IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 13, Issue 5 Ser. VI (Sep. – Oct. 2022), PP 65-74
www.iosrjournals.org

Credit Affordability and Financial Performance of Small and Medium Enterprises in Machakos County, Kenya

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Abstract
Financial performance of Small and medium enterprises (SMEs) has continued to decline in Machakos County, Kenya over the past few years with more SMEs closing their doors due to poor financial performance. According to a 2016 study conducted by Kenya's National Bureau of Statistics, majority of SMEs in Kenya failed to survive longer than three years. Previous literature reviewed found that inability to obtain financing was a key cause of SMEs financial instability. The specific objectives were to evaluate the relationship between loan collateral, cost of credit, borrower's credit history, and loan repayment on the financial performance of SMEs in Machakos County. Financial performance was measured by net profit margin. Four theories anchored the study namely the loanable funds, credit scorecards, pecking order, and tradeoff theories. Purposive sampling was used to select one respondent from each of the firms chosen, while stratified random sampling was employed to select a sample of 100 SMEs. Questionnaires were used for primary data collection. Data was analyzed using descriptive statistics, correlation analysis and multiple regression analysis. The study found a significant relationship between credit affordability and financial performance of SMEs in Machakos County, Kenya. The research found that there was a significant relationship between cost of credit and financial performance (p=0.033); borrowers credit history had a significant relationship with financial performance (P=0.002) and that loan repayment had a significant relationship with financial performance (P=0.002). The study found no significant relationship between loan collateral and financial performance (p=0.307). The study further found a strong positive relationship between credit affordability and financial performance with loan collateral represented by (r1 = 0.794); borrowers credit history was represented by (r3 = 0.895), cost of credit was represented by (r2 = 0.854) and loan repayment was represented by (r4 = 0.903). The study recommended that lending institutions needed to proactively review their credit policies in line with the credit affordability variables to ensure loans were accessible and tailored to SMEs needs. There was need for sensitization of SMEs owners to better understand credit affordability variables to foster SMEs financial growth and stability.
Keywords: *Credit Affordability, Financial Performance, Loan collateral, Credit History, Cost of Credit and Loan Repayment.*

Date of Submission: 07-10-2022 Date of Acceptance: 19-10-2022

I. Introduction

SMEs are key enablers of economic growth, as they significantly contribute to job creation, innovation, and poverty reduction. Gakure and Amurle (2013) estimate that SMEs employ 74% of Kenya's workforce and contribute 18% to the country's GDP. According to Wambui (2015), the growth of Kenya's SME sector is critical to the country's Vision 2030 and national development objectives. Profitability, sales volume, asset value, and employee count all indicate the viability of an SME. SMEs are key to global technological advancement and job creation (Njeru, 2013). Because SMEs can thrive in a variety of settings, from large capitals to developing city and countryside zones, they promote widespread economic development, addressing the problem of urban overcrowding caused by rural-urban migration and uneven development (Madanchian *et al.,* 2015). Consequently, they act as a foundation for growing economies and provide an important source of income for a large proportion of the population (Economic survey report, 2017). As the major engines of economic growth, small and medium-sized firms (SMEs) are also vital to global development (Garikai, 2011).

SMEs make up for at least 90% of private enterprise in Africa and contribute more than 50% of employment and GDP. South Africa and Ghana are two well-known African countries with thriving SMEs sectors. Over 85 percent of manufacturing jobs in Ghana are held by SMEs. SMEs make up about 92 percent of Ghana's overall business, accounting for about 70 percent of the country's GDP (Donkor *et al.,* 2018). More over 91% of South Africa's registered businesses are SMEs employing 61 percent of the workforce, and contributing up to 57 percent of the country's GDP (Fiseha & Oyelana, 2015). SMEs in African countries have made significant progress, but they continue to face significant challenges, including inadequate technology

development, weak institutional capacity, restrictive rules and regulations, a lack of training and management competencies, and a lack of financial resources. SMEs account for the vast majority of private sector jobs in East Africa and for around 2% of Uganda's GDP (Nyanzi, 2015). However, 90% of SMEs flop in their first year of business because of a shortage of credit (Arinaitwe & Mwesigwa, 2015). It is difficult for SMEs around the world to perform and grow because of the chronic lack of assets and weak financial foundations; as a result, SMEs with insufficient equity capital are more dependent on other sources of financial credit, such as bank financing (Harash, Suhail, & Jabbar, 2014). For the most part, small businesses rely on their owners' personal savings and unremitted profits from past years as their primary source of funding (Yeboah, Kwadwo, & Adigbo, 2014).

At 34.3 percent of the economy, Kenya's small businesses are a major contributor to the Jua-Kali informal sector, which has consistently grown between 1993 when it was 13.8 percent to 18 percent in 1999 and to 25 percent in 2012. There are a number of ways to say this: According to a 2007 SME banking sector analysis, Kenya has 2.2 million SMEs, with 88% of them being unregistered. The failure rate for small businesses in Kenya is high, with three out of every five failing during the first few months of operation, according to the country's statistics (Kenya National Bureau of Statistics, 2007). Poor financial management and credit availability are to blame for lenders' predisposition to demand collateral in order to hedge against the risk of the borrower.

Machakos County is an administrative county in Kenya's east. The poverty rate in the county is 59.6 percent, which is higher than the national rate of 47.2 percent. According to the poverty index, Machakos is ranked 33rd out of 47 Kenyan counties (KNBS, 2018). However, it is remarkable that 52 percent of the county's population lives in urban areas, which is higher than the national average of 29.9 percent (Machakos.go.ke, 2018). Unemployment had risen as a result of urban population growth. Joblessness, combined with the county's 51 percent poverty rate, posed a significant threat to the county's security, as more young people became more predisposed to crime. This scenario necessitates the formation of SMEs, which provide employment opportunities for county residents while also stimulating economic growth.

a. Credit Affordability

The ability of a borrower to repay a credit obligation without experiencing financial hardship is referred to as credit affordability. The lending institution looks to see if the borrower can meet the loan commitment without difficulty in the context of their other obligations and regular spending when determining credit affordability (Bijak et al., 2015). SMEs have much harder time getting into both domestic and international financial markets because they are thought of as more risky, informational barriers, and higher costs of getting money. This makes it hard for SMEs to grow and compete (Agbazo & Omane, 2012). Research in Kenya found that small businesses' ability to pay back loans was hurt by the growth of their outstanding loans over time. This suggested that there was a problem with how well they worked (Gichana & Barasa, 2013). A small business's ability to compete with the global economy and take advantage of new business opportunities caused by economic integration is based on its ability to get loans from banks (Emad *et al.,* 2014).

A loan collateral is a guarantee for a previously taken loan. Due to information imbalances between both the bank and the borrower, lending institutions are forced to employ collateral as a selection indicator (Hasnah *et al.,* 2013). Collateral is defined by Aghion and Bolton (1992) as a means of ensuring the good behavior of borrowers due to the presence of a realistic threat. Businesses with fewer employees are more likely to ask for collateral than those with more employees. The total amount of money that the borrower must repay in addition to the initial principal borrowed, which includes loan interest, processing costs, legal fees, and insurance fees, among other things, is referred to as the cost of credit. They are included in loan repayments, which are made in installments over the term of the loan (Clow, 2019). An organization's credit history documents their ability to repay loans and their track record of accountability. The number and type of credit accounts, the length of time each account has been operational, the amounts borrowed, credit used, prompt repayments, and defaults are all factors in a company's credit score. A good credit history attracts low interest rates on loans (Brock, 2019).

Credit scoring is used to determine a customer's creditworthiness. This rating is based on a comparison of similar clients who have received loans in the past. However, willingness to repay differs from ability to repay (Curtis, 2013). Repaying money borrowed from a lending organization is known as loan repayment. Regular payments, which include both principal and interest, are the most common method of recouping borrowed funds. The principal of a loan is the amount borrowed up front, whereas interest is the cost incurred as a result of the loan. Interest must be paid on a loan before the borrower can use the money. There may be an early repayment cost or penalty in some contracts, but loans can be paid in full at any time (Scott, 2021).

b. Financial performance

The percentage of revenue and other income remaining after all business expenditures such as cost of goods sold, operational expenses and interest and taxes have been subtracted is referred to as net profit margin (Margaret, 2021). A company's net profit margin is different from gross profit margin in that it covers not only

the cost of items sold, but also all other related costs (Harvard Business School, 2021). It's critical to look at a company's net profit margin when evaluating its financial health. Monitoring rises and declines in net profit margin can help a corporation identify whether or not present methods are effective and estimate earnings based on revenue. Using a percentage, it is feasible to compare two or more firms of any size's profitability (Velasquez, 2021). In Kenyan commercial banks, Ongore and Kusa (2013) looked at the elements that affect financial performance. In their research, net profit margin was found to be an important financial situation indicator.

Net profit margin can be used to assess the profitability of different-sized companies because it is expressed as a percentage (Velasquez, 2021). Ongore and Kusa (2013) explored the elements that influence commercial bank financial performance in Kenya. In their investigation, they identified net profit margin as a significant financial position indicator. The most difficult task is to determine which financial institution is the most suitable for your needs. Small businesses usually rely on personal loans or self-funding to get their start-up capital (Kamau, 2011). (Kamau, 2011). SMEs' overall performance has been affected since lending institutions are not providing appropriate support for them (Chimaleni *et al.,* 2015).

c. Statement of the Problem

Small and medium enterprises in Machakos County have experienced successes as well as numerous failures over the past five years. Getting inputs can be a huge challenge for startups because of the lack of financial capital, according to Karfakis *et al.* (2017) making it difficult to optimize operations. The debate on the impact of loan affordability on SMEs financial health in Machakos County continues to receive attention. The SME sector in Kenya has grown to the point where it currently accounts for 20 percent of GDP and 80 percent of jobs. This is why Kenya's industrialization would not be possible without SMEs (Phyllis, 2016). Kenyan SMEs, according to Mwangi (2015), are vital for long-term economic growth due to their main contribution to economic development. According to Janet and Ngugi (2014), few Kenyan SMEs celebrate their third year in business. In spite of SMEs significance to Kenya’s economy, over two million SMEs have closed their doors, according to the KNBS research (2016). 46.3 percent of SMEs shut down before their first anniversary (Economic survey report, 2017). Despite the fact that SMEs contribute to the country's economic development, according to Githire and Muturi (2015), their financial condition remains a big challenge, since 3 out of 5 continue to close within a short time after starting operations.

In view of Ndegwa (2016) in Kiambu County, Kenya, small-scale youth entrepreneurial agricultural projects' access to microfinance institutions' financing was found to be influenced by literacy level, interest rate, collateral demand, and the number of lending institutions. It was found by Magnifique (2013) that the fiscal performance of Rwandan commercial banks and credit risk management practices were positively and significantly related. Harambee Market located in Kangemi within Nairobi County in Kenya was a case study by Gichuki *et al.* (2014) that examined various obstacles that SMEs faced when trying to raise capital. According to the study, the most common obstacles to small businesses obtaining credit are high payback costs, stringent demands on collateral, lack of guarantors, and the increased price of credit facility processing expenses. From the empirical evidence reviewed, the impact of credit affordability on the financial performance of SMEs remains an area of research.

The available empirical evidence exposed a number of research gaps that formed the basis of the study. The preponderance of research on SMEs financial performance tied their failure to lack of appropriate capital. Many academics have delved deeply into the issue of ease of access to credit. Credit administration variables that influence credit affordability, nevertheless, had not been examined. We proposed to research on how credit affordability variables affected Kenya's small and medium-sized businesses. The study sought to find out how small businesses in Machakos County fared financially because of the impact of loan affordability.

d. General objective

The study sought to investigate the relationship between credit affordability and financial performance of SMEs in Machakos County, Kenya.

e. Specific objectives

The study sought to achieve the following specific objectives:

i. To evaluate the relationship between loan collateral and financial performance of SMEs in Kenya's Machakos County.

ii. To determine the relationship between credit cost and financial performance of SMEs in Kenya’s Machakos County.

iii. To assess the relationship between the borrowers’ credit history and financial performance of SMEs in Kenya’s Machakos County.

iv. To establish the relationship between loan repayment and financial performance of SMEs in Kenya's Machakos County.

f. Research hypotheses

The null hypothesis investigated included;

H_{01}: There was no significant relationship between loan collateral and financial performance of SMEs in Kenya's Machakos County

H_{02}: There was no significant relationship between credit cost and financial performance of SMEs in Kenya's Machakos County

H_{03}: There was no significant relationship between borrowers' credit history and financial performance of SMEs in Kenya's Machakos County

H_{04}: There was no significant relationship between loan repayment and financial performance of SMEs in Kenya's Machakos County

g. Scope of the study

The research covered the years between 2015 and 2020 whose data was collected and analyzed. The period between 2015 to 2020 was characterized by substantial borrowing by Machakos County citizens and the recovery of the Kenyan economy following a government transition. Increasing economic development in newly constituted counties was a primary goal of Kenya's new constitution, which was adopted in 2010. Many financial institutions were founded in devolved areas as part of efforts to transfer resources to devolved governments from the central government. SMEs in Machakos County, Kenya, was studied to establish how credit affordability affected their financial performance.

h. Significance of the Study

Resulting from this research, small business owners would have a better understanding of credit administration variables such as collateral, cost of credit, borrower history, and loan payback. In addition, students would gain knowledge that they would put to good use when approaching lending institutions for financial assistance. The outcomes of this study would provide financial institutions with more information on their clients' impressions of their credit services, which would help them build more enticing product offerings for business people in various financial categories. Lending institutions were to also lower significantly the loan repayment default risks since they would be able to correctly package their loan products. The national and county governments would adopt laws and regulations that safeguards small and medium-sized firms (SMEs) from financial institution exploitation and ensuring that they have access to inexpensive finance. In order to better understand the impact of low-cost borrowing on small firms' bottom lines, the findings from this study would be utilized. Researchers hoped that findings focusing on Machakos County, Kenya's SME businesses, would add to the growing body of knowledge on credit scoring.

II. Literature Review

a. Theoretical Review

Four theories supporting credit financing and business enterprise performance were discussed including loanable funds, trade-offs, pecking order, and credit scorecards.

i. Loanable funds theory

Robertson is credited with establishing the loanable funds theory (1934) and posits that the interest rate is controlled by the demand and supply of money in the economy at the point where the two are equal. As a result, the interest rate serves as the amount at each unit time of loanable funds in accordance with the conventional demand-supply theory. It supports the study by addressing the cost of credit, which has a significant impact on the affordability of loans to small business owners. Credit costs are affected by factors such as interest rates in the lending market, which are examined in this study. The availability and demand for loanable funds was a critical factor for the ability of an SME to get credit.

ii. Credit scorecards theory

Attributed to Altman's (1968) this theory provides a quantitative assessment of the likelihood that a client would participate in a defined activity, such as loan default, in connection to their current or prospective credit position with a lending organization. All potential borrowers were assigned a credit score that indicated whether they were a high, medium, or low risk borrowers. The lender then utilized this information to determine the type and value of collateral to be used to secure the loan. A borrower's risk assessment rating informed the financier on whether or not to lend money to that borrower, as well as the interest rate to be paid on loan. This took into account the three variables of the study namely borrowers' credit history, collateral requirements and loan repayment.

iii. Pecking order theory

Attributed to Myers and Mailuf (1984), this theory asserts that companies choose internal financing over external funding, and debt over equity as a means of funding. The theory supports this study since it identifies debt financing as a crucial source of funding for small firms. With debt financing, all the four variables of credit administration are involved including the need for collateral, credit cost, borrowers' credit history and loan repayment.

iv. Trade-offs theory

Attributed to Kraus and Litzenberger (1973), it posits that a firm selects how much debt financing as well as how much equity financing to use by weighing the benefits and costs. The previous iteration of the theory compared the tax advantages of debt to the burdensome costs of declaring bankruptcy. According to the theory, debt financing is critical for the success of a firm, as well as the need for an appropriate balance between debt and equity capital in small businesses. Credit affordability variables such as cost of credit, collateral requirements, borrower's credit history and loan repayment are key considerations. This is because lending firms examine potential borrowers using common credit administration metrics

b. Empirical Review

Muema and Wamugo (2020) investigated SMEs in Machakos County that had poor financial performance that had been linked to financial access. The study sought to ascertain the impact of collateral security, loan-to-income ratio, and geographical branch penetration on the financial performance of SMEs. The study's findings revealed that collateral security, loan-income ratio, and geographical branch penetration all had a significant positive effect on the financial status of SMEs in Machakos County, Kenya. Mwanyika (2013) investigated the availability of credit and the performance of small-scale farms in Taita Taveta County, Kenya. A sample size of 111 small scale farms from four sub counties was obtained using simple arbitrary sampling. The data was analyzed using descriptive statistics tools such as tables and graphs, as well as a regression model . The results revealed an inverse relationship between the amounts of collateral required and loan accessibility.

Rithaa, Munene, and Kariuki (2019) investigated the effects of bank loan collateral requirements on the financial performance SMEs in Maua, Meru County, Kenya. The study population consisted of 250 registered SMEs, from which a sample size of 153 was drawn. A linear regression analysis revealed a negative relationship between loan collateral requirements and financial performance of SMEs. Barasa (2013) examined the interest rates charged by various financial institutions, the types of products offered, and the effect of competition on lending organizations' ability to provide credit to SMEs. His findings indicated that microfinance institutions (MFIs) and savings and credit cooperatives are the key sources of financing for SMEs (SACCOs). However, the rate of credit funding available to SMEs remained low. Magnifique (2013) examined the relationship between credit risk management and financial performance of Rwandan commercial banks. The study's objectives were to determine the effect of credit risk analysis and assessment, credit risk identification, credit scoring, and risk monitoring mechanisms on the financial health of Rwanda's commercial banks. The study found that credit scoring, credit risk analysis, and credit risk identification all had a favorable and significant effect on the financial status of commercial banks in Rwanda (Kisaka, 2016).

Maalim (2016) examined the effect of interest rates on SMEs' access to credit in Garissa County, Kenya. A descriptive survey was conducted on ten savings and credit cooperatives (SACCOs) and 150 SMEs in Garissa County. The study used descriptive statistics and SPSS to analyze the data. Association and regression analysis found a high correlation between interest rate policy and credit availability. Ndegwa (2016) examined the factors influencing credit availability from microfinance institutions for small-scale youth entrepreneurship agricultural projects in Kiambu County, Kenya. The study adopted a cross-sectional survey methodology. The findings indicated that constructs such as literacy level, interest rate, collateral requirement, and lending institution count all affected credit access. Kwambai and Wandera (2013) examined the effect of credit information exchange on non-performing loans between Kenyan commercial banks. They found that while lending was the primary activity of commercial banks in Kenya, banks in the country experienced a high rate of loan default by borrowers, resulting in large losses for the institutions. This occurred because commercial banks possessed inconsistent credit information and credit histories on their borrowers, and credit seekers took advantage of this discrepancy to obtain several loans from these banks, increasing their default rate due to their inability to service all of the loans (Richard, 2011).

Kasivu, Kilonzo, and Sang (2020) investigated the strategic determinants of SMEs growth in Machakos County. The study's sought to determine the effect of access to financing and entrepreneurial innovation on the growth of small and medium-sized businesses in Machakos County. The research found that access to credit, repayment conditions, entrepreneur innovation, physical resources, and government policy all had a statistically significant effect on the growth of SMEs in Machakos County. Mutinda (2019) investigated the financial determinants affecting small and medium-sized firms' access to credit in Kenya's Machakos town sub-county. The researcher chose 380 SMEs in Machakos Town, determined a sample size of 57 from them, and collected

respondents by stratified and simple random sampling. The findings indicated that parameters such as credit cost, credit repayment time, and firm size all had an effect on credit availability. Additionally, the majority of SMEs struggled to provide all essential firm details for credit approval

III. Research Methodology

The study adopted an exploratory research design. This methodology was found to be successful in demonstrating a link between small businesses' ability to pay back their loans and their overall financial health in Machakos County, Kenya. In the view of Bulmberg *et al.,* (2011), an explanatory research method would aid in describing the links between the constructs of interest by addressing the what, why, how frequently, and when of an occurrence. As a result, the study approach was advantageous for demonstrating a correlation between credit accessibility and small business financial success. The study relied majorly on primary data collected by use of questionnaires among the sampled SME owners within Machakos County, Kenya.

The sample population was 1000 SMEs located within Machakos County, Kenya. Stratified random sampling was used and the sample population divided into 10 stratus based on the 10 sub counties in Machakos. 10 participants were selected from each strata giving a total of 100 participants. Purposive sampling was employed to draw in study participants. The study interviewed 10% of small business owners, resulting in a sample size of 100 SMEs. In order to gather primary data, a questionnaire was used to solicit the opinions of various study participants. The tool was designed to encourage response by the sampled SMEs. A semi structured questionnaire composed of both closed ended and open ended questions was used for primary data collection The questionnaires were distributed online using online Google forms platform as well as the pick-and-drop approach. The study was entirely reliant on primary data. Pre-testing was conducted by distributing five questionnaires at random to small businesses in Machakos County, Kenya. This assisted in finding outliers which required more clarification thereby increasing the questionnaire's quality and validity.

Multiple regression as well as descriptive statistical analysis was used to perform data analysis. SPSS version 28 was used to code and analyze the data in accordance with the study's goals. For the purpose of summarizing data, descriptive statistics employ the mean and standard deviation. The financial performance of the dependent variable was examined through the use of multiple regression analysis (Tiwari, Arya, & Bansal, 2017).

We'll use the following regression model in our study.

$\mathbf{R_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$ Where:

$\mathbf{R_i}$ = Financial performance(Net profit margin)

$\boldsymbol{\alpha}$= Intercept

$\mathbf{X_1}$= Loan Collateral

$\mathbf{X_2}$ = Cost of Credit

$\mathbf{X_3}$ = Borrowers Credit History

$\mathbf{X_4}$= Loan Repayment, and

$\boldsymbol{\varepsilon}$= error term.

Statistical data shall be provided in forms of graphs, tables as well as figures.

IV. Results And Findings

The research used both open and closed ended Likert scale questionnaire for data collection. The collected data was analyzed using multiple regression as well as descriptive statistical analysis using SPSS version 28. For purposes of summarizing data, descriptive statistics employing tools such as standard deviation as well as mean was used. Financial performance derived from the dependent variable was examined using multiple regression analysis. Sample target were SME owners within Machakos County randomly selected for the study, while purposive sampling was employed to draw in study participants. The study interviewed 10 percent of small business owners, resulting in a sample size of 100 respondent. The questionnaires were presented to the respondents both one on one as well as through the online google forms platform to increase the response rate. This study employed the use of 100 questionnaires and got feedback from 70 of them which represented a 70% response rate.

a. Descriptive results

Table 1. *Descriptive summary*

	N	Mean	Standard Deviation
Loan Collateral	70	3.87	0.900
Cost of Credit	70	3.60	1.027
Borrowers Credit History	70	3.09	1.113
Loan Repayment	70	3.39	1.080
Financial Performance	70	3.74	1.017

Source: research data, 2022

The descriptive analysis findings were that the mean ranged from 3.09 and 3.87 as the standard deviations ranged from 0.900 and 1.113. The outcome indicated small variation in credit affordability and financial performance implying a much higher degree of agreement. Loan collateral requirements provided the least standard deviation observed with a mean of 3.87 and a standard deviation of 0.900. While the highest standard deviation was observed on borrowers credit history with a mean of 3.09 and a standard deviation of 1.113. The cost of credit had a mean of 3.60 and a standard deviation of 1.027 and loan repayment had a mean of 3.39 and a standard deviation of 1.080. The dependent variable financial performance had a mean of 3.74 and a standard deviation of 1.017. These results agreed with the multiple regression analysis results which indicated that there was a strong positive relationship between credit affordability and financial performance of SMEs in Machakos County, Kenya.

b. Correlation Analysis

The research sought to investigate the existence of a relationship between credit affordability and financial performance of SMEs in Kenya' Machakos County. To achieve this, correlation coefficient analysis was used.

Table 2. Correlation analysis

Credit Affordability Variables	Financial Performance (Net Profit)	
Loan collateral	**r1**	0.794
Cost of Credit	**r2**	0.854
Borrowers credit history	**r3**	0.895
Loan repayment	**r4**	0.903

Source: research data, 2022

From the correlation analysis results, a linear relationship was established between financial performance (net profit) and loan collateral represented by r1 = 0.794 hence a strong and positive relationship between loan collateral and financial performance of SMEs. In the same breath, a linear relationship was established between financial performance (net profit) and cost of credit was represented by r2 = 0.854. This confirmed a strong positive relationship between the cost of credit and financial performance of SMEs in Machakos County, Kenya. The linear relationship established between financial performance (net profit) and borrowers credit history was represented by r3 = 0.895 hence a strong positive relationship between the borrowers' credit history and financial performance of SMEs in Machakos County, Kenya. Finally, the linear relationship established between financial performance (net profit) and loan repayment was represented by r4 = 0.903. This was an indicator of a strong and positive relationship between the loan repayment and financial performance of SMEs.

c. Multiple regression results

This research sought to investigate the relationship between credit affordability and financial performance of SMEs in Kenya' Machakos County. To enable achievement of this, a multiple linear regression was done on the independent variable financial performance (net profit) against the four dependent variables namely loan collateral, cost of credit, borrowers' credit history and loan repayment. The derived model for regression was as shown below;

$$\mathbf{R_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Where: R_i was the financial performance represented in the study by net profit , α is the intercept or regression constant, X_1 is the loan collateral, X_2 is the cost of credit, X_3 is the borrowers credit history, X_4 is the loan repayment and ε the models error term.

i. Model Summary

The analysis established the presence of a good linear relationship between financial performance and credit affordability supported by coefficient correlation (R) of 0.926. The value of 0.849 which was the coefficient of determination indicated a strong relationship between financial performance and credit affordability and was measured by adjusted R-Squared. This meant that credit affordability accounted for 84.9% of the variations in financial performance (net profit) while 15.1% was explained by other factors other than credit affordability. In order to test the presence of any chance of autocorrelation within the residuals of the model, Durbin Watson test was used. The Durbin Watson test results returned no autocorrelation with a value close to 2 (2.072). A strong and positive correlation was established between financial performance and credit affordability among SMEs in Machakos County, Kenya.

ii. Analysis of variance (ANOVA)

ANOVA model was used in presenting significance of the regression model. An indicator for predicting whether the regression model was significant in prediction of the relationship between credit affordability and financial performance was a P-value of 0.000. From the results, the P-Value was 0.000 which was less than

0.05 thus the model overall was a good fit. The F critical at 5% level of significance was 97.681 since F calculated was more than F critical, it showed that the overall model was statistically significant in explaining financial performance of SMEs in Machakos County and thus the model was very significant.

Table 3. Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
Constant	.419	.182		2.304	.024
Loan collateral	-.098	.095	-.104	-1.029	.307
Cost of credit	.202	.093	.216	2.178	.033
Borrowers credit history	.378	.115	.419	3.291	.002
Loan repayment	.388	.123	.421	3.149	.002

In order to determine the relationship between financial performance and credit affordability, regression analysis was done and the regression equation used was;

$$\mathbf{R_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

$$\mathbf{R_i = 0.419 - 0.098X_1 + 0.202X_2 + 0.378X_3 + 0.388X_4}$$

The research established the existence of a significant relationship between credit affordability and the financial performance of SMEs in Machakos County, Kenya. From the results in table 5, with a P-value of 0.307 which was greater than the level of significance of 0.05, loan collateral had no significant relationship with financial performance of SMEs in Machakos County, Kenya. We therefore failed to reject the null hypothesis in the study that there is no significant relationship between loan collateral and financial performance of SMEs in Machakos County, Kenya. Cost of credit had a P-value of 0.033 which was less than the level of significance of 0.05 hence there was a significant relationship between cost of credit and financial performance of SMEs in Machakos County, Kenya. We therefore rejected the null hypothesis that there was no significant relationship between cost of credit and financial performance of SMEs in Machakos County, Kenya.

The findings also indicated that borrowers' credit history had a P-value of 0.002 which was less than the level of significance of 0.05 thus there was a significant relationship between borrowers' credit history and financial performance of SMEs in Machakos County, Kenya. Consequently, we rejected the null hypothesis that there was no significant relationship between borrowers' credit history and financial performance of SMEs in Machakos County, Kenya. The study results also indicated that loan repayment conditions had a P-value of 0.002 which is less than the level of significance of 0.05. Hence there was a significant relationship between loan repayment and financial performance of SMEs in Machakos County, Kenya. We therefore rejected the null hypothesis that there was no significant relationship between loan repayment and financial performance of SMEs in Machakos County, Kenya.

V. Discussions

The study sought to investigate the relationship between credit affordability and financial performance of SMEs in Machakos County in Kenya. The findings of the study indicated that there was a strong and positive relationship between credit affordability and financial performance of SMEs in Machakos County, Kenya. All the four credit administration variables namely; loan collateral, cost of credit, borrowers' credit history and loan repayment had a strong and positive linear relationship with the financial performance of SMEs in Machakos County, Kenya. In addition, the research found that there existed a significant relationship between cost of credit and financial performance of SMEs, borrowers' credit history and financial performance of SMEs as well and loan repayment and financial performance of SMEs. The study also found that there existed no significant relationship between loan collateral and financial performance of SMEs in Machakos County, Kenya. This was attributed to most lending institutions offering unsecured loans through guarantors instead of collateral requirements. These findings are in agreement with those of other studies which observed that credit affordability improved financial performance of SMEs.

This findings concurs with a study by Mutinda (2019) which concluded that factors such as the cost of credit, the length of the payback period, and the size of the organization had an impact on the availability of loans and that more than half of all SMEs were unable to provide all the necessary business information required for credit approval. In addition, Muema and Wamugo (2020) found that SMEs in Machakos County, Kenya, had low profitability due to a lack of access to financial capital. They found that loan-to-income ratios and regional branch penetration had a significant positive impact on the financial performance of SMEs in Machakos County, Kenya. The current study found that there was no significant relationship between loan collateral and financial performance of SMEs in Machakos County, Kenya. This was in agreement with a study by Calice *et al.,(*2012) which found that because collateral requirements could not be met by the SMEs, many opted to hunt for alternative sources of capital. The current study also found that there existed a significant relationship between borrowers' credit history and financial performance of SMEs in Machakos County, Kenya.

This was in line with Marus *et al.* (2017) who assessed the impact of debt finance on performance of SMEs and found that low interest loans and availability of creditor information had an impact on access to credit financing.

From the current study findings, there existed a significant relationship between loan repayment and financial performance of SMEs in Machakos County, Kenya. This was in line with a study by Kasivu, Kilonzo, and Sang (2020) who found that SMEs in Machakos County grew more quickly when they had access to financing, favorable repayment terms, entrepreneur innovation, physical resources, and government policy. In addition, Ndegwa (2016) found that variables such as literacy level, interest rate and collateral requirement impact access to credit and that a 1% fall in interest rates increased credit availability by 31% when all other factors were held constant. This finding was in agreement with the current research findings which indicated the existence of a significant relationship between cost of credit and financial performance of SMEs. Gichuki, Njeru, and Tirimba (2014) investigated the barriers to funding for SMEs in Kangemi Harambee Market within Nairobi city. They found that high payback costs, strict collateral requirements, a lack of willing guarantors, expensive credit processing fees, and short repayment terms were the major barriers for SMEs access to credit financing. This was in agreement with the current study findings which identified cost of credit as having a significant relationship with SMEs financial performance. The above studies concluded that there existed a significant relationship between credit affordability and financial performance of SMEs. The study findings were therefore in line with other previous studies.

VI. Conclusions

The study sought to determine the relationship between credit affordability and financial performance of SMEs in Machakos County, Kenya. The study was to address four specific objectives with related research hypothesis. The regression analysis results for the first objective showed that there was no significant relationship between loan collateral and financial performance of SMEs hence we failed to reject the null hypothesis. This was attributed to most lending institutions offering unsecured loans through guarantors instead of the stringent loan collateral requirements. However, the correlation results established a strong positive relationship between loan collateral and financial performance of SMEs in Machakos County, Kenya.The second objective's regression analysis results showed that there was a significant relationship between cost of credit and financial performance of SMEs hence we rejected the null hypothesis. The correlation results also establish a strong positive relationship between cost of credit and financial performance of SMEs in Machakos County, Kenya. The study therefore concluded that improvement in cost of credit terms led to increase in net profit hence directly proportional to financial performance while lack of improved cost of credit terms led to decrease in financial performance (net profit).

The third objective's regression analysis results showed that there was a significant relationship between the borrowers' credit history and financial performance of SMEs hence the null hypothesis was rejected. The correlation results also established a strong positive relationship between borrowers' credit history and financial performance of SMEs in Machakos County, Kenya. The study therefore concluded that increased availability of borrowers past credit history led to increased financial performance while a decrease in available borrowers' past credit history led to decrease in financial performance (net profit).The fourth specific objective's regression analysis results found that there was a significant relationship between loan repayment and financial performance of SMEs hence we rejected the null hypothesis. The correlation results also established the existence of a strong and positive relationship between credit repayment and financial performance of SMEs in Machakos County, Kenya. The study therefore concluded that an improvement in loan repayment conditions led to increased financial performance while lack of improvement in loan repayment condition led to decrease in performance financially by SMEs within Machakos County, Kenya.

In summary, there were small variations in credit affordability and financial performance of SMEs as shown by variations in standard deviation and mean an indicator of a much greater degree of agreement. The results affirmed that the credit affordability variables studied had a statistically significant relationship with financial performance of SMEs. This implied that credit affordability had a significant relationship with financial performance in SMEs and as such lending institutions needed to tailor their loan products putting into consideration the loan collateral requirements, cost of credit, borrowers credit history as well as loan repayment terms to ensure improved SMEs financial performance in Machakos County, Kenya.

VII. Recommendations

The research recommended that lending institutions needed to periodically relook at the lending guidelines to ensure their loan offerings are affordable SMEs. In addition, they needed to tailor specific loan products to cater for SMEs. Small business owners needed to be sensitized to better understand credit administration variables including loan collateral requirements, cost of credit, borrower past credit history, and loan repayment conditions. This would enable increased uptake of SME tailored loan facilities. In addition, lenders needed to avail more information on their credit facilities and receive feedback from SMEs on their

credit services to help build more enticing product offerings for business people in various financial categories. This would help in significantly lowering the loan repayment default risks since lenders would appropriately package their loan products. Financial institutions needed to improve on their loan application reviews and ensure accurate appraisals based on borrowers 'credit history.

Financial institutions needed to put in place loan control and monitoring measures to manage and track loan performance timely. This would help in ensuring that loan defaults were adequately managed. SMEs would be able to better understand credit administration variables such as loan collateral, cost of credit, borrower history, and loan payback. In addition, the knowledge acquired could be used by SMEs when approaching lending institutions for financial assistance. The outcomes of this study also provided financial institutions with more information on SMEs impressions of their credit services, which in turn helps in building more enticing product offerings for business people in various financial categories. The lending institutions benefits significantly through lowering the loan repayment default risks since they are able to correctly package their loan products.

Both the national and county governments in Kenya should adopt laws and regulations that will safeguard SMEs from lending institutions exploitation and ensuring that they have access to inexpensive finance. For the sake of the Big Four Agenda, Vision 2030, and the Millennium Development Goals (MDGs) of eradicating poverty and unemployment in Kenya, the findings of this study on the financial performance of SMEs in Machakos County provided additional impetus to the national government in streamlining the cost of credit across the country in line with the bottom up economic model. To the academia, this study provided a chance for more detailed and targeted research on credit scoring, risk management with regards to loan default in a much wider perspective. In addition, based on the study findings SMEs needed to channel their credit requirements through the many available unsecured loans online credit facilities as well as making use of guarantors to access collateral free loan facilities available in the market.

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