

FINANCIAL RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF MICROFINANCE BANKS IN KENYA

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ABSTRACT

The general objective of the study was to determine the effect of financial risk management practices on financial performance for the Microfinance banks (MFBs) in Kenya. Specifically, the study sought to establish the effect of credit risk management practices, liquidity risk management practices, operational risk management practices and market risk management practices on financial performance of Microfinance banks in Kenya. The study was based on four theories namely credit risk theory, liquidity preference theory, extreme value theory and the capital market theory. Descriptive survey design was adopted for the study. The target population comprised of all the 13 licensed MFBs in Kenya as at December 2020. Census survey was used, and respondents comprised of 5 managers from each of the 13 MFBs forming a total sample of 65 respondents as the accessible population. The study used both primary and secondary data where Primary data was collected using structured questionnaires and panel data was obtained from CBK annual supervision reports for a six-year period from 2015 to 2020. Multiple linear regression model was used to determine relationship between variables. Data collected was analyzed using both descriptive and inferential statistics with the aid of SPSS version 25 and presented using inferential statistics tables. The study found that Microfinance banks use well-defined credit scoring mechanism; adverse selection and lack of adequate customers' data leads to high loan default; a stringent debt collection mechanism ensures low non-performing loans and PAR within the industrial

average rate; high nonperforming loans affects the profitability of Microfinance banks and elaborate credit policies guide the Microfinance banks in the appraisal and approval of all credit facilities thereby increasing the loan book quality. The mandatory liquidity ratio of 20% as well as the Cash Reserve Ratio (CRR) requirements as prescribed by Central Bank of Kenya helps in mitigating the Microfinance Banks' liquidity risk exposure. Well defined internal business processes enhance efficiency thereby improving financial performance of Microfinance banks, lack of laid down processes can lead to fraud, lack of adequate, skilled, experienced, and well-trained human resources leads to operational errors thereby financial loss. The results from the regression analysis revealed that there were beta coefficients of 0.619, 0.755, 0.528 and 0.471 for credit risk management, liquidity risk management, operational risk management and Market risk management respectively. The study concludes that credit risk management practices, liquidity risk management practices, operational risk management practices and market risk management practices have a significant effect on the financial performance of Microfinance banks in Kenya. The study recommends the Microfinance banks to adopt a credit risk management framework to counter the credit risk that affect their financial performance. The Microfinance banks should pay attention to their liquidity as one of the determinants of profitability. CBK should maintain the minimum liquidity requirements for Microfinance banks which is currently at 20% as this have an impact on the profitability of Microfinance banks. It is fundamental for Microfinance banks to

practice operational risk management techniques to improve their efficacy in operations to safeguard their assets and minimize errors and frauds that might have negative effect on profitability. The management of the Microfinance banks in

Kenya should manage the interest rates charged on credit and savings products in line with various customer needs to boost their image, competitiveness, and consequently financial performance.

INTRODUCTION

Background of the Study

The Ahmed (2019) defines risk as anything that can create obstacles in the way of achievement of certain objectives. The impact on business objectives can cause either a positive or negative variance from the expected results. A positive variance helps the organization in realizing its expected business goals while a negative variance makes it difficult to achieve the set business goals. From a risk management perspective, a business needs to explore the events leading to positive variance while mitigating on the events leading to negative variance. Today's business environment is faced with a myriad of risks. All financial institutions including Microfinance banks (MFBs) must proactively institute ways of managing the risks they are exposed to. This guarantees their survival and sustainability (Mangold, 2016). MFB's, like all other financial institutions, are exposed to financial risks. This is directly related with their core business of credit administration and deposit taking business. It is therefore important that MFBs to manage their risks to maximize on their return on investment.

The range of financial risks faced by MFBs includes credit risk which refers to inability to service the loans by customers thereby leading to loans delinquency, liquidity risk which refers to the bank inability to meet its financial obligations as and when they fall due, markets risk which entails changes in interest rates and competition from its peers, operational risk which entails the risk caused by failed systems and processes thereby exposing the bank to financial loss. To Dei and Amoh (2016), in present days of world economy, risk management is regarded to be one of the resilient and important tools for financial institutions. To achieve the set strategic goals, MFBs must constantly employ proper financial risk management strategies to address the financial risks. A set of activities that a financial institution uses to reduce its exposure to credit risks, liquidity risks, market risks and operational risks is referred to as financial risk management practices (Wanjohi, 2017).

A good risk management practice is very essential to increase the value of firm to maintain the financial health of the banks in Malaysia. Additionally, the banks which embraces more advanced techniques in risk management have greater availability of credit (Jamil *et.al.*, 2018). The financial crisis of 2007/2008 changed the way banking sector in Africa views risk management concept. Financial risk management practices concept has become live for the banks especially in their strategic planning and from the regulations. Mohamed *et al.*, (2017)

points out that financial risk is inherent in every financial institution, but those institutions in Somalia that embed the right financial risk management strategies into business planning and financial performance management are more likely to achieve their strategic and operational objectives. Though operational risks have been institutionalized in banks, there are still indications that this risk is not properly managed.

In Kenya, the Microfinance banking subsector has been faced with liquidity risk management among other challenges. Microfinance banks performance and profitability are significantly affected due to need to allocate more resources to mitigate these risks. Adoption of effective risk management strategies is paramount to the survival of the Microfinance banks (Otieno *et al.*, 2016). Microfinance institutions in Kenya should document their local strategies applied in liquidity risk management and employ effective policies that impacts positively on the overall liquidity risk management functions since it impacts on their efficiency and profitability.

Statement of the Problem

Microfinance institutions engage in proactive assumption of risks to achieve their strategic objectives thereby giving positive and sustainable returns to their shareholders. This can only be achieved if a firm has an upward trajectory in financial performance (Oyetayo & Eboigbe, 2018). The Microfinance banking business environment is inherently filed with financial risks. This means that the Microfinance banks should actively manage these risks to survive and give sustainable returns to the shareholders. Kimathi *et al.* (2018) reiterated that the global economic and financial crisis of 2008 affected most financial institutions worldwide threatening the survival and stability of the banking sector. The main cause of this crisis was attributed to inappropriate risk management practices by the banks. (Mohamed & Onyiego, 2018). The banking industry in Kenya has been facing distress characterized by capital inadequacies, bank runs and even some banks being placed under receivership. This has led to three banks being put under receivership by CBK. This includes Dubai Bank in August 2015; Imperial bank in 2015 and Chase Bank Kenya Limited in Year 2016 (BD, 2015; BD, 2016). The collapse of the three banks can be associated with failure to apply good corporate governance and effective risk management practices. Similarly, the Microfinance Banking sector in Kenya has been struggling to remain sustainable. It has reported a combined loss for five consecutive years from year 2016 to 2020 closing with a loss before tax of Ksh.2.2 billion in year 2020. The sector recorded negative financial performance ratios where Return on Assets (ROA) and Return on Equity (ROE) were -3.0% and -28.0% respectively in year 2020 (CBK, 2020). Over the years, researchers have conducted various studies in Kenya on the financial risk management concept and its effect on financial performance for banks with findings that credit risk, liquidity risk, market risk and operational risk had a significant positive relationship to financial performance (Okeyo & Miroga, 2020; Nderitu, 2017; Wamalwa and Mukanzi, 2018). Other researchers found contradicting results where the relationship was negative and significant (Muriithi, 2016; Omondi, 2019, Kahihu *et al.*, 2020). However, out of these studies, only a few concentrated on the aspect of financial risk management in Microfinance banking sector in Kenya despite it being a very important

element in the Microfinance banks' development, survival, and sustainability. It was on this gap that this study was carried out.

Objectives of the Study

The general objective of the study was to establish the effect of financial risk management practices on the financial performance of Microfinance banks in Kenya.

The study was guided by the following specific objectives;

- i. To determine the effect of Credit risk management practices on financial performance of Microfinance banks in Kenya.
- ii. To establish the effect of Liquidity risk management Practices on financial performance of Microfinance banks in Kenya.
- iii. To assess the effect of Operational risk management Practices on financial performance of Microfinance banks in Kenya.
- iv. To assess the effect of Market risk management practices on financial performance of Microfinance banks in Kenya.

THEORETICAL REVIEW

Credit Risk Theory

The credit risk theory was developed by Merton in 1974. A corporation is said to be in default if its asset worth is less than its outstanding debt, according to Merton (1974). In such cases, the lenders receive a sum equal to the asset, while the stockholders receive nothing. It was argued that credit risk and the capital structure of the company are linked. The Credit Risk Model assumes that market movements are unforeseeable (efficient markets), that there are no bankruptcy charges (liquidation value = firm value), and that debt and equity are frictionless transferable assets. As a result, credit risk, according to this hypothesis, has a negative impact on a company's profitability. According to another study, a financial asset is vulnerable to credit risk not only at maturity but throughout its lifespan (Longstaff & Schwartz, 1995).

Kajirwa and Katherine (2019) identified a substantial negative relationship between credit risk and banks' ROE in their research on credit risk and financial performance of banks, corroborating the idea. They also pointed out that when the ratio of NPLs to total LA grew, the banks' financial performance deteriorated. Almekhlafi et al., (2016) found that NPL has a considerable negative influence on performance, which is in line with the theory. However, some research contradicts this hypothesis. For example, Ogboi and Unuafe (2013) discovered that LLP improved performance, and Boahene et al., (2012) discovered a positive-significant association between credit risk and bank performance. Financial institutions carefully assess their clients before extending loans to them in order to reduce NPLs. Credit officers use proper risk management measures to improve their recovery efforts on non-performing loans (Siriba, 2020).

The model has been criticized, according to Gemmill (2002), because of several features of the theory. To begin with, the Merton Theory makes no distinction between different types of debt based on seniority, collateral, covenants, or convertibility. Second, the theory fails to account for the behavior of companies that strive to maintain a steady or goal leverage ratio over time. Third, because the stock market may not fully reflect all of the information in the financial statements, all publicly available information about default probability may not be efficiently incorporated into equity pricing (Yuniningsih, Widodo & Wajdi, 2017).

Despite the criticism, Merton Model remains legitimate and relevant in today's research. The key benefit of using this theory in credit risk management in this study, is that it provides guidance on the theoretical causes of credit risk and provides the essential structure for extracting credit and credit risk information from the market. As a result, the theory can be used to assess the impact of credit risk management strategies on the financial performance of Kenyan microfinance institutions

Liquidity Preference Theory

The Liquidity preference theory was coined by Keynes in 1936. It postulates that interest is the price paid for borrowed funds and suggests that cash is the most accepted liquid asset and more liquid investments are easily cashed in for their full value. suggests that an investor should demand a higher interest rate or premium on securities with long-term maturities that carry greater risk because, all other factors being equal, investors prefer cash or other highly liquid holdings (Keynes, 1936). According to the Theory, financial institutions need working capital to ensure they handle daily operations and ensure that there is sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses.

Yuniningsih, Widodo and Wajdi (2017) pointed that the hypothesis implies that different financial institutions have different levels of liquidity. As per the theory, extreme liquid banks should charge lower interest rates on loans to attract more members, and lower interest rates on deposits to discourage savings, or if the charges are comparable to those charged by other financial institutions, interest rates on savings should remain extremely low. Microfinance institutions keep cash for speculative, transactional, and precautionary reasons, according to Njue et al., (2020). Microfinance institutions require funds to carry out their daily operations, which mostly include cash withdrawals and other commitments. MFBs would also need to keep funds on hand as a reserve in case of unanticipated situations. MFBs would also keep cash on hand to invest in the financial markets in order to generate income.

The hypothesis ignores bank money and tends to reduce the monetary authorities' ability to affect interest rates. The Theory is critical to this research because it explains why banks maintain assets. Customers avoid banks with high liquidity risk by opting for assets that are highly liquid, and they do so by piling their cash in highly liquid banks (Bonfim & Kim, 2011). The need for liquidity is driven by three factors: transaction, precautionary, and speculative. This is in line with the study's second goal, which is to determine the impact of liquidity risk management on microfinance banks' financial performance practices in Kenya.

Extreme Value Theory

The Extreme Value Theory (EVT) was established by Embrechts in 1999. It is a set of measures that looks at the extreme deviations from the median of likelihood distributions. EVT indicates the possibility of events that are more absurd than those already seen, based on a particular request test of an arbitrary variable. The financial sector, which includes banking and insurance, is undergoing tremendous transformations. This theory investigates operational risk management knowledge as it relates to the sensitivity of recognized hazards and the alternative risk transfer mechanisms in place to maintain a smooth process. When operational risk is internal, EVT assumes that the financial institution's exposure to market risk (i.e., investment in hazardous securities) is less volatile, and only more volatile when operational risk is external (Chernobai, Jorion & Yu, 2011).

The theory has been chastised for failing to account for the size of a loss in the event of a tragedy and for lacking sub-additivity (Hull, 2012). The notion has also been critiqued for producing an excessive amount of consumer surplus. Severe measures are required in extreme market conditions, and their research found that no one measure can perform well for both the center and tails of an exchange rate distribution. Despite the fact that they are both vulnerable to operational errors, their operational risk exposures may differ depending on the financial restrictions they confront. The consequences of this theory highlight the need of having an operational risk theory to help identify the determinants of operational losses in data (Jarrow, 2008).

EVT provides a solid theoretical foundation for developing statistical models that describe severe events in the operations of financial institutions. This theory adds to the understanding of operational risk management in the financial institutions by highlighting the securitization of risk and alternative risk transfer, as well as the convergence of finance and insurance at the product level. For financial institutions such as microfinance banks, extreme value theory plays an important methodological role in risk management. Accordingly, EVT plays a critical role in assessing the effect of Operational risk management Practices on financial performance of Microfinance banks in Kenya.

Capital Market Theory

The Capital market theory was postulated by Markowitz in 1952. According to the theory, investors focus on the risks and rewards of individual assets when establishing and developing their portfolios. Since the 1980s, industries have used this theory to manage market risk, allowing them to use value at risk models to manage risks such as market and interest rate risk exposures. This strategy entails assessing credit risk exposures, implementing a credit risk rating, and determining the findings to estimate the predicted losses of a portfolio, regardless of the diverse approaches employed by businesses. The theory is founded on the premise that all investors have the same time horizon.

Pilbeam (2018) pointed that the link can be explained by the fact that an increase in market risk, such as political unrest, recessions, interest rate fluctuations, and natural disasters, has a negative impact on borrowers and depositors, resulting in lost business for the bank and finally low performance (Kioko et.al., 2019). In the real world, the theory has major limits because most of the assumptions are unrealistic. Many investors do not diversify their portfolios in a systematic way. Furthermore, depending on the technique of compilation, the Beta coefficient is unstable, fluctuating from period to period. According to Campbell and Vuolteenaho (2003), past techniques of evaluating the Capital market theory were inaccurate, and there is practically no way to test the model in the future unless the true market portfolio is known, which includes all investable assets such as real estate.

The Capital market theory's lack of popularity may be attributed to the inadequacy of several of the model's assumptions. The calculation used by the MPT in establishing risk, return, and correlation is centered on values that are expected, which indicates that the investment is based on mathematical projection about the future (Otutseye & Siddiquee, 2017). The theory relates well with the objective of this study because the theory guides banking customers on the importance of diversification of assets as a means of reducing risks to maximize returns. The theory also emphasizes the concept of the tradeoff between risk and return which is important for investment decision-making. This makes it fundamental in assessing the effect of market risk management practices on financial performance of Microfinance banks in Kenya.

Conceptual Framework

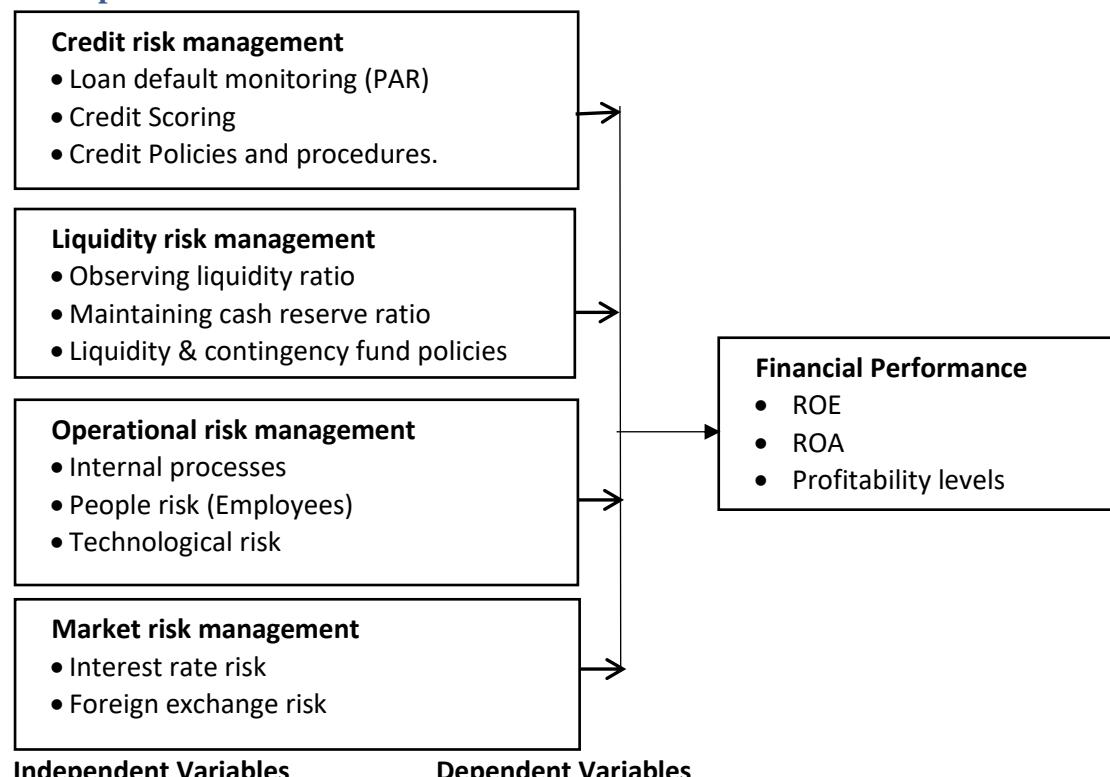


Figure 1: Conceptual Framework

EMPIRICAL REVIEW

Credit Risk Management and Financial Performance

The core business for Microfinance banks is to mobilize deposits from the public and then lend to various sectors of the economy at a premium. Variability in returns may arise if several customers defaults on loan repayments thereby creating Credit risk. A study undertaken in Pakistan by Shahid et al., (2019) revealed that Credit risk is one of the main elements that in a big way influences how commercial banks performs financially. Therefore, it cannot be ignored when establishing if, in any way, there exists any correlation between good credit risk management and how commercial banks performs. If the risk owners could effectively employ good techniques in credit risk management, positive shareholders returns would be achieved. The study used data obtained from 24 commercial banks for period between year 2010 and 2017.

A study was conducted in Kampala, Uganda by Kalu (2018) where three licensed Microfinance institutions were analyzed using descriptive statistics. Data was obtained from primary source and from annual reports for year 2011-2015. Relationship between variables was done using Pearson correlation coefficient. According to the researcher, the level of influence of credit risk to the financial performance of an institution is determined by a combination of several techniques in credit risk management ranging from risk identification to risk monitoring and mitigation. The study found out that all these techniques had a positive influence of how a Microfinance performed financially. The study recommended that a Microfinance institution should emphasize on continuous application of good credit techniques and should be flexible in its application since they keep on advancing. This will help the institutions in measuring the credit risk exposures continuously and mitigate its downside effects towards overall financial performance.

A study by Siriba (2020) sought to find out if credit risk affected the level of financial performance of commercial banks in Kenya. Secondary data from year 2014 to 2018 was obtained from annual reports and descriptive statistics and multiple linear regression methods were used in the study. The notion that both delinquent loans and impairment of loans have a negative effect on returns of a bank was confirmed to be true. It was also confirmed that the level of loans and advances in a bank positively influences its profitability. Banks should therefore embark on growing a quality loan book while addressing on how clients are onboarded by profiling them to curb the credit risk.

Otaalo, Muchelule and Asinza (2019) studied the effect of risk identification and risk analysis on performance of road construction projects in Kakamega County, Kenya. The instrument of data collection were structured questionnaires. The target population consisted of 80 project managers, road engineers, project managers, road supervisors, road inspectors, road surveyors and contractors in Kakamega County. The unit of analysis were ongoing and completed road projects implemented by Kakamega county government. Simple random sampling used to select 80 of whom 70 respondents returned the questionnaires representing

87% respondents. The findings showed that risk identification has a positive and significant effect on risk management practices in road construction projects.

Liquidity Risk Management and Financial Performance

The correlation between liquidity risk and financial performance of banking and financial companies in Sri Lanka was conducted by Perera and Perera (2020). The study employed a sample of 12 commercial banks, 3 specialized banks and 15 finance companies. Independent variables included deposit to total assets ratio, cash reserve to total assets ratio, NPL ratio and liquidity gap while dependent variables include ROA, ROE and net profit margin. Data was obtained from financial statements for banks and finance companies during the period 2011 to 2019 and was analyzed using multiple regression. The study concluded that liquidity risk significantly impacts financial performance and that the concept of liquidity risk analysis aids financial institutions to operate smoothly.

According to Oganda, Mugwambo and Otieno (2020) banks in Kenya have been faced with liquidity risks especially due to asset and liabilities mismatch. The bank ought to balance between assets that generates income for the bank thereby creating a positive effect to bank profitability and liabilities (customer deposits) which attracts interest paid to the customers thereby creating a negative effect to the bank profitability. The same deposits are used to generate assets through loans. the study concluded that bank should focus more on having quality assets that generate income to the bank. Among various Liquidity risk management techniques, the study specifically used the liquidity coverage ratio and the net stable funding ratio as the main parameters. To get sufficient and reliable observations, the study used annual reports data for the period 2005 and 2014 which was analyzed using Wald and F-tests. The level of bank profitability was significantly influenced by how liquidity risk management was applied. Banks should therefore apply the most effective liquidity management techniques to ensure positive returns.

According to Otieno, Nyagol and Onditi (2016) Microfinance Banks in Kenya are faced with a declining trend in profitability and capital adequacy thereby putting their sustainability into question. One of the major reasons for this would be lack of proper risk management strategies. This investigation was done with a general aim of finding out if there was relationship between liquidity risk management and financial performance of microfinance banks in Kenya. The study sampled Six Microfinance banks out of the twelve licensed and data was collected from annual financial statements. It was concluded by the study that use of adequate liquidity management strategies affects financial performance of Microfinance banks in Kenya. To correct the negative trend in their performance and guarantee sustainability, the Microfinance banks need to institute efficient risk management framework. Otieno, Nyagol and Onditi (2016) indicated that Microfinance banks in Kenya are faced with a declining trend in profitability and capital adequacy. The level of bank profitability was significantly influenced by how liquidity risk management was applied. Microfinance banks institute elaborate measures towards reducing inefficiencies in operations which exposes the banks to operational risk consequently affecting the banks' profitability. Isoh, Ambang and

Nchang (2020) established that Microfinance banks ensure their sustainability and cushion themselves against unprecedented losses by implementing good internal operational risk management strategies. The Microfinance banks have experienced increase risks which have reduced the revenue aspect and increased the cost associated with their activities. The failure of Microfinance banks is influenced to a large extent by the quality of risk management decisions and thus the quality of the risky assets. Management of financial risks is an important issue that many financial organizations are keen about. The need to formulate working systems and processes to deliver better financial performance is highly sought for by these financial institutions.

Operational Risk Management and Financial Performance

Fadum and Oye (2020) in their study argues that operational risk can majorly influence profitability of commercial banks given that it comprises of both people, processes, and systems. This makes operational risk management a big consideration when instituting a risk management framework of a bank. The study proved that banks in Nigeria that have an effective operational risk management strategy performs well therefore giving the variables a positive correlation. As per the study, banks should give operational risk management a strong consideration, time, and resources to ensure its success. Data was obtained from banks' annual reports for the period 2008 and 2017 and analyzed using multiple linear regression.

A study was carried out by Isoh, ambang and Nchang (2020) to find out if use of operational risk management measures impacted on financial performance of commercial banks in Cameroon. To ensure sustainability and cushion against any unprecedented losses in a bank, it is paramount to have in place good internal operational risk management strategies. Commercial banks should adopt stipulated strategies in Basel Committee for bank supervision which encompasses timely risk monitoring, adequate resourcing, and control. Purposive sampling was used to determine the population for the study where questionnaires were used to collect data. The study concluded that there existed a positive impact between the way banks employed tactical operational risk management practices and the overall financial performance of the banks.

In their study, Meshack and Mwaura (2016) indicated that among the variables considered in their analysis, operational efficiency had the most influence on financial performance. They further suggest that bank should work towards streamlining their operations to achieve operational excellence thereby positively impacting profitability of commercial banks on Tanzania. This study was conducted through collection, analysis and presentation of data using questionnaires and descriptive statistics, respectively. Commercial banks in Tanzania were subjected to this study with an aim of ascertaining the level of impact on financial performance if good operational management practices were employed by those banks.

Having in place a liquidity contingency plan can help the Microfinance banks in funding liquidity crisis thereby reducing liquidity risks. Perera and Perera (2020) also revealed that liquidity is very critical phenomenon for smooth operation of banking and finance sector

business. Otieno, Nyagol and Onditi (2016) indicated that Microfinance banks in Kenya are faced with a declining trend in profitability and capital adequacy. The level of bank profitability was significantly influenced by how liquidity risk management was applied. Microfinance banks institute elaborate measures towards reducing inefficiencies in operations which exposes the banks to operational risk consequently affecting the banks' profitability.

Market Risk Management and Financial Performance

Bank supervisory authorities across the globe have worked to develop improved risk management frameworks for their institutions especially after the financial crisis 2008. The framework effecting the interest rate risk is still under continuous development owing to the nature of the risk. Financial institutions should include this risk among the top in their risk profile and institute sufficient mitigants towards its reduction. In their investigation, Wamalwa, Margaret and Mukanzi (2018) affirmed that there existed some level of correlation between the way interest rate risk was being addressed and how the banks performed in Kakamega county, Kenya.

Juma and Atheru (2018) carried out an investigation with a purpose to confirm if risks facing 42 commercial banks in Kenya could have effect on returns on assets over a period of 5 years between year 2010 to 2015. The research methodology assumed by the study were explanatory research design and panel data model. The study was instigated by the fact that most commercial banks were still experiencing capital adequacy challenges and running into operational losses despite the central Bank of Kenya guidance on effective risk management. As per the investigation, there was a positive and significant influence between interest rate risk and profitability of the banks. However, foreign exchange risk depicted a negative and significant impact to the bank's profitability.

Kahihu et al., (2020) conducted a study with an aim to investigate on Market risk, Firms' size and financial performance on Microfinance institutions in Kenya. Census technique was used on the thirteen (13) licensed deposit taking Microfinance banks in Kenya. The study used explanatory non-experimental research designs and used secondary data obtained from Microfinance institutions' annual audited financial reports for the period between 2014 and 2018 using data collection instruments. Panel data multiple regression analysis was used to analyse the collected data and the results presented using figures and tables. The results indicated that firm's size has a significant moderating effect on the relationship between market risk and financial performance of Microfinance institutions in Kenya.

As commercial banks conducts their daily operations in Kenya, they engage in some transactions dominated in foreign currency and hold some foreign currencies in their reserves thereby creating a foreign exchange risk exposure. If not well managed, the exposure can be huge and eventually affect the profitability of the bank. The financial performance of the banks could vary up to 43.86 percent attributable to both Liquidity and foreign exchange risk components. This was confirmed by Omondi (2019) while examining risk influences on commercial banks financial performance. His data was obtained from annual reports for

commercial banks where descriptive and inferential statistics methodology was used for analysis. The study further affirms that financial performance for commercial banks can be improved through efficient and effective management of exchange rate risk which poses the greater effect on the banks' performance.

Critique of Literature Review

Having in place a risk management plan can help the Microfinance banks in funding liquidity crisis thereby reducing liquidity risks. Perera and Perera (2020) also revealed that liquidity is very critical phenomenon for smooth operation of banking and finance sector business. Otieno, Nyagol and Onditi (2016) indicated that Microfinance banks in Kenya are faced with a declining trend in profitability and capital adequacy. The level of bank profitability was significantly influenced by how liquidity risk management was applied. Microfinance banks institute elaborate measures towards reducing inefficiencies in operations which exposes the banks to operational risk consequently affecting the banks' profitability.

Isoh, Ambang and Nchang (2020) established that Microfinance banks ensure their sustainability and cushion themselves against unprecedeted losses by implementing good internal operational risk management strategies. The Microfinance banks have experienced increase risks which have reduced the revenue aspect and increased the cost associated with their activities. The failure of MFBs is largely influenced Management of financial risks is an important issue that many financial organizations are keen about. The need to formulate working systems and processes to deliver better financial performance is highly sought for by these financial institutions

Mapharing et al., (2020) conducted a study to examine the impact of financial risk management practices on the financial performance of commercial banks in Botswana. The findings suggested that banks should strike a proper balance between financial risk management practices and financial performance by engaging in appropriate market, credit, and liquidity risk management practices that will ensure safety for their banks and yield positive profits. The study however didn't consider operational risk management practices among its independent variables and yet this a top risk in the banking sector.

A study conducted to investigate the effect of credit risk on commercial banks' performance in Kenya found out that non-performing loans and loan loss provision had non-significant negative effects on the banks' profitability. It recommended that commercial banks should be keen on clients' appraisal and loan analysis to mitigate credit risks (Siriba, 2020). However, credit risk is a major risk facing all lending financial institutions and cannot alone be mitigated by credit appraisal and loan analysis. Additionally, if not mitigated, it can largely impact profitability given that the core business for commercial banks is lending.

A study to analyze effect of interest rates on the financial performance of commercial banks in Kenya by Wambari and Mwangi (2017) concluded that there is a positive significant relationship between lending rate ratio and financial performance of commercial banks. The

study also arrived at the conclusion that deposit interest ratio negatively affects bank performance. Moreover, the study concluded that liquidity management and asset quality affect performance positively and negatively respectively. It can be argued that financial performance of commercial banks in Kenya can be influenced by other risks such as strategic risk and operational risk. Further, some banks are well capitalized and will not necessarily have to rely solely on mobilized deposits to lend.

Research Gaps

From the empirical review different approaches and methodologies ranging from descriptive survey design, historical research design, causal research design, explanatory research design survey and regression techniques have been done which resulted to various findings and conclusions. Despite all the available studies, the effect of financial risk management on Microfinance banks in Kenya hasn't been fully addressed. From the literature review most of the studies have focused on commercial banks and have also given little attention to this area of study locally. As reflected by the presented theoretical and empirical literature there is inadequacy of research findings as to whether application or non-application of financial risk management practices affects financial performance. This study will, in addition add to the growing list of studies on risk management in Kenya.

RESEARCH METHODOLOGY

This study used descriptive research design. The target and accessible population for the study was 13 licensed Microfinance banks in Kenya (CBK,2020). This excluded Muungano Microfinance bank which was licensed in year 2019 and at the time of the study had only operated for 1 year hence its data was considered insufficient for the study. This study used census technique. To collect accurate and adequate data and information, this study focused on specific risk managers in the regulated Microfinance banks. The study therefore selected five (5) risk managers in each institution. This included the Finance Manager, Risk and Compliance Manager, Credit Manager, Operations Manager and Business Development Manager making a total of 65 respondents. A semi-structured questionnaire was used as the tool for collecting data. Questionnaires were distributed to respondents using drop and pick later strategy in which respondents were allowed one week to fill in before they were collected for analysis.

Secondary data was obtained from CBK annual supervision reports for the period 2015-2020. The panel data was for the 13 licensed Microfinance Banks over the 6 years period. The Cronbach alpha was used to ascertain the reliability of the research instrument. The Cronbach alpha of 0.7 and more is an ideal measure of the reliability of the data collection instrument. The questionnaire was developed based on similar prior studies with modifications aimed at addressing the study objectives. The qualitative and quantitative analysis of data was done to answer the research questions of this study. The researcher used Statistical Package for Social Sciences (SPSS Version 25) analysis software as well as Microsoft Excel (Spreadsheet) to aid in calculation of descriptive statistics. This enabled the researcher generate statistics such as

percentages, frequencies, distribution, measure of central tendencies (mean, median, mode). Inferential statistics entailed use of Chi-Square test and multiple regression analysis to determine how variables in a study were associated to each other.. The multiple regression model equation was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y represents financial performance of MFBs (Measured by ROE, ROA & Profitability Levels); β_0 represents Constant; $\beta_1, \beta_2, \beta_3$ & β_4 represents Regression coefficients of the independent variables, X_1 represents Credit risk management practices; X_2 represents liquidity risk management practices; X_3 represents operational risk management practices; and X_4 represents market risk management practices, respectively. In addition, ϵ represents Error term.

RESEARCH FINDINGS AND DISCUSSION

The researcher distributed the research data collection tool to 59 managers to gather information on the effect of financial risk management practices on the financial performance of Microfinance banks in Kenya. There were 52 correctly filled questionnaires, resulting in a response rate of 88.1%. Descriptive and inferential statistics have been used to discuss the findings of the study.

Table 1: Model Summary

Item	Value
Model	1
R	0.792
R Square	0.627
Adjusted R Square	0.593
Std. Error of the Estimate	0.492

a. Predictors: (*Constant*), *Credit risk management*, *liquidity risk management*, *operational risk management* and *market risk management*

The findings show that R which is the multiple correlation coefficients that shows quality of the prediction of the dependent variable by the independent variable is 0.792. This result is considered a good indication because it points to a strong correlation. The values of the Adjusted R-Squared show that after a the model is adjusted for inefficiencies the independent variables can explain 62.7% of financial performance of the Microfinance banks in Kenya. These results agree with the findings by Bhattarai (2019) who indicated that sound financial risk management is a prerequisite for a financial institution's stability and continuing profitability, while declining financial risk management practices is the most recurring cause of poor financial performance in Microfinance banks.

Table 2: ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.61	4	2.4122	3.436	.015(a)
Residual	11.616	48	0.242		
Total	24.226				

a. Predictors: (*Constant*), Credit risk management, liquidity risk management, operational risk management, and market risk management

b. Dependent Variable: Financial performance

From Table 2, the F statistic is 3.436 with a distribution F (4, 48), and the probability of observing a value greater than or equal to 3.436 is less than p-value of 0.05. The variation in the results is insignificant that cannot result to a much difference in case of a change in the study units (population). As a result, the model may be used to explain the impact of certain financial risk management methods on microfinance bank financial performance in Kenya. Because the significance values were less than 0.05, these findings align with those of Abdi (2017), who found that financial risk management had a substantial impact on the financial performance of Islamic banks in Kenya.

Table 3: Regression Coefficients

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.970	4.383		1.3621	0.0420
Credit risk management	0.619	0.145	0.103	4.2690	0.0339
Liquidity risk management	0.755	0.126	0.054	5.9921	0.0210
Operational risk management	0.528	0.035	0.013	0.1560	0.0455
Market risk management	0.471	0.135	0.062	3.1969	0.0261

The Based on these coefficients, the regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Therefore becomes.

$$Y = 5.970 + 0.619X_1 + 0.755X_2 + 0.528X_3 + 0.471 X_4$$

The model indicates that, holding the predictor variables constant, the financial performance of the Microfinance banks in Kenya would be 5.970. The results from the regression analysis revealed that there were beta coefficients of 0.619, 0.755, 0.528 and 0.471 for Credit risk management, Liquidity risk management, Operational risk management and Market risk management respectively. The corresponding t and p values were as follows:

Credit risk management (t= 4.2690; p= 0.0339), liquidity risk management (t=5.9921; p=0.0210), operational risk management (t= 0.1560; p= 0.0455) and Market risk management (t= 3.1969; p= 0.0261) which are statistically significant, because p values were less than 0.05.

From the results it can be concluded that a one unit increase in the studied RM practices the financial performance of Microfinance banks improved as a result. This demonstrates that each financial risk management approach has a major impact on the financial performance of Kenyan microfinance banks. Financial risk management greatly influences the success or failure of Microfinance banks and other financial institutions. This is because the failure of Microfinance banks is influenced to a large extent by the quality of risk management decisions and thus the quality of the risky assets. This is in accordance with Dei and Amoh (2016) who indicated that management of financial risks is an important issue that many financial organizations are keen about. The need to formulate working systems and processes to deliver better financial performance is highly sought for by these financial institutions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The Microfinance banks use well-defined credit scoring mechanism to determine credit worthiness of its customers hence reducing the loan default rate; adverse selection and lack of adequate customers' data can lead to high loan default; the Microfinance banks have a stringent debt collection mechanism to ensure low nonperforming loans and PAR within the industrial average rate; high nonperforming loans affects the profitability of Microfinance banks and elaborate credit policies guide the Microfinance banks in the appraisal and approval of all credit facilities thereby increasing the loan book quality. Accordingly, good quality loan book yields high interest income hence good financial performance for the banks thereby revealing a positive correlation.

Liquidity RM practices help in mitigating the Microfinance Banks' liquidity risk exposure; the Cash Reserve Ratio (CRR) requirements helps to reduce the Microfinance banks' liquidity risk exposure; proper liquidity management policies help the Microfinance Banks to monitor the liquidity risk and having in place a liquidity contingency plan can help the Microfinance banks in funding liquidity crisis thereby reducing liquidity risk. As such, liquidity risk management is a very critical phenomenon for smooth operation of banking institutions.

From the findings, lack of laid down processes can lead to fraud and hence financial loss in MFBs, lack of adequate, skilled, experienced, and well-trained human resources can lead to operational errors thereby occasioning financial loss in MFBs loss of data and cyber frauds thereby causing huge financial loss. Accordingly, MFBs ensure their sustainability and cushion themselves against unprecedented losses by implementing good internal operational risk management strategies.

The study finally concludes that Microfinance banks adopt market risk management reduce their exposure to the risks and provide them with adequate chances to stabilize and improve their earnings and overall financial performance. It was made clear that proper monitoring of interest rate risk improves net interest margin, to reduce interest rate risk exposure, the

Microfinance banks should develop policies and exposure limits, have in place good information systems to review, and monitor the interest rate risk, use of foreign exchange risk management strategies like hedging cautions the bank against the risk associated with dealing in international transactions and to reduce financial loss caused by movement in foreign currencies, Microfinance banks should not hold high stocks of foreign currencies in its reserves.

In overall, there is significant relationship among variables financial performance of Microfinance banks, credit risk management, liquidity risk management, operational risk management and market risk management. Financial risk management greatly influences the success or failure of Microfinance banks and other financial institutions. This is because the failure of deposit banks is influenced to a large extent by the quality of credit decisions and thus the quality of the risky assets.

Recommendations

The study recommends that microfinance banks should adopt a credit risk management framework to counter the financial risks that affect their financial performance. The framework should define the risk profile of borrowers to ensure that account management, structure and pricing are commensurate with the risk involved. Credit risk management is a key measurement of a bank's asset quality, and as such, it is essential that grading is a robust process. All facilities should be assigned a risk grade. Where deterioration in risk is noted, the risk grade assigned to a borrower and its facilities should be immediately changed. Borrower risk grades should be clearly stated on credit applications.

The study also suggests that finance managers in Microfinance banks pay close attention to the banks' liquidity as one of the determinants of profitability. Profitability and liquidity are mutually reinforcing; thus finance managers should not treat them as separate variables.

Because there is a positive relationship between Microfinance banks' profitability and liquidity in Kenya, the study recommends that the banking industry regulator, CBK, maintain the regulation over the minimum liquidity of Microfinance banks, which is currently set at 20%, as this has an impact on their profitability.

The study recommends that it is fundamental for Microfinance banks to practice operational risk management techniques to improve their efficacy in operations to safeguard as much as possible their assets and minimize errors and frauds that might have negative effect on profitability. In addition, Microfinance banks should also invest in robust ICT systems that guarantees data and information security thereby reducing cyber frauds that impacts on profitability.

The management of the Microfinance banks in Kenya should recognize and manage the interest rates charged on credit products in line with the various customer needs in order to boost their image, competitiveness, and consequently financial performance. These banks

should also explore more ways of maximizing their utilization and returns from alternative revenue sources. Equally, the management should develop foreign exchange risk exposure limits to monitor and control adverse effect caused by volatility in the foreign exchange market.

REFERENCES

- Ahmed, I. (2019). Assessing Interest Rate Risk. *EPRA International Journal of Economic and Business Review*, 3(11), 15-28.
- Almekhlafi, E. Almekhlafi, K. Kargbo, M. & Hu, X. (2016). A Study of Credit Risk and Commercial Banks' Performance in Yemen: Panel Evidence, *Jjournal of Managerial Policies and Practices*, 4(1), 57–69.
- Catherine, N. (2020) Credit Risk Management and Financial Performance: A Case of Bank of Africa (U) Limited. *Open Journal of Business and Management*, 8(11), 30-38.
- Central Bank of Kenya. (2020). *List of licensed Microfinance banks in Kenya*. Retrieved 15th February 2021.
- Central Bank of Kenya. (2021, May 20). *Annual Bank Supervision Reports*. Retrieved 10th June 2021.
- Cho, E., & Kim, S. (2015). Cronbach's Coefficient Alpha: Well-Known but Poorly Understood. *Organizational Research Methods*, 18(2), 207–230.
- Chowdhury, MD., Zaman, S. & Alam, M.D. (2019). Liquidity Risk Management of Islamic Banks in Bangladesh. *International Journal of Business and Technopreneurship* 9(1), 37-48.
- Cooper, D. R. & Schindler, P.S. (2011). *Business Research Methods* (9th Ed.). Boston: McGraw-Hill/Irwin.
- Dei, O.E., & Amoh, P. (2016). Risk Management and Performance of Listed Banks in Ghana. *European Journal of Business Science and Technology*, 2(2), 107-121.
- Embrechts, P., (1999). *Modelling Extremal Events*. New York: Springer Verlag.
- Gadzo, S. G., Kportorgbi, H. K., & Gatsi, J. G. (2019). Credit risk and Operational Risk on Financial Performance of Universal Banks in Ghana: A Partial Least Squared Structural Equation Model (PLS SEM) approach. *Cogent Economics & Finance*, 7(1), 482-501.
- Galina. A., & Margarita. S., Ilya.s, Kristina.Z., & Dina. T. (2015). Risk Management Problems of Microfinance Institutions. *International Journal of Economics and Financial Issues*. 5(1): 151-158.
- Gambo. H., Abdu, B., Murtala. I., & Sulaiman A. (2020). Credit Risk Management and Financial Performance of Quoted Deposit Money Banks in Nigeria. *International Journal of Economics and Financial Management*, 10(2), 26-42.

- Isoh A., & Nchang N., & Ambang, C. (2020). Assessing the Impact of Operational Risk Management on Financial Performance of Selected Mainstream Commercial Banks in Cameroon. *International Journal of Research in Commerce and Management Studies*, 2(10), 1-16.
- Jamil, N. & Rosle, A. & Musa, A. (2018). Assessing Credit Risk and Bank Performance: The Case of Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 3(2), 89–99.
- Juma, A., & Atheru, G. (2018). Financial Risks Analysis and Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, 2(2), 76 - 95.
- Kahihu, P.K., Wachira, D. M., & Stephen, A.M. (2020). Market Risks, Firms' Size and Financial Performance: Reality or Illusion in Microfinance Institutions in Kenya. *International Journal of Economics and Finance*, 12(11), 5-21.
- Kahihu, P., Muturi.D., Wachira, S. & Muathe S., (2020). Managing Market risk for Financial Performance: Experience from Micro Finance Institutions in Kenya. *Journal of Financial Regulation and Compliance*, 29(5), 561-579
- Kajirwa, H. & Katherine, N. W. (2019). Credit Risk and Financial Performance of Banks Listed at the Nairobi Securities Exchange, Kenya, *International Journal of Academic Research in Business and Social Sciences*, 9(1), 400–413.
- Kerongo, M. & Mwaura, R. (2016). The Effect of Operational Risk Management Practices on The Financial Performance in Commercial Banks in Tanzania. *American Journal of Finance*, 1(1), 29 - 39.
- Kimathi, A. & Mugo, R. & Njeje, D. & Otieno, K. (2018). Factors Affecting Liquidity Risk Management Practices in Microfinance Institutions in Kenya. *Journal of Economics and Sustainable Development*, 3(1), 31-36.
- Kioko, C. M., Olweny, T., & Ochieng, L. (2019). Effect of Financial Risk on the Financial Performance of Commercial Banks in Kenya Listed on the Nairobi Stock Exchange. *The Strategic Journal of Business & Change Management*, 6 (2), 1936 –1952.
- Mangold, R. (2016). Do Microfinance Investment Managers Add Value, and How? *Enterprise Development and Microfinance*, 27(4), 298-321.
- Mansyur, N. (2017). Impact Financial Risk on Financial Performance Bank in Indonesia. *The International Journal of Business & Management*, 5(10), 305-310.
- Mapharing, M. & Mphoeng, M. & Dzimiri, M. (2020). Impact of Financial Risk Management Practices on Financial Performance: Evidence from Commercial Banks in Botswana. *Applied Finance and Accounting*, 6(1), 374-410
- Mohamed, A.M. & Onyiego, G. (2018). Effect of Risk Management on Financial Performance of Commercial Banks in Kenya: A Case Study of Commercial Banks in Mombasa County. *The Strategic Journal of Business & Change Management*, 5(4), 1605-1630

- Mugenda, O.M., & Mugenda, A.G. (2008). *Social Science. Applied Research & Training Services*. Nairobi: African Centre for Technology Studies
- Muriithi, J. & Waweru, K. (2017). Liquidity Risk and Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Finance*, 9(3), 256-273.
- Muriithi, J.G, Muturi, W.M & Waweru, K M. (2016). The Effect of Market Risk on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, 4(4), 225-233.
- Musembi, D., Ali, B. Kingi, W. (2016). Effect of Liquidity Risk Determinants on the Financial Performance of Commercial Banks Listed at the Nairobi Securities Exchange. *Imperial Journal of Interdisciplinary Research*, 2(11), 142-157.
- Ngalawa, J. & Ngare, P. (2014). Interest Rate Risk Management for Commercial Banks in Kenya. *IOSR Journal of Economics and Finance*, 4(10), 11-21.
- Njue, A. & Kariuki, S. & Njeru, D. (2020). Liquidity Management and Financial Performance of Microfinance Institutions in Kenya. *The Journal of Social Sciences Research*, 6(11), 943-953.
- Nofsinger, J. R. (2017). Trading Performance, Disposition Effect, Overconfidence, Representativeness Bias, and Experience of Emerging Market Investors. *Journal of Behavioral Decision Making*, 20(4), 425–451.
- Osoro, E. M. & Muturi, W. (2015). Effects of Liquidity-Risk Management Practices on the Financial Performance of Savings and Credit Co-Operative Societies in Kisii County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 1(4), 68-85.
- Otuteye, E. & Siddiquee, M. (2013). Examining the Performance of a Value Investing Heuristic. *Journal of Business Economics & Finance*, 2(4), 67-81.
- Perera, H. & Perera, H. (2020). The Impact of Liquidity Risk on the Financial Performance of Banks and Finance Companies in Sri Lanka. *Journal of Economics, Business and Management*, 7(9), 299-303.
- Pilbeam, K. (2018). *Finance & financial markets*. London: Macmillan International Higher Education.
- Pinto, C.A, Magpili, L. & Jaradat, R. (2018). Operational Risk Management. *International Journal of Finance and Banking Research*, 3(2),19-39.
- Ramazan. E., & Gulden. P., (2019). The Impact of Credit Risk on Deposit Bank Financial Performance in Turkey. *Procedia Computer Science*, 6(10), 979-987.
- Reilly, K. & Norton, E. (2016). *Investments* (7th Ed.) United States: Thomas South-Western

- Roni, J.M & Oswari, T. (2019). The Impact of Credit Risk, Operational Risk, and Liquidity Risk on the Financial Performance of Indonesian Stock Exchange-Listed Banks. *International Journal of Economics, Commerce and Management*, 7(5), 182-193.
- Saruni, L.A. & Koori, J. (2020). Credit Information Sharing and the Default Rate of Loans Issued by Commercial Banks Listed on the Nairobi Securities Exchange, *Journal of Finance and Accounting*, 4(5), 1-24.
- Sekaran, U. & Bougie, R. (2014). *Business Research Methods: A Skill-Building Approach* (6th Ed). Haddington: John Wiley & Sons.
- Shahid, M., Gul, F. & Naheed, K. (2019). *Credit Risk and Financial Performance of Banks: Evidence from Pakistan*, *NUML International Journal of Business and Management*, 14(4), 144-155.
- Siriba, R. (2020). Credit Risk and Financial Performance of Commercial Banks in Kenya. *International Journal of Scientific and Research Publications*, 10(4), 253-272.
- Verma, E. (2018). *Financial Performance—Understanding its Concepts and Importance*. San Francisco: Simplilearn Solutions Online Press.
- Yuniningsih, Y., Widodo, S., & Wajdi, M. B. N. (2017). An analysis of decision making in the stock investment. Economic: *Journal of Economic and Islamic Law*, 8(2), 122-128.
- Yusuf, M., Muturi, W. & Sammanter, M. (2017). Effect of Financial Risk Management Practices on Growth of Financial Institutions in Garowe Puntland Somalia. *IOSR Journal of Business and Management (IOSR-JBM)*, 19(10), 74-87.