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Effect of Interest Rates on Smes Access to Finance in Kirinyaga County, Kenya

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Abstract:
Background*: Small and medium enterprises play an essential role when it comes to the health of an economy through their contribution to the GDP and creation of employment to many young and vibrant people in the country. SMEs are essential towards the achievement of the broad goals outlined in vision 2030 and are critical drivers towards making Kenya an industrialized country. In Kenya, 18% of the GDP and 80% of the workforce population are employed in SMEs, but the growth of these enterprises is hindered by lack of access to finance. The ability to access credit by businesses is a critical factor of private sector growth and especially for SMEs' that most often lack adequate capital they need to grow and expand. They are a significant source of creative ideas and talents for starting businesses. This study sought to determine the factors affecting small and micro enterprises access to finance in Kenya*
A case of Kirinyaga County. The study was guided by the information asymmetry theory, theory of equilibrium credit rationing, and the pecking order theory.
Materials and Methods*: Descriptive survey design was employed to elaborate attributes of a demography or event under analysis. Probabilistic sampling technique was employed in selecting a sample from the SMES. From the goal populace of 206 retail traders Taro Yamane (1973) pattern size formulation was used to pick a pattern dimension of 136 retail traders. A questionnaire was the primary data-gathering instrument in the study. The questionnaire was prepared based on the independent variable and the dependent variable (access to finance). Data was analyzed using SPSS version 23.0 software. Inferential statistics in the form of linear regression was used to analyze the data. The results were presented in the form of tables, pie charts and graphs.*
Results*: Findings of the study revealed that interest rates had a positive and significant effect on access to finance of SME's in Kirinyaga County in Kenya.*
Conclusion: *Based on the findings of the study, the study concluded that interest rates had a positive and significant effect on access to finance of SME's in Kirinyaga County in Kenya.*
Key Words*: Interest rates; access to finance; small and medium enterprises*

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I. Introduction

Small and Medium Enterprises are significant in economic growth. There is an absence of many large firms in most developing countries, implying that the SME sector is the main engine of their development (Floyd & McManus, 2018). SMEs and entrepreneurship are recognized as crucial foundations of innovation, flexibility, and dynamism in the advanced industrial economies, emerging markets, and developed economies, and are major net job makers in such economic blocks.

Government of Kenya defines SME's as micro when they have 1 to 10 employees and a turnover not exceeding KES 500,000; Small when they have 10 and 50 employees and a turnover not exceeding KES 5 million; Medium when they have around 50-99 employees and business turnover of over KES 5 million; and large when they have more than 100 employees and a business turnover of KES 800 million and above (Hezron & Hilario, 2016).

Nowadays, governments throughout the world are focusing their attention on small and medium enterprises as large industries have usually failed to promote and improve the lives of the majority of the population concerned (Mulandi, 2017). There have been enhanced credit guarantees schemes for SMEs in developed countries. In the United Kingdom (UK), the ggovernment guarantees up to 75% of loans to businesses, 80% in Japan and South Korea 100% of their initial investment (Matavire & Duflo, 2016). In some instances, governments resort to direct lending to Small and Medium Enterprises through public institutions, such as in Belgium, where the government ministry in-charge of SMEs provides a platform of pre-fund agreements that

businesses use to obtain guaranteed loans from financial institutions. Sweden, as well increased by 250% credit access capacity of the subsidiary SME banks of state-owned business bank Almi (Ingram, 2018).

In Asia, the Malaysian Government has given small businesses, the SMEs precedence and has put in place institutional structure and policy guide that addresses their developmental needs (Gunto & Alias, 2014). The performance of SMEs in Africa has generally been quite poor, and many people still have solid persuasion that they act as an engine of growth in the continent, by creating skilled jobs and positive spillover effects and, more generally, by modernizing the economy (Bigsten & Soderbom, 2014). A study by Aryeetey (2015), on informal finance to SMEs in Ghana and found out that thirty –eight percent of the SMEs have limited access to credit. It was deduced that SMEs have inadequate access to finance due to the perceived high risk, information asymmetry, and high cost of capital.

In South Africa, SMEs account for about 91% of the formal business entities, subsidizing to about 57% of GDP, and provide almost 60% of employment (Kongolo, 2014). To support the importance of SMEs, the Government established a Ministry of Small Business Development in 2014.

In Kenya, Kithae, Gakure, and Munyao (2016) explain that SMEs are essential towards the achievement of the broad goals outlined in vision 2030 and are critical drivers towards making Kenya an industrialized country. In Kenya, 18% of the GDP and 80% of the workforce population are employed in SMEs. Kenya government set up in 2009 a National SME Development Council (SMEDC) to ensure policy execution. The Government's programs and initiatives for SME development focused on achieving some targets, especially in the areas of developing human capabilities and the necessary enabling infrastructure that permits for the establishment of high performance and high value-added SMEs.

Major reasons could be higher interest rates, credit profiling, performance and the collateral requirements from financial institutions. Smaller enterprises generally have limited access to non- bank lenders due to lack of creditworthiness in their information which is usually unpublished. Factors such as the amount interest paid based on the basic interest rate set by the Central Bank of Kenya determines the cost of borrowing.

Access to Funds refers to the ability of individuals and enterprises to obtain external funding to enable them ease cash flow problems (Osoro & Muturi, 2016). Credit can be either short term or long term depending on the lender's assessment of the borrowers' ability to repay. Access for credit by SMEs in Kenya has been identified as a necessary condition for job creation and economic growth. The ability to access credit for by businesses is a critical factor of private sector growth and especially for SMEs' that most often lack adequate capital that they need to grow and expand. (Martina & McCann, 2015).

The main concern of this study was the external credit facilities available to SMEs. According to Manasseh (2014), external financing or credit facilities is finance provided by person(s) other than the actual owner of the organization. Credit can be in the form of overdrafts, trade creditors, lease financing, debentures, loans, overdrafts among others. All these external sources depend on the enterprise's creditworthiness. Internationally, in developing countries like Vietnam, (Minh, 2015) found that firm characteristics are not the main factor to influence SME financing, but if a business has higher financial leverage the higher the probability of obtaining bank loans. Minh (2015) reiterated that the level of information in the possession of the SME owners contributes to their access to credit.

The ability to access credit by businesses is a critical factor of private sector growth and especially for SMEs' that most often lack adequate capital they need to grow and expand. A study by Rahaman (2011) reiterated that an increase of 10% in bank loaning to a firm would lead to an increase of 18.14% in firm growth. On the other hand, lack of credit adversely affected earnings of the business than any other problem (Khandker 2013).

Most of the SMEs' applications for funding in Africa are not granted. Half of SMEs applications for formal finance in financial institutions such as banks for credit have any chance of success, and about two-thirds of applications from micro and small enterprises were likely to be successful. A study by Bigsten (2014) observed that about 90% of small and medium enterprises are denied credit by financial institutions due to the inability to avail collateral security, poor financial performance, poor credit profile, and higher interest rates charged on the loans. Consistent with is, Mwangi (2015) showed that about 95% of the SMEs depend on their personal savings and loans from friends and relatives. Using data from six developing countries, Bigsten (2014) found that among those firms which applied for a loan, small firms had worse chances of getting a loan from financial institutions.

Kirinyaga County is a county in the former Central Province of Kenya. Its capital is Kerugoya and its largest town is Wanguru, and the county headquarters are in Kutus. In 2019, the county had a population of 610,411 and an area of 1,478.1 km^2. The county is bordered to the east and south by Embu County, to the south by a tiny part of Machakos County, to the southwest by Murang'a County and to the northwest by Nyeri County (GoK, 2020). The Kirinyaga County Business Licensing office revealed that 4,514 small enterprises had been recorded by August 2018, majority of which were sole proprietorships, and a handful were partnerships.

The primary income in the county's households was determined as agricultural activity, which embodies 80% of the total populations. Formal employment and self-employment were ranked at 10% each. The government of Kenya, through the Ministry of Devolution and Planning (2013), identified the joblessness percentage in

Kirinyaga County to be one of the highest, with an estimated 65% of its total labour force being unemployed. However, business potential in the region was termed as high. Nonetheless, little efforts to engage in investment activity to facilitate employment-creating undertakings, limited monetary means, and the overall absence of relevant entrepreneurial data have largely prevented business prospects by the locals.

The already existing SMEs in the region are found in both official and casual segments in virtually all trades. These businesses continue to be high-volume avenues of job establishment, revenue production, and poverty elimination. Agnes et al. (2015) discovered that majority of the businesses in the county are generally indigenous and small, for instance, automotive mending shops and garages; electronic appliances restoration workshops, wooden fixtures yards, dressmaking centers, retail shops, and bakeries, which qualify as SMEs based on their description.

II. Problem Statement

Kenya's small and medium-sized enterprises (SMEs) continue to create more jobs to boost their country's GDP, but face a myriad of challenges that constantly hinder growth. According to a 2016 National Economic Survey report by the Central Bank of Kenya (CBK), SMEs account for 98% of all Kenya businesses, create 30% jobs annually and contribute 3% to GDP. According to a 2018 Survey, 79% of the SMES are from the informal sector and they accounted for 83.6% of the 840,600 new jobs created in 2018 (Viffa Consult, 2020). Despite their significant contribution to the economy, Kenyan SMEs face many challenges with the leading one being access to finance.

Access to finance is vital towards the growth and survival of SMES (Chilembo, 2021). However, access to finance poses more bottlenecks to this vital economic driver. According to a Kenyan Statistics Bureau survey released in 2017, about 400,000 SMEs do not celebrate their second birthday. The banks and non-banking institutions which are the major sources of finance are highly unlikely to fund the SMES given that they have associated them with high financial risk which leads to low credit rating.

A study by Chilembo (2021) found that the greatest hindrance towards accessing finances by SMES is the collateral required to be pledged against loan applications and the high interest rates. Most SMES lack tangible assets that can be used as security. The World Bank's 2017 report on conducting business in Kenya praised Kenya's progress in entrepreneurship, but the simplification of the process and access to finance remains a major challenge. The government has developed a strategy to speed up the business creation process in favor of SMEs by enforcing the law on local content of public projects, introducing a public procurement policy to "buy Kenya and build Kenya", provide R & D support, and increase funding for funds such as Uwezo-Fund. However, despite the government's efforts in tackling SMEs access to financing, some of the challenges facing SMEs go beyond government bureaucracy as still few banks or Sacco's are eager to finance SMEs especially at the inception stages while others do not have any customized financial policy for the SME sector (Avevor, 2016).

Most SME owners have thus linked their limited access to finances and high cost of credit hinders competitiveness and growth (Kumar & Rao, 2015). It has been observed that a majority of SMES in Kenya are still under the informal sector and this makes it difficult for them to access finances (Viffa, 2020). Given the importance of SMES in the economy, there have been various studies conducted both locally and internationally on factors affecting SMES access to finance (Canton et al., 2012; Allen et al., 2012; Rambo 2013). However, this study further attempts to contribute to the body of knowledge by examining the factors that limit access to finances by SMES by focusing on Kirinyaga based SMEs.

III. Literature Review

The study was informed by three theories; the information asymmetry theory, theory of equilibrium credit rationing, and the pecking order theory. Information asymmetry theory was developed by Joseph Stiglitz (1961), George Akerlof (1970), and Michael Spence (1973) which was later formalized in 2001. Asymmetric information is a problem in credit markets whereby the borrowers are more informed than lenders. Information asymmetry idea postulates that once two parties are making transactions or decisions, there exists a scenario wherein whilst one party has better access to information than the other. Thus, information asymmetry ends up causing power imbalances between the two parties.

This information asymmetry may be a factor in determining the amount of credit extended by financial institutions. The study concludes that information asymmetry, though not a significant problem, does exist and influences the availability of financing for small and medium-sized businesses. A similar study by Dehlen et al (2014) sought to ascertain the impact of information asymmetry on exit route strategies employed by various entrepreneurs. This theory was thus used in explaining the impact of SMEs performance and credit profile on SMEs access to finances. Lending institutions do not have access to this information, as they need it to determine whether the SMEs are capable of repaying back the loans.

Theory of Equilibrium Credit Rationing was developed by Hodgeman (1960) based on default risk. He defined credit rationing as a situation in which all or some loan applicants would not be granted the full amount

of credit requested at a general interest rate. In this model, lenders evaluate potential borrowers based on the expected rate of return on the expected loss rate of the loan. In addition, it is assumed that the borrower has the maximum repayment reasonably promised and effectively limits the amount the lender offers to the borrower, regardless of interest rates. In this case, the expected loss is too large for the expected return.

A study by Malhotra (2015) noted that one can gain an understanding of how microfinance institutions (MFIs) minimize the inherent problems associated with their setting if they deconstruct and analyze different aspects of microfinance. This theory was important for this study because financial institutions usually classify MSEs as overly risky borrowers, some financial institutions gain credit, and others are restricted or rejected. The theory was used in explaining the impact of credit profile and interest on SMES access to finances.

Myers and Majluf (1984) improved Pecking Order Theory by enhancing the work of Donaldson (1961). The asymmetry of information between a company and its financial partners is responsible for the existence of pecking orders in finance and related theories. Pecking order theory addresses the urgent need for financing associated with asymmetric information. It is based on the existence of pecking orders and provides a reasonable explanation for the choice of establishing finances.

The dynamic model estimates that credit supply is positively related to total liabilities. This result empirically confirms the theoretical teaching about the two variables' relationship in a cyclical downturn, which may be needed to tighten credit by raising rates or reducing appropriations. Therefore, this theory applied to Kenyan SMEs because it dealt with collateral and Kenyan business owners prefer internal sources of funds over external sources and was used in explaining how collateral requirements affects the SMEs access to finances.

IV. Conceptual Framework

The conceptual framework outlines the relationship between the dependent and independent variables. The figure below outlines the study's dependent and independent variables relationships;

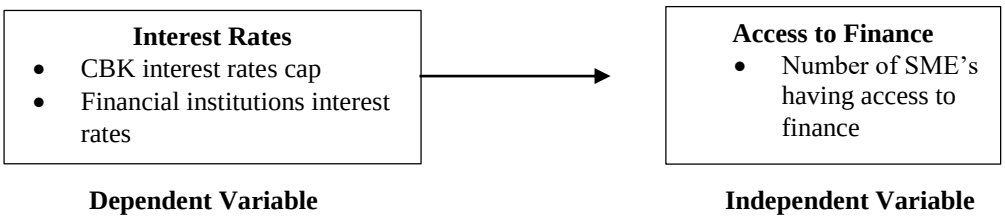

Fig 1: Conceptual Framework

Every business needs funding, but at first glance it seems overfunding. Gideon (2019) states that it is important that funding is as effective as possible and advises borrowers to add up all funding costs, compare them, and find a funding alternative that offers the lowest alternative funding. He collected data from 220 respondents through open- ended and close-ended questionnaires which were distributed by a stratified sampling method based on the segments of classification as per the business type. The researcher adopted descriptive survey research design. The interest rate levied on the loan determines the cost of borrowing. Value credit is the amount of that the borrower must pay for the principal of the borrowed money. Gideon (2019) described interest rates as being capital returns for lender and this can lead to high lending rates which discourage SMEs from borrowing and reduce their creditworthiness.

A study by Chilembo (2021) sought to determine the various factors affecting SMEs access to finances in Zambia. This was done in order to gain a deeper understanding of the obstacles that small and medium-sized enterprises (SMEs) in Lusaka face when trying to access finance. The purpose of the study was to investigate to what extent do collateral requirements, interest rates and other factors affect access to financing. In order to arrive at the results of the study, Chilembo (2021) employed a methodology that combined qualitative and quantitative research techniques. According to the findings of the study, a lack of collateral assets is positively associated with both the possibility of being denied credit and higher interest rates.

In light of the findings of the study, the study suggests that small and medium-sized enterprises (SMEs) make use of alternative sources of financing that are both practical and unconventional in nature. This recommendation is made in light of the challenges that are presented by traditional sources of financing. The research also suggests that small and medium-sized enterprises (SMEs) form group partnerships in order for them to attain a critical mass for their operations and to take advantage of economies of scale for their respective businesses. However, the researchers noted that additional research needs to be done to investigate alternative ways for small and medium-sized businesses (SMEs) to finance their operations besides taking out loans from financial institutions through the execution of more complex analyses with the assistance of statistical software.

A study by Rahman et al. (2017) sought to determine the factors that support SMEs access to finances in three central European nations of Hungary, Slovack Republic and Czech Republic. The researchers identified firm

age, female ownership, firm innovativeness, firm riskiness, collateral availability, and interest rates as the core variables. Questionnaires were used to collect the data, and regression and correlation analysis were used to analyze this data. The findings suggested that the size of the company has a positive relationship with access to finance for SMEs, but for micro firms, the size of the company has a negative coefficient. This indicates that micro firms are facing even more challenges when attempting to secure financing from commercial banks. In terms of the age of the company, micro firms are eventually be able to demonstrate to banks a higher information quality when they get of age.

In terms of innovation, Rahman et al. (2017) study indicate that small and medium-sized businesses that are innovative are not more financially constrained than businesses that are not innovative. A rather positive coefficient indicates that innovative companies are encouraged by banks in the form of access to finance, and this is suggested by the fact that the coefficient is positive. A cross-sectional data from 313 17 respondents to questionnaire were randomly selected and analyzed by using multiple regression. The researchers uncovered evidence suggesting that the interest rate has a favorable impact on the availability of financial resources for micro firms as well as the SME sector as a whole. It's possible that this indicates that banks are charging higher loan prices in proportion to the size of the loan, reflecting the increased risk associated with larger loans. On the other hand, micro firms are more susceptible to defaults, and as a result, banks may request higher rates from micro firms in order to compensate for the increased risk.

A study by Maalim and Gikandi (2016) on the impact of interest rates on access to credit for small businesses in Garissa County revealed that interest rates are an important determinant of the credit demand in financial institutions. The majority of loan / credit applicants consider the amount of interest accrued on a loan at the time of application. Descriptive statistics were used to analyze the data. The results of the survey showed that SACCO's interest rate policy was significantly linked to the credit accessibility of SMEs in Garissa County. In addition, descriptive analysis revealed that the cost credit rating policy, cost-to-penalty policy, and penalty-to-penalty policy were negative, which had a significant impact on SACCO's access to credit. These results found that imposing high interest rates on loans affected SME's access to credit.

A study by Bernard, Sare and Musah (2014) to determine the impact of interest rates on access to funds and financing decision-making of micro, small, and medium enterprises (MSMEs) in the Wa municipality of Ghana. The study made use of both quantitative and qualitative methods of data collection and analysis by employing a multiple research method as well as a descriptive survey. This was done so that the researchers could get the most out of their findings. In total, two hundred different businesses were selected for the study. A cross-sectional survey was used to collect data from respondents using a questionnaire and analyzed by using multiple regression. The majority of micro, small, and medium-sized enterprises (MSMEs), according to the findings of the analysis, had chosen to finance their operations with equity rather than debt. This was attributed to a number of different factors, the most significant of which was the interest rate, which plays a role in the decision-making process regarding financing options for MSMEs in the Wa municipality. The researchers noted that although there were some financial institutions that were ready to support MSMEs in Ghana, most of the MSME's had opted out and had decided not to access the funds due high interest rates.

V. Material And Methods

This study was carried out in Kenya among different SME's in Kirinyaga County, and involved a total of 206 registered micro and small enterprises with county business permits, which formed the population of the study.

Study Design: The study used a descriptive survey design. To address the research objectives, the study adopted a descriptive survey design to explain how interest rates affect access to finance by SME's in Kirinyaga County, Kenya.

Study Location: This was the SME's in Kirinyaga County, Kenya

Study Duration: The study covered the periods 2020-2022.

Sample size: 136 respondents.

Sample size calculation: Stratified random sampling was also used to determine a true representation of the whole population hence, giving each member of the population an equal opportunity of being selected.

Procedure methodology

The study relied on primary data. A structured questionnaire was used to capture information on interest rates and access to finance amongst SME's in Kirinyaga County, Kenya. The questionnaire was sent to the

respondents' email addresses. Primary data refers to premises, assumptions, or facts that a researcher has directly gathered from the field. In the study, primary data was collected through questionnaires. The study relied on the questionnaire as the primary data-collecting instrument as it was a cheap and economical means of gathering information.

A letter of introduction was attached with the questionnaire to explain the reason for carrying out the study. The participants were each given a week to ensure they return a filled questionnaire.

Statistical analysis

The raw data collected from the questionnaires was computed and analyzed using the Statistical Package for Social Sciences software (SPSS version 22.0). The study used descriptive and inferential statistics. Descriptive statistics were used to provide simple data summaries and highlighte any observations made, and included percentages, tables, and frequencies. The presentation of the data was in the form of tables and pie charts. Correlation analysis was done to determine relationship between independent and dependent variables. Pearson's correlation coefficient was employed. Simple linear regression and multiple regression was used in showing the relationship of the four independent variables on the dependent variable. The relationship between the independent and dependent variables was established using a multiple regression model as highlighted below;
The following regression equation was adopted in the analysis:

$\hat{Y} = \beta_0 + \beta_1 X_1 + \varepsilon$

Y = Access to finance

β_0 = Constant Term

β_1= Regression coefficient

X_1 = Interest rate

ε = Error

VI. Results

Descriptive Statistics Analysis

Descriptive statistics such as standard deviations, means, and percentages were used to generate summaries used to describe the variables in the study. This was based on a scale of 1-5 where 1 represented strongly agreed (SA), 2 represented agreed (A), 3 represented neural (N), 4 represented Disagreed (D), and 5 represented Strongly Disagreed.

Descriptive Statistics for Economic Activities

Respondents were requested to indicate their views on the following statements relating to interest rates and their views were presented in table 1 below.

Table 1: Interest Rates

Statements	SA%	A%	N%	D%	SD%	Mean	SD
Interest rates charged by financial institutions are relatively high for most SME businesses in Kenya.	62.2	26.5	3.4	5.5	2.4	3.441	0.988
High interest rates discourage many SMEs from approaching financial institutions for credit facilities.	53.6	34.4	2.9	6.6	2.5	3.785	0.932
The current financial institutions lending rates have discouraged many SMEs owners to go for short term and long loans for their businesses.	71.4	22.3	1.8	3.4	1.1	3.467	0.906
There is bias by financial institutions when evaluating SMEs for loans or credit as compared to large corporates as they are perceived to be riskier.	62.1	31.6	1.4	2.8	2.1	3.667	0.741

The study sought to investigate whether interest rates charged by financial institutions were relatively high for most SME businesses in Kenya. Majority of the respondents with 88.7% (mean=3.441, SD=0.988) were in agreement with the statement, 3.4% were neutral to the statement, whereas 7.9% of the respondents were not in agreement with the statement. This implies that interest rates charged were relatively high for SME businesses in Kenya.

The study also sought to investigate whether high interest rates discouraged many SMEs from approaching financial institutions for credit facilities. Findings indicated that majority of the respondents with 88.0% (mean=3.785, SD=0.932) were in agreement with the statement, 2.9% of the respondents were neutral to the statement, and 9.1% of the respondents were not in agreement with the statement. This implied that the higher interest rates in banks discouraged SME's from accessing credit facilities in financial institutions.

As to whether the current financial institutions lending rates had discouraged many SMEs owners to go for short term and long loans for their businesses, findings from the respondents indicated that majority of them with 93.7% (mean=3.467, SD=0.906) were in agreement with the statement, 1.8% of the respondents were not in agreement with the statement, and 4.5% of the respondents were not in agreement with the statement. This implied that the higher lending rates discouraged many SME's from going for short-term and long-term loans for their businesses.

Lastly, the study sought to investigate whether there was bias by financial institutions when evaluating SMEs for loans or credit as compared to large corporates as they were perceived to be riskier. Findings from the respondents indicated that majority with 93.7% (mean=3.667, SD=0.741) were in agreement with the statement, 1.4% of the respondents were neutral to the statement, and 4.9% of the respondents were not in agreement with the statement. This implied that there was perceived bias by financial institutions when evaluating SME's for loans of credit as they were perceived to be riskier.

Descriptive Statistics for Access to Finance

Respondents were asked to indicate their views on the following statements relating to access to finance and their views presented in table 2 below.

Table 2: Descriptive Statistics for Access to Finance

Statements	SA%	A%	N%	D%	SD%	Mean	SD
Inadequate or non-existence of collateral has led to poor access of credit.	62.5	22.6	4.2	7.4	3.3	3.642	0.927
Large enterprises are likely to access credit easily compared to medium and small enterprises.	63.4	18.7	12.4	4.4	1.1	3.941	0.896
Borrowers deemed to be not credit worthy are denied loans completely.	52.5	28.9	3.2	12.6	2.8	3.879	0.943
Lack of awareness on funding opportunities leads to poor access to credit by SMEs.	46.4	31.7	8.6	9.4	3.9	3.975	1.197
There is inadequate credit to invest into new business expansion.	57.8	27.9	5.7	7.7	0.9	4.127	1.169

Table 2 above presents respondents views on statements relating to access to finance. As to whether inadequate or non-existence of collateral had led to poor access of credit, findings from respondents indicated that majority of respondents with 85.1 (mean=3.642, SD=0.927) were in agreement with the statement, 4.2% of the respondents were neutral to the statement, and 10.7% of the respondents were not in agreement with the statement. This implied that inadequate or non existence of collateral was one of the major contributors to poor access to credit by SME's.

The study sought to investigate whether large enterprises are likely to access credit easily compared to medium and small enterprises. Findings revealed that majority of the respondents with 82.1% (mean=3.941, SD=0.896) were in agreement with the statement, 12.4% of the respondents were neutral to the statement, and 5.5% of the respondents were not in agreement with the statement. This implied that most financial institutions felt safer dealing with large enterprises as compared to medium and small enterprises and were more willing to lend to the large enterprises.

The study also sought to investigate whether borrowers deemed to be not credit worthy were denied loans completely. Findings revealed that majority of respondents with 81.4% (mean=3.879, SD=0.943) were in agreement with the statement, 3.2% of the respondents were neutral to the statement, and 15.4% of the respondents were not in agreement with the statement. This implied that financial institutions stopped lending to lenders who were deemed not credit worthy.

The study sought to investigate whether lack of awareness on funding opportunities leads to poor access to credit by SMEs. Findings revealed that majority of the respondents with 78.1% (mean=3.975, SD=1.197) were in agreement with the statement, 8.6% of the respondents were neutral to the statement, whereas 13.3% of the

respondents were not in agreement with the statement. This implied that lack of awareness on funding opportunities was one of the contributors of poor access to credit by SME's.

The study also sought to investigate whether there is inadequate credit to invest into new business expansion. Findings revealed that majority of the respondents with 85.7% (mean=4.127, SD=1.169) were in agreement with the statement, 5.7% of the respondents were neutral to the statement, and 8.6% of the respondents were not in agreement with the statement. This implied that most SME's were not expanding due to inadequate credit to invest into new business and into expansion.

Inferential Analysis

This study employed correlation analysis to show the relationships between the variables, model summary to show the strength of the relationships between the variables, and analysis of variance to check whether there were statistical differences between the means of the variables.

Correlation Analysis

Using the Pearson correlation test, correlation was calculated. The measure for correlation is that the closer the coefficient is to 1, the greater the relation between variables. A negative value means that the variables are inversely related, while a positive value means that the variables shift in the same direction. Table 3 below presents the results of the correlation analysis.

Table 3: Correlation Analysis

		Access to Finance	Interest Rates
Access to Finance	Pearson Correlation	1	
	Sig. (2-tailed)		0.001
Interest Rates	Pearson Correlation	0.424*	1
	Sig. (2-tailed)	0.019	

Results in table 3 above revealed that interest rate and access to finance were positively and significantly related (r=0.424, p=0.019).

Statistical Assumptions

Normality Test

Normality was tested using Skewness and Kurtosis. Table 4.9 below presents the kurtosis and skewness values for the variables of the study. According to Hair Jr et al. (2010), the z-values should lie between -1.96 and +1.96 at a 0.05 significance level otherwise the data is either skewed or kurtotic thus denoting non-normality. Findings indicated that all the study variables were normally distributed as indicated in table 4 below.

Table 4: Normality Test Values Using Skewness and Kurtosis

	Kurtosis			Skewness		
Variable	**Value**	**Std. Error**	**Z-Value**	**Value**	**Std. Error**	**Z-Value**
Interest Rates	-0.106	0.125	-0.845	-0.362	0.250	-1.496

Multi-collinearity

Multi-collinearity occurs when two or more predictor variables in the model exhibit very strong correlations. This was tested in this study using VIF values for the predictor variables. When the VIF is 1, there is no correlation. When its less than or equal to 5, there is moderate correlation, and when its greater than 5, the variables are highly correlated. In this study, results indicated that there was no multi-collinearity since none of the results of the analysis exceeded the set criteria as presented in table 5 below.

Table 5: Multi-collinearity Test using VIF Values

No	Determinants of Access to Finance	Collinearity Statistics	
		Tolerance	VIF
1	Interest Rates	0.258	3.764

Regression Analysis

Model summary presents the coefficients of correlation (R) which presents the nature of the relationship between the variables, and the coefficient of determination (R^2) which symbolizes the magnitude to which the independent variables forecasts the changes in the dependent variable. Below is the model summary for the study presented in table 6.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.643[a]	.526	.472	0.46341

a. Predictors: (Constant), Interest rates
b. Dependent Variable: Access to Finance

From table 6 above, the goodness of fit for the regression model testing the relationship between the independent and dependent variables was satisfactory, meaning that the independent variables were good predictors of access to finance. The coefficient of determination R^2 indicates that the independent variables explain 52.6% of the variations in the dependent variable.

Analysis of Variance

ANOVA (analysis of variance) is an analytical tool used to test whether two or more population means are identical. It tries to explain the elements of variance and tests the results of the study for significance. Table 7 below explains the ANOVA results of this study.

Table 7: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.638	4	1.247	6.362	.000
Residual	8.812	20	1.826		
Total	14.450	24			

Table 7 above presents ANOVA results for the study and indicate that the regression model was significant and a good predictor of the relationship between the variables of the study as the p value was less than 0.05. The F-value indicates the set of independent variables and whether as a whole they contribute to the variance in the dependent variable. In this study, the F value was 6.362, which was significant at 95%, meaning that the model was significant in predicting access to finance by SME's in Kirinyaga County.

Regression Coefficients

Regression analysis is used in the study to help bring out the existing mathematical relationships between the predictor and outcome variables through the beta coefficients, and the statistical significance of the relationships through the p-values. In this study, regression coefficients for the analysis are presented in table 8 below.

Table 8: Regression of Coefficients

	B	Std. Error	t	Sig.
(Constant)	1.167	1.089	1.072	0.037
Interest Rates	0.067	0.117	0.495	0.024

Following the analysis of variables, the study regression model was derived and presented below as follow;

$$Y=1.167+0.067X_1$$

Therefore, it was established that holding all other factors to a constant zero, access to finance would be at 1.167. This meant that access to finance would have positive significance. The study established that Standardized access to finance would increase by 0.067 units with one unit increase in standardized interest rates keeping other variables constant. P-value (sig) of 0.024 was less than 0.05, which was an indication that the effect of this variable was significant. This was an indication that an increase in interest rates would affect access to finance positively.

VII. Conclusion

Based on the above findings, the study made the following conclusion. The study concluded that interest rates had a positive and significant effect on SME's access to finance in Kirinyaga County. Interest rates make finance or loans from financial institutions more expensive and most SME's cannot afford to pay the high interest rates charged on loans.

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