

**GENDER, CREDIT ACCESS AND SMALL AND MEDIUM-SIZED ENTERPRISE
PERFORMANCE IN KENYA**

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DECLARATION

I declare that this research project is my original work and has not been submitted for examination to any other academic institution.

Signature

Date 13/12/2020

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As the university supervisor, I certify that I have approved submission of this research project for examination.

Signature-----

Date -----

Dr. Laura Nelima Barasa

DEDICATION

This research is dedicated to my best friend and my cheerleader, my mother Alice Waithiegeni for believing in me and for her unwavering support to get the best out of me.

To my father, Anthony Mundia, thank you for your insurmountable sacrifice to get me through school and for the sound teaching of hard work and dedication. I will not only guard it, but I will also pass it on to the next generation.

To my life partner Timothy, thank you for supporting and encouraging me every step of the way.

To my children, may this research inspire you to work hard to change the world into a better place.

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LIST OF ACRONYMS AND ABBREVIATIONS

GDP	Gross Domestic Product
KNBS	Kenya National Bureau of Statistics
MSMEs	Micro, Small and Medium Enterprises
OLS	Ordinary Least Square
ROA	Returns on Assets
ROE	Returns on Equity
ROI	Return on investment
SMEs	Small and Medium Enterprises

ABSTRACT

Small and Medium Enterprises (SMEs) are key in employment and wealth creation in Kenya. Nonetheless, their level of operation is sub-optimal due to the challenges they face most notably limited credit access. Access to credit mostly affects female-owned firms since they operate low-risk businesses, which do not attract equity and financial loans. Besides, most female SME owners lack collateral that is the primary requirement by financial institutions. Using the 2018 World Bank Enterprise survey data, this study aimed at providing insights on the effect of gender, and credit access on the performance of Small and Medium-sized Enterprises in Kenya. From the results of Ordinary Least Square multiple regression, finds of the study revealed that access to credit increased SMEs performance by **141.33%** *ceteris paribus*. Female ownership did not significantly impact firm performance. The study, thus, recommended Small and Medium Enterprises' empowerment through provision of affordable and accessible credit.

Keywords: Gender, credit access, SMEs performance, Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Small and Medium Enterprises (SMEs) drive growth and are vital to most economies. Globally, it is estimated that micro-businesses and SMEs account for 95 percent of firms, create jobs, contribute to economic growth, aid industrial development, satisfy local demand for services, innovate, and support large firms with inputs and services (Subhan et al., 2013), while in Africa, SMEs create 80 percent of employment (Liedholm et al., 1994).

The Micro and Small Enterprise Act of 2012 provides the different categories that define micro, small and medium enterprises (MSMEs) in Kenya. Micro enterprises have a maximum annual turnover of KES 500,000 and employ less than 10 people. Small enterprises have an annual turnover of between KES 500,000 and 5 million and employ 10-49 people. The Act however, does not cover medium enterprises but they have been reported to comprise of enterprises with a turnover of between KES 5 million and 800 million and employing 50-99 employees (African Development Bank Group, 2015).

One of the greatest challenges that SMEs face is the availability of funds for growth and expansion. Most SMEs do not go beyond the inception stage since, mostly, startups depend on owners' savings. Limited access to credit facilities often leads to their collapse soon after inception. According to Chimaleni et al., (2015), access to credit refers to the capacity of entities to acquire external funding to allow them ease financial problems. While both male-owned and female-owned SMEs face obstacles in access to credit, female-owned businesses face bigger obstacles such as stringent requirements in the form of collateral and proof of repaying the loans limit. A study in India on small firm ownership, gender, and credit access revealed that women-led businesses are less likely to obtain formal finance, regardless of the extent of women's involvement in the firms (Chaudhuri et al., 2018). A study by Mira and Ogollah (2013), found that business registration

status, lack of financial track, inadequate financial management experience, and lack of collateral, hamper female entrepreneurs' access to credit facilities.

1.2 Problem Statement

The SME sector is fundamental in employment creation in Kenya. The 2015 survey revealed that the SMEs sector contributed 80 percent of jobs created in 2014 (KNBS, 2015). Women's role in micro and small enterprises (MSEs) has significantly improved over time in Kenya. However, the involvement of women in SMEs is still not optimal. Further, the relative performance of SMEs operated by women and men has not been conclusively studied in Kenya.

Similarly, these enterprises face an outstanding challenge of limited credit access and inadequate finance. Lack of access to credit mostly affects women-owned SMEs since they operate low-risk businesses which do not attract equity and financial loans. Besides, many female owners of SMEs lack collateral that is the primary requirement by financial institutions.

With a focus on the vital role played by SMEs in terms of providing employment and as a key source of innovations and business skills in Kenya, this study will provide key insights on the effect of gender and credit access on performance of SMEs in Kenya.

1.3 Objectives of the Study

This study will attempt to fill the identified gap as highlighted in the problem statement section through a quantitative analysis of the effect of credit access and gender on the performance of SMEs in Kenya. The specific objectives of the study are to:

- a) Determine the relationship between female ownership and firm performance.
- b) Investigate the relationship between credit access and firm performance.
- c) Offer policy recommendations for improving the performance of SMEs in Kenya.

1.4 Significance of the study

SMEs serve as the backbone of the economy. While the government intervenes and helps these enterprises gain momentum, these interventions must be supported by evidence. The findings of this study will provide important insights that will contribute to current debates around these interventions and provide new insights, which will be helpful to research around this subject area, and to policymakers for improved performance of SMEs.

1.5 Organization of the project

This project begins by putting into context the issue of gender, credit access and firm performance and the need to study the correlation between the three. This information is detailed in chapter one of the project which also clearly stipulates the objectives and significance of this study. Chapter 2 focuses on an analysis of the theoretical and empirical research on impact of gender and credit access on firm performance. Chapter 3 details the methodology used in the study as well as the data sources and econometric modification. Chapter 4 of the project details empirical findings of the study, and chapter 5 contains summary, conclusions and policy recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Access to credit is paramount for SMEs that seek to attain speedy growth and expansion. Extant literature shows that gender is one of the determinants of credit access among SMEs. Access to credit also determines the financial performance of SMEs. This section discusses the concept of firm performance as influenced by credit access and gender. It discusses both the theoretical foundation as well as empirical literature.

2.2 Theoretical Literature Review

This research builds on two theories and their applications in SMEs performance. The theories will enhance understanding of the impact of credit access and gender on firm performance. The theories include credit access theory by Stiglitz and Weiss (1981) and the Pecking order theory by Mayers and Majluf (1984).

2.2.1 Credit access theory

The credit access theory examines the inefficiencies of a financial market and suggests that there exists some information asymmetry among financial lenders. According to Stiglitz and Weiss (1981), most financial lenders are not only concerned with the interests they earn from loans but also risks on loans offered. They, therefore, evaluate borrowers since they often gather private information on customer money management, deposits, receipts, expenditures, and synthesis it to assess their creditworthiness. However, financial institutions do not consider market changes such as interest rates and they cannot have perfect information on their customers. Therefore, the financial institutions end up treating borrowers discriminately based on their abilities to provide collateral such that for low-risk businesses, they raise collateral requirements and charge high-interest rates.

Changes in the market often do not lead to changes in the customer information at the bank; hence, the banks suffer from information asymmetries. Most SMEs face challenges accessing credit from financial institutions due to high-interest rates and lack of collateral. They rely on the informal sector for finance. The informal sector, on the other hand, has limited lending capacity. This leads to either the collapse of most SMEs after inception or poor growth rate among the SMEs. Diallo and Al-titi (2017) argue that access to credit enhances economic growth among the SMEs. In addition, access to credit promotes growth and expansion among the SMEs. This theory is therefore relevant for this study.

2.2.2 Pecking order theory

The pecking order theory by Mayer and Majluf (1984) suggests that businesses should consider using internal financial sources before considering external sources like debt and equity. They argue that even if firms should consider the use of external debt, they should prefer debt to equity due to the asymmetry of information. This is because the cost of financing is thought to increase with asymmetric information. The asymmetry of information occurs when private equity and venture capitalists undervalue the business while trading their funding for shares. They often assume that managers overvalue the business thus they bring external ownership to the business at low costs thus undervaluing the business. According to the theorists, debt offers an opportunity for growth and expansion at an interest.

Apart from the fact that internal financial sources are not sufficient for SMEs, they face challenges in their attempts to access formal credit due to varied challenges including but not limited to lack of collateral, high-interest rates and the reluctance of financial institutions to fund SMEs. Most SMEs utilize their own savings during the start-up stage but fail to expand due to insufficient funds and the challenge of accessing liabilities in forms of loans. Therefore, this theory applies to this study because it identifies variations in SMEs before and after credit access.

2.3 Empirical Literature

Empirical evidence offers contradicting observations regarding the influence of gender and credit access on firm performance among SMEs.

Chirwa and Mlachila (2004) using survey data in Malawi, found that female-owned SMEs experience rapid employment growth but low or no growth in sales relative to male-owned enterprises. Hansen and Rand (2011) conducted a study in Sub-Saharan Africa that found female business owners are likely to receive preferential treatment in credit provision by micro and small firms and therefore less likely to be credit constrained compared to male entrepreneurs.

Kairiza et al., 2017 conducted a study in Zimbabwe, which found that there lacks statistically strong evidence of exclusion of female entrepreneurs in the formal financial sector. In the informal financial sector, the study did not find any evidence of a higher favor to female entrepreneurs than male entrepreneurs.

In Vietnam, Nu and Le (2012) found that higher financial leverage was the main factor influencing SME financing and not firm characteristics. A higher financial leverage was seen to increase the probability of accessing bank credit. According to Shava and Rungani (2016), the availability of credit facilities is largely dependent on gender. Due to lack of collateral, female-owned firms are less likely to obtain credit facilities from financial institutions. Female-owned SMEs are further constrained by lack of education, time, training, lack of technological knowledge, lack of marketing knowledge, low income, lack of family support and cultural issues that place women as homemakers. This indicates that female-owned SMEs are generally low performing and characterized by slow growth and most often collapse soon after the start-up stage. The impact of gender on credit access is therefore critical for determining the performance of female-owned SMEs.

2.4 Literature Overview

From the study of literature indicated above, it is evident that female-owned firms are likely to experience hampered performance mainly related to inadequate access to credit. While this is the case, access to credit has been said to be important when it comes to increasing profitability and growth of firms. However, most female-owned SMEs lack credit access, which impedes their performance.

While most of these researchers considered either Gender and SME performance or Gender and credit access, none of them tried to consider the relationship between gender, credit access and firm performance. Besides, most of these studies were done in other countries other than Kenya. This presents both contextual and conceptual gaps that this study seeks to fill.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the research methodology used in the study. It provides data collection methods used for the study, which included research design, target population, and data analysis procedures. This chapter also provided the expected results as a representation of the study.

3.2 Theoretical Framework

To determine the effect credit access and gender have on performance of SMEs in Kenya, an appropriate model presented here below was used. The dependent variable for the study was SME performance measured by the annual sales while the independent variables was gender, access to credit, and control variables. In light of this, a multiple regression model used for this analysis was specified as follows:

$$SMEP_i = \alpha + \beta_1 Gen_i + \beta_2 Crdt_i + \beta_3 Gen * Crdt_i + \beta_4 FO_i + \beta_5 LicPerm_i + \phi' Controls_i + \mu_i$$

Where $SMEP_i$ was the dependent variable representing the SMEs Firm performance; Gen_i represented Gender (female ownership) of a given firm i ; $Crdt_i$ represented credit access for firm i ; $Gen * Crdt_i$ represented the interaction of gender and credit access. FO_i represented foreign ownership for firm i ; $LicPerm$ denoted licenses and permits i.e. a dummy variable taking the value of 1 if an SME reports licenses and permits as a major obstacle to its performance and 0 otherwise. Finally, $\phi' Controls_i$ represented a vector of control variables including firm location, age, and sector of operation of firm i while μ_i represents the error term.

3.3 Data source

The study was conducted on all SME firms interviewed in the World Bank Enterprise survey data in 2018. The study used cross-sectional data of the 2018 Enterprise survey consisting of 1,001 firms in Kenya. Out of this number, 793 firms were SMEs. These firms were a representative sample of other firms in the formal, non-agricultural, private economy in Kenya. The firms were in the

manufacturing sector and most services sectors namely: wholesale, automotive repair, storage, construction, transportation, retail, communications, hotels, restaurants, and Information Technology. Government services, Public utilities, financial services and health care sectors were not included in the sample. Quantitative data was analysed using descriptive statistics, correlation analysis and pooled multiple regression analysis. The main descriptive statistics such as frequency, mean, median and standard deviation were used to compare variables numerically and ascertain a pattern in the data set. Subsequently, Pearson's correlation and multiple regression analyses were used.

3.4 Definition and measurement of Variables

Table 1 shows the definition and measurement of all the variables employed in the study, and the hypothesized signs of the explanatory variables.

Table 1: Definition of variables and hypothesized relationships

Variable	Measurement	Expected sign and literature source
SME Performance (SMEP)	Total annual sales in KES of an SME firm recorded in the last complete fiscal year. It is measured in its natural logarithm.	Dependent variable
Gender (Gen)	Percentage of firms with female participation in ownership. A dummy variable taking the value of 1 if an SME firm has 50% or more female ownership stake and 0 otherwise.	-ve
Credit access (Credit)	A dummy variable that takes on the value of 1 if an SME firm has access to a given line of credit and 0 otherwise.	+ve Shava and Rungani (2016)
Foreign Ownership (FO)	The percentage of foreign private ownership in Kenyan SME firms. A dummy variable taking value of 1 if an SME firm has at least 50% foreign ownership and 0 otherwise.	+ve
Licenses and permits (LicPerm)	A dummy variable taking value of 1 if an SME reports licenses and permits as a major obstacle to its performance and 0 otherwise.	-ve
Firm Location (Loc)	Takes the value of 1 if an SME firm is located in Nairobi and 0 otherwise.	+ve
Firm age (Age)	Measured by the number of years of an SME firm in operation since establishment.	+ve
Sector (Sec)	A dummy variable taking value of 1 if an SME is a manufacturing sector firm and 0 otherwise.	Indeterminate.

3.5. Limitations of the Study

The study was limited to the analysis of the interaction effect of credit access and gender on the performance of SMEs in Kenya. While this was expected to provide great insights, replicating this study internationally and comparing findings with those for Kenya would be more insightful. However, this did not affect the findings of this study in any way as we concentrated on the cross-sectional data for Kenya. The other limitation of this study was that while several SMEs in Kenya may rely on informal sources of credit, the data in use did not include informal borrowing.

CHAPTER FOUR: EMPIRICAL FINDINGS

4.1 Introduction

This chapter presented the empirical findings on the impact of gender and credit access on SMEs' performance in Kenya. It discussed the summary statistics, correlation analysis, and post-estimation diagnostic tests. Finally, the chapter presented the data analysis and interpretation of the results based on the SME performance econometric model estimates, and results of variance inflation factor, normality test, and heteroscedasticity test.

4.2 Descriptive statistics

Table 2 presented a summary of basic descriptive statistics of the data. It showed the variables, number of observations, standard deviation, the mean values, and the minimum and maximum values for each variable employed in the study.

Table 2. Descriptive statistics of variables used in the study

Variable	Observations	Mean	Std. Dev	Min	Max
lnSMEs Performance (lnSMEP)	676	17.0793	1.9851	11.5129	26.7754
Proportion of Female ownership (Gen)	676	0.2411	0.4281	0	1
Credit Access (Crdt)	676	0.3624	0.4811	0	1
Proportion of Female ownership* Credit Access (Gen*Crdt)	676	0.0991	0.2990	0	1
Foreign Ownership (FO)	676	0.0725	0.2595	0	1
Licenses and permits (Licperm)	676	0.1317	0.3423	0	1
Firm Location (Loc)	676	0.2840	0.4512	0	1
Firm Age (Age)	676	20.9408	17.3026	1	125
Sector (Sec)	676	0.4053	0.4913	0	1

Source: Stata computation

The log of SMEs Performance measured by a firm's annual sales for the last fiscal year averaged 17.08. The minimum log of annual sales recorded by SME firms was 11.51 with the maximum being 26.78. SME performance also exhibited the highest dispersion rate of 16,300,000,000 around the mean value. Approximately 24.11% of the SME firms were female owned with a standard deviation of 0.43. This implied that the majority of the SMEs in Kenya were male-owned (about

75.89%). On average, about 36.24% of the SME firms reported constraints in accessing credit facilities. Concerning the interaction term (Proportion of Female ownership* Credit Access), averagely 9.91% of the female-owned enterprises reported constraints in accessing credit. The variable also had a standard deviation of 0.30% around the mean value.

The proportion of SMEs owned by foreign entities averaged approximately 7.25% with a standard deviation of 0.26. The lowest stake of foreign firms in Kenya's SMEs was 0 with the highest being 100%. Approximately, 13.17% of the SMEs reported licenses and permits as a major obstacle to their performance. 28.4% of the sampled firms were from Nairobi with the rest evenly distributed across the remaining 9 counties. The descriptive statistics showed that SMEs in Kenya had a mean age of 20 years, revealing that a majority of the firms had been in operation for at least 20 years. Furthermore, the youngest firm was recorded to be a year old with the oldest having been in existence for 125 years. The sectoral dummy variable indicated that, averagely, about 40.53% of the sampled firms were from the Manufacturing sector. The rest of the SME firms were from the service sector.

4.3 Pre-estimation tests

Before conducting the analysis, pre-estimation tests were conducted. This section presented a brief description of the results for the various diagnostic tests conducted.

4.3.1 Multicollinearity

The pairwise correlation matrix and Variance Inflation Factor were used to check for the degree of multicollinearity among the explanatory variables. Since multicollinearity inflates the variance of the parameter estimates, there was a need to ensure a weak degree of association among the explanatory variables (Gujarati, 2003). This would lead to correct magnitudes of the coefficient estimates. Table 3 presented the pairwise correlation matrix.

Table 3: Pairwise correlation matrix

	lnSMEs Performance	Credit Access	Female ownership	Foreign ownership	Firm Age	Location	Licenses and Permits	Sector
lnSMEs Performance	1.000							
Credit Access	0.181	1.000						
Female ownership	-0.056	0.021	1.000					
Foreign ownership	0.104	-0.035	0.017	1.000				
Firm Age	0.191	0.021	-0.078	0.121	1.000			
Location	0.104	0.053	0.130	-0.059	-	1.000		
Licenses and permits	0.037	-0.037	-0.060	-0.083	0.009	0.020	1.000	
Sector	0.109	0.120	-0.096	0.024	0.357	-0.150	0.049	1.000

Source: Stata computation

From Table 3, it was evident that there exists a weak degree of association among the explanatory variables. However, we employed a more formal test using the Variance Inflation Factor method. The VIF test revealed that the mean VIF value of all the explanatory variables was 1.28, which was less than the recommended maximum mean VIF value of 10. This further revealed a weak degree of correlation amongst the explanatory variables. Table A1 of the Appendix provided results of the VIF test.

4.3.2 Normality test

The Jarque and Bera (1987) normality test was used in ascertaining whether the residuals and subsequently the data used in this study were normally distributed. The test proposes that the residuals are normally distributed under the null hypothesis. Under this test, the residuals were first generated and the Jarque-Bera test was performed on the residuals. The results were presented in Table A2 of the Appendix and revealed that the probability of chi-squared was 0.5303, which is greater than the 5% alpha level of significance. We, therefore, failed to reject the null hypothesis of normality and concluded that the residuals were normally distributed. This, subsequently, indicated that the data used in this study was normally distributed.

4.3.3 Heteroscedasticity test

The Breusch and Pagan (2015) test was used to test whether the error variances were constant or varied across observations. The null hypothesis proposes that the error variances are constant (homoscedasticity). Rejecting the null hypothesis implies heteroscedasticity. Table A3 of the Appendix gave the results for the Breusch-Pagan test. Since the probability value for chi-squared (0.5377) was found to be greater than the alpha level of significance (0.05), we failed to reject the null hypothesis of homoscedasticity and, thus, concluded that the model was homoscedastic.

4.4 Empirical results

Table 4 presented the OLS regression results for the SMEs performance among the Kenyan enterprises.

Table 4. Econometric Estimates of SME performance

VARIABLES	(1) SMEs performance
Female ownership (1 if $\geq 50\%$, 0 otherwise)	-0.328 (0.206)
Credit Access (Credit line=1, 0 otherwise)	0.881*** (0.164)
Proportion of female ownership*Credit Access	0.00362 (0.326)
Sector (Manufacturing=1, 0 otherwise)	-0.0370 (0.142)
Firm Age	0.0369*** (0.00405)
Location (Nairobi=1, 0 otherwise)	0.810*** (0.152)
Foreign ownership (1 if $\geq 50\%$, 0 otherwise)	0.685*** (0.264)
Licenses and permits (Major obstacle=1, 0 otherwise)	-0.565*** (0.203)
Constant	15.88*** (0.143)
Observations	676
R-squared	0.217
Adj. R-squared	0.208
Prob > F	0.0000

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table 4 shows that holding other factors constant, an SME firm with 50% or more female ownership stake decreased SMEs performance by 38.82%. However, female ownership was found to be statistically insignificant. This implied that females were constrained in accessing credit facilities, which ultimately affected negatively on the SMEs performance. This could be attributed to retrogressive cultural norms that exclude women from communal property ownership such as land and livestock and buildings. They, therefore, lack the requisite collateral for acquiring credit, which can hugely boost the productivity potential of their SMEs. Similarly, this discrimination also means that these assets can no longer be easily traded for money by women to boost their SMEs if the real need arose. The findings were consistent with the study by Shava and Rungani (2016).

Holding other factors constant, an SME with access to a given line of credit reported an increase in its performance by 141.33% as compared to those SME firms that lacked access to any form of credit. The variable was found to be statistically significant at 1% level of significance. Both assets and liabilities finance firms. However, in most cases, SME businesses are heavily reliant on loan facilities to thrive. The availability of cheaper and quicker credit facilities from financial institutions and even mobile loans is very fundamental to their continued survival and profitability. Difficulties in accessing these essential financial services automatically translates to firm losses and subsequently closure. Working capital is instrumental in ensuring continued operation. These findings were found to be similar to the study by Diallo and Al-titi (2017) which found a positive correlation between credit access and SME performance.

For an SME firm with 50% or more female ownership stake with access to credit, there is a 0.36% higher SME performance when compared to those SME firms with a less than 50% female ownership stake without credit access *ceteris paribus*. However, this interaction term variable (Proportion of female ownership*Credit Access) was found to be statistically insignificant. This implied that with an increase in the stake of female ownership, SMEs performance was

insignificantly affected regardless of whether a firm had access to a given line of credit facilities or not.

Holding other factors constant, an SME in the manufacturing sector registered a decline in the SMEs performance by 3.77% as compared to SMEs from other sectors. Most SME firms in Kenya are from the service sectors. The service sector is very broad and encompasses many sub-sectors such as tourism and travel, wholesale and retail, food and accommodation, ICT services, etc. In this respect, they serve a wider geographical landscape as compared to the SME firms that are drawn from the manufacturing sector. Moreover, the manufacturing sector SMEs are highly capital intensive hence hardly hit by shocks in the business environment. Nevertheless, the sectoral dummy variable was found to be statistically insignificant.

A one-year increase in the age of the firm increased SMEs performance by 3.76% *ceteris paribus*. The older the firm, the more the experience, resilience and expertise in their operations. They are, therefore, more profitable and enjoy the benefits of the fast mover advantage. The older firms also reap the benefits of customer base establishment and normally, these firms have already broken-even as compared to their younger counterparts. The variable was found to be statistically significant at 1%.

An SME firm located in Nairobi was found to register a 124.79% increase in its performance *ceteris paribus* as compared to those SME firms located in other counties. Nairobi is Kenya's capital city and thus a very vibrant and lucrative business environment due to the high population density within its environs. The high demand and supply of commodities also lowers the relative price of production inputs relative to other counties in the country. This increases output and an SME firm can, therefore, benefit from the economies of scale. Thus, an SME located in Nairobi is likely to be more profitable. The location variable was also found to be highly significant at 1%.

Holding other factors constant, an SME firm with a 50% or more proportion of foreign ownership increased its performance by 98.38%. Foreign ownership in domestic firms brings forth global business dynamism, learning-by-doing-effect, ISO-Certification benefits, knowledge and expertise. These hugely boost SME performance. SMEs can also take advantage of capital inflows, which can be used to expand the business and give it a global brand image. Foreign ownership variable was found to be statistically significant at 1%.

An SME firm that reported trade licenses and permits as a major obstacle to their operation registered a decline in its performance by 75.94% *ceteris paribus*. This is when compared to those firms that did not report licenses and permits as an obstacle to their performance. Licenses and permits are requisite requirements for starting a business in Kenya. However, high trade fees may curtail firm operations since most SME firms have a small profit base. These firms are also normally less capital-intensive with many of them not operating on a full-time basis. Favorable business regulations are needed to ensure their survival since they employ a vast majority of Kenyans. The trade licenses and permits variable was found to be highly statistically significant at 1%.

The adjusted R-squared was found to be 20.8%. This implied that the explanatory variables in the model (Proportion of female ownership, credit access, the proportion of female ownership*credit access, sector, firm age, location, the proportion of foreign ownership and licenses & permits) explained for 20.8% of the variations in SMEs performance in Kenya. The probability of F statistic was reported to be 0.000, which is less than all the three conventional levels of significance indicating that the overall model was statistically significant.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarized and made conclusions based on empirical findings. It also provided policy implications on the findings and areas for further research.

5.2 Summary of Empirical Findings

The main objective of this study was to determine the effect of credit access, gender and other relevant control factor variables on SMEs performance in Kenya. The study employed the 2018 World Bank Enterprise data. SMEs performance (measured by annual sales) was regressed against: Proportion of female ownership, credit access, proportion of female ownership*credit access, sector, firm age, firm location, proportion of foreign ownership and licenses & permits.

The regression results revealed that the proportion of female ownership, sectoral dummy and licenses & permits impacted negatively on SMEs performance. On the other hand, the proportion of female ownership*credit access, firm age, location and the proportion of foreign ownership was found to be positively associated with SMEs performance. Five variables were found to be significant namely; the proportion of foreign ownership, credit access, firm location, firm age, licenses, and permits. The rest of the variables were insignificant. This implied that SMEs performance was significantly driven by the proportion of foreign ownership, credit access, age and business environment variables (location and trade licenses & permits).

5.3 Conclusions

The study concluded that credit access, the proportion of foreign ownership, firm age, firm location and trade licenses and permits significantly impacted on SMEs performance in Kenya. While female ownership, sector and trade licenses & permits impacted negatively on SME performance, the impact was positive for the credit access, firm age, foreign ownership and the firm location variables.

To optimize SME performance in Kenya, there is a need for the government to ensure the provision of affordable and easily accessible credit to the SME firms as this will ultimately maximize their productivity. Similarly, the provision of a conducive business environment is fundamental as it attracts foreign investment through a foreign ownership stake in Kenyan SMEs.

From the study findings, we also conclude that female ownership, the proportion of female ownership*credit access and the sectoral dummy variable played an insignificant role in explaining SMEs performance in Kenya.

5.4 Policy Recommendations

The following are the policy implications that ought to be consideration by various stakeholders in order to realize the objective of optimizing SMEs performance in Kenya.

The government should step up its efforts in providing cheaper and easily accessible lines of credit to SME firms in Kenya. SMEs are highly sensitive to finance. Lack of adequate financing or expensive and exploitative credit facilities are likely to hamper SMEs profitability and survival.

There is a need for the government to design credit facilities that specifically meet women needs since a large proportion of women are mostly financially excluded due to lack of collateral. Cultural norms and beliefs that bar women from property ownership should be disregarded. Women should equally be allowed to own property just like their male counterparts. This would ease their access to credit, which will, in turn, transform to improved SMEs performance.

5.5 Areas for Further Research

The study was limited to analysis of the interaction effect of credit access and gender on the performance of SMEs in Kenya. While this is expected to provide deep insights, replicating this study internationally and comparing findings with those for Kenya would be more insightful. This study thus recommends panel analysis in future SME performance studies to fill this gap. Further, this study recommends the use of panel data in future research to assess the time effect on the

performance of SMEs. It would also be interesting to study the performance of Microenterprises; something that is not currently possible with the current data set as it excludes them. The enterprise data also does not include informal borrowing (the role of shylocks) yet it is a focal point of credit access in the Kenyan finance sector.

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APPENDIX 1 – Pre-estimation tests

TABLE A1 | Variance Inflation Factor

Variable	VIF	1/VIF
The proportion of female ownership	1.68	0.595079
Credit Access	1.34	0.743977
The proportion of Female ownership* Credit Access	2.06	0.485988
Sector	1.06	0.945366
Firm Age	1.06	0.941145
Firm Location	1.02	0.976901
Foreign ownership	1.02	0.984970
Licenses and permits	1.02	0.982496
Mean VIF	1.28	

Source: Stata computation

TABLE A2 | Normality test

Jarque-Bera normality test	
Calculated chi(2) : 1.269	Probability chi(2) : 0.5303
Ho: normality	

Source: Stata computation

TABLE A3 | Heteroscedasticity test

Variables: fitted values of lnSMEs performance	
Calculated chi2 (1): 0.38	Probability > chi2: 0.5377
Ho: Constant variance	

Source: Stata computation