor credit history; borrowers' income and transaction cost of the loans.

Other researchers such as Okpugie (2009) have also extensively studied the subject under review and concluded that alarming default rates could be attributed to high interest charged by the microfinance banks. This was also established by Vandel (1993), who established that high interest rates charged by banks tend to facilitate defaults by borrowers. Gorter and Bloem (2002) pursued the matter and while describing defaults as Non-Performing Loans (NPLs) attributed the main causes to having an inevitable number of wrong economic decisions by individuals and went further to add plain bad luck (bad weather, unexpected price changes for certain products, etc.), their focus was mainly on small scale farmers as borrowers. Consequently Gorter and Bloem went on to advise that under the circumstances, 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.

The NPLs notion was also pursued by Nishimura, Kazuhito, and Yukiko, (2001) who stated that one of the underlying causes of Japan's prolonged economic stagnation was the NPLs or bad loan problem. They contended that some of the loans made to companies and industries by financial institutions during the economic bubble era became non-performing when the bubble burst during the time Japan went through an economic meltdown. They further contended that the development delayed structural reforms and prevented the financial intermediary system from functioning properly. Other researchers who pursued the matter brought up by Nishimura, Kazuhito and Yukiko found that most of the defaults arose from poor management procedures, loan diversion and unwillingness to repay loans, Kohansal and Mansoori (2009). They further

added 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 among others.

Other researchers have attributed most of the causes of defaults to poor management issues by lenders. This can be seen from the findings of the study conducted by Warue(2012) in Kenya which concluded that most cases of loan delinquency were caused by microfinance institutions and self-help groups' management failure to efficiently manage specific factors which are considered to be within the direct control of the MFIs' and Self Help Groups' (SHGs') management. Warue was of the belief that external factors outside the direct control of the MFIs' and SHGs' management contributed little to the levels of delinquent loans. Therefore, the study recommended that for effective management of delinquency, it was critical for MFIs to understand and focus more on the internal causes of delinquency which they have more control over and seek practical and achievable solutions to redress these problems.

Studies over the subject have also attributed the causes of defaults to general economic factors. One of such studies was centred on the turmoil that hit mainstream financial markets in which it was indicated that in the early stages of the global economic downturn, MFIs experienced significant liquidity shortages, but as the capital markets recovered, concerns turned from funding to asset quality (CGAP, 1999). A good example would be Fofack (2005) who studied causal analysis and macroeconomic implication on loan default in Sub-Saharan countries. Fofack's study revealed that, macroeconomic stability and economic growth are associated with a declining level of default; whereas adverse macroeconomic shocks coupled with higher cost of capital and lower interest margins are associated with a rising scope of Non-Performing loans. These findings of attributing NPLs to general economic factors are also supported by the findings of Waweru & Kalani (2009) who noticed the aspect in Kenyan banks and attributed the development to national economic downturn, reduced consumer buying ability and legal issues. Waweru & Kalani's study also contended that NPLs and loan delinquency concepts are similar.

In the same vein, other studies attribute the causes of defaults to inadequate financial analysis, Sheila (2011). This assertion by Sheila was based on the premise of Loan officers in respective Loans departments not critically analysing loan applications to ensure that they have sound

financial base such that the risk of loss is mitigated in case of default. Sheila who did the study in Uganda also attributes the matter of defaults to the issue of inadequate loan support and advises that the loan personnel collectively ascertain the position in which the borrower finds themselves so that in case they needed support, it's availed accordingly. The research by Sheila further identified illiteracy and inadequate skills on both the lenders and borrowers as another cause of default. This was based on the understanding that most SMEs proprietors engaged in traditional, low paying businesses, rarely diversify their businesses and skills, and lenders had very little understanding of the dynamics of such borrowers making the situation worse. All this implies that since the borrowers do not have enough knowledge about alternative marketable skills, their businesses fail to function properly at the most. The study also identified that most SMEs did not have basic business management skills. As a result, they did not know how to properly account for their businesses activities.

Kasozi in similar studies found that disappearance of loan clients was another reason for defaults and this was an attribute of borrowers on which the lenders had very little if not no control, Kasozi (1998). Similar to the findings of Sheila (2011), Kasozi also found that management of the business for SMEs was an essential part which if not critically analysed led to defaults based on the observation that many borrowers lacked the technical skills such record keeping and basic accounting skills to establish the profitability of their respective businesses. Kasozi further observed that competition factors also cause loan losses and default and this was based on the observation that the existence of many banks/MFIs being involved in the business of lending made it difficult for such lenders to attract customers consequently not asking for adequate collateral or unreasonably flexible conditions for the borrowers.

Inadequate or non-monitoring of micro and small enterprises by banks, delays by banks in processing and disbursement of loans, diversion of funds, over-concentration of decision making, where all loans are required by some banks to be sanctioned by Area/Head Offices were also found to be causes for defaults (Bichanger and Aseya, 2013). Another study on the subject in Kenya found that the Characteristic of the business was also a cause for defaults, Nguta, and Guya (2013). NGuta and Guya in their study found that high cases of default of loan repayment were common (67.9%) in the manufacturing sector. This was followed by the service industry

(64.0%) then by the agriculture (58.3%).The trade sector recorded the least (34.9%) cases of loan repayment defaults. According to the duo, the observed attributes could be attributed to the development that the trade industry deals in fast moving products on high demand which could translate into good business performance and increased revenue that accounts for low default cases. Further that among businesses that had been in operation for less than two years, 52.4% had defaulted in loan repayment, 44.2% of those that had been in operation for a period of between two and five years had defaulted. Nguta and Guya noted that the highest (78.6%) default cases were regular in businesses that had been in operation for a period of between five and ten years while defaults were rare (0.0%) in business that had survived for more than 10 years. In addition, the duo very informative study concluded that businesses located within the municipality had high loan repayment default rates (55.7%) as compared to businesses outside municipality.

## 2.3. Measures to Control Loan Delinquency/Default

After extensively exploring the causes of defaults, one thing came out prominent despite several causes being highlighted and this is certain developments happening which reduce the borrowers' ability to settle the respective loan. It is also clear that some of the causes are within the influence of the lenders while others are not. In view of this, it is rational to pursue the control of the cause for concern with good risk management practices and this would significantly reduce loan delinquency/Default. It is against this background that despite several measures being available I focus on those that are within the control of the lenders in constructing possible solutions. Therefore, it is worth appreciating that at best, all the measures will be guided by the precepts prescribed by best practice risk management frameworks and in this case the COSO Enterprise Risk Management (ERM).

In light of the foregoing, the measures will be prescribed subject to the four (04) ERM risk management measures of transferring the risk, accepting the risk, reducing the risk or avoiding the risk entirely, ERM (2004). In light of the foregoing, it is also worth appreciating that the risk of defaults with regard to the niche under consideration is a risk that at best cannot be transferred through insurance as the premium payments would not be cost effective considering the risk is

too high. The risk can also not be avoided because that would mean abandoning the niche as most banks and big financial institutions have. The risk under consideration is also too high to be born entirely without any intervention (risk acceptance). This then leaves us with the risk management measures prescribed by ERM which is accepting some of the risk and reducing the risk through controls so that the residual risk is within the risk appetite of all key stakeholders.

In light of the aforesaid, I will explore the studies already done to construct measures to deal with the matter of defaults and establish why they could have not reduced the risk so that the residual is not so much as to leave the niche under consideration unattractive. Kohansal and Mansoori (2009) were of the view that, lenders devise various institutional mechanisms aimed at reducing the risk of loan default. These include pledging of collateral, third-party credit guarantee, use of credit rating and collection agencies, etc. Kay Associates Limited (2005) cited by Aballey (2009) states that bad loans can be restricted by ensuring that loans are made to only borrowers who are likely to be able to repay, and who are unlikely to become insolvent hence lenders should avoid those susceptible to default. Aballey further contended that credit analysis of potential borrowers should be carried out in order to judge the credit risk with the borrower and then reach a lending decision. Also that loan repayments should be closely monitored and whenever a customer defaults action should be taken. Other studies over the matter recommends that banks avoid loans to risky customers, monitor loan repayments and renegotiate loans when customers get into difficulties (Ameyaw-Amankwah, 2011).

Other researchers base the solution to the problem on prompt action as they recommend that MFIs to deal with the issue of defaults would need a monitoring system that highlights repayment problems clearly and quickly, so that loan officers and their supervisors can focus on delinquency before it gets out of hand(Warue, 2012).Sheila, (2011) on the matter is of the view that proper and adequate appraisal is key to controlling or minimising default and places this measure as the basic stage in the lending process. Sheila's view is supported by Anjichi (1994) who contended that the appraisal stage is the heart of a high-quality portfolio. Anjichi advocates that such an appraisal would include diagnosing of the business as well as the borrower. Sheila explains that before beginning the process of collecting information on the client for the purpose of determining credit limits, the loan officer should have specific information available which

will guarantee that the data and figures provided by the client will have a pro-margin error (Sheila, 2011).

This aspect by Sheila is reasonable and is centred on the majority of the information obtained by the loan officer being through direct interaction with the client in such a way that each loan analysis provides valuable insights for evaluating the application for the future client. However, most clients withhold a great deal of information making the evaluation a difficult and less reliable exercise. Sheila further recommends that the loan officer should visit the home or the work place of the client with the main objective of determining whether the client needs the loan programmes or not. The rationale of such is that the information obtained through such visits would help the loan officer to assess the ability of the borrower to effectively utilise the loan.

A number of researchers have also identified time or duration as an important consideration with regard to dealing with the default issue. One of such researchers is Hunte (1996) who observed that the time to assess the applicant's credit worthiness also mattered. Hunte contended that the longer it takes to assess a loan applicant the better, this he based on the understanding that a shorter time was not enough to fully assess an applicant to the level that adequately address the default concern. Hunte's position was further supported by a study the following year by Bigambah (1997) who contended that it was necessary to analyse the client before a loan was issued to ensure the applicant was thoroughly screened to assess creditworthiness as loan appraisal was a key factor.

Bigambah based this position on the observation that in a number of cases, the information received is not verified and in some cases the information received is doctored or falsified. Therefore, it is paramount that credit risk analysis is prioritised and this should be based on capital, character, capability, purpose, amount, repayment, term and security. Bigambah contend that basing on the knowledge that would be acquired through the recommended appraisal, the lender should investigate the customer's record, ability and experience. Further that the issues of security as by tradition tends to come towards the end and should only be considered after the borrowing proposition has met a predefined criterion. Bigamhab states that the significance of the recommended process of appraising the client is that it helps the officer to assess the ability

of the borrower to utilize the loan effectively. Furthermore, the appraisal process enables a loan officer to predict the likely changes or effect on the business for which the money is being lent out.

The other point emphasized in the lending process critical to minimising default is the disbursement stage according to Sheila (2011). Sheila regarded this aspect as the most demanding to borrowers which often times leads to failure to meet their loan obligation because most of the financial institutions take long to disburse funds to successful applicants and this affects those SMEs involved in production or trading. Sheila used those involved in agriculture for the study and stated that such a development affected the borrowers in that they ended up taking long to buy inputs needed to carry out their activities consequently missing out on deadlines.

Adding to the list of researchers over defaults and related aspect is Anjichi (1994) who stated that, many of the agonies and frustrations of slow and distressed credits can be avoided by good loan supervision which helps in keeping a good loan good. Anjichi contended that the aforesaid could be done by visiting the borrowers' premises to investigate the general state of affairs, checking on the state of borrowers' morale and physical stock of finished goods. This was based on the premise that if the MFI is sensitive to business developments, it can revise its own credit policies and loan procedures as well as advising its customers and such should assist a great deal with regard to the defaults issue.

Saywer also identified prompt action as critical to dealing with the default issue and advocated for guidelines including immediate recognition of non- performing loans, re-appraising the borrowers' financial position Saywer (1998). Saywer contended that it was essential for the lender to take an active interest in the borrower and monitor the borrowers' continuing ability to repay the debt. On monitoring, Saywer states that the lender should focus on the actual sales per month for SMEs or net income for households and compare with the monthly budget and reasons for any variance and that this regular touch with the borrower will enable the lender to receive early warning of any problem. This aspect of Saywer's stance is supported by Bigambah (1997)

who observed that the frequent visits help to ensure that the client was still in a state in which they could settle the loan.

Another interesting possible solution on the default issue is the idea of group lending and several researches have been done to authenticate the hypothesis. In the view of Saloner (2007), group lending minimizes loan default. Saloner states that many microfinance institutions borrow in groups and choose to lend to groups of borrowers rather than on an individual basis. This all school of thought is based on the understanding that the general organisation of group lending consists of a group of borrowers who work together, support, and mentor one another hence this would maximise the impact that the loan can have on each individual and enable group members not to default. This is because in many group lending situations, the members of the group are responsible for selecting new members and for the timely repayment by other members, known as joint liability. As a result, Saloner states that group lending tends to lead to superior performance by the borrowers in operating their businesses and better rates of loan repayment. Several studies have been performed on the group lending aspect of microfinance, and most research shows it to be an effective method and one such a study is by Woolcock (2001) who builds on the theory that group lending leads to improved performance by the borrowers.

Woolcock explains that in additional to the support and guidance from the group, there is also a strong incentive for each individual to operate effectively due to one's personal reputation within the group. Furthermore that, since groups are generally formed of members from the same community, repaying loans on time and in full affects a borrowers standing within the community at large, not limited to the lending group. The same concept is also supported by Islam (1995) who examined the effect of lending groups from the perspective of the microfinance institutions and found that group lending provided a strong system of peer monitoring, which in turn provides the institutions with the ability to be more flexible with their finances, either charging lower rates than other lenders or charging the same rate and receiving higher rates of repayment with lower risks.

On a different note, it is worth appreciating that although most of the research on joint lending finds positive effects, an empirical study of microfinance institutions and borrowers in Thailand

concluded that, contrary to conventional understanding, joint lending does not have a significant effect, either positive or negative, on the repayment of loans (Kaboski and Townsend 2005). However, the general consensus in the literature on group lending and group liability is that group lending benefits both the borrowers and the institutions. The borrowers receive the additional support and assistance from a group of individuals dealing with the same types of issues. On the other side, the institutions are able to lower costs by relying on the lending groups to provide these services that otherwise would be required from the institution itself.

## 2.4. Understanding the composition of a loan interest rate

In order to properly inform the study, it is paramount to consider what exactly makes up a loan interest rate as this is cardinal to rationalize how banks and MFIs are able to justify rates that might be considered to be excessive. Broadly speaking there are four constituents to the whole interest rate and these determine the final rate that is quoted by banks or financial institutions as shown in the diagram below.
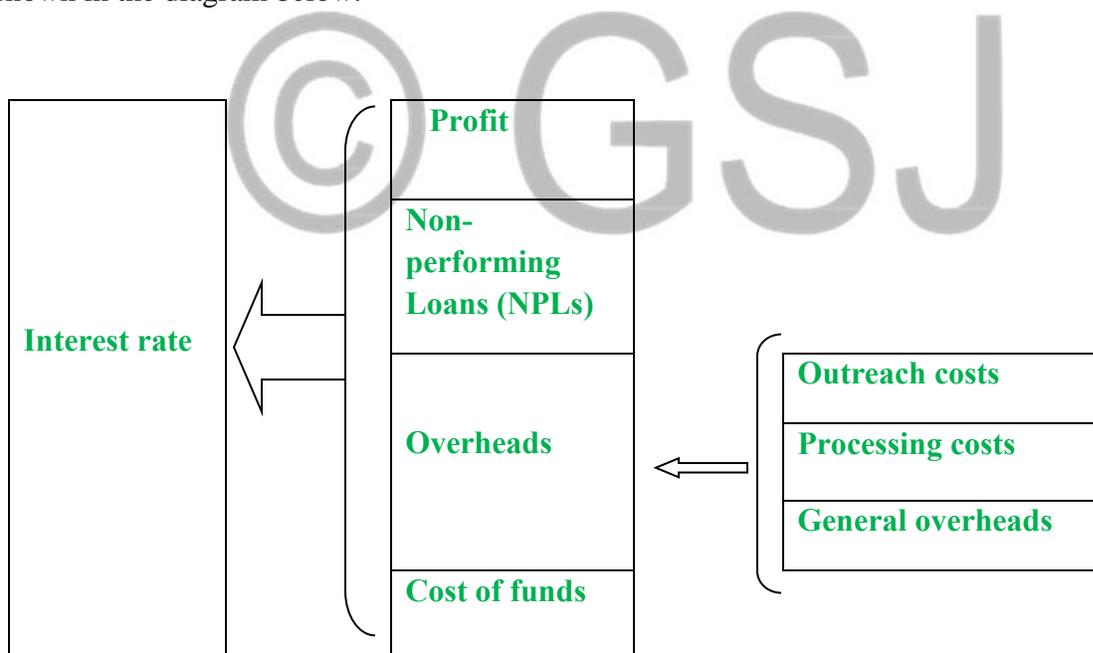


**Figure 2.2: Breakdown of interest rate**
(Adapted from Miller, 2013)

The cost of funds is the amount that the financial institution must pay to borrow the funds that it then lends out. For a commercial bank or deposit taking microfinance institutions this is usually

the interest that it gives on deposits. For other institutions it could be the cost of wholesale funds, or a subsidised rate for credit provided by government or donors. Other MFIs might have very cheap funds from charitable contributions, (Miller, 2013).

The overheads reflect three broad categories of costs. The first is the general administration and overheads associated with running a network of offices and branches. The second is the cost of credit processing and loan assessment, which is an increasing function of the degree of information asymmetry. Finally, there are outreach costs; the expansion of a network or development of new products and services must also be funded by the interest rate margin. It is the overheads, and in particular the processing costs, that can drive the price differential between larger loans from banks and smaller loans from MFIs. Overheads can vary significantly between lenders and measuring overheads as a ratio of loans made is an indicator of institutional efficiency, (Miller, 2013).

Lenders must also absorb the cost of bad debts that must be written off in the rate that they charge. This allowance for non-performing loans (NPLs) means that lenders with effective credit screening processes should be able to bring down rates in future periods, while reckless lenders will be penalised. The final charge that lenders will include is a profit margin, that again varies considerably between institutions and, Banks and commercial MFIs with shareholders to satisfy are under greater pressure to make profits than NGO or not-for-profit MFIs, (Miller, 2013).

## 2.5. The concept of high interest rates leading to defaults

It is worth appreciating that there is an emerging theoretical literature modeling the relationship between heterogeneous terms of borrowing and default risk. Some of the researchers who have pursued the matter are Araujo and Pascoa (1999) who present a general equilibrium model relating greater default risk to higher interest rates. Others have studied the matter of high interest rates with regard to risk-based pricing and are of the view that if lenders didn't charge very high-risk households sufficiently high interest rates, lending to this group may prove relatively unprofitable consequently not sustainable Bostic (2002). Bostic argues that without risk-based pricing with regard to high-risk households, investors would not be compensated for taking a high risk in order to meet operating costs and remain competitive consequently the niche

would not be attractive to any investors. However, with risk-based pricing, these high-risk borrowers can be assessed and suitable premiums placed on them rather than be completely denied the service. The school of thought is supported by Yezer (2002) who contends that even lenders who once dealt exclusively with low-risk groups are motivated to service a much broader range of borrowers with risk-based pricing which supports the rationale of compensating high risk taking by servicing high risk clients with a higher loan interest rate.

One advocate for high loan interest rates for high risk clients is Basu (1997) who is mainly credited for the conventional explanation of the concept of high loan interest rates for high risk borrowers subject to his Lender's Risk hypothesis. Basu describes this hypothesis by examining the interest gap between the formal and the informal credit markets with regard to high default rates and all this relative to a risk premium being paid by the borrowers who meet the profile of a high risk client. Therefore, this theory basically describes a competitive credit market with possible information and enforcement problems subsequently leading to the justification of high loan interest rates for high risk clients. Basu bases the argument on the findings that there is no perfect mechanism of risk reduction in the theory, especially for the informal sector hence the development.

## 2.6. Impact of higher lending rate on the repayment of loan

There are a number of researchers who subscribe to the notion of higher lending rates having an adverse impact on the repayment of the loan. For instance Stightz (1989) and Basely (1994) contend that higher lending rates lead to wrong selection of loan applicants and those who take a high risk to get their loan from the universal financial institutions with high interest rates are those with high level of default rate in the banking industry. Stightzwho extensively researched over the matter in Ghana argues that with a high interest rate on the loan, the borrowers will not be able to invest it and get a return which can pay for the loan. Stightz gives an example of the status quo in Ghana where at the time of the study the lending rate was around 32%, this meant that if a borrower got a loan at this rate, the respective borrower was required to invest it and get return more than 32% as other than that the borrower would not be able to pay for the loan. Now the challenge comes in on the consideration of how rational it is for such a rate of return in most industries or markets in the case of SMEs.

Another problem synonymous with higher lending rates in relation to loan repayment according to several studies is that the high lending rate has been noticed to get borrowers into debt traps. This has been attributed to the phenomenon in which the borrower tends to use the money borrowed to pay for the previous loan rather than investing the money in what it's intended for (Aryeetey et al, 2000). Consequently, the higher rate on loans tends to lead to higher costs of operation for the investor which will result in the high price of the output of their product.

## 2.7. Information asymmetry

In the field of microeconomic theory, a line of research investigates the role of information mismatch amongst different market players. This phenomenon is referred to as information asymmetry and is fuelled by the existence of imperfect information, which essentially is one market player having more information than the other player which would otherwise have a significant influence on the former's decision making as described by Barbosa &Marcal (2011). Barbosa & Marcal contend that the rationale of information asymmetry is based on the imperfect information phenomenon in a respective market. The two researchers advance that in markets with information asymmetry, which are mostly 'more trust based markets' such as the credit market, purchasers and sellers or service providers are unable to gain access to same information, either owing to the high cost involved in obtaining it or because it is totally impossible or extremely difficult to confirm a participant's reliability with regard to information provided for the transaction.

Several other tudies have established that the consequences of information asymmetry vary between an incorrect definition of the price of market transactions owing to the high risk by one of the parties (moral hazard) and the complete lack of feasibility of obtaining the information (adverse selection process) (Akerlof 1970, Varian 2000, Eaton 1999). The best way to understand the whole concept is through an illustration and a number of markets can be used. One of the commonly used illustrations is one propagated by Akerlof (1970) who begins his study with the automobile market. Akerlof selected the automobile market because of its tangible nature and ease of understanding than because of its importance or realism. In Akerlof's illustration, information asymmetry is developed as of the moment at which a car owner is acquainted with all qualities of the car put up for sale, while all likely buyers are not. In this case

it would not be possible for buyers to detect whether it is a quality automobile or not. As a result, in this market buyers will usually pay average prices based on the perception of the percentage of good and bad cars in the market (and not really on quality as this is a latent characteristic). When a person decides to try and sell a bad car, this affects the perception of buyers on the average quality of cars in the market, with the resulting decrease in the price of such goods. This external feature drives off the sellers of good cars (who expect to receive a fair price for their goods), causing a fault in the market, also known as adverse selection (Varian 2000). Varian contends that once the aforementioned condition takes place consecutively, at most it creates the concept of a lemons market in which good quality goods are forced out of the market and only the poor quality items will remain.

Another illustration of the phenomenon under review is that of the insurance market. The same information asymmetry and adverse selection reasoning may apply though in the opposite sense, with the increase in the price for the goods and services. According to Eaton (1999), should the insurance companies be able to detect the risk features of each one of their insured customers, in a perfect balance, then they would be able to provide infinite types of insurance in the market, each one with a price adequate to each customer, under a situation of complete information. Eaton contended that owning to the existence of latent characteristics arising from the prohibitive costs in obtaining this information, price is determined by the relative dimensions of each group, whereby an average price is found. Eaton further asserts that in this case, the low-risk insured parties will subsidize the insurance policies for high-risk individuals. Therefore, an adverse selection takes place inasmuch as the proportion of high risk purchasers of insurance increases, by increasing excessively the cost (and the subsidy) for low-risk purchasers, who will consequently be removed from the market.

Another paradox related to the information asymmetry phenomenon is the moral hazard problem. The aforementioned illustrations of concepts were related to the latent characteristics of the quality of the goods and services or of the parties to which services are provided. According to Eaton (1999), the moral hazard problem is one more class arising from situations with asymmetrical information, with regard to latent actions. In view of the foregoing, Varian (2000) suggests that if the individuals have something completely insured, they would tend not to be as

careful, as they would not have to account for the cost of their actions. As a result, their incentive to take care of an insured object would be reduced. When compared to standard market behaviour, which assumes that the amount of goods traded in a competitive market is determined by the condition under which demand is equal to supply, a paradox appears. With the existence of moral hazard, such as in this case involving the insurance market, consumers would like more and more to purchase additional insurance, insurance companies would be willing to sell more insurance if they could count on customer willingness to be more careful, but the latter would rationally choose to be less careful.

Eaton points out that markets in which there was a moral hazard may tend to disappear in the adverse selection process. Eaton refers to markets in which some of the parties are unable to detect any features or actions and contend that in a balanced situation they may act with some form of rationing. Further that in the case of markets such as the credit market, even those companies wishing to supply more credit than they do, would not be willing to do so owing to the change in customer incentives to act adequately. In the light of the risk of reducing business arising from information asymmetry and the resulting negative impact, a number of mechanisms are naturally created by market participants in order to reduce the effects of quality uncertainty. The individuals penalized are encouraged to find a way out of the dilemma imposed by the latent features, a reaction known as signalling (Eaton 1999). Another process emphasized by Eaton to minimize the impacts of asymmetry in information is the sorting process made by companies, which should be performed as far as possible. Insurance companies seek to qualify their customers as much as possible with the creation of as many profiles as possible, using their certificates to adapt them to each risk group. Companies in an admission process employ formal (experience, titles) or informal (references) certificates to select their employees. In conclusion, potential purchasers may rate goods according to the guarantees provided.

## 2.7.1. Information asymmetry in the credit market

Several researches have been conducted and established that information asymmetry is especially important when assessing the credit market. Most such researchers have related this importance to adverse selection situations in the market, resulting in problems between likely lenders and borrowers, including situations of credit rationing, impacts on competitiveness and

market structure (Barbosa &Marcal, 2011 and Pinheiro & Moura, 2001). In summary, these researchers emphasize that information asymmetry plays an important role in the credit market's dynamics. They further point out the number of actions by credit market participants in minimizing the impacts of information asymmetry and contend that the credit market's activities should be defined, in particular the credit granting process and the resulting specification of interest rates.

According to Pinheiro and Moura (2001), a credit decision varies in accordance with the nature of lender and borrower. They stated that credit applications are handled automatically through statistical methods, based on information supplied by customers and *information available in credit agencies*. Further that bearing in mind each borrower's nature, a score is attributed which serves to define each customer's credit limit or a maximum loan amount, and the appropriate interest rate for that customer. Pinheiro and Moura expounded that the moment when information asymmetry in the credit market becomes more apparent and its effects more important, are in those situations in which lenders are less aware than their borrowers of the risks assumed in financing a project (or of their real payment ability, in the case of individuals). They further stated that in such cases, competitive balance may be inefficient. In the same vein, Leland and Pyle (1977), in accordance with the work of Akerlof (1970), suggests that information asymmetry in the financial market is particularly pronounced.

According to Leland & Pyle, borrowers have information on their wiliness to repay, on their already pledged collateral, or further, companies are aware of their skills in industry and of internal information on their projects. However, on the other hand all this information is difficult to access by lenders. Therefore, Leland & Pyle contended that the foregoing results in a moral hazard process involving the exaggeration of positive qualities, whether of individuals or of the projects defended by companies in search of loans and this prevents the existence of a direct transfer of information with quality among market participants. Further that without a transfer of information, a process which reduces asymmetry, the financial markets operate inefficiently.

Problems related to information may be mitigated by a number of actions, such as the use of collateral or financial commitments by borrowers through funding part of a project themselves as suggested by Costa & Blum (2007). Another instrument to mitigate the effects of asymmetry

propagated by Freixas and Rochet (1999) is monitoring, a clear form for improving efficiency regarding information asymmetry, with the ex-ante use of sorting. The other suggestion from Costa and Blum is that one of the forms for reducing problems with information is the use of a borrower's reputation, built by means of a positive performance background in situations during and prior to a loan. However, Leland and Pyle (1977) propose that there may be organizations that compile and sell information on particular asset classes, as this information may benefit other potential lenders. Eventually, Freixas and Rochet assert that one of the main forms of reducing information asymmetry, and as a result reducing lender risks, could be achieved by reducing the cost of information and by increasing its quality. To this end, lenders in some markets may agree to share information, compiling information on individuals. Further that such could be done through institutions known as "credit bureaus". Credit bureau can mean different things to different stakeholders but for the purpose of this study, the term shall be used to describe institutions that work with sharing information in a certain market.

## 2.7.2. Sharing credit information and the financial market

This part will concentrate more on the work of Credit bureaus and as aforementioned this will refer to institutions whose work is based on sharing information in a certain market. In general these institutions operate basically in three key activities according to Barbosa &Marcal (2011). According to Barbosa &Marcal the first attempts to develop an information gathering chain based on the development of channels whereby institutions that have a relationship with the market's credit users will inform data in connection with contractual interactions regarding credit procedures in a constant manner. A credit bureau's second function is to store data, organizing it in the form of information that makes up a credit background profile of consumers. In conclusion, the most important activity is the disclosure of information on consumers, on demand, to support the analysis procedures for new loan agreements to be provided by the lending institutions active in the market.

Freixas and Rochet (1999) contend that association with a credit bureau allows lenders to access more information on potential borrowers, in exchange for a lender's private information on the behaviour of its current customers. Djankov, McLiesh and Shleifer (2006) add that the basic

premise is for institutions to gather credit background and current liabilities by borrowers, and share these with lenders. Chu (2002) asserts that a credit bureau's main role is to attenuate problems in connection with information asymmetry between lenders and borrowers in loan transactions, decreasing the likelihood of moral hazard, adverse selection, and excessive indebtedness. Chu contends that a credit bureau provides a more accurate estimate of a loan's payment possibilities, based on the borrower's nature.

Furthermore, Miller (2000) asserts that once there is a loan transaction, the borrower is aware that its performance will be reported to a credit bureau. Hence, this information is converted into "reputation collateral", as any delay in payments or default by the borrower will reduce this "collateral's" value, which may jeopardize future loans. Hence, borrowers are encouraged to pay their loans in time. Galindo and Miller (2001) tested the impacts of credit information in the ability of companies of gaining access to credit. They employed data from companies in 20 countries, creating a number of credit market performance measurements. The authors contend that credit bureaus contribute to a more effective financial intermediation, evidenced by the increase in the supply of credit. They explain that the average equity/indebtedness ratio by companies in the countries is positively correlated with the quality of their credit bureaus, and that from the viewpoint of companies, the better the existing credit quality the lower would credit restrictions be.

Jappelli and Pagano (2000) prepared a review of the economic effects of information sharing, reviewing theory and several sparse empirical studies. Jappelli & Pagano initially asserted that the key objective would be to reduce adverse selection. As a result, lenders spreads would be decreased by institutions, as there would be greater competition for loans with the increased encouragement for borrowers to pay. In addition, other effects were detected, such as increased discipline by borrowers due to reputation effect. The researchers detected a drop in borrowers' over- indebtedness, as the practice of obtaining loans from several financial institutions at the same time would be reduced when there is information sharing among financial institutions. Gelos (2006) describes the determining factors in bank spreads, using a cross section of 85 countries. Among the factors that can be found in the literature as determinants for spreads, Gelos argues that a greater availability of information on potential borrowers would reduce the risk of default and therefore of bank spreads. The results found by Gelos evidence that there is a

moderate negative correlation between the availability of information on companies in the country and spread levels.

### 2.7.3. Bank spread determining factors

Bank spread is basically the difference between the interest rate that a bank charges a borrower and the interest rate a bank pays a depositor. In the case of none deposit taking financial institutions, the spread is what a lender charges on a loan compared to its cost of money, Miller (2013). This cost of money could be tangible such as the return providers of the funds require or the intangible such as measured by the opportunity cost. Whatever the case, several studies have indicated that one of the key determinants for price in the financial market is spread and it is mostly influenced by the level of information asymmetry of the market. In as much as there a other macro and microeconomic variables with a substantial impact on spreads. In recent years a large number of empirical studies have been developed with the purpose of explaining the determining dynamics in loan pricing and lender spreads. Ho and Saunders (1981) were one of first studies in the empirical literature.

Demirgüç-Kunt and Huizinga (1999) is a World Bank study which lists 11 macro and microeconomic factors determinants of spreads. Gelos (2006) analyses the determinants factors on bank spreads in Latin America. Saunders and Schumacher (2000) use a sample of 746 banks in seven countries (United States, Germany, France, United Kingdom, Italy, Spain, and Switzerland) during the 1988-1995 period. They have obtained the results that among microeconomic variables, the greatest impact on bank spreads comes from the fiscal and regulatory component, consisting in the implicit payment of interest (with the need by banks to increase their margins in the majority of countries) and in equity capital requirements, which mostly is the greatest influencer of the cost of money. Among the macro-economic variables, interest rate volatility and market structure have a positive and statistically significant impact on lender's spreads, albeit the heterogeneous effects among countries. A number of studies other point out the availability of credit information on borrowers as a determining factor for spreads. Gelos (2006) considers that accessibility by financial institutions to information on likely lenders reduces the risk of default, therefore reducing spreads. Chu and Schechtman (2003) states that it is important for financial institutions to have elements in order to assess whether customers will

in fact be good payers at a correct price. They further contend that all the foregoing should be done in consideration of that risk ratings.

## 2.8. Related works

The general overview from studies done thus far on the causes of defaults shows that researchers have linked causes of defaults to Lack of willingness by the borrowers to pay, diversion of funds after getting the loans from the intended purpose, willful negligence, poor loan management by lenders, not critically analyzing loan applications or poor monitoring of loans (Ahmad,1997; Sheila, 2011; Warue,2012; Bichanger & Aseya, 2013). Related works have also attributed high interest rates to defaults (Bologum & Alimi, 1988; Olomola, 1999, Fofack, 2005; Okpukgie, 2009, Kohansal & Monsoori,2009; Guya, 2013). When one looks at such study contributions, it is tempting to assume that if controls are put in place to compel borrowers to pay such as prompt follow ups, more detailed analysis of loan application, giving loans to groups instead of individuals or giving collateral based loans among other proposed controls, defaults would reduce. However, according to Miller, such controls would add to overheads costs such as outreach costs, processing costs and general overheads Miller (2013). The result of these increased overhead costs is a higher interest rate, which the other researchers have identified as a major cause of high defaults.

The basic premise of the aforementioned suggested controls is to reduce the risk involved in servicing clients with the risk profile under consideration but what is being done to reduce the risk is again increasing the cost of such loans through increased interest rate as each additional activity in terms of a control costs money to the lenders. This is the predicament that makes lending decisions subject to risk and defaults consideration a challenge to lenders consequently a cause for concern to stakeholders. Most studies have concentrated on either the risk return trade off consideration in lending decisions or the defaults consideration. However, this approach to the matter of defaults and high interest rates doesn't give a comprehensive solution to the predicament as the two aspects are intertwined hence to solve the problem conclusively calls for studying the two aspects together and that is what this study attempts to do. It is against this

background that this study has been conducted to explore the predicament and construct a composite model that addresses the cause for concern for lenders and other stakeholders.

It is hoped that the resultant model of the study would fill the gap which has been left, which is being identified as a predicament and create a sustainable relationship between lenders and borrowers so that a win for one stakeholder doesn't translate to a direct loose for the other as is the present case. Meanwhile, the literature has been gotten over a period of thirty years ago to the most recent in order to highlight how long a period the predicament has been in existence with no study prior to this one conclusively filling the gap. It is also worth mentioning that strict caution has been taken to ensure that all the literature used in the study that is over ten years ago is still relevant to the study by checking it with the most recent studies that have been used in the study. This task was made easy by the fact that most of the issues concerning risk return trade off and loans default consideration in lending decisions have not changed significantly over which the period the literature has been gotten.

## 2.9. Chapter Summary

Chapter two is mainly a literature review chapter and in it several studies have been sampled to define the concepts of risk return trade off and loans default subject to how these two aspects play a pivotal role in money lending decision making. The literature highlights that researchers have been divided into two groups such that one either looks at the matter of pricing loans based on the risk return trade off or defaults consideration in isolation and how such an approach has failed to create or promote a sustainable relationship between lenders and borrowers. Further, examination of the sampled literature has reviewed that such a divisive approach has since led to inconclusive remedies to the predicament faced by stakeholders consequently perpetuating dysfunctional behavior that has lead to undesirable developments such as moral hazard, adverse selection and excessive indebtedness. Therefore, the literature review highlighted a gap that needed to be filled in order to create a situation amongst lenders and borrowers in which a win for one stakeholder did not translate into a direct loss for the other party. It is against this background that this study has been considered relevant and worth pursuing.

# Chapter Three

## METHODOLOGY

### 3.1 Research design

The research design has been formulated in order to demonstrate the methods or techniques that will be used in this study. This is basically the weaving up of the methodology model for the study as depicted below in the research design matrix. The research matrix shall be used as a tool to guide the thought process during the study in order to enhance effectiveness of the methods and techniques used to increase efficiency consequently the results obtained. This tool is arranged in rolls and columns informed by the philosophical research assumptions based on the type of reality sought (Harding, 1987: Methodology, 2015) - intertwined with the philosophical considerations of ontology (the nature of reality), and epistemology (Guba & Lincoln, 1994; Greene, 2006; Lincoln & Guba, 2011).

In terms of mirroring the research questions and objectives, the matrix does not conform to this rule of thumb as it is not philosophical. This is because research methodology is a philosophical stance linked to the nature of being or reality that underlies and informs the style of research (Sapsford & Jupp, 2006). Several authors have argued that because philosophy and methodology are intertwined, it is not possible to explicate methodology without philosophical clarity (Collis and Hussey, 2003; Creswell, 2003; Alise & Teddlie, 2010; Hesse-Biber, 2010).

**Table 3.1: Research Design Matrix**

| Research questions | Approach to handle research question | Sampling& Data collection | Data collection & methods | Data analysis |
|---|---|---|---|---|
| What is the extent of defaults in Whence Financial Services (Realist ontology)? | By exploring the extent of defaults in Whence Financial Services | Whence Financial Services documents by availability sampling | Documentary review | Univariate and Bivariate |
| What would be the effect of loan interest rates on the risk profile of lenders (Realist ontology)? | By investigating the effect of loan rates on the risk profile of lenders based on a borrower's employer organization type, loan amount and maturity time | Whence Financial Services documents by availability sampling | Documentary review | Chi Square Tests, and Multivariate Analysis |
| | By determining from the perspective of company employee the effect loan rates subject to borrowers organisation, loan amount and loan maturity time | Population of all categories of employees in the company. These will be enlisted by random sampling | Survey Questionnaires | Univariate and Bivariate |
| How could lenders manage default risk(Pragmatism)? | By evaluating the risk associated with Whence Financial services | Population of all categories of employees in the company. These will be enlisted by random sampling | Survey Questionnaires | Univariate and Bivariate |
| | By explaining from the point of view of company employees the organisation risk patterns | Company employees who are in decision making positions will be enlisted using purposive sampling | In-depth interviews with Loan officers involved in the vetting, loan issuance and collections process | Qualitative Content Analysis |
| How could the Risk-Return trade off and Loans default predicament be resolved (Pragmatism)? | By constructing a composite model to resolve the Risk-Return trade off and Loans Default predicament. | Within the population of employees will be enlisted using maximum variation sampling. | Workshop | Pragmatism embedded with Interpretive phenomenological analysis |

It could be deduced from the above that this is a study driven by participatory action research (PAR) methodology. It is a triangulatory mixed methods type. A mixed methods type of research design therefore is appropriate to answer the research questions. This mixed methods design will be sequential. It is also worth noting that the study is a departure from traditional basic research, where the researcher is an external observer and who proposes theories. In PAR, the "objects of research", or the community, are integral parts of the research as they generate their own living theory of practice. Participatory action research claims that this methodology "researches with, rather than on, people". PAR has been chosen to provide the opportunity for full stakeholder involvement in the development of projects, by allowing for clarifications and reflections that might improve the researchers' understanding of situations and problems to shape their strategies rather than prematurely introducing external ideas which builds the knowledge and skills for participants to act in their community as leaders or agents for creating change

## 3.2. Population and Sample

This study will enlist potential respondents from Whence Financial Services. The study will be about Whence Financial Services as a lender hence the focus shall be its members of staff. Whence Financial Services is a relatively small organization therefore has only a few members of staff and this makes it possible to use a census for the study population in which all the Lusaka based members of staff are used as the sample. A census approach to sampling is considered appropriate if the for small populations of usually less than 200 samples. In the first phase of the study, employees will be sampled within their clusters using disproportionate sampling to allow the researcher administer the survey questionnaire. Maximum variation sampling will be used in the second phase to enlist members of staff for in-depth interviews and a workshop. This shall be based on who would exhibit particular characteristics such as deep understanding of operations or interesting trends in answering patterns in the manner they would have answered the survey questionnaire.

## 3.3. Data Collection

Data will be collected using a survey questionnaire, documentary review, in-depth interviews and eventually through a workshop. Basically, the researcher will move to and from applying the

PAR cycle. Data will be collected in three phases. *Phase I* will include documentary review and the administration of a survey questionnaire. The questionnaire questions have been adopted subjected to the research questions and the literature review as each questions on the questionnaire answers part of the research questions. *Phase II* will involve the use of in-depth interviews with selected Whence Financial Services members of staff whereas *Phase III* will be through a workshop. A survey questionnaire assessing various issues about risk and loan defaults will be developed. The questionnaire will have sections asking respondents about general issues related to how much they understand operations from a risk and default point view.

Documentary reviews and the workshop method will be used to further explore the risk-return trade off and high default phenomena. Contextual Action Research (Action Learning) will be employed in this study. A democratic participatory process based on a workshop will be used in a bid to bring together action and reflection, theory and practice. In the workshop, participants will be drawn using maximum variation sampling to further explore the conflict over the Risk-Return trade off and Loan default concepts in a bid to construct a composite model which could aid better decision making and lead to a sustainable relationship between lenders and borrowers were a win for one party does not automatically mean a loss for the other party.

It is also worth noting that documentary review techniques differ from primary research data where the researcher is responsible for the entire research process from the design of the project, to collecting, analyzing and discussing the research data (Stewart, 1984). Judd, Smith and Kidder (1991: 289) distinguish three common characteristics of documentary methods such as them relying entirely on the analyses of data collected for purposes other than those of particular studies in social relations, often calling for ingenuity in translating existing records into quantifiable indices of some general concepts and particularly being susceptible to alternative interpretations for the natural events and their effects. In view of the foregoing, information from the Whence Financial Services database since 2016 on client's loan application details and payment history shall be used to inform the study.

The workshop shall consist of a small group that will explore the subject in depth. The rationale will be to facilitate an organized discussion with a group of individuals from Whence Financial Services who shall exhibit a deep understanding of the niche under review and the respective

borrower's profile. The discussion will not be based on a question and answer type format but on the interaction within the group. This is based on the premise that such a setting will bring out insights and understandings in ways which simple questionnaire items may not be able to tap (Krueger and Casey, 2000; Mertens, 2000).

The goal shall be to ensure participants get caught up in the spirit of group discussion in a bid for them to reveal more than they would in more formal interview settings. This is because in such a setting, chances of discussants drawing each other out and sparking new insights are usually very high. The other advantage is that the reactions of each participant could fill in a gap left by others as discussants build on each other to come to a consensus that no one individual would have articulated on their own (Krueger, 1988; Flores and Alonso, 1995; Krueger and Casey, 2000).

As prescribed by proponents of the group discussion techniques, there shall be no standard instrument to guide the topic as would be the case in survey interviewing or direct personal interviews hence only a topic shall be explored through the exchange of group discussions. The characteristics of the discussion shall be as lineated by Morgan (1998), Krueger and Casey (2002) and Krueger (2003) as enunciated below:

1. The workshop shall be organised with people fewer than 10 but not less than 4 and dealing with 5 to 7 topical issues or questions.
2. The discussions shall be structured on the basis of open-ended interviews
3. Avoid using "why questions" instead ask for reasons
4. Issues to be discussed shall be arranged in an orderly manner beginning with general and then transcending to specifics.

The aforesaid are some of the precepts that shall guide the workshop to deal with the quantitative aspect of the study. The entire process shall be modelled to the five (05) stage research cycle in a bid to get the best results. Susman (1983) gives a somewhat more elaborate listing. He distinguishes five phases to be conducted within each value added research cycle (Figure 1). Initially, a problem is identified and data is collected for a more detailed diagnosis. This is followed by a collective postulation of several possible solutions, from which a single plan of action emerges and is implemented. Data on the results of the intervention are collected and

analysed, and the findings are interpreted in light of how successful the action has been.  At this point, the problem is re-assessed and the process begins another cycle.  This process continues until the problem is resolved.
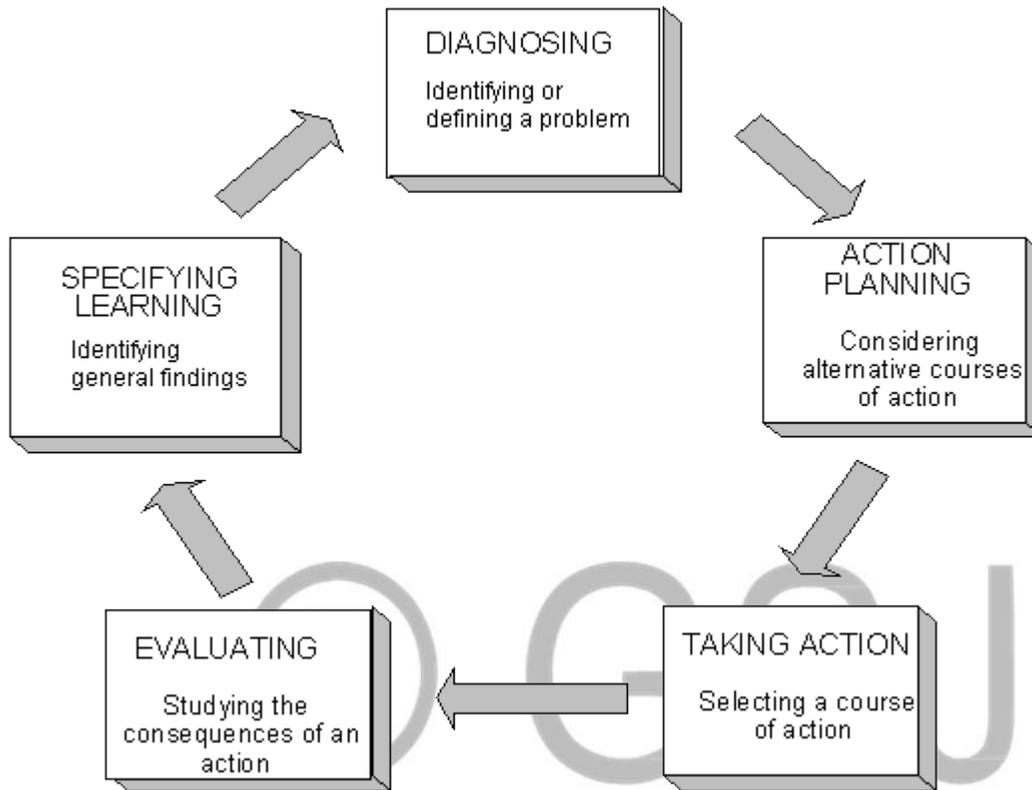


Figure 3.3: Detailed Action Research Model
(Adapted from Susman, 1983)

## 3.4. Data Analysis

There will be two types of data to be analysed and this will comprise of quantitative as well as qualitative data. Quantitative data will be analysed using Chi Square tests with the aid of SPSS statistics software package. Univariate, bivariate and multivariate analysis will be used to present the data. As for qualitative data, since the data will be in textual form, the data will be analysed on the computer using N vivo computer package. Data will be analysed in phases.

# Chapter Four

# RESULTS AND DISCUSSION

## 4.1. Extent of defaults in Case study organization

## 4.1.1. Findings over the extent of defaults in case study organization

Establishing the extent of default in the case study organization was done through a survey questionnaire and review of loan documents/database in the case study organization.

The survey questionnaire found the following phenomenon to be prominent,

- ➢ Payments not done by contractual due date
- ➢ Borrowers unwilling or unable to pay, and
- ➢ A general dwindling rate of debt recovery

The questionnaire findings indicate signs of a default phenomenon in the case study organization though not quantified. Therefore, the quantification of the default level in the case study organization was done through review of the loan documents/database for the period under review. The review was subjective to three (03) segments, the organization type borrower's employer belongs or in which the borrower operates in, the loan amount that was borrowed and the period the loan was gotten. This segmentation was used in the study because the case study organization members of staff indicated that this was how their customers and loan activities were segmented.

This review quantified the default rates in the case study organization as being at 36% subject to borrowers paying before due date, on the due date or defaulting as shown in the tables below:

**Table 4.1: 2016 to 2018 Analysis by Organization type**

| KEY | COLOR | BEFORE DUE DATE | ON DUE DATE | DEFAULTED | TOTAL |
|---|---|---|---|---|---|
| GOVT. CIVIL SERVANTS | | 311 | 328 | 382 | 1021 |
| | % | 30.46033301 | 32.12536729 | 37.41429971 | |
| QUASI-GOVT | | 146 | 191 | 174 | 511 |
| | % | 28.57142857 | 37.3776908 | 34.05088063 | |
| PARASTATALS | | 63 | 95 | 117 | 275 |
| | % | 22.90909091 | 34.54545455 | 42.54545455 | |
| PRIVATE SECTOR | | 800 | 903 | 944 | 2647 |
| | % | 30.22289384 | 34.11409142 | 35.66301473 | |
| INFORMAL SECTOR | | 133 | 170 | 164 | 467 |
| | % | 28.47965739 | 36.40256959 | 35.11777302 | |
| TOTAL | | 1453 | 1687 | 1781 | 4921 |
| OVERAL MONTHLY % | | 29.526519 | 34.28165007 | **36.19183093** | |
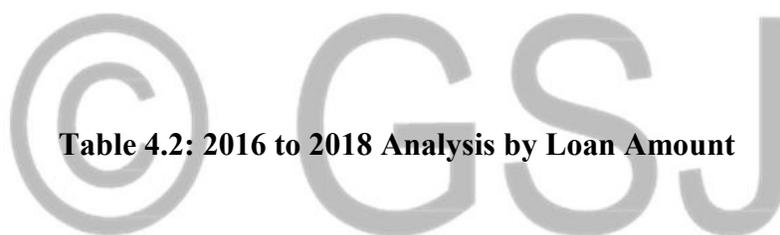
**Table 4.2: 2016 to 2018 Analysis by Loan Amount**

| LOAN BAND (K) | | BEFORE DUE DATE | ON DUE DATE | DEFAULTED | TOTAL |
|---|---|---|---|---|---|
| < 1000.00 | | 408 | 375 | 383 | 1166 |
| | % | **34.99142367** | 32.16123499 | 32.84734134 | |
| 1000.00 < 2000.00 | | 584 | 624 | 688 | 1896 |
| | % | **30.80168776** | 32.91139241 | 36.28691983 | |
| 2000.00 < 3000.00 | | 299 | 429 | 444 | 1172 |
| | % | **25.51194539** | 36.60409556 | 37.88395904 | |
| 3000.00 < 4000.00 | | 152 | 243 | 228 | 623 |
| | % | 24.39807384 | 39.00481541 | 36.59711075 | |
| 4000.00 < 5000.00 | | 10 | 16 | 38 | 64 |
| | % | 15.625 | 25 | 59.375 | |
| TOTAL | | 1453 | 1687 | 1781 | 4921 |
| OVERAL MONTHLY % | % | 29.526519 | 34.28165007 | **36.19183093** | |

**Table 4.3: 2016 to 2018 Analysis by Period the loan was gotten**

| DUE PERIOD | | BEFORE DUE DATE | ON DUE DATE | DEFAULTED | TOTAL |
|---|---|---|---|---|---|
| WEEK 1 | | 380 | 369 | 354 | 1103 |
| | % | 34.45149592 | 33.45421578 | 32.0942883 | |
| WEEK 2 | | 392 | 402 | 427 | 1221 |
| | % | 32.1048321 | 32.92383292 | 34.97133497 | |
| WEEK 3 | | 307 | 302 | 413 | 1022 |
| | % | 30.03913894 | 29.54990215 | 40.4109589 | |
| WEEK 4 | | 205 | 371 | 344 | 920 |
| | % | 22.2826087 | 40.32608696 | 37.39130435 | |
| WEEK 5 | | 169 | 243 | 243 | 655 |
| | % | 25.80152672 | 37.09923664 | 37.09923664 | |
| TOTAL | | 1453 | 1687 | 1781 | 4921 |
| OVERAL MONTHLY % | % | 29.526519 | 34.28165007 | 36.19183093 | |

**4.1.2. Discussion of the finding over extent of default in case study organization**

In light of the understanding that the basic premise of this study was to resolve the paradox of the risk return trade-off hypothesis relative to loan defaults from the perspective of lenders, it was paramount to establish using empirical evidence whether or not the institution under review had the problem under consideration. In view of the foregoing, the extent of defaults as enumerated from the questionnaire survey to the case study organization's members of staff indicated the following as a prominent phenomenon: Payments not done by contractual due date, borrowers unwilling or unable to pay and a general dwindling rate of debt recovery. These aspects indicated signs of the case study organization having default challenges as they were in line with the findings of several studies as indicated in the literature review with regard to how to identify a default phenomenon in an organization or industry.

The survey questionnaire results confirmed the existence of the default phenomenon which was the basis of the study. However, this default confirmation could not be of much value without

being quantified because just an identification of a default phenomenon in the case study organization was not enough to justify being significant to the study. Therefore, loans documents/database in the case study organization were reviewed and this resulted in the establishment that the default rate was at 36% as indicated in the findings on the extent of default in case study organization. This quantification informed the study of the task that was to be accomplished by the resultant model as it revealed that the case study organization default rate was way too high compared to the 3% internationally accepted default rate for microfinance institutions. It then followed that the forthcoming research questions were to endeavor to reduce this default rate to either 3% or below in order for the decision making model to achieve its objective which was centered on reducing default risk so as to reduce loan interest rates to deal with the unsustainable relationship between lenders and borrowers which was as a result of flawed loan pricing decision making.

The foregoing was now to be achieved through finding the possible causes of the described development subject to the loan interest rate which was the overall result of the effects of all factors that had a bearing on borrowers paying on time or defaulting based on the constituents of an interest rate such as the Profit, None performing Loans (NPV), Overheads and Cost of funds. This was based on the understanding that such clarity would help in the construction of the model to aid better decision making in a bid to reduce the 36% overall default risk to industry acceptable levels of about 3%. The aforementioned was to be achieved under the umbrella of studying the effects of loan interest rates on the risk profile of lenders as guided by the next research question in the study.

### 4.2. Effect of loan interest rates on the risk profile of lenders
### 4.2.1. Findings over the effect of interest rates on the risk profile of lenders

The findings over the effect of interest rates on the risk profile of the lenders were based on the payment characteristics of borrower subject to how the lenders had segmented borrowers and payments. This segmentation was based on the borrower's employer or source of income organization type, the period the loan is obtained and the amount of loan that has been gotten.

The findings were as follows;

- ➢ The borrower's ability to pay back a loan before due date, on the due date or defaulting was **independent** of the borrower's employer or source of income organization type
- ➢ The borrower's ability to pay back a loan before due date, on the due date or defaulting was **dependent** on the period the loan was obtained consequently the due date.
- ➢ The borrower's ability to pay back a loan before due date, on the due date or defaulting was **dependent** on the loan amount given to the respective borrower

The foregoing results were obtained using a Pearson Chi Square test with the aid of Microsoft Excel analysis software package as shown in the tables and details below:

### Table 4.4: WHENCE FINANCIAL SERVICES CHI-SQUARE TEST BASED ON EMPLOYER CATEGORY

| OBSERVED | | | | |
|---|---|---|---|---|
| **DESCRIPTION** | **PAID BEFORE DUE DATE** | **PAID ON THE DUE DATE** | **DEFAULTED** | **TOTALS** |
| GOVT. CIVIL SERVANTS | 311 | 328 | 382 | **1021** |
| QUASI-GOVERNMENT | 146 | 191 | 174 | **511** |
| PARASTATALS | 63 | 95 | 117 | **275** |
| PRIVATE SECTOR | 800 | 903 | 944 | **2647** |
| INFORMAL SECTOR | 133 | 170 | 164 | **467** |
| **TOTALS** | **1453** | **1687** | **1781** | **4921** |

NOTE: Workings for the expected values have been computed using Microsoft Excel analysis software package with the aid of the formula below:

E (Customer Category for each type of payment) = (Total number of customers in respective category) (Total specific number of clients who paid before, on or after due date)/Total number of transactions for the period under review

| EXPECTED | | | | |
|---|---|---|---|---|
| DESCRIPTION | PAID BEFORE DUE DATE | PAID ON THE DUE DATE | DEFAULTED | TOTALS |
| GOVT. CIVIL SERVANTS | 301.46 | 350.01 | 369.51 | |
| QUASI-GOVERNMENT | 150.88 | 175.17 | 184.94 | |
| PARASTATALS | 81.19 | 94.27 | 99.52 | |
| PRIVATE SECTOR | 781.56 | 907.43 | 957.99 | |
| INFORMAL SECTOR | 137.88 | 160.09 | 169.01 | |
| TOTALS | | | | |

## Null (H0) and Alternative (H1) Hypothesis

**H0**: Customer employer category or employment status is ***independent*** of whether or not a client paid off a loan "Before The Due Date", "On The Due Date" or "Defaults".

**H1**: Customer ability to pay off a loan "Before The Due Date", "On The Due Date" or to "Default" is ***dependent*** on customer employer category or employment status.

Degree of freedom = (Number of rows − 1) (Number of columns − 1)

$$= (5 - 1)(3 - 1) = 8$$

## CHI SQUARE TEST RESULTS FROM MICROSOFT EXCEL ANALYSIS SOFTWARE PACKAGE

Probability Value = **0.10877007**

Test Statistics = **13.0906019**

Critical Value = **15.5073131**

### Whence Financial Services Chi Square Test Conclusion

The test statistics is below the Critical Value (C.V) point of 15.51 at 13.09, this means it does not fall in the rejection region hence the Null (H0) hypothesis can be accepted and the alternative (H1) hypothesis can be rejected. In view of the foregoing, the conclusion is that for Whence Financial Services from 2016 to 2018, Customer ability to pay off a loan "Before The Due Date", "On The Due Date" or to "Default" is ***independent*** of the respective customer employer category or employment status.

Table 4.5: WHENCE FINANCIAL SERVICES CHI-SQUARE TEST BASED ON PERIOD THE LOAN FALLS DUE

| OBSERVED | | | | |
|---|---|---|---|---|
| DESCRIPTION | PAID BEFORE DUE DATE | PAID ON THE DUE DATE | DEFAULTED | TOTALS |
| WEEK 1 | 380 | 369 | 354 | **1103** |
| WEEK 2 | 392 | 402 | 427 | **1221** |
| WEEK 3 | 307 | 302 | 413 | **1022** |
| WEEK 4 | 205 | 371 | 344 | **920** |
| WEEK 5 | 169 | 243 | 243 | **655** |
| | **1453** | **1687** | **1781** | **4921** |

**NOTE**: Workings for the expected values have been computed using Microsoft Excel analysis software package with the aid of the formula below:

E (Customer Category for each type of payment) = (Total number of customers in respective category) (Total specific number of clients who paid before, on or after due date)/Total number of transactions for the period under review

| EXPECTED | | | |
|---|---|---|---|
| **DESCRIPTION** | **PAID BEFORE DUE DATE** | **PAID ON THE DUE DATE** | **DEFAULTED** | **TOTALS** |
| WEEK 1 | 325.67 | 378.12 | 399.19 | |
| WEEK 2 | 360.51 | 418.57 | 441.90 | |
| WEEK 3 | 301.76 | 350.35 | 369.88 | |
| WEEK 4 | 271.64 | 315.39 | 332.96 | |
| WEEK 5 | 193.39 | 224.54 | 237.05 | |

**Null (H0) and Alternative (H1) Hypothesis**

**H0**: The period a loan shall fall due is *__independent__* of whether or not a client pays a loan "Before The Due" Date, "On The Due Date" or "Defaults".

**H1**: Customer ability to pay a loan "Before The Due Date", "On The Due Date" or to "Default" is *__dependent__* on the period the loan falls due.

Degree of freedom = (Number of rows − 1) (Number of columns − 1)

$$= (5 - 1)(3 - 1) = 8$$

**CHI SQUARE TEST RESULTS FROM MICROSOFT EXCEL ANALYSIS SOFTWARE PACKAGE**

Probability Value = **2.5183E-10**

Test Statistics    = **61.3613701**

Critical Value    = **15.5073131**

## Whence Financial Services Chi Square Test Conclusion

The test statistics is over the Critical Value (C.V) point of 15.51 at 61.36, this means it falls in the rejection region hence the Null (H0) hypothesis cannot be accepted. Therefore, the alternative (H1) hypothesis can be accepted. In view of the foregoing, the conclusion is that for Whence Financial Services from 2016 to 2018, Customer ability to pay off a loan "Before The Due Date", "On The Due Date" or to "Default" is ***dependent*** on the period the respective loan shall fall due.

**Table 4.6: WHENCE FINANCIAL SERVICES CHI-SQUARE TEST BASED ON LOAN AMOUNT BAND**

| OBSERVED | | | | |
|---|---|---|---|---|
| DESCRIPTION | PAID BEFORE DUE DATE | PAID ON THE DUE DATE | DEFAULTED | TOTALS |
| < 1000.00 | 408 | 375 | 383 | **1166** |
| 1000.00 < 2000.00 | 584 | 624 | 688 | **1896** |
| 2000.00 < 3000.00 | 299 | 429 | 444 | **1172** |
| 3000.00 < 4000.00 | 152 | 243 | 228 | **623** |
| 4000.00 < 5000.00 | 10 | 16 | 38 | **64** |
| | **1453** | **1687** | **1781** | **4921** |

**NOTE**: Workings for the expected values have been computed using Microsoft Excel analysis software package with the aid of the formula below:

E (Customer Category for each type of payment) = (Total number of customers in respective category) (Total specific number of clients who paid before, on or after due date)/Total number of transactions for the period under review

| EXPECTED | | | | |
|---|---|---|---|---|
| **DESCRIPTION** | **PAID BEFORE DUE DATE** | **PAID ON THE DUE DATE** | **DEFAULTED** | **TOTALS** |
| < 1000.00 | 344.27 | 399.72 | 421.99 | |
| 1000.00 < 2000.00 | 559.82 | 649.98 | 686.19 | |
| 2000.00 < 3000.00 | 346.05 | 401.78 | 424.16 | |
| 3000.00 < 4000.00 | 183.95 | 213.57 | 225.47 | |
| 4000.00 < 5000.00 | 18.89 | 21.94 | 23.16 | |
| | | | | |

## Null (H0) and Alternative (H1) Hypothesis

**H0**: The loan amount band of a loan is *__independent__* of whether or not a client pays a loan "Before The Due" Date, "On The Due Date" or "Defaults".

**H1**: Customer ability to pay a loan "Before The Due Date", "On The Due Date" or to "Default" is *__dependent__* on the loan amount band of the respective loan.

Degree of freedom = (Number of rows – 1) (Number of columns – 1)

$$= (5 – 1) (3 – 1) = 8$$

**CHI SQUARE TEST RESULTS FROM MICROSOFT EXCEL ANALYSIS SOFTWARE PACKAGE**

Probability Value = **1.0225E-08**

Test Statistics    = **53.1195874**

Critical Value    = **15.5073131**

**Whence Financial Services Chi Square Test Conclusion**

The test statistics is over the Critical Value (C.V) point of 15.51 at 53.11, this means it falls in the rejection region hence the Null (H0) hypothesis cannot be accepted. Therefore, the alternative (H1) hypothesis can be accepted. In view of the foregoing, the conclusion is that for Whence Financial Services from 2016 to 2018, Customer ability to pay off a loan "Before The Due Date", "On The Due Date" or to "Default" is **_dependent_** on the loan band for the respective loan.

**4.2.2. Discussion of the Findings over the effect of interest rates on the risk profile of lenders**

Several studies on loan defaults as indicated in the literature review have attributed high interest rates to be one of the major causes for loan default. For the sake of context it also is worth acknowledging that the same researchers in their respective studies have indicated Lack of willingness to pay, diversion of loan funds by borrowers, willful negligence, improper appraisal, poor loan supervision by lenders, deficient analysis of project viability (for business loans), inadequacy of collateral and disappearance of borrowers as causes of defaults. However, when one factors in the constituents of an interest rate, a new perspective develops in which the other causes are all incorporated into the interest rate consequently giving a good premise upon which to base the effect of interest rates on the risk profile of the lenders.

An interest rate is composed of a profit, Non-performing loans (NPLs), overheads and cost of funds components. The overheads component can be further broken down into outreach (i.e, costs to ensure funds are being used for intended purpose, loan supervision, verification of loan

application details, follow ups etc), processing (loan applicant appraisal, analysis of project viability or adequacy of collateral) and general administrative (Setting up system to support the business ) costs.

In view of the foregoing, a new perspective that emerges is that an interest rate is less of one of the causes of defaults and more of the main cause with the other causes being its constituents or variables. This is because the other supposedly causes of defaults can all be varied through certain deliberate actions in order to influence the overall interest rate that is charged to a borrower and this consequently has a bearing as to whether or not such a development influences a borrower's ability to abide by the loan agreement precepts. It is against this background that this study takes a different perspective on the issue of high interest rate being perceived as a cause of defaults. The new perspective is to regard an interest rate as a variable that is dependent on its constituent such as NPLs and overheads.

It is now worth highlighting that after writing off some of the factors that were considered as separate causes of defaults which can instead be amalgamated into an interest rate, three (03) default influencing factors as obtained from the preliminary discussions with the members of staff from the case study organization can be considered separately. These factors include, the nature of organization from which a borrower gets their income from, this is either type of business for entrepreneurs or borrower's employer organization type. The other two (02) factors are the amount that is borrowed and the period the loan is obtained as this determines when the loan ought to be paid back.

In view of the foregoing, this study embarked on investigating the effect of loan interest rates on the lenders risk profile based on borrower's employer organization type, loan due time, which is the time the loan is expected to be paid and loan amount on which interest is to be paid. This part of the study was first done through a documentary review of the case study organization's loan database from 2016 to 2018 and then using a Pearson Chi Square test. This was intended to establish what was actually happening in the case study organization with regard to how consideration of a relationship between interest rate, which was indicated using the terms: Paid before due date, paid on the due date and defaulted. This is because in the case study organization, a borrower is given a discount for paying before the due date, which means a lower interest rate, so the study wanted to establish the effect of such on defaults. The case study

organization also charges penalties for payments over the contractual due date, which means a higher interest rate, so the study wanted to establish the effect of this on borrowers, consequently highlighting the risk profile of the lenders subject to the said parameters.

The three (03) parameters where then measure against borrowers organization type, the loan due time and loan amount to test if a relationship existed so as to inform our model. The test revealed that there was no relationship between a borrower paying before due time to exploit the lower interest rate or paying on time to avoid sanctions and the borrowers organization type. However, there was a relationship between loan due date and loan amount with a borrower paying before due time to exploit the lower interest rate or paying on time to avoid sanctions.

When looked at in isolation, these findings help us to understand the risk dynamics in the case study organization from the perspectives under consideration. However, the most important is when these results are matched with the responses from the survey questionnaire in an attempt to determine from the perspective of case study organization members of staff the effect of loan rates subject to borrowers organization type, loan amount and loan maturity or due time. The survey reveal that about 22% of the members of staff of the case study organization believe that borrowers organization type has a bearing on borrowers paying before due date, on the due date or defaulting. What was even more interesting is that the 22% included high level decision makers such as managers hence it would be rational to deduce that this wrong perception could have an influence on the decisions made in the case study organization, of which if corrected could help in reducing the 36% default risk under consideration. This is because this means once it is known that a relationship doesn't exist, more dedication or resources could be channeled to areas that matter hence doing an effective job in credit worthiness assessments and the saving on resources could be channeled to borrowers to lower the overall interest rate charged to them.

### 4.3. How risk is managed in the case study organization

### 4.3.1. Findings over how risk is managed in the case study organization

The findings over how risk was managed in the case study organization prior to the study were as follows:

➢ The case study organization believed to be operating in a high risk niche

➢ The case study organization practiced risk based pricing

➢ The most common phenomenon with clients who ended up defaulting was that they provided false information during loan application or failed to update the information upon which the loan was obtained should it change during the course of the loan tenure

➢ About 93% of the respondents acknowledged the existence the information asymmetry constraint and believed solving it would almost completely solve the defaults problem

➢ The case study organization used the following risk management practices;

❖ Transfer of the risk

❖ Accepting the risk

❖ Reducing the risk, and

❖ Avoiding the risk

**4.3.2. Discussion of the findings over how risk is managed in the case study organization**

This part of the study was designed to get more details on the risk management considerations which prior to the study played a pivotal role in decision making in the case study organization to gather information to aid the final construction of a decision making model  as per study mandate. This was thought to be significant to the study because the in-depth interviews revealed that the case study organization practiced *risk based pricing* on the premise of being compensated for taking on high risk. Apart from just compensation, the respondents were of the view that risk pricing was preferred, especially for a high risk clientele in order to ensure all costs associated with maintaining the overall risk within the risk appetite of the respective organization's key stakeholders were adequately covered.

In view of the foregoing, it was paramount to expound the risk tenets in the case study organization. Therefore, this component of the study in order to adequately cover the cause was informed by a survey questionnaire and in-depth interviews. The study started by pursuing risk management practices familiar to the respondents and the following were enumerated: Transfer of the risk, Accepting the risk, Reducing the risk and avoiding the risk. This was in line with international best practice risk management tenets as prescribed by best practice risk management frameworks such as the COSO Enterprise Risk Management (ERM). The four (04) risk management measures as prescribed by ERM are transferring the risk, accepting the risk, reducing the risk or avoiding the risk entirely.

The questionnaire survey results brought out an interesting aspect which informed our quest of constructing a decision making model in consideration of the risk trade off and loan defaults dilemma. This aspect was that about 36% of respondents thought transferring risk was a better way of managing the default risk. The other aspect worth noting is that none of the decision makers choose transferring the risk and in the in-depth interviews, it was revealed by management that one way of adopting risk transferring would be through insurance against default. However, for the niche that the case study organization targeted, which is considered to constitute high risk clients, the cost of insurance would outweigh the benefit hence value would not ultimately be added to the case study organization. This was a good explanation but the fact that some members of staff did not subscribe to such a school of thought meant they could not have been critically analyzing clients. This inference was based on the premise of Loan officers in respective Loans departments not critically analyzing loan applications to ensure that they had a sound financial base such that the risk of loss was mitigated in case of default. The foregoing would be based on the expectation that Loan Officers would feel there was a better way to manage risk and this could have been contributing to the overall 36% default in the entire organization. The survey also showed that the case study organization almost completely ignored the risk avoidance technique as it should be the case that some clients are just too high risk despite it servicing a high risk clientele.

It is also worth noting that *61%* of the respondents indicated risk reduction as the preferred risk management technique and went further to indicated the following controls used to achieve such: Pledging collateral, third party credit guarantee, loan supervision (for businesses) and prompt action on overdue loans. In light of the foregoing, it is worth highlighting that there are some controls which are prescribed by best practice which the case study organization was not implementing as was confirmed in the in-depth interviews, such as use of credit rating and collecting agencies. The other control was that of group lending which as indicated by some studies in the literature review minimizes loan defaults. Studies have shown that under this control, microfinance institutions lend to groups of borrowers rather than on an individual basis. The rationale is that the general organization of group lending consists of a group of borrowers who work together, support, and mentor one another hence this would maximize the impact that the loan can have on each individual and motivate group members not to default. The premise of this control is that in many group lending situations, the members of the group are responsible

for selecting new members and for the timely repayment by other members, known as joint liability. As a result, group lending tends to lead to superior performance by the borrowers in operating their businesses and better rates of loan repayment. Therefore, it is worth considering that the introduction of these mechanisms could further assist in reducing the overall 36% loan default rate in the case study organization consequently assisting in the construction of the decision making model under consideration.

The other aspect of this part of the study in a bid to further better inform our quest of constructing a decision making model was to explain from the point of view of the case study organization's employees the organization risk patterns. This was done using the results from the survey questionnaire and the in-depth interviews. This part revealed that the most common phenomenon with clients who end up defaulting was that they provided false information to lenders or fail to update the information upon which the loan was obtained should it change during the course of the loan tenure. The deduction from such a development was that the main cause of defaults was mostly due to the information mismatch between lenders and borrowers, especially considering that the lender had to mostly rely on information provided by the borrower. The forgoing phenomenon was identified as being synonymous with an information asymmetry problem as expounded by researchers such as Sheila (2011). Sheila contend that before beginning the process of collecting information on the client for the purpose of determining credit limits, the loan officer should have specific information available which will guarantee that the data and figures provided by the client will have a pro-margin error. This perspective by Sheila is centered on the premise that the majority of the information obtained by the loan officer being through direct interaction with the client leads to the lender being disadvantaged because most clients withhold a great deal of information, making the evaluation a difficult and less reliable exercise.

The good development was that from the survey, 93% of the respondents acknowledged the information asymmetry constraint and believed solving it would help a great deal in dealing with the defaults problem. This also meant that information asymmetry was regarded by the case study organization as a major borrower's risk profile determinant which ends up significantly affecting the risk profile of the lenders consequently a major influencer of decision making. This was significant to the study subject to the risk pricing practiced in the case study. Therefore, it is

against this background that the information asymmetry consideration in the study was paramount to the study's quest of constructing a decision making model.

This last aspect to the research questions that were meant to build up the case for the final task of constructing a decision making model for lenders meant that it was now time to work on our model as expended below after the survey questionnaire analysis.

**Table 4.7: Survey Questionnaire analysis**

| QUESTIONAIRE QUESTION # | ANSWER 1 | ANSWER 2 | ANSWER 3 | ANSWER 4 | ANSWER 5 | ANSWER 6 | ANSWER 7 | ANSWER 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| **RISK RETURN TRADE OFF AND LOAN DEFAULT RESEARCH QUESTIONNAIRE ANALYSIS** | | | | | | | | | |
| **QUESTION 1** | Loan officer | Manager | Director | | | | | | |
| Role in institution | 26 | 3 | 1 | | | | | | 30 |
| % | 86.66666667 | 10 | 3.333333333 | 0 | 0 | 0 | 0 | 0 | |
| **QUESTION 2** | Past due date | unwilling to pay | Unable to pay | Dwindling recovery | Not captured | | | | |
| Prominent factors | 26 | 11 | 2 | 3 | 1 | | | | 43 |
| % | 60.46511628 | 25.58139535 | 4.651162791 | 6.976744186 | 2.325581395 | 0 | 0 | 0 | |
| **QUESTION 3** | Borrower expenses | High interest | Poor supervision | Borrower organization | Net income | Loan amount | Family size | Due date | |
| Lenders risk influencers | 17 | 2 | 9 | 9 | 18 | 9 | 9 | 8 | 81 |
| % | 20.98765432 | 2.469135802 | 11.11111111 | 11.11111111 | 22.22222222 | 11.11111111 | 11.111111 | 9.8765432 | |
| **QUESTION 4** | False information | Not updating info | | | | | | | |
| Cause of defaults | 18 | 11 | | | | | | | 29 |
| % | 62.06896552 | 37.93103448 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **QUESTION 5** | Yes | No | | | | | | | |
| Up to date info lessening defaults | 25 | 2 | | | | | | | 27 |
| % | 92.59259259 | 7.407407407 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **QUESTION 6** | Transfer | Accepting | Reducing | Accepting | | | | | |
| Risk management techniques | 11 | | 19 | 1 | 0 | | | | 31 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| % | 35.48387097 | 0 | 61.29032258 | 3.225806452 | 0 | 0 | 0 | 0 | |
| QUESTION 7 | Pledging collateral | Grantors | Credit rating agencies | Loan supervision | Prompt action | Group Lending | | | |
| Risk management techniques used | 26 | 7 | 0 | 2 | 14 | | | | 49 |
| % | 53.06122449 | 14.28571429 | 0 | 4.081632653 | 28.57142857 | 0 | 0 | 0 | |
| QUESTION 8 | Yes | No | | | | | | | |
| Info mismatch solution to solve default than techniques used | 11 | 16 | | | | | | | 27 |
| % | 40.74074074 | 59.25925926 | 0 | 0 | 0 | 0 | 0 | 0 | |
| QUESTION 9 | Organization type | Loan amount | Due date | | | | | | |
| Default influencers | 7 | 11 | 11 | | | | | | 29 |
| % | 24.13793103 | 37.93103448 | 37.93103448 | 0 | 0 | 0 | 0 | 0 | |
| a) Organization type | Civil servants | Quasi-Government | Parastatals | Private sector | Informal sector | | | | |
| | 22 | 2 | 6 | 1 | 8 | | | | 39 |
| % | 56.41025641 | 5.128205128 | 15.38461538 | 2.564102564 | 20.51282051 | 0 | 0 | 0 | |
| b) Loan amount | < K1,000.00 | K1,000.00 < K2,000.00 | K2,000.00 < K3,000.00 | K3,000.00 < K4,000.00 | | | | | |
| | 3 | | 6 | 21 | | | | | 30 |
| % | 10 | 0 | 20 | 70 | 0 | 0 | 0 | 0 | |
| c) Due Period | 1st Week | 2nd Week | 3rd Week | 4th Week | 5th Week | | | | |
| | 6 | 10 | 8 | 3 | 3 | | | | 30 |
| % | 20 | 33.33333333 | 26.66666667 | 10 | 10 | 0 | 0 | 0 | |
| | | | | | | | | | |
| | | | | | | | | | |
| TOTALS | 198 | 75 | 62 | 40 | 44 | 9 | 9 | 8 | 445 |
| | | | | | | | | | |
| % | 44.49438202 | 16.85393258 | 13.93258427 | 8.988764045 | 9.887640449 | 2.02247191 | 2.0224719 | 1.7977528 | |

## 4.4.0. Solving the Risk-return trade off and Loan defaults predicament

## 4.4.1. Findings to aid solving the risk return trade off and loans default predicament

➢ The case study organization was characterized with the default phenomenon as its major risk

➢ The actual default rate was quantified as being at 36% and was way too high compared to the 3% residual default rate internationally acceptable for microfinance institutions

➢ There were some wrong assumptions upon which lending decisions were being based such as there being a relationship between borrowers source of income organization type and ability to pay back on time or default

➢ The case study organization believed to be applying best practice risk management techniques despite the 36% residue risk

➢ The majority of risk in the case study organization was attributed to information asymmetry and solving the information asymmetry constraint was believed could reduce the residual risk of 36% by more than 90%

➢ The decision making model to achieve its goal was to primarily be centered on solving the information asymmetry constraint.

## 4.4.2. Discussion of the findings to aid solving the risk return trade off and loans default predicament

This was the last part of the study and was done through the consolidation of all findings, observed results, trends and factors from the other research questions and core objective as illustrated in the research design matrix. In a simplistic description, the study by this stage had established that the overall loan default rate in the case study organization was at 36% and this was way above the 3% internationally accepted loans default rate for microfinance institutions. Therefore, the 36% default rate was essentially the measure of the risk the case study organization was exposed to reduce and the model was basically to be a series of activities or actions to reduce the 36% risk exposure to acceptable levels as guided by the international industry standard accepted default rate of 3%. In light of this, it is essential to highlight some of the prominent aspects that the study produced as significantly influencing the risk profile of the case study organization. The following are the aspects:

1. Information asymmetry between Lenders and Borrowers as the major constraint and the biggest contributor to the 36% overall risk, and

2. Basing decision making on wrong assumptions such as the borrowers employer organization type or industry having influence on a respective borrower's ability to pay before the due date, on the due date or defaulting.

It was against this background that a workshop was conducted to deliberate over the two (02) identified aspects in a bid to weave together a decision making model that could end up reducing the 36% default risk exposure leading to establishing a sustainable relation between lenders and borrowers. This was aimed at fixing the current development where a win for one party (Lenders or Borrowers) almost always translated into a loose for the other (Lenders or Borrowers).

The workshop's first task was to acknowledge that the model's task was to deal with reducing the residual risk which was too high at 36% as already established. In order for the workshop to start on a solid ground, the following were highlighted as the actions taken to ensure the 64% collections rate that was currently present in the case study organization:

i) Constantly reviewing the risk profile of the case study organization.

ii) Application of best practice risk management precepts as guided by renowned bodies such as the COSO Enterprise Risk Management (ERM) framework, (2004), though prior to the study was associated with bias towards risk reduction through controls.

iii) Controls such as pledging of collateral, third-party credit guarantee, prompt action of defaults, proper and adequate appraisal.

iv) Having clear and effective lending policies and procedures that are reviewed regularly.

v) Branch managers checking daily on Loan officers to ensure policies were being followed to avoid just having good policies on paper.

vi) Visitation of clients who are in arrears

vii) Paying attention to details in loan applications by ensuring that an application is approved by a senior experienced member of staff.

viii) Tracking of average arrears rate of each Loan officer's portfolio on a daily basis through morning briefs and interviews

ix) Financial incentives to loan officers with low rates of arrears/defaults in terms of employee of the month cash vouchers

x) Recruitment of qualified staff and regular trainings through daily discussions in the case study organization online platform, and

xi) Prudent actions by management such as suspending lending to new clients when arrears/defaults rates rise to high levels unit of the portfolio at risk (over one day) ratio falls below best practice accepted levels.

The workshop therefore, got into the task of constructing a decision making model with the view of acknowledging the aforementioned good practice tenets. The ultimate goal was to ensure the model does not negatively affect any of the current positive in the case study organization but only build up from the above positive attributed which commended for 64% collections rate, which is not bad considering the clientele under consideration. This clientele is composed of clients who are expected to bring the loan repayments own their own to the case study organization mostly in cash. Therefore, the discussion of the workshop results shall be based on the four (02) aspects identified as responsible for the 36% default risk under review.

### 4.4.3. Information asymmetry between Lenders and Borrowers

### 4.4.3.1. Further confirmation or establishment of the existence of the information asymmetry problem in the case study organization or niche

The workshop observed through the survey questionnaire results and the in-depth interviews that there was a general lack of good information in the case study organization upon which to base operation decisions. This observation led to the deduction that the organization under consideration was victim to the market phenomenon known as information asymmetry which is characterized by one party (which in this case is borrowers) having more information that would otherwise be valuable to the other party's (which in this case is lenders) ability to make sound decisions but usually tended to withheld. This is referred to as information asymmetry and was as a result of the existence of imperfect information.

The information asymmetry position was further consolidated by the observation from the results of the survey questionnaire that it was most prominent in the case study organization for

payments not to be done by the contractual due date, borrowers unwilling or unable to pay and a general dwindling chance of loan recovery. This was proof positive of a case of inadequate information used in loan issuing decisions because in markets with such information asymmetry, which are mostly 'more trust based markets' such as the credit market, purchasers and sellers or service providers are unable to gain access to same information, either owing to the high cost involved in obtaining it or because it is totally impossible or extremely difficult to confirm a participant's reliability with regard to information provided for a transaction. The workshop further validated the information asymmetry constraint to the survey results in which respondents indicated that the most common trait amongst clients who defaulted was clients providing false information during loan application or not updating information upon which the loan was issued should it change during the tenure of the loan.

### 4.4.3.2. Establishing information asymmetry was mostly responsible for the risk return trade off and defaults paradox

The workshop developed that the results from the documentary review indicated a loan default rate of 36% from 2016 to 2018 in the case study organization represented a huge risk relative to the 3% internationally accepted default level. From this result, the workshop thought it to be prudent to conclude that the case study organization was servicing a very high risk clientele. What was further interesting was the fact that respondents in the in-depth interviews asserted to the case study organization using risk based pricing with regard to high risk households as borrowers. This was based on the argument that without risk-based pricing with regard to high-risk households, investors would not be compensated for taking a high risk or just be able to meet operating costs and remain competitive hence the niche would not be attractive to investors. In view of this, the workshop pursued charging even higher loan interest rates as an option. However, it was upon further analysis that it observed that such would lead to an increased debt burden on borrowers and could lead to even more defaults. This position was informed by studies which contended that higher lending rates lead to wrong selection of loan applicants and those who take a high risk to get their loan from the universal financial institutions charging high loan interest rates are those with high levels of default rate in the banking industry.

The workshop further expounded that if a situation was allowed in which more defaults were allowed in the market, the development would further erode the market and this would eventually destroy the entire niche in which the case study organization exits in which as now established information asymmetry was a challenge. This was as supported by Akerlof and Varian (Akerlof 1970, Varian 2000). Akerlof's studies of information symmetry with the automobile market illustrate how bad developments end up damaging an entire market as later supported by Varian. In light of all this, the workshop realized the most feasible solution to the predicament was dealing with the root of the problem which was information asymmetry. Feasibility being considered subject to how suitable it would be with regard to having resources to implement suggested solutions (financial and human resource), and the suggested solutions being acceptable to both lenders and borrowers.

### 4.4.3.3. Establishing whether solving the information asymmetry problem would solve the high risk and default problem.

The workshop after establishing the foregoing embarked on establishing whether or not solving the information asymmetry constraint would lead to reducing the default risk from 36% to acceptable levels (i.e, 3% or below). Such a position was guided by the observation that all or most of the problems which can be attributed to the 36% overall loans default risk in the case study organization stemming from Lenders not having adequate information upon which to base lending decisions. This was based on the observation that 93% of the respondents through the questionnaire survey associated default with an information gap between lenders and borrowers. The hypothesis was further consolidated by the fact that 98% of the results enumerated from the questionnaire survey on the general default phenomenon in the case study organization indicated payment not done by contractual due date due to either borrowers not willing to pay or unable to pay. The workshop considered this as an indication of information asymmetry because lenders before issuing out a loan do an appraisal of the applicant in order to establish the applicant's ability to pay back the loan within the stipulated time. However, such an appraisal despite being conducted by the case study organization did not seem to yield the desired results and this was attributed to having used wrong or inadequate information which was mostly provided by the borrower. This position was supported by Pinheiro and Moura (2001) whose study expounded

that the moment when information asymmetry in the credit market becomes more apparent and its effects more important, are in those situations in which *lenders are less aware than their borrowers of the risks* assumed in financing a project (or of their real payment ability, in the case of individuals).

The assertion of using wrong or inadequate information is further supported by the results enumerated from the survey questionnaire in which respondents attributed defaults to inadequate information used during the lending process. The results showed that 62% of defaults were due to borrowers providing false information and 38% due to not updating information upon which the loan was issued during the tenure of the loan. Therefore, what led to believing that solving the information asymmetry constraint would solve the loans default risk problem were the results of the survey. This is because the survey questionnaire further revealed that the preferred risk management technique in the case study organization was reducing risk through controls but most if not all such controls relied mostly on information provided by borrowers. Therefore, if the information provided by borrowers was questionable it meant the technique could not yield the desired results to the satisfaction of the case study organization.

In view of the foregoing, the workshop observed that if the information asymmetry problem was to be resolved and considering that it accounted for 93% of defaults from the perspective of respondents from the case study organization it was prudent to expect a 93% reduction in the 36% overall default risk. This assertion was further compounded by the observation that information asymmetry increased the costs of lender in terms of Non-Performing Loans (NPL) and overhead costs. Therefore, whole this would mean the residual risk being reduced to about *2.5% [36 %-( 36%*0.93)].* A residual loans default risk of 2.5% would be below the internationally accepted 3% default risk in microfinance organizations. In theory, this 2.5% residual risk would be further expected to reduce once the other contributing factor of wrong assumptions being used in lending decisions was dealt with. It was against this background that the workshop resolved it was rationale to solve the predicament under review through solving the information asymmetry problem.

### 4.4.3.4. Solving the information asymmetry problem

The workshop observed that at its most basic level, failure to obtain adequate information to aid decision making could be attributed to it being extremely difficult to confirm the level of reliability of information provided by borrowers. Further that this was mainly because of the high cost of obtaining such information, a development which if not resolved but attempts to deal with the information symmetry constraint went ahead anyway would led to even a higher loan interest rate hence defeating the purpose of the study. It was against this background that the workshop embarked on dealing with the matter by mainly focusing on measures to reduce the cost of such information.

In pursuit of the foregoing, the workshop observed that despite having systems to gather information to inform lending decisions during loan application appraisal in the case study organization, such information was not reliable due to some customers proving false information or exaggerating positive attributes. This was similar to the findings of Leland and Pyle (1977) who contended that information asymmetry resulted in a moral hazard process involving the exaggeration of positive qualities, whether of individuals or of the projects defended by companies in search of loans and this prevents the existence of a direct transfer of information with quality among market participants.

In order to deal with the vice, the workshop started from the observation from the results of the survey and in-depth interviews that the case study organization was somewhat biased towards one risk management technique of reducing risk through controls and to some extent risk acceptance. This meant that it was not utilizing the positive attributes of the other techniques and was being exploited by accepting a very high level of risk subject to the 36% overall residual risk identified. The following where the suggested developments:

### *Risk reduction*

This case study organization had adopted good controls which were dealing with most of the risk and considering that it was biased toward this technique, it could be attributed to the 64% collections rate despite the residual default risk of 36% after the use of such controls still being

too high compared to the industry standard. Therefore, the workshop emphasized caution when considering use of other risk management techniques so as not take away any of the advantages obtained through controls as that would increase the overall 36% hence defeating the purpose.

## *Risk avoidance*

This is where the case study organization avoids the default risk altogether but the technique is almost not used in the case study organization. The workshop acknowledged the risk avoidance technique was being used as not all loan applications where approved but none of the respondents in the survey brought it up in the questionnaire and very few in the in-depth interviews. This meant it was not acknowledged by most as one of the best practice risk management techniques and this takes away from the good that it can render to the case study organization as this tendency makes it not adequately recognized as an official viable option. This could be done by taking deliberate decisions such ultimately not servicing certain types clients to avoid the whole process of getting any information from such borrowers. For example, there could be a deliberate rule of not giving out business loans to entrepreneurs who have not been operating for a certain period of time, such as less than one year. Such a position is supported by Costa & Blum (2007) who subscribe to actions such as lenders insisting on *financial commitments from borrowers through funding part of a project themselves* as a measure to avoid giving loans to borrowers who do not have much invested in their businesses. Costa & Blum advocate for totally avoiding giving loans to prospective borrowers who do not meet such conditions.

## *Risk transfer*

The workshop observed that this technique split the institution into two, a group that subscribe to risk reducing through controls and risk transfer through insurance as enumerated from the survey questionnaire and the in-depth interviews. Further that despite the two (02) techniques being intertwined, none of the respondents brought up the issue of them complementing each other to a great extent. Therefore, the workshop investigated the ordeal to inform the study. In view of the foregoing, the workshop expounded that inasmuch as risk transfer was an option, it was mostly not thought of being feasible for the case study organization prior to the study because the high level of default risk (36%) meant the premiums that would be paid for insurance to transfer the

risk would be too high consequently defeating the purpose. However, if the risk is reduced below the international industry standard of 3%, insurance could be an option. The workshop suggested the case study organization taking deliberate actions to make members of staff understand this aspect. The importance of such was attributed to the understanding that the current position had potential to demotivate those who subscribe to insurance as a viable measure and this could lead to dysfunctional behavior owing to a perception that management had better options which were not been used hence the challenges were safe inflicted.

The workshop further observed that there was an option of transferring part of the risk through risk sharing by only giving to borrowers who engage in entrepreneurial activities who fund part of their business activities. This is as proposed by Costa & Blum (2007). Another way that was considered was through group loans as this has both the advantages of reducing the incident risk by sharing it amongst a group and at the same time having an increased chance of good behavior due to reputational concerns amongst group members. This also has the advantage of group members pushing each other due to the join liability phenomenon of such loans and them having more information on each member's ability to pay due to being close to each other. This is as expounded by Saloner (2007), who contended that group lending minimized loan default.

Saloner based the foregoing on the premise that many microfinance institutions borrow in groups and choose to lend to groups of borrowers rather than on an individual basis. Saloner based this assertion on the understanding that the general organization of group lending consists of a group of borrowers who work together, support, and mentor one another hence this would maximize the impact that the loan can have on each individual and enable group members not to default. This is because in many group lending situations, the members of the group are responsible for selecting new members and for the timely repayment by other members due to joint liability. As a result, Saloner states that group lending tends to lead to superior performance by the borrowers in operating their businesses and better rates of loan repayment. The workshop established that such considerations would reduce reliance on information provided by borrowers hence helping out a great deal.

## Risk acceptance

The workshop observed that the case study organization was accepting too much risk in the current position and that the development was not sustainable in the long term and it encouraged a passive approach to risk management. This assertion was based on the high default risk of 36%. On the other hand, the workshop suggested that this technique be suspended until the risk is at least reduced to levels below the 3% international industry standard. The merit was attributed to this development reducing on the need to gather and analyze information to establish which risk could be accepted.

## Reducing reliability on information provided during a loan application

The workshop established that the most effective way to deal with the information asymmetry problem was to reduced reliability on information obtained directly from the borrower during a loan application. This is as proposed by Leland and Pyle (1977) who contended that borrowers have information on their wiliness to repay, on their already pledged collateral, or further, companies are aware of their skills in industry and of internal information on their projects. However, all this information is difficult to access by lenders and this coupled with the issue of exaggerating positive attributes to get the loans by borrowers, the workshop opted for measures such as:

## Relying more on borrowers reputation

The workshop contended that having access to borrowers past credit information (credit reputation) could help a great deal in establishing which information should be relied on the most as borrowers are usually creatures of habit. This is as expounded by Costa & Blum (2007) who established that one of the forms for reducing problems with information asymmetry was through the use of a borrower's reputation, built by means of a positive performance background in situations during and prior to a loan. The workshop resolved that such could be done by keeping an updated data base on the past activities of borrowers but this brought up a challenge of how to deal with new clients. It was then observed that such a challenge could be overcome by using organizations which specialized in getting, storing and sharing such information such as credit bureaus. This was as suggested by Leland and Pyle (1977) through their proposal of using

organizations that compile and sell information on particular asset classes, as this information may benefit other potential lenders.

The workshop further acknowledged high cost as the downside of relying too much on buying such information and opted for sharing of information amongst players in the credit market. Sharing of information also brought up the issue of the quality of the information as one institution might not be as prudent as the other in gathering and storing information hence the information they share not being quality information. In order to deal with this, the workshop opted for sharing information and having an independent body such as credit bureaus to facilitate the process, this way the facilitating body would not charge much as they would not be involving in collecting, storing, but just sharing the information after ensuring it met a certain standard agreed upon by all the players in the network consequently would be less costly. This was in line with Freixas and Rochet (1999) who asserted that one of the main forms of reducing information asymmetry to reduce lender risks was through the reduction of the cost of information and by increasing its quality.

In light of the foregoing, Freixas and Rochet proposed that lenders in some markets may agree to share information, compiling information on individuals. Further that such could be done through institutions such as "credit bureaus" that tailor their services to this manner of operating. Freixas and Rochet contend that association with a credit bureau allows lenders to access more information on potential borrowers, in exchange for a lender's private information on the behavior of its current customers. In a similar development, Djankov, McLiesh and Shleifer (2006) add that the basic premise is for institutions to gather credit background information and current liabilities by borrowers, and share these with lenders. The same view is supported by Chu (2002) who asserted that a credit bureau's main role is to attenuate problems in connection with information asymmetry between lenders and borrowers in loan transactions, decreasing the likelihood of moral hazards such as exaggeration of positive attributes, adverse selection, and excessive indebtedness.

The workshop also based the success of the issue of sharing information on the expectation that once borrowers learnt that each loan they got had a bearing on their future loans, they shall be more motivated to do the right thing and this would assist to reduce moral hazard. This is as expounded by Miller (2000) who asserts that once there is a loan transaction, the borrower is

aware that its performance will be reported to a credit bureau. Hence, this information is converted into "*reputation collateral*", *as any delay in payments or default by the borrower will reduce this "collateral's" value, which may jeopardize future loans*. *Hence, borrowers are encouraged to pay their loans in time.*

The workshop further identified the *use of Direct debit bank facilities* where loan deductions were done the moment money hit the account of the borrower at a specified date. However, the workshop acknowledged that this would only work out if it was used with the other techniques highlighted above as borrowers tended to withdraw money before the deduction was done despite being sanctioned through being charged a penalty by banks for such actions. Further that this could be used on condition that lenders established agreements with the consent of borrowers so such instructions are never cancelled without the consent of lenders.

Eventually, the workshop concluded that the foregoing would manage to reduce the risk under consideration to the acceptable levels of below 3% and highlighted that this would lead to the benefit of both lenders and borrowers. This was based on the observation that reduced risk would help to keep loan interest rates relatively low due to a reduction in adverse selection and through a reduction in lenders spread. This was supported by Jappelli and Pagano (2000) who initially asserted that the key objective of managing information asymmetry would be to reduce adverse selection. As a result, *lenders spreads would be decreased by institutions, as there would be greater competition for loans with the increased encouragement for borrowers to pay*. In addition, other effects would be *increased discipline by borrowers due to reputation effect*. The researchers study on the study detected a drop in borrowers' over- indebtedness, *as the practice of obtaining loans from several financial institutions at the same time would be reduced when there is information sharing among financial institutions*.

## Dealing with the issue of wrong assumptions used in lending decisions

The workshop observed through the survey that about 24% of the members of staff in the case study organization thought there was a relationship between borrower's employer organization type and their ability to either pay before the due date, on the due date or default. However, the Chi Square test indicated otherwise. The only relation that was confirmed by the test was over the amount of loan gotten, the due date and defaulting. The good news was that the survey

results confirmed this aspect but the concern was over the wrong assumption. The workshop was concerned because it meant that resources which could have assisted in reducing the default risk in the actual areas where they were needed were directed to wrong considerations. Therefore, the workshop resolved to share the findings of the Chi square test for the case study organization from 2016 to 2018 in a bid to facilitate informed decisions and actions. The workshop believed such a development would reduce the overall risk further down from the 2.5% residual risk expected after the information asymmetry concern was addressed as aforementioned.

### 4.4.4. Chapter Summary

The entire chapter was about the process of identifying existence of default risk in the case study organization, quantifying the risk, devising possible solutions to the risk identified and eventually application of the most appropriate solution. This process was embedded in the research questions in terms of establishing extent of defaults in case study organization, exploring the risk profile of the case study organization subject to interest rates, the risk management practices adopted and then solving the risk return trade off and loans default predicament. The foregoing was achieved by establishing that the case study organization was characterized with the default phenomenon as its major risk. This was followed by quantifying that the actual default rate was 36% and that this was way too high compared to the 3% residual default rate internationally acceptable for microfinance institutions. The default rate was primarily attributed to there being wrong assumptions upon which lending decisions were being based such as there being a relationship between borrowers' source of income organization type and ability to pay back on time or default. Further that the case study organization believed to be applying best practice risk management techniques despite the 36% residue risk and that the majority of risk in the case study organization was attributed to information asymmetry hence solving the information asymmetry constraint was believed could reduce the residual risk of 36% by more than 90%. The decision making model to achieve its goal was then to be primarily centered on solving the information asymmetry constraint subject to best practice risk management tenets prescribed by the COSO Enterprise Risk Management framework.

# Chapter five

## CONCLUSION AND RECOMMENDATION

### 5.1. Conclusions

The main result of this study is that solving the information asymmetry problem in the credit market for the case study organization can reduce its default risk exposure from 36% to 2.5% which is below the internationally accepted 3% for microfinance institutions. Further that the 2.5% residual risk can be reduce even further down by correcting a wrong assumption upon which lending decisions were being based such as making decisions on the understanding that prospective clients could default based on their employer organization type or industry. This risk reduction is vital as it assists to resolve the dysfunctional phenomenon created by lenders need for a return high enough to carter for servicing high risk clients and be compensated for taking on high risk but such a development usually leading defaults due to an increased debt burden on borrowers. Solving this paradox leads to an interest rate that is high enough to support lenders operations while at the same time low enough so as not to lead borrowers into financial distress which brings about moral hazards, adverse selection, and excessive indebtedness. This is bad because it leads to an unsustainable situation in which a win for one party (lenders or borrowers) translates to a loss for the other party (lenders or borrower).

## 5.2. RECOMMENDATIONS

In view of the conclusion, the information asymmetry problem can be addressed through the following:

1. Having an effective risk management system which uses all the recommended best practice risk management techniques such as risk transfer, risk reduction, risk avoidance and risk acceptance concurrently. The most important findings of the study are that these techniques have to complement each other in order to avoid one technique negating the positives of another.

2. Reducing reliability on information obtained through direct interactions with borrowers during loan application appraisals and relying more on;
   a) Reputational collateral which is formed through past credit transactions of borrowers as obtained from internal credit database,
   b) Use of shared credit information between and amongst other lenders through integrated systems supported online platforms created by institutions such as Credit bureaus.

3. Use of direct debit bank facilities for clients with bank accounts and a steady monthly income such as employees provided banks are instructed that such instructions not be cancelled without the consent of the lenders.

After addressing the information asymmetry problem which is expected to reduce the overall risk for the case study organization to about 2.5%, this residual risk can further be reduced by the case study organization being educated on aspects they did not seem to understand so as to enable them shift attention to other aspects which have a bearing on the risk profile of the institution.

It is further recommended that all measures suggested above to deal with information asymmetry and wrong assumptions used in lending decisions would only produce the desired results on condition that the step taken complement the following controls already employed in the case study organization in order to remain with the residual risk of 36% upon which the entire solution to the study problem is based. The controls according to the in-depth interviews, survey questionnaire responses and workshop contributions include:

1. Constantly reviewing the risk profile of the case study organization.

2. Application of best practice risk management precepts as guided by renowned bodies such as the COSO Enterprise Risk Management (ERM) framework (2004) though prior to the study was associated with bias towards risk reduction through controls.

3. Controls such as pledging of collateral, third-party credit guarantee, prompt action of defaults, proper and adequate appraisal.

4. Having clear and effective lending policies and procedures that are reviewed regularly.

5. Branch managers checking daily on Loan officers to ensure policies were being followed to avoid just having good policies on paper.

6. Visitation of clients who are in arrears

7. Paying attention to details in loan applications by ensuring that an application is approved by a senior experienced member of staff.

8. Tracking of average arrears rate of each Loan officer's portfolio on a daily basis through morning briefs and interviews

9. Financial incentives to loan officers with low rates of arrears/defaults in terms of employee of the month cash vouchers

10. Recruitment of qualified staff and regular trainings through daily discussions in the case study organization online platform, and

11. Prudent actions by management such as suspending lending to new clients when arrears/defaults rates rise to high levels unit of the portfolio at risk (over one day) ratio falls below best practice accepted levels.

## 5.3. Risk-return trade off and loan default paradox remedy decision making model

**Step one**: Establish default rate in case study organization (Risk audit)

**Step two**: Establish current risk management techniques (Risk management audit)

**Step three**: Confirm existence of information asymmetry in case study organization (Test)

**Step four**: Apply information asymmetry solutions appropriate for case study organization

**Step five**: Measure the residual risk again, if it has reduced to less than 3%, then remove all none value added activities and redirect the savings to reducing the overall interest rates charged to borrowers
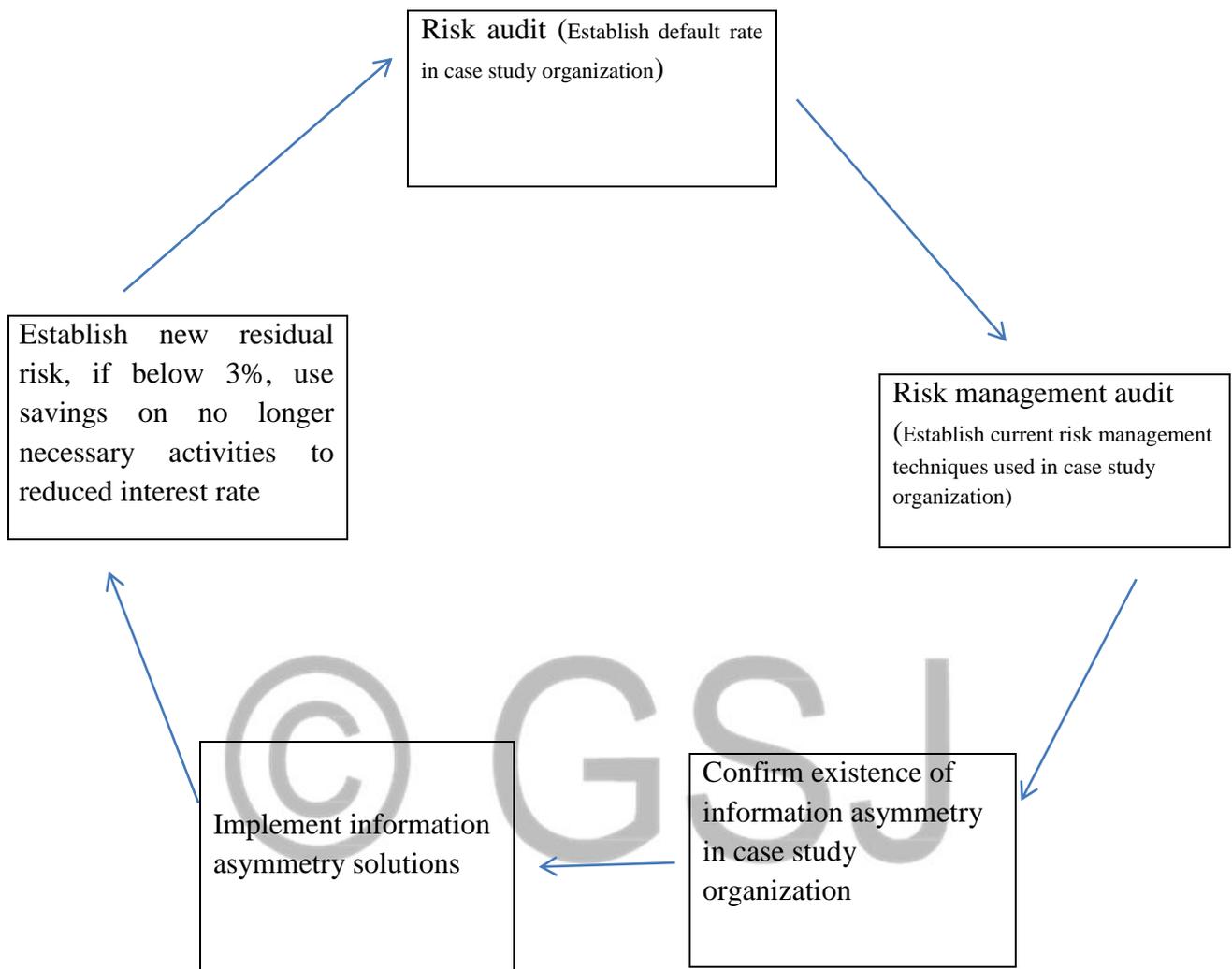
**Figure 5.4: Risk Return and Loan Default decision making model**

It must be noted that microfinance institutions have potential for creating wealth hence reduce poverty. Therefore, the government, the Central Bank of Zambia (BoZ) and other stakeholders should support microfinance institutions as this would greatly assist in the management of their risk portfolios. This assistance could be biased towards aspects to do with sharing information between and amongst lenders as more established financial institutions like banks might not want to integrate their information systems with microfinance institutions despite them meeting all information systems standard security requirements. Eventually, Government and the central

Bank of Zambia (BoZ) should take keen interest in microfinance start-ups as this would help in managing their risk exposure which is core to the dysfunctionality under review. This is because most microfinance institutions start out operations using the money lenders certificate which is not offered or monitored by BoZ but by the magistrate courts which might not have an appreciation of financial matters as BoZ would. Operating under the money lenders certificate usually leads to almost no support to help out such start-ups to graduate to established financial institutions through regular monitoring and supervision as this would be the most effective way to safeguard the niche under review as such would increase customer and other stakeholder confidence.

Eventually, it must be appreciated that inasmuch as the measures used to develop the model are known in academia, they have never been weaved together like in this study to form a composite decision making model as most studies either focus on the risk-return trade off or loans default in isolation. It is observable that the model is principally mirrored from the COSO Enterprise Risk Management (ERM) framework with regard to risk identification, assessment, analysis and mitigation. This is because the ERM framework is an international best practice risk Management framework hence whenever risk is part of the problem, parts or principles of the framework will always pop up. However, it needs to be appreciated that despite ERM constituents of risk identification, assessment, analysis and mitigation popping up, there is always a *different way* of risk identification, assessment, analysis and mitigation. There are also *different tools and options* for risk identification, assessment, analysis and mitigation.

It is worth appreciating that it is in these *different ways, tools and options of risk identification, assessment, analysis and mitigation* that specific value is added to a respective organization or industry because *effective risk management is always specific*. This is why there is no effective blanket ERM definition for an organisation, much less for an industry. It is against this background that the value or significance of this decision making model is highlighted as it provides specific risk management tenets through the different ways, tools and options of risk identification, assessment, analysis and mitigation that are generated by the model to get specific solutions

### 5.4. Limitation of the study

The study has been conducted within the bounds of Accounting & Finance, these fields might not on their own give a comprehensive of the risk return trade off and loans default predicament. This is because the phenomenon has both microeconomic and macroeconomic characteristics that are greatly influenced by certain behaviors of the market players. Therefore, a better perspective should be obtained if the study is conducted from the perspective of other social sciences such as economics and sociology.

### 5.5. Suggestions for further research

There is need to answer the question whether the findings of this study can be made universal subject to other academic disciplines such as economics and sociology. Especially in places with a different cultural setup, this could be based on consideration of things such as the level of development of the insurance industry in a respective jurisdiction. This is because behaviors of market players in a jurisdiction with a developed, moderately developed or lowly developed insurance industry will be different hence could provide different results if this study was to be conducted. All the foregoing could further be gauged against different saving cultures as this study focused on a niche that was created by borrowers who wanted short term soft loans to sort out mainly unforeseen financial demands on them. However, a market with a different saving culture could as well produce different results from those produced by this study.

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## 7.0. Appendix

## 7.1. Research questionnaire

NAME/CODE (S): …………………………………… ADDRESS…………………………………

INSTITUTION……………………………COUNTRY………………………................PHONE NO

………………………………………………………… EMAIL ….…………………………………..

SIGN: …………………………………………..DATE: ………………………………………..

**TICK THE APPROPRIATE RESPONSE**

SEX     : FEMALE                    [  ]     MALE                 [  ]

**Please read and complete this form carefully.  By this stage you should have completed the research participation consent form as a way of expressing your willingness to participate in this study, tick [   ] the appropriate responses. If you do not understand anything and would like more information, please ask.**

1.   What is your role in the institution?
     Loan officer [  ] Branch Manager [  ]      Director [  ]

2.   What is prominent in your organization (You can choose any number of factors)?

     Payments not done by contractual due date [    ]      Borrowers unwilling to pay []

     Borrowers unable to pay [  ] Continued dwindling chances of loan recovery [   ] Not captured [   ]

3.   Tick three (03) factors you think would mostly influence a lenders risk profile?
     Borrowers living expense [  ]    High loan interest rates [  ]   Poor loan supervision [   ]

     Borrowers employer organization type [   ]   Net income of borrower [   ] Loan amount [  ]

     Family size of borrower [   ] Loan due date [   ]

4.   What do you think is more common amongst borrowers who default?
     Providing false information [   ]   Not updating information upon which loan was issued [   ]

5.   Do you think lenders having more timely information on borrowers would reduce the risk of
     default hence  prompting a reduction in the risk profile of borrowers and consequently becoming
     eligible for being charged more favourable loan rates? (This is centred on Information Asymmetry which

refers to a mismatch of information between lenders and borrowers such as information given by clients not being reliable or clients not updating information given to the institution during loan application)

Yes   [   ]            No   [   ]

6. What do you think would be the best way of managing default risk?

Transfer the risk (insurance)   [   ]    Accepting the risk (not doing anything)    [   ]
Reducing the risk (controls)   [   ]    Avoiding the risk (stopping operations)    [   ]

7. Tick which of the following risk management techniques are use in your organization?

Pledging collateral [   ]    Third party credit guarantee [   ]    Use of credit rating and collecting agencies [   ]    Loan supervision (for businesses) [   ]    Prompt action on overdue loans [   ]    Group lending [   ]

8. Do you think solving the problem of information asymmetry would yield better results than the risk management techniques ticked in question seven (07) above?

Yes      [   ]            No      [   ]

9. Which of the following do you think greatly influences loan defaults?

Borrower's employer Organization type   [   ]    Loan Amount   [   ]    Loan due time   [   ]

a) Which borrower employer's organization type do you think most clients who default come from?
Civil Servants [   ]    Qausi- Government [   ]    Parastatals   [   ] Private Sector [   ]
Informal Sector [   ]

b) Which loan amount band do you think most clients who default fall in?
Below K1, 000.00       [   ]    Above K1, 000.00 but below K2, 000.00 [   ]
Above K2, 000.00 but below K3, 000.00 [   ] Above K3, 000.00 but below K4, 000.00 [   ]
Above K4, 000.00 but below K5, 000.00 [   ]

c) Which week of a month do you think most clients default if their loan falls due in it?
1st Week [   ]     2nd Week [   ]     3rd Week [   ]     4th Week [   ]     5th Week [   ]

**Note**: On the borrower's employer type of organization, the following are the examples of each organization type

**Civil Servants**: Teachers, Police officers, Ministry of Finance, Zambia Army etc

**Quasi Government**: Zambia Revenue Authority, Zambia National Assembly, etc

**Parastatals**: ZESCO LTD, Zambia Railways, etc

**Private Sector**: All Limited private organizations

**Informal Sector**: All sole traders