ENTREPRENEUR FINANCIAL LITERACY, FINANCIAL ACCESS, TRANSACTION COSTS AND PERFORMANCE OF MICRO ENTERPRISES IN NAIROBI CITY COUNTY, KENYA

BY

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DECLARATION

I, Beatrice M. Sabana, hereby declare that this PhD thesis is my original work and has not been submitted to any other college, university and institution of learning or research for any academic award such as certificate, diploma or degree.

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DEDICATION

This doctoral thesis is dedicated to my mother, Dorcas Kabwende Yeswa, who believed in the power of education for her daughters and encouraged me to achieve the highest level of education. It is also dedicated to my sister, Gladys Elavoga who had to forego her own educational advancement to allow me to proceed with mine.

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ABBREVIATIONS AND ACRONYMS

AMP	Austrian Market Process
ANOVA	Analysis of Variance
EC	European Council
ERSW	Economic Recovery Strategy for Wealth
FSD	Financial Sector Deepening
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GoK	Government of Kenya
IFC	International Finance Corporation
ILO	International Labour Organization
KNBS	Kenya National Bureau of Statistics
MEs	Microenterprises
MSE	Micro and Small enterprises
MSMEs	Micro, Small and Medium Enterprises
NSE	Nairobi Stock Exchange
OECD	Organization of Economic Cooperation and Development
RBT	Resource Based Theory
RBV	Resource Based View
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
ROS	Return on Sales
SCA	Sustainable Competitive Advantage

SMES	Small and Medium Enterprises
SMMEs	Small, Micro and Medium enterprises
SSA	Sub-Saharan Africa
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for international Development
USAID	United States Agency for International Development
VIF	Variance inflation factors

ABSTRACT

Entrepreneur financial literacy has been identified as one of the major competencies required for the establishment and management of microenterprises. However, empirical studies on the relationship between financial literacy and microenterprise performance have produced contradictory and inconsistent results and conclusions, hence the need for further research in this area. This study sought to establish the relationship between entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises in Nairobi County, Kenya. The study was guided by five objectives namely; to establish the relationship between entrepreneur financial literacy and performance of microenterprises; to determine the relationship between entrepreneur financial literacy and financial access; to establish the influence of financial access on the relationship between financial literacy and performance of microenterprises; to assess the influence of transaction costs on the relationship between financial literacy and the performance of microenterprises and to determine the joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises. To achieve these objectives, five research hypotheses were formulated. A cross-section design was adopted for the study. The study population comprised of all microenterprises in Nairobi County, from which a representative sample of 396 microenterprises was drawn. The main study instrument was a questionnaire which comprised of likert-type scale questions on the main variables of the study. The data was analyzed using both descriptive and inferential statistics. Hypothesis testing was done by use of regression and correlation analysis. The findings of the study indicated that entrepreneur financial literacy had a statistically significant influence on enterprise performance therefore the hypothesis that financial literacy influences enterprise performance was supported. The study also established that financial literacy had a statistically significant influence on financial access therefore the hypothesis that financial literacy influences financial access was supported. The study also revealed that intervening influence of financial access on the relationship between entrepreneur financial literacy and performance microenterprises was statistically significant. Further, the results revealed that transaction costs had a statistically significant moderating influence on the relationship between entrepreneur financial literacy and performance of microenterprises. Finally, the study established that the joint influence of entrepreneur financial literacy, financial access, and transaction cost is statistically significant. This implies that the study variables jointly predict enterprise performance. The study recognizes that the variables used for this study are not exhaustive and therefore suggests that future research should include more triangulation utilizing other intervening and moderating variables as well as using alternative measures of all the study variables. Future research should also conduct longitudinal studies that would provide definite information about cause-and-effect relationships as well as the changes in study variables over time.

Key Words: Entrepreneur financial literacy, Financial Access, Transaction costs, Microenterprise performance

CHAPTER ONE: INTRODUCTION

This chapter presents the background of the study and a brief description of the key variables of the study namely entrepreneur financial literacy, financial access, transaction costs, microenterprise performance and a brief review of microenterprises in Kenya and Nairobi City County. The chapter also presents the research problem, research objectives and the value of the study.

1.1   Background of the Study

Over the last two decades, scholars and policy makers in both developed and developing countries have recognized that entrepreneur financial literacy is critical for the establishment and survival of small businesses (Wise, 2013). Entrepreneur financial literacy is also a key tenet of entrepreneurship as it enables entrepreneurs to undertake entrepreneurial decisions and activities all of which have financial consequences (Oseifuah, 2010).

Entrepreneurs operate in dynamic environments and as financial markets become more competitive and financial portfolios more complex, entrepreneurs become vulnerable to information asymmetries if the complexity in financial markets is not matched by a commensurate growth in entrepreneur financial literacy (Barte, 2012). At macroeconomic level, small businesses are the backbone of many economies and when the financial literacy skills among entrepreneurs are not sufficient to operate successful enterprises, the whole economy is at risk (Dahmen *et al*, 2014). The resource based theory of entrepreneurship (RBT) provides a framework for examining the relationship between entrepreneur financial literacy and the performance of microenterprises.

The essence of the resource-based theory is that given resource heterogeneity and resource immobility and non-substitutability, a firm's resources can be a source of sustained competitive advantage (Barney et al, 1991). Although the resource-based theory (RBT) is typically associated with strategic management studies, entrepreneurship scholars have argued that entrepreneurship is an intricate part of the resource-based framework because the abilities of the entrepreneur are the principal human resources possessed by a firm, hence the relevance of RBT to entrepreneurship research (Connor, 1991; Rumelt, 1987).

In addition, financial resources are key resources for the acquisition and configuration of other resources and entrepreneurs need to be financially literate in order to manage these resources (Brinckmann, *et al,* 2011). The contingency theory of management also provides a relevant framework for examining the relationship between entrepreneur financial literacy and microenterprise performance. Contingency theorists attempt to identify the important variables assumed to influence organization performance then they operationalize and measure these variables and determine their effects on performance (Szilagyi *et al,* 1980). In line with the theoretical advancements by the contingency theory, this study sought to demonstrate that performance of microenterprises is contingent on the interaction between financial literacy, financial access and transaction costs.

Microenterprises are key drivers of economic growth, providing employment, providing market linkages across various sectors, promoting innovation, reducing poverty and contributing to GDP in both developed and developing countries (Cole *et al*, 2010).

In Kenya, microenterprises created over 50% of all jobs and contributed over 40% of the country's GDP (KNBS, 2013). However, majority of entrepreneurs in Kenya suffer from weak levels of financial literacy, limited access to financial services and high transaction costs (Njoroge, 2013). This contributes to the low prevalence of new venture creation, low graduation rates and ultimately the high failure rate among microenterprises (Mengich, 2013). A study on how entrepreneur financial literacy, financial access and transaction costs influence the performance of microenterprises will assist in promoting the growth and competitiveness of the sector.

1.1.1   Entrepreneur Financial Literacy

The managerial perspective of entrepreneurship defines an entrepreneur as one who organizes, manages and actively controls the affairs of units/enterprises that combine factors of production for the supply of goods and services while literacy is defined as the ability to read and write a well as knowledge and competence in a specified area (OECD, 2000). Entrepreneur financial literacy is therefore defined as the combination of an entrepreneur's understanding of financial products and concepts and their ability and confidence to appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve the financial well-being of their enterprises (Miller et al, 2009; Atkinson et al, 2005).

A financially literate entrepreneur knows the most suitable financing and financial management options for his/her business at the various growth stages of his/her business; knows where to obtain the most suitable products and services and interacts with confidence with the suppliers of these products and services (USAID, 2009). Financially literate entrepreneurs manage resources more wisely, use financial information more astutely thereby improving the profitability of their enterprises (Berman *et al,* 2008). Financial literacy also enhances participation in financial markets which facilitates asset accumulation and consumption smoothing and provides access to wider sources of funding (Van Rooj *et al,* 2011). Financial literacy is linked to debt and investment literacy (Lusardi, 2008). Financial literacy also influences the overall access and utilization of a variety of financial services (Nunoo *et al*, 2010). Common measures of financial literacy include financial management, debt, savings, insurance and investment literacy.

1.1.2 Financial Access

Financial access is defined as the ability of individuals, households, entrepreneurs and firms to access and utilize a range of financial services if they choose to do so (Rojas-Suarez *et al,* 2010). Financial access is an important determinant of the performance of microenterprises as it provides them working capital, fosters greater firm innovation and dynamism, enhances entrepreneurship, promotes more efficient asset allocation and enhances the firm's ability to exploit growth opportunities (Beck, *et al,* 2006). Providing broad access to finance for deserving firms has significant impact on economic growth.

When enterprises have limited financial access economic and social opportunities are restricted, enterprise creation and growth are restrained, households and enterprises are more vulnerable to threats, and payments are more costly and less safe (Rojas-Suarez *et al*, 2010). Financial access enhances financial inclusion thereby contributing to financial sector deepening and overall economic growth. Financial inclusion aims at drawing the unbanked population) into the formal financial system to enable them access a wide range of financial services including savings, payments, money transfers and credit and insurance (Hannig *et al,* 2010).

Financial inclusion of small firms reduces liquidity constraints, encourages investment which in turn influences industrial structure, firm size, and competition in an economy (Beck, *et al,* 2006). Financial inclusion also leads to financial deepening, which drives investment, growth, poverty reduction and total factor productivity in the economy (Atkinson *et al,* 2012).   Common measures of financial access include account ownership, utilization of a variety of financial services and ability to obtain services from various financial service providers.

1.1.3   Transaction Costs

Transaction costs are defined as the costs of running an economic system and include the direct and indirect costs of negotiating, monitoring and enforcing explicit and implicit contracts between the firm and customers (Kamyabi *et al,* 2011). Transaction costs can be divided into pecuniary costs which relate to travel costs, opportunity costs, administrative hassle.

Non-pecuniary transaction costs include various requirements for accessing financial services such as minimum deposit requirements, withdrawal fees, opening fees, and other requirements (Karlan *et al*, 2013). In financial markets, transaction costs relating to deposit and lending services make up the largest part of the costs of intermediation and it is the efficiency with which financial institutions can reduce these market frictions that determine the depth, breadth and efficiency of the financial system (Beck, 2006).

Financial markets in developing countries are highly imperfect characterized by high transaction costs, information asymmetries, moral hazard, and adverse selection (Hieltjes *et al,* 2013). Costs associated with transactions in financial markets lead to market imperfections or the absence of trade and for small firms, transaction costs may exceed the benefits of the financial services (Masuko *et al*, 2003). Transaction costs constrain both the supply and demand of financial services among microenterprises.

On the demand side, high transaction costs discourage entrepreneurs from seeking financial services, even where then they are available (Swamy *et al,* 2011). High borrower transaction costs significantly increase the total cost of borrowing which affects the profitability of microenterprises (Ladman, 1988). On the supply side, high transaction costs, information asymmetries and the risk of moral hazard and adverse selection reduces incentive to lend to micro enterprises (Binks *et al*, 1992). Commercial banks consider the cost of lending to the MSME sector to be considerably higher than lending to other sectors because of the size of the transactions and the amount of time required to appraise and monitor loan compliance (USAID, 2005).

To secure such risky loans, lenders demand collateral such as land or property, charge them exorbitantly high interest rates or grant them short term loans that may not meet their needs (Cowling *et al*, 1996).)

1.1.4   Firm Performance

All firms, including microenterprises, are established to achieve certain goals. Firm performance is therefore defined as a firm's ability to achieve planned results as measured against its intended outputs and encompasses outcomes related to financial performance, market performance and shareholder return (Richard *et al*, 2009). Firm performance is a common construct in strategic management research and is frequently used as a dependent variable. Despite this, research into firm performance suffers from problems such as lack of consensus, selection of indicators based on convenience and little consideration of its dimensionality (Combs *et al*, 2005; Richard et al, 2009).

Various theoretical perspectives have informed the debate on firm performance. Classical economic theory on firm performance originated from the work of Penrose (1959) in which she theorized that firm performance was largely influenced by the resources and competencies within the firm. Her work gave rise to resource based theories of firm growth (Rumelt, 1984; Barney, 1991, 1996; Dierickx *et al,* 1989). Resource-based theories argue that a firm's resources and capabilities are the fundamental determinants of competitive advantage and performance (Peteraf *et al*, 2003). Industrial economists argue that performance differences among firms can be explained as arising from factors which are both firm-specific and industry specific (Capon *et al*, 1990).

Management theories of firm performance, pioneered by the work of Porter (1979) argued that firm performance is determined by competitive strategy which is derived from the industry in which the firm operates as well as the firm's position in the industry. Measuring firm performance has attracted considerable debate but to date, there is no consensus on measures of performance. However, common measures of firm performance include both financial and non-financial indicators.

Financial indicators include profitability indicators such as return on asset (ROA), return on investment (ROI), return on equity (ROE), return on sales (ROS), market share, and operational efficiency (Gentry *et al,* 2010). Non-financial measures include job satisfaction, organizational commitment, employee turnover and entrepreneur satisfaction (Mayer *et al,* 1992). Measuring the performance of microenterprises is challenging because small firms often consider financial performance measures to be confidential, and guard them from public scrutiny (Sapienza *et al*., 1988; Gruber *et al*., 2010).

Collecting performance information from privately held micro, small and medium enterprises (MSMEs) is often difficult due to a lack of historical information and accessibility and even when it is obtained it is often imperfect (Brush *et al*, 1992, Chandler *et al,* 1993; Wang *et al*, 2004). Financial data from MSMSEs is often difficult to interpret because MSMEs often have small capital bases, erratic growth rate and uneven record-keeping (Sapienza *et al*, 1997).

Information from MSMSEs may also be contaminated by source bias because due to legal reasons small firms tend to manipulate some data, and control such manipulation through subjectively adjusting measures (Sapienza *et al*., 1988). Finally, most MSMEs focus on day-to-day operations and they do not have the time or resources to execute comprehensive performance management systems (Stephens, 2000).

Due to these challenges, researchers often evaluate business performance of small firms using general subjective measures that can reflect more-specific objective measures (Covin, *et al* 1989; Wall *et al.,* 2004). The use of such measures to evaluate performance is acceptable, as it shows high positive correlations with objective measures (Song *et al*., 2005). This study used subjective measures of both financial indicators and non-financial indicators of performance to measure performance of microenterprises.

1.1.5   The Microenterprise Sector in Kenya

The Government of Kenya, through the Microenterprise ACT (GoK, 2012), defines a microenterprise as a firm, trade, service, industry or a business activity which employs less than ten people and whose annual turnover does not exceed five hundred thousand shillings (GoK, 2012). The sector plays an important role in the Kenyan economy contributing about 82% of total employment and over 40% of the country's GDP (KNBS, 2013). In addition to generating employment, microenterprises increase the aggregate output, enabling the efficient use of capital and labor, initiating indigenous enterprise and management skills, bringing a regional balance, and improving the distribution of income (World Bank, 1978).

The sector grew from 900,000 enterprises, employing 1.3 million workers in 1993 to 1.3 million enterprises employing 2.3 million workers in 1999 (USAID, 1999). The sector sustained the upward growth trajectory and by 2013, it accounted for the largest share of total employment in the country (KNBS, 2014). In recognition of the role of microenterprises in the economy as well as the constraints they face, Government policy efforts have been directed towards reducing the constraints by creating an enabling environment for microenterprises. This culminated into the enactment of the Micro and Small Enterprises (MSE) ACT (GOK, 2012).

The overall goal of the MSE ACT is to provide a legal and institutional framework for the promotion, development and regulation of micro and small enterprises by providing an enabling business environment. Despite such support, microenterprises still experience challenges that constrain their performance. Empirical studies have identified both internal and external factors which constrain the performance of microenterprises (Bowen *et al,* 2009). Given the dynamic nature of the business environment, new challenges continue to emerge thus the need for continuous research that identifies and examines emerging factors that influence the performance of microenterprises.

Nairobi City County has the largest concentration of microenterprises in Kenya, providing about 25% of total employment in the sector (KNBS, 2013). Despite its important role, the microenterprise/informal sector is treated as a marginal economic activity and it is neither adequately regulated nor supported by the city authorities who consider informal traders as threats to city development (UN Habitat, 2006).

In addition to external challenges, microenterprises in Nairobi City County are constrained by weak financial literacy, financial access and high transaction costs (Mengich, 2013). This study seeks to provide empirical evidence on the relationship between entrepreneur financial literacy, financial access and transaction costs on performance of microenterprises in Nairobi City County.

1.2   Research Problem

Entrepreneur financial literacy is an important determinant of the performance of microenterprises. The nature of the relationship between entrepreneur financial literacy and microenterprise performance has been a subject of research and debate among scholars. Some scholars have argued that there is a direct linear relationship between entrepreneur financial literacy and performance of microenterprises (Capuano, 2011).

Other scholars advancing the contingency theory of entrepreneurship argue that the relationship between two variables depends on the level of a third variable and introducing moderators into bivariate relationships helps reduce the potential for misleading inferences and permits a more precise and specific understanding of contingency relationships (Rosenberg, 1968).

In line with this argument, financial access and transaction costs have been identified as intervening and moderating factors in the relationship between entrepreneur financial literacy and performance of microenterprises (Nunoo *et al,* 2012; Hieltjes *et al,* 2013). However, empirical studies on the nature of the relationship between entrepreneur financial literacy, financial access; transaction costs and performance of microenterprises have produced contradictory and inconclusive evidence.

Such contradictory and inconclusive evidence by different scholars have conflicting implications for practice, policy and theory development, hence the need for further research. Microenterprises play an important role in the economic development of Kenya. In recognition of this role, the Government enacted the Micro and Small Enterprise (MSE) ACT (GoK, 2012) aimed at providing an enabling policy and legal environment for MSEs. The Government has also tried to ease the financing constraints of the sector through the establishment of the Women enterprise fund, the Youth Enterprise Fund and the Uwezo Fund.

Despite these interventions, the sector is still characterized by low graduation and high failure rates which impede their potential to contribute to economic development (Bowen, 2009). Studies have attributed the poor performance of microenterprises to various internal and external factors. Recent empirical studies have identified entrepreneur financial literacy as one of the major factors which influence the performance of microenterprises (Njoroge, 2013).

Siekei *et al* (2013) studied the effect of financial literacy education on performance of small firms in Njoro, Kenya and established that training in financial analysis, budgeting and credit management improved the performance of microenterprises. Njoroge (2013) studied the relationship between financial literacy and entrepreneur success among SMEs in Nairobi City County, Kenya and established that financial literacy influenced the performance of SMEs.

Mengich *et al* (2012) studied the challenges to the uptake of equity financing by SMEs in Kenya and established that information asymmetries, lack of financial literacy and transaction costs constrained the uptake of equity financing by SMEs in Kenya. Wachira *et al* (2012) examined the impact of financial literacy on access to financial services by SMEs in Kenya and established that financial literacy was low and this impeded access to financial services. Barte (2011) studied the effect of financial literacy on microenterprises in the fishing subsector in the Philippines and established that the fish vendors had low levels of financial literacy which negatively affected their enterprises.

Nunoo *et al* (2012) established that financial literacy improved the utilization of financial services by SMEs in Ghana. Bruhn *et al* (2011) studied the impact of business and financial literacy training for young entrepreneurs in Bosnia and Herzegovina, and concluded that improvements in basic financial knowledge had a significant impact on the growth of surviving firms but it did not have significant impact on the new firm entry and firm survival.

However, Eresia-Eke *et al* (2013) studied the relationship between the financial literacy of entrepreneurs and business growth in South Africa and established that there was no correlation between financial literacy and the growth of Small, Micro and Medium Enterprises (SMMEs). The relationship between entrepreneur financial literacy, financial access and transaction and the performance of microenterprises has been examined in several empirical studies. However, a review of extant literature revealed conceptual, methodological and contextual gaps which this study sought to address.

At conceptual level, none of the reviewed studies anchored their research on the RBT theory as proposed in this study. In addition, the studies used different conceptualizations of the relationships among the variables. Most of the studies conceptualized linear relationships between entrepreneur financial literacy, financial access, transaction costs and microenterprise performance, with each of the variables being direct predictors of microenterprise performance. Finally, there has been very little focus on entrepreneur financial literacy as an independent research construct as most studies examine it under the broad category of entrepreneurial skills.

As a result of the narrow conceptualizations of the relationships among the variables, none of the studies used an integrative model to examine how interactions among the variables influence performance of microenterprises. Specifically, none of the studies identified and examined the intervening influence of financial access and the moderating influence of transaction costs on the relationship between entrepreneur financial literacy and performance of microenterprises.

Finally, none of the studies examined the joint effects of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises. Therefore the selection of the study variables, the configuration of the relationships among the variables and the formulation of an integrative conceptual model, depicting the nature of these relationships, is unique to this study. At methodological level, the reviewed studies used different measures to operationalize the research variables. The studies also used different research designs as well as different data analysis techniques.

As regards data analysis, none of the studies used path analysis to examine the moderating and intervening effects of financial access and transaction costs on the relationship between financial literacy and microenterprise performance. At contextual level, there has been very little exclusive focus on microenterprises in Nairobi County. Most studies tend to lump small firms under MSMEs or SMEs, thus ignoring the heterogeneity among the sub-sectors.

The current study sought to address these gaps firstly by conceptualizing a multi-dimensional relationship between financial literacy, financial access, transaction costs and performance of microenterprises. The study also conceptualized all the variables as multi-dimensional constructs. The study hypothesized that financial literacy influences the performance of microenterprises. It was further hypothesized that financial access moderates the relationship between financial literacy and microenterprise performance while transaction costs mediate this relationship. Finally it was hypothesized that the joint effect of the variables on the performance of microenterprises is greater than the individual effects of the variables.

To address the methodological gaps, the study used a cross sectional survey design while a combination of descriptive and inferential statistics were used to analyze the relationships. Unlike extant studies, path analysis was used to test the moderating effect of transaction costs on the relationship between financial literacy and microenterprise performance. Finally the study contextualized the findings to the microenterprise sector in Kenya and microenterprises in Nairobi City County.

The main research question that guided this study was: What is the relationship between financial literacy, financial access and transaction costs on the performance of microenterprises in Nairobi County, Kenya?

1.3   Research Objectives

The main objective of the study was to determine the relationship between financial literacy, financial access and transaction costs and the performance of microenterprises in Nairobi County, Kenya. The specific objectives were to:

i.   Establish the relationship between entrepreneur financial literacy and performance of microenterprises.

ii.   Determine the relationship between entrepreneur financial literacy and financial access.

iii.   Establish the influence of financial access on the relationship between financial literacy and performance of microenterprises.

iv.   Assess the influence of transaction costs on the relationship between entrepreneur financial literacy and the performance of microenterprises.

v.   Determine the joint effect of financial literacy, financial access and transaction costs on the performance of microenterprises.

1.4   Value of the Study

The study will make significant contribution to theory, policies and management practices of microenterprises. At theory level, the study advances the use of resource-based and contingency theories in entrepreneurship and microenterprise research by providing empirical evidence on how interactions between financial literacy, financial access and transaction costs influence the performance of microenterprises.

The study will also contribute to the theoretical arguments in entrepreneurship theory, specifically the competency and knowledge based theories of entrepreneurship by providing empirical evidence on how financial literacy, as both a competency and knowledge-base of the entrepreneur, influences the performance of microenterprises. The study will also contribute to the emerging field of African entrepreneurship by providing insights on how entrepreneur financial literacy, financial access and transaction costs influence the performance of microenterprises in an African setting.

The study will also provide a useful reference resource for researchers and academicians in the field of entrepreneurship and microenterprise development. Finally, the study identified areas for future research which can guide researchers in selecting research topics and research designs. At policy level, Government of Kenya, through Vision 2030 and the Micro and Small Enterprise Act, recognizes that microenterprises are key drivers of economic growth.   This study will contribute to policy formulation and implementation by providing empirical evidence on the combined roles financial literacy, financial access and transaction costs in improving the performance of microenterprises.

The study developed an empirical model showing the magnitude of influence by the independent, intervening and moderating variables. The model can be used in the formulation and implementation of integrated microenterprise development policies. At microenterprise level, the findings of this study will benefit existing and potential entrepreneurs as the results will provide knowledge of the role of entrepreneur financial literacy in driving the performance of microenterprises.

With this knowledge, entrepreneurs can invest in enhancing their financial literacy skills in areas of debt management, savings, credit rating, insurance and investment literacy. This will enable them to deal with the complexities of the financial market especially the information asymmetries that increase transaction costs, and limit access to financial services. The study will also contribute insights that will be useful for developing training curriculum for microenterprise entrepreneurs.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter contains a broad review of literature related to the issues and variables under study. Literature review is defined as the use of ideas in the literature to justify the particular approach to the topic, the selection of methods, and demonstration that the research contributes something new to the overall body of knowledge or advances the research field's knowledge-base (Hart, 1998).

The review also facilitates theory development, closes areas where research exists and uncovers areas where research is needed (Webster *et al*, 2002). Accordingly, this chapter presents a review of theoretical perspectives and empirical literature from entrepreneurship theory, the resource-based theory of the firm, on which the study is anchored, contingency theory, transaction cost theory and financial literacy theory. Finally the chapter presents knowledge gaps that the study sought to address as well as the conceptual framework and hypotheses that were developed and tested by the study.

2.2   Theoretical Foundation of the Study

The theoretical anchoring for this study is the Resource-based theory of entrepreneurship (RBT). The choice of RBT as the anchor theory for the study was informed by theoretical arguments that for microenterprises, the entrepreneur is the resource carrier whose personal resources, which exist as idiosyncratic and personalized collections of assets, impact upon the firms' competitive advantage and performance (Bamford *et al*, 1999, Chrisman *et al*, 1998, Greene *et al*, 1998).

Other entrepreneurship theories supporting this study include economic theories of entrepreneurship, psychological theories of entrepreneurship, contingency theory of entrepreneurship and transaction cost theory of entrepreneurship. Theoretical perspectives were also drawn from the financial literacy theory.

2.2.1 Overview of Entrepreneurship Theory

Entrepreneurship theory is a heterogeneous body of knowledge comprising of perspectives from diverse disciplines including economics, accounting psychology, sociology, law, strategic management and organizational behavior (Rosa, 2013). While scholars from the different disciplines have adopted different theoretical assumptions, most of these concern three central features of entrepreneurial phenomena namely the nature of entrepreneurial opportunities, the nature of entrepreneurs as individuals, and the nature of the decision making context within which entrepreneurs operate (Alvarez, 2010).

Economic theories of entrepreneurship are rooted in the classical and neoclassical theories of Economics and the Austrian market process (AMP). These theories, first advanced by Cantillon (1755, 1931) recognize the critical role of the entrepreneur as an explanatory force of several economic phenomena. The AMP, a model advanced by Schumpeter (1934) concentrated on human action in the context of an economy of knowledge. Schumpeter (1934) described entrepreneurship as a driver of market-based systems and was based on three main conceptualizations namely arbitraging market in which opportunities emerge for given market actors, alertness to profit-making opportunities in which entrepreneurs discover and entrepreneurial advantage and distinction between ownership and entrepreneurship (Kirzner, 1973).

Psychological theories emphasize personal characteristics that define entrepreneurship. The most prominent among the psychological theories are trait theory of entrepreneurship, internal locus of control theory and need for achievement theory. Trait theories of entrepreneurship advanced the notion that certain identifiable psychological traits could predict the entrepreneurship potential of individuals (Pittaway *et al*, 2011). The locus of control theory advanced by Rotter, (1966) relates to how strongly individuals perceive their own efforts as being instrumental in reaching their goals.

The theory proposed that those who assume that the consequences of their actions are dependent upon their own behaviour are said to have an internal locus of control while those who attribute the consequences of their actions to other causes are said to exhibit an external locus of control. The need for achievement theory advanced by Mclelland (1961) posited that the need to achieve success and the degree of perceived autonomy in aspects such as problem solving, goal setting, and goal attainment drive entrepreneurship growth. The sociological theory of entrepreneurship holds that social cultures are the driving force of entrepreneurship.

Thus the entrepreneur becomes a role performer in conformity with the role expectations of the society, and such role expectations based on religious beliefs, taboos, and customs exert a substantial influence in creating entrepreneurs as well as entrepreneurship (Katz *et al,* 1991). Management theories have attempted to bridge the gap between management and entrepreneurship and perceive entrepreneurs as managers of small businesses often performing all management functions (Foss *et al*, 2004).

Stevenson (1983) categorized the management functions of entrepreneurs along six namely Strategic Orientation, Commitment to Opportunity, Commitment of Resources, Control of Resources, Management Structure and Reward Management.

2.2.2 Resource-based theory of entrepreneurship

The essence of the resource-based theory is that given resource heterogeneity and resource immobility and satisfaction of the requirement of value, rareness, imperfect imitability, and non-substitutability, a firm's resources can be a source of sustained competitive advantage (Barney *et al*, 1991). Three basic types of resources may provide competitive advantage namely physical resources, organizational capital resources and human resources (Barney *et al*, 1991).

RBT posits that resources are embedded in organisations and the standard carriers of resources are established firms and corporations. However, in the entrepreneurial context, the entrepreneur is the resource carrier whose personal resources, which exist as idiosyncratic and personalized collections of assets, impact upon the firms' competitive advantage and performance (Bamford *et al*, 1999, Chrisman *et al*, 1998, Greene *et al*, 1998). The human-based entrepreneurial resources neutralize the liability of newness of entrepreneurial firms and enables entrepreneurs to marshal tangible resources and formulate and implement the right strategy in the right industry determining venture survival and growth (Stinchcombe, 1965).

Thus entrepreneurship is an intricate part of the resource-based framework because discerning appropriate inputs is ultimately a matter of entrepreneurial vision and intuition, (Connor, 1991; Rumelt, 1987). Empirical studies have examined determinants of microenterprise performance using RBT. Masakure *et al*, (1994) used the RBV theory to assess whether firm-specific resources influence microenterprise performance, as suggested by the resource-based theory and established that factors embodied in firm-specific resources jointly impact enterprise performance.

Okeyo (2013) used RBT to examine the relationship between entrepreneurial orientation, business environment, business development services and performance of small and medium manufacturing enterprises in Kenya. Thapa (2014) used the RBT to examine the influence of managerial foresight on microenterprise performance in Nepal and established that managerial foresight had a crucial role on enhancing microenterprise performance and that managerial foresight mediated the effects of several entrepreneur-enterprise and environment-related factors on microenterprise performance.

Kinuthia (2011) used RBT to investigate the marketing strategies and factors influencing their implementation by garment-making micro-enterprises in Nakuru town and concluded that both internal and external resource factors influenced the implementation of marketing strategies in microenterprises. Mira *et al* (2013) used the RBT theory to examine the challenges facing accessibility of credit facilities among women owned enterprises in Nairobi Central Business District in Kenya.

2.2.3   Contingency Theory of entrepreneurship

The contingency theory attempts to relate organizational performance to many management variables and emphasizes the importance of situational influences on the management of organizations. The business environment is the source of constraints, contingencies, problems, and opportunities that effect the terms on which an organization transacts business (Khandwalla, 1977). Contingency theory holds that the relationship between two variables depends on the interaction with a third variable and therefore performance can be improved when key variables are correctly aligned (Naman *et al*, 1993). Entrepreneurship scholars have emphasized the importance of viewing the entrepreneur-behavior-performance relationship in a contingency framework (Covin *et al*, 1991; Lumpkin *et al*, 2001).

Therefore the performance of an enterprise should not be measured in terms of one organizational attribute but through the interplay of attributes within a given environment (Khandwalla.1972). This study proposes to use contingency theory to demonstrate that the performance of microenterprises is contingent on the interactions between entrepreneur financial literacy, financial access and transaction costs.

2.2.4   Entrepreneurial Competency Theory

Entrepreneurial competency theory is an extension of the resource based theory of the firm and has been used to examine determinants of microenterprise performance. Competencies have been identified as a specific group of competencies relevant to the exercise of successful entrepreneurship and the development of small and new businesses (Mitchelmore *et al*, 2010).

Mitchelmore *et al* (2010) reviewed previous studies on competencies and identified a cluster of competencies associated with firm performance namely business and management competencies, human relations competencies, conceptual and relationship competencies. Entrepreneurship scholars suggest that entrepreneurial competencies are vital to business growth and that different competencies are needed at different stages of the venture development.

Man *et al* (2002) suggested that entrepreneurial competencies are more important during the start-up phase, while managerial competencies are more significant at the growth stage. Enterprises with managers who have high levels of entrepreneurial competencies tend to scan and manage the environment in which they operate in order to find new opportunities and consolidate their competitive positions (Covin *et al*, 1999). Zeelie *et al* (2004) identified three clusters of competencies related to entrepreneurial skills namely proactiveness, achievement orientation and commitment to others.

Achievement orientation includes identifying and acting on opportunities, efficiency orientation, concern for high quality of work and systematic planning. Commitment to others was related to commitment to work contract and recognition of the importance of business relationships. Chandler *et al*, (1994) identified three clusters of competencies associated with successful entrepreneurs namely entrepreneurial, managerial and technical competencies.

Entrepreneurial competence refers to the ability to recognize business opportunities while technical competence demands the founder to be skilled in the use of the tools or procedures required in their specialized field (Chandler *et al*, 1992). Spencer *et al* (1993) developed a generic competency model for entrepreneurs comprising of eight competencies namely opportunity competency, self-confidence, persistence, information gathering, systematic planning, concern for high quality of work, commitment to work contract and use of influence strategies.

Empirical studies have established that an entrepreneur's skills/competencies contribute to venture performance and growth. In a study on the performance of SMEs in Kenya, Ngugi *et al* (2012) established that the entrepreneurs' technical competencies had a higher influence on the growth of small and medium enterprises than other variables. Agbim (2013) studied SMEs in Nigeria and established that managerial competencies had a significant contribution to entrepreneur success.

Ahmad *et al* (2010) studied the role of competencies on business success in SMEs in Malaysia and established five clusters of competencies that contributed to business success namely strategic, conceptual, leadership, relationship and technical competencies. In a study on SMEs in Hong Kong, Man *et al* (2008) established that there was strong correlation between entrepreneurial competencies and performance of the SMEs.

The knowledge based theory, which is also derived from the resource based theory of the firm, considers knowledge as the most strategically significant resource of a firm which is a major determinant of sustained competitive advantage and superior firm performance (Randall, 2013). A firm's capability to create and utilize knowledge is the one of the key sources of a firm's sustainable competitive advantage (SCA) (Zheng, *et al*., 2010).

2.2.5 Transaction cost theory

Transaction cost theory explains that organizations incur costs as they acquire, configure and utilize resources. Transaction costs reflect the costs of economic or organization both outside the firm and inside the firm and are one means by which one can measure the efficiency of different institutional designs in achieving economic outcomes in particular environments (Polski *et al*, 2001). Transaction costs thus represent the difference between what a consumer pays and what a seller gets for the products (Ciborra, 1993).

In financial markets, transaction costs relate to the cost of accessing financial services. Requirements for accessing financial services impose reflect high transaction costs and microenterprises often face higher transaction costs of borrowing than large firms which affects their performance (Beck *et al*, 2009). Scholars argue that there are interdependencies between resources and transaction characteristics where resources are considered as antecedents of transaction costs (Zott *et al*, 2005). Further, firm-specific resources are characterized by high asset specificity and hence are associated with high transaction costs (Langlois *et al*, 2009; Silverman, 2009).

It has also been hypothesized that resources that are difficult to isolate and emulate increase the costs of opportunities when they are exchanged in a transaction because of the high ambiguity involved in the exchange (Zott *et al*, 2005). In this study, transaction cost theory will be used to examine the influence of transaction costs on the relationship between entrepreneur financial literacy and performance of microenterprises.

2.2.6 Financial literacy theory

Financial literacy theory is an emerging theory that draws theoretical perspectives from other theories including economics, psychology, sociology and management to explain the financial behavior of individuals. Financial literacy as a construct was first championed by the Jumpstart coalition for personal financial literacy in its inaugural study of financial literacy among high school students (Hastings *et al,* 2013). As operationalized in academic literature, financial literacy is a multi-dimensional construct comprising of knowledge of financial products, knowledge of financial concepts, having the mathematical skills or numeracy necessary for effective financial decision making and financial behavior such as financial planning (Wise, 2013).

Early literature on financial literacy began by documenting important links between financial literacy and several economic behaviors such as money management, debt and saving behaviors, retirement planning, asset ownership and participation in financial markets (Xiao, 2008a, van Rooj *et al*, 2011). Economic psychologists posited that factors associated with retirement saving and asset ownership behaviors are both economic and psychological (DeVaney *et al,* 2001; DeVaney, *et al*., 2007). Several behavior theories have also been used in the study of financial literacy and financial behaviours.

Hilgert *et al*, (2003) formed a financial practices index based upon self-benefiting behavior in cash-flow management, credit management, saving and investment practices and established that there was a positive correlation between financial literacy scores and Financial Practices Index scores thus confirming that financial knowledge is related to financial practices. The theory of planned behavior, often used to understand and predict human behavior, has been applied to online shopping behavior, investment behavior and debt reducing behaviors (Xiao, 2008b).

The trans-theoretical model of change (TTM), which is used to understand how consumers eliminate undesirable behaviors and develop positive behaviors, has been applied to saving and debt reducing behaviors (Xiao, *et al*., 2004). The self-determination theory which posits that goals contribute to human well-being based on the extent of their contributions to the core human psychological needs of competence and autonomy has also been applied to study money motivation and attitudes (Stone *et al*., 2008).

Extant literature has established a correlation between financial literacy and several different financial behaviors and outcomes such as paying bills on time, tracking expenses, budgeting, paying credit card bills in full each month, saving out of each paycheck, maintaining an emergency fund and diversifying investments (Hilgert *et al*. 2003). Subsequent research has found that financial literacy is positively correlated with planning for retirement, savings and wealth accumulation, market participation and better financial diversification (van Rooij, *et al*. 2011, Lusardi *et al*, 2006; 2007).

In this study, financial literacy theory will be used to examine the influence of entrepreneur financial literacy on various outcomes including the performance of microenterprises and financial access.

2.3   Entrepreneur Financial Literacy and Microenterprise Performance

Entrepreneur financial literacy impacts small business by enabling entrepreneurs to distinguish between personal and business finances as well as enabling them to be competent buyers of financial products and services (ACCA, 2014). Financial literacy also enables firms to avoid business failures caused by poor financial management, particularly credit management and cash flow management (Berryman, 1983). Despite the important role of financial literacy, studies indicate that while modern technology, investments, and liberalization have made new financial products and services widely available, a majority of entrepreneurs are not equipped to make informed financial choices or to evaluate complex financial products (Lusardi *et al*, 2007).

Lack of financial literacy is one of the common deficiencies among small business owners which contribute to the high failure rates among small businesses (Klein et al, 2010, GEM, 2010). Studies have provided evidence on the impact of financial literacy on microenterprise performance. Kempson *et al* (2013) established that even after controlling for other relevant variables, self-employed individuals in many developing countries performed worse than the general population on standardised assessments of their ability to monitor expenses, to budget, and to live within their means.

Njoroge (2013) studied the relationship between financial literacy and entrepreneur success among SMEs in Nairobi City County, Kenya and established that entrepreneurs had some level of financial literacy and that in some cases those in formal SMEs were highly financially literate. Wise (2011) studied the impact of financial literacy on new venture survival in Canada and established that increases in financial literacy led to more frequent production of financial statements which contributed to more effective management of the enterprises. In a study on the effect of entrepreneur skills on the performance of SMEs in Zimbabwe, Zindiye (2008) established that financial skills, particularly book keeping skills, financial statements preparation, debit and credit control, budgeting skills and tax calculation influenced the performance of the enterprises.

Siekei *et al* (2013) studied the effect of financial literacy education on performance of small firms in Njoro, Kenya and established that training in financial analysis, budgeting and credit management improved the performance of microenterprises. Barte (2012) studied the effect of financial literacy on the performance of microenterprises in the fishing subsector in the Philippines and established that the fish vendors had low financial skills which affected the incomes and growth of the microenterprises.

2.4 Entrepreneur Financial Literacy, Financial Access and Performance of Microenterprises

Financial literacy influences financial access which in turn influences the performance of microenterprises. Access to finance is a key determinant for business start-up, development and growth of microenterprises (Khandker, 2013 USAID 1998; Parker *et al* 1994, World Bank, 2008).

Finance not only facilitates market entry, growth of companies and risk reduction, it also promotes innovation and entrepreneurial activity and investment in high-return investment projects (World Bank, 2008). However, in many developing countries, majority of informal businesses have limited access to financial services and while many factors contribute to this, lack of financial literacy has been identified as one of the factors that limits financial access (OECD, 2012). Studies have established that financial literacy influences access to financial services and performance of microenterprises.

In a study on the effect of finance on the performance of microenterprises in Sri Lanka, del Mel (2008) established that financial literacy improved the usage of financial products by the enterprises, which in turn improved their performance. Nunoo *et al* (2012) studied utilization of financial services by SMEs in Ghana and confirmed that financially literate entrepreneurs were more likely to access and utilize financial services which in turn improved the performance of their enterprises. Wachira *et al* (2012) also established that financial literacy influences financial access and that this had a negative influence on the performance of small enterprises in Kenya.

2.5 Entrepreneur Financial Literacy, Transaction Costs and Performance of Microenterprises

Studies have examined the relationship between transaction costs, financial literacy and performance of microenterprises. Entrepreneurs with low levels of financial literacy incur higher transaction costs due to information asymmetries in the financial markets characterized by opaque and complicated fees structures (Lusardi *et al,* 2008). The high transaction costs then reduce profitability of enterprises.

In the stock market, many investors, even those who are well educated, fail to choose fee minimizing portfolios even in a context in which fees are the only significant distinguishing characteristic of the investments and the dispersion in fees is large (Choi *et al,* 2009). Other financial mistakes due to financial illiteracy which incur high transaction costs include purchasing whole life insurance rather than a cheaper combination of term life insurance in conjunction with a savings account (Anagol *et al,* 2012).

Hieltjes *et al* (2013) examined the influence of financial literacy, information and transactions costs as factors driving demand for and use of savings accounts among low income individuals and established that compared to financial literacy, transaction costs influenced the uptake and utilization of bank accounts. Beck *et al* (2008) established that financial market imperfections such as informational asymmetries due to lack of financial literacy, transactions costs and contract enforcement costs are particularly binding on poor or small entrepreneurs who lack collateral, credit histories, and connections.

Sharma *et al* (2011) studied the financing constraints for microenterprises in Fiji, and established that most microenterprises were constrained by high fees, high collateral requirements and high disclosure requirements. Swamy *et al* (2011) also established that in India, transaction costs were equivalent to 9% of the loan amount. Hosseini *et al* (2012) studied the costs of obtaining credit in rural Iran and established that the transaction costs of receiving a loan was equivalent to 9% of the total loan size. The study also revealed that the contractual forms, loan size, long distances and borrower peculiarities were important determinants of transactions costs.

In a study on the determinants of transactions costs and access to credit by SMEs in Zimbabwe Masuko et al (2003) established that most SMEs could not access bank loans because they could not meet the conditional requirements from banks such as collateral, initial deposit balance, statement of accounts and preparation of business proposals. These constraints are indicative of low levels of financial literacy and transaction costs.

2.6 Entrepreneur Financial Literacy, Financial Access, Transaction Costs and Performance of Microenterprises

The relationship between financial literacy, financial access and transaction costs has been captured in the concept of financial inclusion. Financial inclusion is defined as the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches (Atkinson *et al,* 2012). This definition combines the concepts of financial literacy, financial access and transaction costs.

Financial literacy is an enabling factor that unlocks other key dimensions of financial inclusion which enables entrepreneurs to access small amounts of capital to invest in business ideas, to buy stock or to continue to build their business (Gardeva *et al.,* 2011). Studies have established that there is a relationship between financial literacy and financial inclusion. An international survey of 301 financial service providers and investors confirmed that low levels of financial literacy are major barriers to financial inclusion because they lead to high transaction costs and restrict access to financial services (Gardeva *et al,* 2011).

2.7   Summary of previous studies

The literature review covered extant literature and empirical studies that have examined relationships between entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises. These studies have produced mixed results. Some studies established that there was a relationship among the variables while other studies failed to establish any relationship among them. Studies on the relationship between entrepreneur financial literacy and performance of microenterprises have established that entrepreneur financial literacy has a significant influence on microenterprise performance.

Studies established that Entrepreneur financial literacy enables firms to avoid business failures caused by poor financial management, particularly credit management and cash flow management (Berryman, 1983). Studies on the relationship between entrepreneur financial literacy and financial access established that entrepreneur financial literacy has a significant influence on financial access. Studies have also established that financial access has an intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises.

Entrepreneur financial literacy improves utilization of financial services as more literate entrepreneurs are more likely to access and utilize financial services which in turn improves the performance of their enterprises (Nunoo *et al*, 2012). Studies have also established that transaction costs moderate the relationship between entrepreneur financial literacy and performance of microenterprises.

Entrepreneurs with lower levels incur higher transaction costs due to information asymmetries in the financial markets characterized by opaque and complicated fees structures (Lusardi *et al,* 2008). The high transaction costs then reduce profitability of enterprises. Studies have also established that that entrepreneur financial literacy, financial access and transaction costs influence on the performance of microenterprises.

The joint influence of these variables on microenterprise finance is captured in the context of financial inclusion. Higher levels of financial inclusion influenced by entrepreneur financial literacy, higher levels of financial access and lower transaction costs.

Table 2. 1 Summary of empirical studies and knowledge gaps

Study	Focus	Methodology	Findings	Research gaps	Focus of current study
Nyaboga *et al* (2014)	An assessment of the role of financial literacy on loan repayment by small and microenterprises in Ngara, Nairobi County	The study used a descriptive survey research design. Data analysis was done using both descriptive and simple regression analysis	The study established that that the performance of SMEs was affected by skills related to book keeping, credit management, and budgeting	The study assumed a direct linear relationship between entrepreneur financial literacy and loan repayment. The study did not consider the effect of any intervening or moderating variables. Further, the study did not examine the effect on the performance of the enterprises. The study focused on only one area in Nairobi County.	Current study uses an integrative model to examine the influence of independent, intervening and moderating variables on the performance of microenterprises in Nairobi County.
Siekei *et al* (2013)	An assessment of the role of financial literacy on the performance of small and microenterprises: A case study of Equity Group Foundation Training Program on SMEs In Njoro, Kenya	The study used a descriptive survey design and focused on microenterprise clients for Equity Bank within Njoro town. Data was analyzed using descriptive statistics.	Training in financial analysis, budgeting and credit management improved the performance of microenterprises	The study was uni-dimensional and assumed a direct relationship between financial literacy and performance of SMES. The study used a simple survey and did not focus on microenterprises	Current study uses a multi-dimensional model which shows that the performance of microenterprises is influenced by many factors
Njoroge (2013)	A study on the relationship between financial literacy and entrepreneur success among SMEs in Nairobi County, Kenya	The study used a qualitative survey design. Data analysis was done using descriptive statistics and simple regression analysis	Entrepreneurs in Nairobi County had some level of financial literacy and that in some cases those in formal SMEs were highly financially literate	The study was uni-dimensional and assumed a direct relationship between financial literacy and performance of SMES. The study used a simple survey and did not focus on microenterprises	Current study uses a multi-dimensional model which shows that the performance of microenterprises is influenced by many factors

Study	Focus	Methodology	Findings	Research gaps	Focus of current study
Hieltjes *et al* (2013)	A study on the impact of financial literacy and transaction costs on bank account uptake and use	The study used randomized controlled experimental study design. Simple regression analysis was used to analyse the data	Financial literacy and transaction costs influence demand for and use of financial services and subsequent performance of microenterprises	The study used a uni-dimensional model and focused more on savings uptake	Current study uses a multi-dimensional model which will show the relationship among the variables
Wachira *et al* (2012)	A study on impact of financial literacy on access to financial services. The study used a multinomial logit model	The study used secondary data specifically the 2009 National Financial Access (FinAccess) survey data.	Financial literacy influenced access to financial services. Low levels of financial literacy led to financial exclusion	The study used a uni-dimensional model and assumed a linear relationship between financial literacy and financial access. The study did not focus on microenterprises	Current study uses a multi-dimensional model which will show the relationship among the variables
Mengich *et al* (2012)	Study on the challenges of equity financing by SMEs in Kenya	The study used a descriptive research survey design. Data analysis was done using correlation analysis	Equity financing was constrained by low financial literacy, information asymmetries and transaction costs	The study did not examine the relationship between financial literacy, equity financing and performance of microenterprises	Current study examines the relationship between financial literacy, financial access and performance of micro-enterprises
Barte (2012)	Financial literacy in microenterprises in : The case of Cebu fish vendors	The study used descriptive research survey design. Data was analysed using descriptive statistics and simple regression analysis	Entrepreneurs had low levels of financial literacy as demonstrated lack of financial records, lack of monitoring of profit and losses and lack of cash management practices. The vendors were also confined to high interest loans	Study used a uni-dimensional model and assumed a direct relationship between financial literacy and performance of microenterprises. It did not explore the effect of financial literacy on microenterprises	Current study uses a multidimensional model which examines the relationship between financial literacy and performance microenterprises
Hoseini *et al* (2012)	Transaction costs of obtaining credit in rural Iran	The study used research survey design, Simple linear regression was used to analyse the data	The study established that the transaction costs of receiving a loan are on the average equivalent to nine percent of the total loan size. The study also revealed that the contractual form, loan size, distances and borrower peculiarities were important determinants of transactions costs	Study did not explore the relationship between transaction costs and the performance of microenterprise	Current study will provide empirical evidence of the relationship between transaction costs and the performance of microenterprises

2.8 Conceptual Framework and Research Hypotheses

A conceptual framework explains the study variables and the presumed relationships among them (Miles *et al*, 1994). It also represents a synthesized and integrated way of understanding of issues which enables the researcher to address the research problem (Liehr *et al*, 1999). A research hypothesis is a formal statement that presents the expected relationship between an independent and dependent variable (Creswell, 1994). The hypothesis gives direction to the collection and interpretation of data.

The conceptual framework and research hypotheses for this study were formulated after a review of literature and empirical studies revealed some knowledge gaps. Based on the identified gaps, it was necessary develop the researcher's own assumptions of the relationships among the study variables. These assumptions were used to formulate the research question, research objectives, research hypotheses and conceptual framework.

2.8.1 Conceptual Framework

The conceptual framework developed for this study was drawn from various theoretical perspectives including RBT, contingency theory, entrepreneurship theory, financial literacy theory, transaction cost theory and microenterprise development perspectives. Entrepreneur financial literacy, the independent variable comprises of two concepts, namely entrepreneur and financial literacy. Entrepreneurship theory suggests that the entrepreneur is a key driver in the performance of microenterprises and various studies have confirmed the dominant role of the entrepreneur in the establishment and management of enterprises (Gries *et al*, 2010).

The competency theory of entrepreneurship theory suggests that entrepreneurs must possess various skills and competencies in order to manage their enterprises (Covin *et al*, 1999). Financial literacy has been identified as one of the critical competencies required for successful management of microenterprises (Klein *et al* 2010). The study therefore combined the concept of entrepreneur and financial literacy to create the independent variable. Financial access was selected as a variable because it has been identified as a key determinant of microenterprise performance (Beck, et al 2006).

Transaction costs were included in the study based on empirical studies which suggest that high transaction costs discourage entrepreneurs from seeking financial services, even where then they are available (Herath, 1994). Firm performance is an important criterion in evaluating organizations, their actions, and its importance is reflected in its pervasive use as a majority of management studies (Richard *et al*, 2008). In line with this argument, microenterprise performance was identified as the dependent variable as it is an important indicator of the success of microenterprises. The configuration of the relationships among these variables was informed by theoretical arguments from the resource-based theory and contingency theory of management.

The study hypothesized that microenterprise performance is contingent on the interactions between financial literacy, financial access and transaction costs. The diagrammatic presentation of the hypothesized relationships among the variables is presented in Figure 2.1.

Figure 2. 1: Conceptual Model
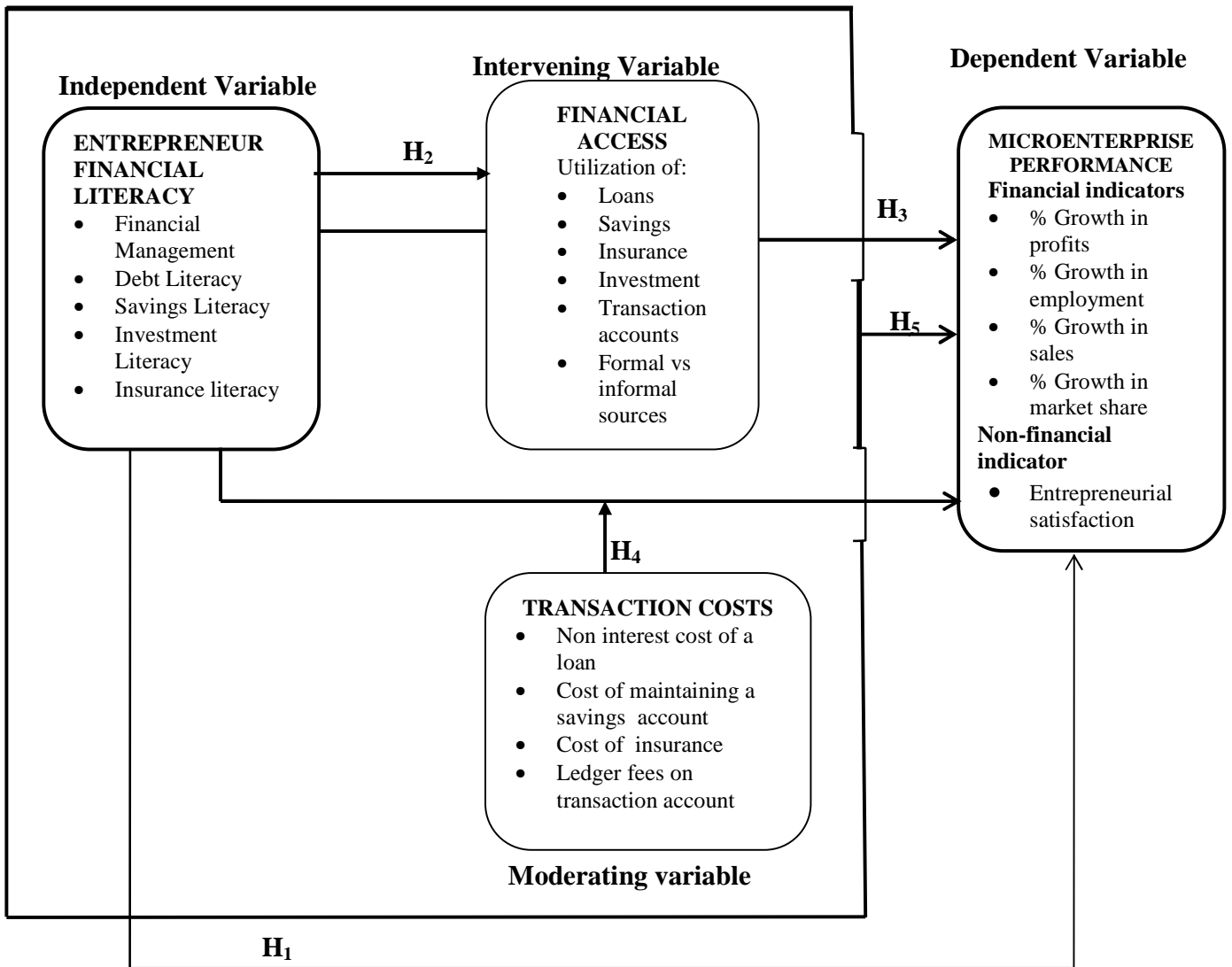
The conceptual framework in figure.2.1 shows that all the variables are conceptualized as multi-dimensional constructs. Multidimensional constructs are widely used to represent several distinct dimensions as a single theoretical concept. Multi -dimensional constructs provide holistic representations of complex phenomena, thus allowing researchers to match broad predictors with broad outcomes, and increase explained variance (Edwards, 2001).

In this study, entrepreneur financial literacy is conceptualized as a multi-dimensional construct comprising of five dimensions namely financial management, debt literacy, savings literacy, investment literacy and insurance literacy. Financial access comprises of six dimensions utilization of loans, savings, transaction accounts, insurance, investment products and obtaining services from formal or informal financial services. Transaction costs comprise of four items namely on non-interest costs of loans, including opportunity costs, cost of maintaining savings accounts, ledger fees on transaction accounts and cost of insurance.

Microenterprise performance comprises of non-financial and financial indicators. Financial indicators used for the study are percentage growth in profits, sales, employment and market share. The study has one non-financial indicator namely entrepreneurial satisfaction. In the conceptual framework H_1 which depicts that there is a relationship between entrepreneur financial literacy and microenterprise performance.

H_2 depicts that there is a relationship between financial literacy and financial access while H_3 depicts that financial access intervenes in the relationship between entrepreneur financial literacy and microenterprise performance, H_4 predicts that transaction costs moderate the relationship between entrepreneur financial literacy performance of microenterprises. Finally, Finally, H_5 depicts that entrepreneur financial literacy, financial access and transaction costs jointly influence the performance of microenterprises.

2.8.2 Research Hypotheses

The study sought to address one broad research objective namely to establish the relationship between entrepreneur financial literacy, financial access, transaction costs and the performance of microenterprises. To address the main research objective, six research objectives were formulated namely; to establish the relationship between entrepreneur financial literacy and performance of microenterprises; to determine the relationship between entrepreneur financial literacy and financial access.

Other objectives included; to establish the influence of financial access on the relationship between financial literacy and performance of microenterprises; to assess the influence of transaction costs on the relationship between financial literacy and the performance of microenterprises and to determine the joint influence of financial literacy, financial access and transaction costs on the performance of microenterprises.

Based on these objectives, five hypotheses corresponding to each research objective were formulated and stated as follows:

H_1 Entrepreneur financial literacy has a significant influence on the performance of microenterprises;

H_2 Entrepreneur financial literacy has a significant influence on financial access;

H_3 Financial access has a significant intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises;

H_4 Transaction costs have a significant moderating influence on the relationship between entrepreneur financial literacy and the performance of micro enterprises;

H₅ The joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises is greater than the individual influence of each variable.

The study hypothesized that entrepreneur financial literacy has a significant influence on the performance of microenterprises. It also hypothesized that entrepreneur financial literacy has a significant influence on financial access and that financial access has a significant intervening effect on the relationship between entrepreneur financial literacy and performance of microenterprise.

The study also hypothesized that transaction costs have a moderating effect on the relationship between entrepreneur financial literacy and performance of microenterprises. Finally the study hypothesized that the joint effects of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises is greater than the individual effect of each variable. These hypotheses were subjected to statistical testing which enabled the study to arrive at conclusions that would address the research question and research objectives.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the philosophical foundation underpinning the study, the research design, the study population and the sampling approaches. It also outlines the methods and approaches that were used to conduct the study. The type and sources of data are explained, as well as the methods of data collection and how reliability and validity were be ensured. The chapter also presents the operationalization of variables and data analysis methods.

3.2 Philosophical Foundation of the Study

A research philosophy is a belief about the way in which data about a phenomenon should be gathered, analyzed and used (Easterby-Smith *et al* 1997). The choice of research philosophy is often influenced by the researcher's basic ontological and epistemological positions (Thorpe et al, 2008). Ontology describes one's view on the nature of reality, and specifically, whether this is an objective reality that really exists, or only a subjective reality, created in one's mind (Easterby-Smith *et al*, 1997).

Epistemology is described as the theory or science of the method or grounds of knowledge and assumptions about the ways in which it is possible to gain knowledge of reality, how what exists may be known, what can be known, and what criteria must be satisfied in order to be described as knowledge (Blaikie, 1993).

Ontological and epistemological positions are not always explicit, but show themselves in the matter of methodology and approach because they shape the approach to theory and the methods utilized (Marsh *et al*, 2002). Positivism and phenomenology/interpretivism are the two widely acknowledged research philosophies. Positivistic approaches seek to establish causal links and relationships between the different elements (or variables) of the subject and relate them to a particular theory or practice (Hammersley, et al, 2006).

Positivism believes that reality is stable and can be observed and described from an objective viewpoint i.e. without interfering with the phenomena being studied ((Levin, 1988). This often involves manipulation of reality with variations of a single independent variable so as to identify regularities and to form relationships between some of the constituent elements of the social world (Levine, 1988). Predictions can then be made on the basis of the previously observed and explained realities and their inter-relationships (O'Leary, 2004).

However, there has been some debate on whether or not the positivist paradigm is entirely suitable for the social sciences (Hirschheim, 1985). Smith (1983) argues that complete objectivity and neutrality are impossible to achieve since the values of the researchers and participants become an integral part of the research and therefore the researchers cannot be divorced from phenomenon under study. In contrast to the positivism paradigm phenomenology or interpretivism, developed by Husserl (1962) focuses on how human phenomena are experienced in consciousness, in cognitive and perceptual acts, as well as how they may be valued or appreciated aesthetically.

Husserl argued that the positivistic paradigm was inappropriate for studying phenomena because it could not describe the essential phenomena of the human world. Patton (1990) described phenomenology as a paradigm that seeks to describe what people experience and how it is that they experience what they experience. This study adopted the positivism philosophy due to ontological, epistemological and methodological considerations. These considerations influenced the assumptions and hypothesis about relationships among study variables, the operationalization of constructs and testing of the hypotheses in order to discover relationships that will be generalized to the study population.

3.3   Research Design

A research design is the logical sequence or blue print that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions (Yin, 2003). This study was conducted using a cross sectional study design. The cross sectional design involves making observations of a population or sample of the study at one point in time (Babbie, 2012). The design is useful in identifying characteristics of an observed phenomenon or exploring possible correlations among two or more phenomenon (Leedy 2001).

This study design allowed the researcher to integrate literature, in-depth interviews, a pilot study and the actual survey as main procedures to gather data. The cross-sectional design was also appropriate for this study as it enabled the researcher to explore the prevalence of the study variables in a cross section of the study population at a given point in time.

The design also enabled the collection of quantitative data and allowed the researcher to identify patterns of association among the variables in order to confirm the overall interpretation of the relationships between the study variables. Cross- sectional study designs are widely used in entrepreneurship research such as the one proposed in this study (Bouckenooghe *et al*, 2007; Davidsson, 2004)

3.4   Population of Study

The population for the study comprised of all microenterprises in Nairobi City County. Nairobi City County is the commercial and administrative capital of the country as well as the economic hub for the East African region. The county has the highest concentration of industries in Kenya, which contribute over 50% of the country's GDP (KNBS, 2013). The county also has the highest concentration of microenterprises in Kenya which accounted for 24.5% of all jobs in the informal sector (KNBS, 2013).

The database for microenterprises was collected from the Nairobi City County licensing office. The data base for licensed enterprises is organized into four broad groups namely micro/informal enterprises, small and medium enterprises and large enterprises as determined by the license fees paid. Micro/informal enterprises were pay license fees ranging from Kshs. 2,000 to Kshs. 10,000. From the list of businesses licensed in 2013, the population for this study was computed as 47,100.

3.5   Sampling Design

Kenya lacks a comprehensive register of all microenterprises operating in the country. The last census of microenterprises was conducted in 1999. However, given the high growth rates of the sector, the data contained in this report is outdated. The newly established Micro and Small enterprise Authority, which was mandated with the responsibility of registering all micro, small and medium enterprises operating, has not yet began registering enterprises.

The list of enterprises licensed in 2013 by the Nairobi City County Government licensing department was found to be most comprehensive as it contained all relevant details of the enterprises including size, business description, physical and telephone contacts. The list is categorized according to nature of business on the basis of license fees paid which is calculated on the basis of the type of business and the business space. This database has been used by other researchers and has been found to be reliable (Bowen, 2009; Maalu, 2010).

The sample size for this study was calculated using the formula for finite population as proposed by Israel (2009).

$$n = \frac{N}{1+N(e^2)}$$

Where:

n= desired sample size

N= Population

e = margin of error at 5% (standard value of 0.05)

The sample size for the study was calculated as:

n= <u>41007</u>

1+ 41007(0.05)^2 = 396 microenterpises

Cluster sampling was used to establish a proportianate sample from each cluster strata as follows:

Small trader shops/retail   84%-0.84*396=332

Small Informal/semi-permanent informal   11%-0.11*396=44

Small eating house/small bar/butcheries/café   5%-0.05*396=10

Total   396 microenterprises

Sample selection from each cluster was done using simple random sampling. This entailed first assigning consecutive numbers to the enterprises in each of the clusters, then selecting random numbers for the sample. Since the population is large, the random numbers were selected using a computer program.

3.6   Data Collection

The study sought to determine the relationship between financial literacy, financial access and transaction costs on the performance of microenterprises in Nairobi County. The unit of analysis was the microenterprise and owner/managers were selected as the respondents based on the fact that most microenterprises are run by owner managers therefore they play a critical role in determining the performance of microenterprises. In addition, information about the entrepreneur as well as financial information which employees were unlikely to possess. Respondents were contacted using the telephone/physical addresses provided in the data base.

To increase the response rate, the questionnaires were administered to the respondents by trained research assistants. In addition, an introductory letter from the University was provided to the respondents. The letter explained the purpose of the study and also assured respondents of the confidentiality of the data collected from them.

The main research instrument was a structured questionnaire using nominal and scaled items. Most of the questions were structured on an agreement continuum using 5-point Likert type scales. The questionnaire comprised of four main sections related to the dependent and independent variables. Section A of the questionnaire generated demographic data of both the entrepreneur and the microenterprise. Sections B, C and D and E generated data on financial literacy, financial access, transaction costs and microenterprise performance respectively.

Questions on financial literacy were adapted from the OECD (2013) toolkit for measuring financial literacy. The toolkit has been used in various financial literacy studies in both developed and developing countries and it has produced consistent results (OECD, 2013). Items on financial access were drawn from the work of Kumar (2005) while items on transaction costs were drawn from a study on transaction costs of credit services by the poor by Swamy *et al* (2011). Questions on performance of microenterprises were adapted from various studies. Entrepreneur financial literacy was measured by five dimensions namely Financial Management, Debt Literacy, Savings Literacy; Investment Literacy and Insurance literacy.

Financial Access was measured by the entrepreneur's utilization of a variety of financial services, specifically; loans, savings, insurance, investment, Transaction accounts and formal or informal sources of finance. Transaction costs were measured by non-interest cost of a loan, cost of maintaining a savings account, cost of insurance and ledger fees on transaction accounts.

Microenterprise performance was measured by both financial and non-financial indicators. Financial indicators included were percentage growth in sales, profits, employment and market share. The non- financial indicator was entrepreneurial satisfaction. To assess the reliability and validity of the study instrument, the questionnaire was pretested in a pilot study involving entrepreneurs who had similar characteristics to the study respondents but were not included in the sample. The results of the pilot survey necessitated changes to some items to improve clarity of the questions.

Specifically, questions on financial performance of the enterprises and transaction costs which had originally focused on quantitative financial measures had Cronbach values of .359 and .696 respectively which is lower than Cronbach's alpha values of 0.70 indicated for the study. Therefore the low values necessitated modification to the questions related to transaction costs and microenterprise performance. The questions were reformulated to obtain information on subjective measures of financial performance and transaction costs. The results of the Cronbach's alpha values for the pilot questionnaire are provided in Appendix iii.

3.7   Validity and Reliability of the study instrument

Researchers often fragment and delimit phenomena into measurable or common categories that can be applied to all of the subjects or wider and similar situations and use standardized measures so that the varying perspectives and experiences of people can be fit into a limited number of predetermined response categories (Patton, 2001; Winter, 2000).

However, the researcher has to ensure that the research instrument measures what is it is supposed to measure (Crocker *et al*, 1986). To achieve this, tests of validity and reliability of the study instrument have to be undertaken. Joppe (2000) defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.

Thus for a research to be reliable, it must demonstrate that if it were to be carried out on a similar group of respondents in a similar context, similar results would be obtained. Validity has been defined as the degree to which a test or measuring instrument actually measures what it purports to measure or how well a test or a meaning instrument fulfils its function (Anastasi *et al*, 1997). While this definition focuses on the instrument itself, recent views of validity focus on the on the interpretation and measuring of the scores derived from the instruments.

In this regard, Ary *et al* (2002) conceptualizes validity as the extent to which theory and evidence support the proposed interpretation of test scores for an intended purpose. Whiston (2005) also views validity as the degree to which evidence and theory support the interpretation of test scores entailed by proposed uses of tests. Thus validity depends on the extent to which meaningful and appropriate inferences or decisions are made on the basis of scores derived from the instrument used in a research (Golafshani, 2003. To ensure that results are replicable and that the means of measurement are accurate and measuring what they are intended to measure, tests of reliability and validity were conducted.

3.7.1 Validity Tests

Validity can be measured using content validity, construct validity, criterion validity and consequential validity measures (Messick, 1995). Content validity considers whether or not the items on a given test accurately reflect the theoretical domain of the latent construct it claims to measure. Items need to effectively act as a representative sample of all the possible questions that could have been derived from the construct (Crocker et al, 1986).

Construct validity of a measure is concerned with the theoretical relationship of a variable (e.g. a score on some scale) to other variables or the extent to which a measure behaves the way that the construct it purports to measure should behave with regard to established measures of other constructs (DeVellis, 1991).

Criterion validity refers to the ability to draw accurate inferences from test scores to a related behavioral criterion of interest (Crocker et al, 1986). Consequential validity refers to the notion that the social consequences of test scores and their subsequent interpretation should consider not only with the original intention of the test, but also cultural norms (Messick, 1995). This study assessed validity of the study instrument using content and construct validity.

Content validity was determined by first discussing the items in the instrument with the supervisors and various panels consisting of lecturers and research experts. Thereafter, the content validity index of 0.802 was computed using the methodology proposed by Crocker *et al* (1986). Neuman (2000) recommends a content validity index of above 0.5, indicating that the validity of the instrument was acceptable.

Construct validity which seeks to measure whether an instrument accurately measures the study phenomena was tested using factor analysis then confirmatory factor analysis was used to verify the construct validity. Based on the tests of reliability and validity, the study was considered reliable and valid. In addition, since all the enterprises studies were relatively homogenous in terms of size, the results can be generalized to the entire population of microenterprises.

3.7.2 Reliability Tests

There are various measures of reliability including test-retest reliability, alternative forms, split-halves, inter-rater reliability and internal consistency. Due the nature of the study, reliability was measured using internal consistency.

Internal consistency measures consistency within the instrument and questions how well a set of items measures a particular behaviour or characteristic within the test (Drost, 2012). The most popular method of testing for internal consistency in the behavioural sciences is coefficient alpha (Drost, 2012). The standard is taken from Nunnally (1978), who suggests that in the early stages of research on predictor tests or hypothesized measures of a construct, reliabilities of .70 or higher will be sufficient. For this study, internal consistency of the instrument was computed using Cronbach's alpha. The results of reliability analysis are presented in Table 3.1.

Table 3.1   Summary of Cronbach's alpha test results

Variable	Measures	Cronbach's alpha	Cronbach's alpha standardised	No of items
Entrepreneur Financial Literacy	Financial Management Debt Literacy Savings Literacy Investment literacy Insurance Literacy	.821	.820	20
Financial Access	Ownership of accounts Utilization of a variety of financial services and providers	.835	.835	33
Transaction Costs	Total amount of fees paid to obtain the last loan Total amount of fees paid to open a savings account A paid to open a transaction account Opportunity costs	.801	.801	16
Microenterprise Performance	Growth in Sales Growth in employment Entrepreneurial Satisfaction	.783	.787	15

The results in Table 3.1 show that Cronbach's alpha coefficient ranged between .783 (Microenterprise Performance) to .835 (financial Access) as an indication that measurement scales used in the study were sufficiently reliable and adequately measured the variables for the study. Entrepreneur Financial Literacy had Cronbach's alpha of .821, Financial Access .835, Transaction Costs .801 and Microenterprise Performance .783.

The reliability coefficient for all the constructs used in this study exceeded the 0.6 lower level of acceptability (Hair *et al*., 2006) and within the 0.70 and above as suggested by Nunnally (1978) and therefore reliable and acceptable for further analysis.

3.8 Operationalization of Study Variables

This study had four variables namely financial literacy, financial access, transaction costs and microenterprise performance. All variables were operationalized as multi-dimensional constructs. To measure entrepreneur financial literacy, five items were used namely financial management, debt literacy, savings literacy, investment literacy and insurance literacy. Financial management measured the extent to which the entrepreneur used a cash book, financial plans, budget and cash flow in his/her business. Savings literacy was measured by four items namely knowledge of savings products, saving regularly, having a savings plan and maintaining money in the savings account.

Debt literacy had four dimensions namely debt literacy, attitude towards debt, knowledge of types interest rate calculation, knowledge of credit rating and perception of debt burden. Investment literacy had three dimensions namely investment planning, knowledge of stock markets and knowledge of investment risks and returns. Insurance literacy was measured on two dimensions namely attitude towards insurance and knowledge of insurance concepts.

Financial access was measured by ownership of accounts and utilization of utilization of financial various financial services and services. Transaction costs had three dimensions namely cost of accessing loan as measured by non-interest fees paid to obtain loan, cost of accessing savings as measured by amount of fees required to open savings account, cost of opening account as measured by fees for opening account and amount spent on documentation and opportunity cost as measured by time (in working day equivalent) spent to obtain a loan.

Microenterprise Performance was measured by non- financial and financial indicators namely percentage growth in enterprise profits, percentage growth in employee numbers, percentage growth in market share and percentage growth in sales turnover. Non-financial indicators comprised of entrepreneurial satisfaction as measured by satisfaction with income derived from the business, improvement of standard of living, ability to meet life goals, psychological satisfaction and preference for running the business rather than formal employment. Table 3.2 presents the operationalization of study variables, the indicators for each variable, the measurement scales and the specific questions attached to each variable.

Table 3. 2   Operationalization of study variables

Variable	Indicators	Operationalization	Hypothesis	Measurement scale	Questions
Entrepreneur Financial Literacy	Financial management	Use of : • cash book, • financial plans, • budget and • cash flow	H_1:Entrepreneur financial literacy has a significant influence on microenterprise performance	5 point Likert type scale	Section B Question 7i
	Savings literacy	Knowledge of savings products	H_2:Entrepreneur financial literacy has a significant influence on Financial access	5 point Likert type scale	Section B Question 7ii
	Debt literacy	• Attitude towards debt • Knowledge of types interest rate calculation • Knowledge of credit rating • Perception of debt burden		5 point Likert type scale Interval scale 5 point Likert type scale	Section B, question 7iii
	Investment Literacy	• Investment planning • Knowledge of stock markets • Knowledge of investment risks and returns		Interval scale 5 point Likert type scale Likert-type scale	Section B, question 7iv
	Insurance literacy	• Attitude towards insurance • Knowledge of insurance concepts		5 point Likert type scale Likert-type scale	Section B Question 7 vii
Financial Access	Access	Ownership of accounts product	H_3: Financial access has significant influence on the relationship between financial literacy and microenterprise performance	5 point Likert type scale	Section C Question 8i
	Utilization of financial services and providers	Utilization of a variety of financial services and providers		5 point Likert type scale	Section C question 8ii
Transaction costs	Cost of accessing loan	Non-interest fees paid to obtain loan	H_4: Transaction costs have a significant influence on the relationship between entrepreneur financial literacy and microenterprise performance	Ratio scale	Section D question 9a
	Cost of accessing savings	Amount of fees required to open savings account		Ratio scale	Section D question 9b
	Cost of opening account	Fees for opening account Amount spent on documentation		Ratio scale	Section D question 9c
	Opportunity cost	Time (in working day equivalent) spent to obtain a loan		Ratio scale	Section D question 9d
Microenterprise Performance	Income	% Growth in Annual income		Ratio scale	Section E question 10a
	Employment	% Growth in Annual Gross Employment		Ratio scale	Section E question 10b
	Entrepreneur satisfaction	Satisfaction with level of income • Standard of living • Meeting life goals • Psychological satisfaction • Preference for business over employment		5 point Likert type scale	Section E Question 10 c

3.9   Data Analysis

Both descriptive and inferential statistics were used to analyse the data collected from microenterprises in Nairobi City County. Descriptive statistics involved computation of mean scores, standard deviation, percentages, cross tabulation and frequency distribution which described the demographic characteristics of the organization and the respondents. Measures of dispersion (SD) were used to test the normality of the data.

Factor analysis was used to reduce the set of study items to a smaller number which can easily be interpreted. Inferential statistics were used to determine the relationships between financial literacy, financial access, transaction costs and performance of microenterprises as well as testing the hypotheses. Correlation analysis by means of Pearson Product Moment Correlation Coefficient technique was used to determine nature and magnitude of the relationships p between financial literacy, financial access and transaction cost and microenterprise performance. This was to facilitate selection of measures used to represent the variables.

Correlation coefficients ranging from 0.00 to 0.01 represent no correlation, those ranging from 0.02-0.029 represent weak correlation, 0.30-0.69 represent moderate correlation, 0.70-0.89 represent strong correlation while 0.90-0.98 represent very strong correlations (Rummel, 1970). Coefficient of determination (R^2) was also used to determine the goodness of fit of different models by indicating whether the proportion of microenterprise performance explained by all the combined predictor variables was equal, greater than or less than the population of each predictor variable.

The closer r^2 is to 1, the better the fit of the regression line to data. As the study consists of a combination of independent, mediating, moderating and dependent variable, the effects of the variables were tested using different regression analysis models H_1, H_2, were tested using simple linear regression analysis. H_3 was tested using path analysis using the models recommended by forth by Baron *et al* (1986) for testing mediating variable. H_4 was tested using stepwise regression analysis. H_5 focused on determining the joint effect of independent, moderating and mediating variable and was tested using multiple linear regression analysis. The Hypotheses were modeled as described below:

H_1: Entrepreneur financial literacy has a significant influence on the performance of microenterprises. H_1 was modeled as:

$$MP_1 = \alpha + \beta_1 EFL_1 + \varepsilon$$

H_2: ***Entrepreneur financial literacy has a significant influence financial access.***

H_2 was modelled as:

$$FA_1 = \alpha + \beta_2 EFL_2 + \varepsilon$$

H_3: ***Financial access has a significant intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises.***

H_3 was modelled as:

$$MP_2 = \alpha + \beta_3 FA_2 + \varepsilon$$

$$MP_3 = \alpha + \beta_4 EFL_3 + \beta_5 FA_3 + \varepsilon$$

H_4: ***Transaction costs have significant moderating influence on the relationship between entrepreneur financial literacy and performance of microenterprises.***

H_4 was modeled as**:**

$$MP_4 = \alpha + \beta_6 TC_1 + \varepsilon$$

$$MP_5 = \alpha + \beta_7 EFL_4 + \beta_8 TC_2 + \beta_9 EFL*TC + \varepsilon$$

H$_5$: *The joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises is greater and different than the individual influence of each of the variables.* H$_5$ was modeled as:

$$MP_6 = \alpha + \beta_{10}EFL_5 + \beta_{11}FA_4 + \beta_{12}TC_3 + \varepsilon$$

Where:

MP = Microenterprise performance

α = regression constant derived from the y-intercept,

β_1 to β_{12} = regression coefficients,

EFL = entrepreneur financial literacy,

FA = financial access,

TC = transaction costs,

ε = error term.

A summary of the objectives, hypothesis, analytical model and interpretation of results is presented in Table 3.3.

Table 3.3   Summary of objectives hypotheses, analytical models and interpretation of results

Objective	Hypothesis	Analysis model	interpretation
To establish the influence of entrepreneur financial literacy on microenterprise performance	H_1:Entrepreneur financial literacy has a significant influence on microenterprise performance	Simple Regression analysis $MP_1 = \alpha + \beta_1 EFL_1 + \varepsilon$ MP_1 = Microenterprise performance α= constant (intercept) β_1 = Coefficient parameters to be determined EFL_1 = entrepreneur financial literacy ε = Error term	If R >0 then a positive relationship exists. If p value ≤ 0.05, then the relationship is significant.
To determine influence of entrepreneur financial literacy on financial access	H_2: Entrepreneur financial literacy has a significant influence on financial access	Simple Regression analysis $FA_1 = \alpha + \beta_2 EFL_2 + \varepsilon$ FA_1 = financial access α= constant (intercept) β_2 = Coefficient parameters to be determined EFL_2 = Entrepreneur Financial Literacy ε= Error term	If R >0 then a positive relationship exists. If p value ≤ 0.05, then the relationship is significant.
To establish the influence of financial access on the relationship between financial literacy and microenterprise performance	H_3: Financial access has a significant intervening influence on the relationship between financial literacy and microenterprise performance	The intervening effect will be measured using path analysis with the following regression models: $MP_1 = \alpha + \beta_1 EFL_1 + \varepsilon$ $FA_1 = \alpha + \beta_2 EFL_2 + \varepsilon$ $MP_2 = \alpha + \beta_3 FA_2 + \varepsilon$ $MP_3 = \alpha + \beta_4 EFL_3 + \beta_5 FA_3 + \varepsilon$	If R >0 then a positive relationship exists. If p Value ≤ 0.05, then the relationship is significant.
To assess the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance	H_4: Transaction costs have a significant moderating influence on the relationship between entrepreneur financial literacy and microenterprise performance	Multiple Regression analysis: $MP_4 = \alpha + \beta_6 TC_1 + \varepsilon$ $MP_5 = \alpha + \beta_7 EFL_4 + \beta_8 TC_2 + \beta_9 EFL*TC + \varepsilon$ α =constant (intercept) β_7 = the coefficient relating the independent variable, $\beta_{6\&8}$ = the coefficient relating the moderator variable, β_9 =The regression coefficient for the interaction term which provides an estimate of the moderation effect. EFL*TC = is the interaction term; product of the standardized scores for the independent variable and the moderator	If EFL*TC has a p value ≤ 0.05, then there is a significant moderating effect. $\beta_9 > 0$ signifies positive moderating effect
To establish the joint influence of entrepreneur financial literacy, financial access, transaction costs and microenterprise performance	H_5: The joint effect of entrepreneur financial literacy, financial access and transaction costs on microenterprise performance is greater than the individual influence of each variable	Multiple Regression analysis $MP_6 = \alpha + \beta_{10} EFL_5 + \beta_{11} FA_4 + \beta_{12} TC_3 + \varepsilon$ MP_6 = microenterprise performance α = constant (intercept) EFL_5 = is the composite index of financial literacy FA_4 = is the composite index of financial access TC_3 = is the composite index of transaction costs β_{10}- β_{12}- are the regression coefficients ϵ-is the error term	If adjusted R^2 is > than individual R^2 values, then the joint influence is greater than individual influence If overall p value ≤ 0.05, then the relationship is significant.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

4.1   Introduction

The chapter presents the outcome of data analysis and findings in line with the objectives of the study. The data was analyzed using the Statistical Program for Social Sciences (SPSS) version 18, by use of both descriptive and inferential statistics. Descriptive statistics such as frequency, percentage, mean and standard deviation were used. Tests on the data for the assumptions of linear regression were conducted and results were within the limits necessary for further statistical tests. The five hypotheses of the study were tested using simple and multiple regressions. Correlations were also conducted between various study variables including key characteristics of the microenterprises.

4.2   Organizational Characteristics

The unit of analysis was the microenterprise and their owners/managers were selected as respondents for this study. A total of 396 questionnaires were administered to them out of which 391 were returned giving a response rate of 98.77%. According to Mugenda *et al.* (1999), 50% response rate is adequate, 60% good and above 70% rated very good. Based on this contention, the response rate for this study was rated as very good.

This high response rate can be attributed to the data collection procedures, where the researcher pre-notified the potential participants (owner-managers) of the intended survey. In addition, the questionnaire was administered by trained research assistants.

The key firm factors of interest for the study were the organizations' characteristics of the microenterprises, measured in terms of the number of years the enterprise has been in operation; type of business measured in terms of whether the microenterprise is retail, wholesale, manufacturing or service; and the enterprise ownership structure measured in terms of whether the microenterprise is sole proprietor, partnership or company. The results of the analysis are presented in Table 4:1.

Table 4.1:   Organizational Characteristics

Age of the enterprise	Frequency	Percentage (%)
1-5 years	71	18.16
5-10 years	217	55.50
10-15 years	61	15.60
Over 15 years	42	10.74
Total	**391**	**100%**
Type of business		
Retail	231	59.08
Wholesale	13	3.32
Manufacturing	21	5.37
Service	126	32.23
Total	**391**	**100%**
Ownership		
Sole proprietor	347	88.75
Partnership	36	9.21
Company	8	2.04
Total	**391**	**100%**

The results in Table 4.1 indicate that 217(55.50%) of the enterprises have been in operation for 5-10 years, 71(18.16%) have been in operation for 1-5 years, 61(15.60%) have been in operation for 10-15 years with few 42 of the sampled respondents indicating that their enterprises have been in operation for over 15 years. These results are consistent with findings from previous studies which suggest that microenterprises which survive beyond five years do not expand but maintain their pre-inception characteristics.

As regards the type of business, the results indicate that majority 231(59.08%) run retail microenterprises, 126(32.22%) operate service microenterprises with only few 21(5.37%) and 13(3.32%) indicating that they operate manufacturing and wholesale microenterprises respectively. This implies that majority of the microenterprises fall under retail and service which may be due their small size and limited resources to expand. The results also indicate that 347(88.75%) of the microenterprises surveyed are sole proprietors, 36(9.21% are partnership and 8(2.05%) are companies.

4.3 Demographic Characteristics

The respondent's demographic characteristics included gender, marital status, age distribution, highest level of education attained and their ethnic group. The target respondents for this study were the owners of the microenterprises or any other manager in an equivalent position. The findings were as indicated in Table 4:2.

Table 4.2   Demographic characteristics

Gender	Frequency	Percentage (%)
Male	125	32
Female	266	68
Total	**391**	**100**
Marital status		
Married	293	74.94
Single	54	13.81
Separated/divorced	32	8.18
Widowed	12	3.07
Total	**391**	**100**
Age distribution		
18-24	33	8.44
25-34	257	65.73
35-44	62	15.86
45-54	26	6.65
55-64	13	3.32
Total	**391**	**100**
Highest Level of Education		
No formal education	18	4.60
KCPE	57	14.58
KCSE	139	35.55
College certificate	72	18.41
Diploma	73	18.67
University degree	32	8.19
Total	**391**	**100%**

The study findings reveal that majority (68%) were female respondents with (32%) being male respondents. This implies there were more females than male represented in the sample. The results also indicated that majority 293(74.94%) of the study respondents are married with 54(13.81%) and 32(8.18%) being single and separated/divorced respectively. Further few 12(3.07%) of the respondents are widowed.

Further from the findings in Table 4.1, majority 257(65.73%) indicated that their ages ranged between 25-34 years, followed by 62(15.86%) who were aged between 35-44 years old with few 33(8.44%), 26(6.65%) and 13(3.32%) indicating that their ages ranged between 18-24, 45-54 and 55-64 years, respectively.

The results revealed that majority of the players in the microenterprises were relatively young. The results also indicated that the respondents were relatively well educated 35.55% and 18.67% holding KCSE and college diploma certificates respectively while 18.41%) holds college certificates. The level of education has been cited as a critical success factor in helping firms survive and manage in difficult conditions and to improve business profitability (Yusuf, 1995). Findings on the ethnic composition of the entrepreneurs showed a diverse range of ethnic groups involved in the microenterprise business.

4.4   Descriptive Analysis

Descriptive analysis included an assessment of the entrepreneur financial literacy, financial management skills, levels of debt, savings literacy, insurance and investment literacy, credit rating, financial access, utilization of financial services and transaction costs. Descriptive measures included mean, standard error of estimate, skewness and kurtosis. Mean is a measure of central tendency used to describe the most typical value in a set of values. Standard error of mean is a measure of reliability of the study results. It is equal to the standard deviation of the population divided by the square root of the sample size calculated as: SE= (SD) (of the population)/square root (n). Standard deviation shows how far the distribution is from the mean.

A small standard error implies that most of the sample means will be near the center population means; thus, the sample mean has a good chance of being close to the population mean and a good estimator of the population mean. Coefficient of variation (CV) was used as a normalized measure of dispersion. Being a ratio of ratio of the standard deviation to the mean, CV looks at the relative standard variation between datasets of uneven dispersion and measurements. It is useful in comparing the degree of variation from one data series to another, even if the means are drastically different from each other.

On the other hand, a large standard error illustrates that the given sample mean will be a poor estimator of the population mean (Harvill, 1991). Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution, or dataset, is symmetric if it looks the same to the left and right of the center point while Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution

4.4.1 Entrepreneur financial literacy

The study set out to establish the degree of financial literacy amongst microenterprise owners in Nairobi. Financial literacy was operationalized along five dimensions namely financial management, savings literacy, debt literacy, credit rating, investment literacy and insurance literacy. Various statements were formulated to measure the financial literacy sub-constructs.

The statements were anchored on a five point Likert-type scale ranging from 1=strongly disagree to 5= strongly agree and respondents were asked to indicate the extent to which they agreed to the statements. The entrepreneurs' aggregate score of financial literacy was computed as the simple average of the mean scores of the sub-constructs responses.

4.4.2 Financial management

Financial Management involves planning, organizing, directing and controlling the financial activities of an organization (Brinckman et al, 2011). Financial management is one of the internal factors which are crucial for the survival of firms. To measure financial management, a set of eight statements were formulated. The respondents were asked to indicate the extent of agreement with each of the financial management statements. The pertinent results are presented in Table 4.3.

Table 4.3   Respondents' Scores on Financial Management

Financial Management Statements	N	Mean Score	SE	CV	Skewness	Kurtosis
I have a cash book which I use to record all business revenues and expenditure	391	4.01	0.954	0.238	.204	1.744
I separate my business and personal finances	391	4.62	0.985	0.213	-.676	3.666
I draw a salary from the business which I use for my personal/household expenses	391	4.37	.842	0.193	-.677	3.075
I make an annual financial plan for my business and monitor it regularly	391	1.92	1.054	0.549	-.700	1.617
I make cash flow projections for my business	391	4.62	0.598	0.129	-1.173	.941
I prepare financial statements for my business (Balance Sheet, Income statement)	388	1.62	1.354	0.836	.204	1.744
I understand the financial information in financial statements and use it to manage my business	390	1.31	1.598	1.220	-.676	3.666
I have a written business plan for my enterprise	391	1.12	1.540	1.375	-.677	3.075
Average Score	**390**	**2.95**	**1.12**	**0.380**	**-0.521**	**1.819**

The results in Table 4.3 reveal that mean score for the eight statements used to measure financial management was 2.95. The overall mean score of 2.95 (disagree) shows that the microenterprises have no general agreement and sufficient understanding of financial management aspects. In addition, the results show that the 391 microenterprises surveyed have a cash book which they use to record all business revenues and expenditure (mean score=4.0, SE=.954); separate their business and personal finances (mean score=4.62, SE=.985), draw a salary from the business which they use for their personal/household expenses (mean score=4.37, SE=.842) and that they make cash flow projections for their business (mean score=4.62, SE=.598).

However, majority disagreed that they make an annual financial plan for their business and monitor it regularly (mean score=1.92, SE= 1.054), they prepare financial statements for their business (Balance Sheet, Income statement) (mean score=1.62, SE= 1.354), they understand the financial information in financial statements and use it to manage their businesses (mean score=1.31, SE= 1.598), they have a written business plan for their enterprise (mean score=1.12, SE= 1.540).

'I make cash flow projections for my business' had the lowest coefficient of variation (CV) value at 0.129 followed by 'I draw a salary from the business which I use for my personal/household expenses' at 0.193 while 'I have a written business plan for my enterprise' had the highest at 1.375. Thus, there was a greater dispersion or variations in the micro enterprises having written business plans showing that while some had, other did not.

From skewness, the study observed that the average score of the financial management constructs are negatively skewed (-0.521) and is very near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platykurtic distribution (1.819).

The results imply that the microenterprises surveyed have inadequate knowledge on principles of accounting and preparation of financial statements. Record keeping is a fundamental skill a business person must possess as it is a source of important information vital to critical decision-making, and responsible for minimizing risks (Gray *et al*, 2009). The finding is consistent with the findings by Sucuahi (2014) who established that micro entrepreneurs did not engage in budgeting and cash flow analysis. Kempson *et al* (2013) established that even after controlling for other relevant variables, self-employed individuals in many developing countries performed worse than the general population on standardised assessments of their ability to monitor expenses, to budget, and to live within their means. A study by Fatoki (2011) on financial practices of microenterprises also established that entrepreneurs did not establish financial goals, they did not engage in financial planning, analysis and control.

4.4.3 Savings Literacy

Saving benefits businesses as it provides the base for long-term investments. Saving also acts as a hedge for businesses against economic downturns and financial crisis. In a study of the Malaysian microenterprises, Tang, Chuna (2009) assert that high levels of saving indicate a business that is in good condition.

In deposit terminology, the term Savings refers to money set aside for the purpose of future use. Savings generally represent only one part of an individual's assets and, unlike investments; they usually have a minimal exposure to risk. To determine the level of saving literacy, the respondents were asked to indicate the extent of agreement with savings related statements. Their responses are summarized in Table 4.4.

Table 4.4   Respondents Scores on Savings Literacy

Savings Literacy Statements	N	Mean Score	SE	CV	Skewness	Kurtosis
I know the importance of savings for my business	391	4.47	.087	0.019	-.216	1.610
I have a savings plan	389	4.46	.078	0.017	-1.945	5.054
I save regularly	390	4.45	.110	0.025	-.646	1.045
I do not draw into my savings to meet regular expenditure	390	2.17	.093	0.043	.171	1.557
Average Scores	**390**	**3.89**	**.092**	**0.024**	**-.659**	**0.711**

The results in Table 4.4 yield an overall mean score of 3.89. Knowledge on the importance of savings for their business had the highest mean score (mean score = 4.47, SE=.087). This shows that savings is important to the microenterprises for future growth and expansion and also for the overall enterprise superior performance. The lowest score was noted on the drawing into their savings to meet regular expenditure (mean score=2.17, SE=.093). This implies that most microenterprise businesses serve as the source of income for regular personal expenses for the owners.

Further, respondents also agreed that they have a savings plan and that they save regularly as indicated by (mean score=4.46, SE=.078) and (mean score=4.45, SE=.110), respectively. The microenterprises having savings plan had the lowest coefficient of variation of 0.017, followed by them knowing the importance of savings for their business at a variation of 0.019 while not drawing into savings to meet regular expenditure had the highest variation at 0.043. This depicts that there was consistency in response to the question regarding the microenterprises having savings plan and the knowledge of its importance in the business. This finding was consistent with that of Sucuahi (2014) who established that the savings literacy among entrepreneurs in was high because they understood the importance of savings for their businesses.

Beck *et al* (2014) also established that savings is a common habit among entrepreneurs since savings represent the principal source of funding used by entrepreneurs to start and grow their entrepreneurial ventures when they are unable to obtain loans. The average score for skewness was -.659 which is negatively skewed and near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a flat peak (0.711).

4.4.4 Debt Literacy

The study, further, sought to establish the level of respondents' agreement with a set of five statements on debt literacy. The scale items measured the extent of respondents' agreement on debt literacy. The pertinent results are presented in Table 4:5.

Table 4.5   Respondents Scores on Debt Literacy

Debt Literacy Statements	N	Mean Score	SE	CV	Skewness	Kurtosis
Debt is inevitable in a business	391	4.45	.090	0.020	-.870	.381
Borrowing is risky for the business	391	2.39	.084	0.035	-.965	1.342
I know the difference between base rate, nominal and effective interest rate (respondent to explain)	391	2.28	.101	0.044	.119	1.202
I know what a 'real interest ' means	391	1.12	.097	0.087	.721	1.815
I know the difference between simple and compounded interest rates	391	1.62	1.098	0.678	-.837	.077
I prefer loans that are paid on flat rate basis than on reducing balance	391	3.24	0.761	0.235	-.413	1.067
Average Scores	**391**	**2.52**	**.0.37**	**0.147**	**.495**	**.501**

The results in Table 4.5 suggest that the respondents, on average indicated high agreement with aspects that they prefer loans that are paid on flat rate basis than on reducing balance with an overall mean score of 3.24.

Flat rates are computed based on original loan amount without deducting principal amount repaid, whereas in case of reducing balance interest is charged according to how much of the original amount remains in the borrower's hand, which shrinks as successive payments are made. This score confirms findings by Lusardi *et al* (2007) that due to low levels of financial literacy, many individuals transact in high cost manners. Debt is inevitable in a business scored the highest (mean score = 4.45, SE=.090) while knowing what real interest means scored the lowest (mean score=1.12, SE=.097).

Further lower scores were also observed on statements that borrowing is risky for the business, that they know the difference between base rate, nominal and effective interest rate and that they know the difference between simple and compounded interest rates as (mean score=2.39, SE=.084), (mean score=2.28, SE=.101) and (mean score=1.62, SE=1.098) respectively. The overall average score was also low 2.52 with standard deviation of 0.37 indicating that debt literacy was low among the respondents.

The coefficient of variation values show that while debt being inevitable and borrowing being risky for the business had the lowest values of 0.020 and 0.035, respectively, the respondents knowing the difference between simple and compounded interest rates and their preference of loans that are paid on flat rate basis to on reducing balance had the highest at 0.678 and 0.235, respectively. Thus, there tended to be consistency in response regarding the enterprises viewing debt as inevitable and them considering borrowing not being risky. However, responses where varied considerably on knowledge of the difference between simple and compounded interest rates.

The findings imply that majority of micro enterprises in Nairobi County do not engage in debts e.g. loans since they require less starting and operating capital. The study observed that the skewness average score of debt literacy constructs are positively skewed (.495) and is relatively near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a flat top near the mean rather than a sharp peak (.501). This finding is consistent with findings by Lusardi *et al* (2008) that debt literacy among many individuals, especially knowledge of various interest rates concepts is very low.

The study further assessed the respondent's credit rating. The respondents had been asked to indicate the extent to which they agree with statements relating to credit rating. The pertinent results are summarized in Table 4.6.

Table 4.6   Respondents' Credit Rating

Description	N	Mean Score	SE	CV	Skewness	Kurtosis
I have obtained my credit report	286	2.32	.069	0.030	-1.638	3.083
I have too much debt right now and I have or may have difficulty paying it off.	391	2.27	.075	0.033	-.530	.391
I have the right amount of debt right now and I face no problems with it.	391	3.78	.107	0.028	-.686	.790
I have too little debt right now. I wish I could get more	391	4.18	.094	0.022	-.661	1.183
Average scores	**365**	**3.14**	**.086**	**0.027**	**-.951**	**.784**

The results in Table 4.6 reveal that the average scores used to measure credit rating was 3.14, SE=.086 . Lower scores were observed in statements that they have obtained their credit report (2.32, SE=.069). This finding is consistent with the finding of this study that majority of the entrepreneurs do not use formal financial services. Credit rating is an indication of how credit worthy an individual is and banks in Kenya are increasingly using it as a tool for providing loans.

However, in many countries, including Kenya, many individuals and small businesses have limited access to credit because lenders have poor or limited financial information about them and the average loan volumes do not justify targeted risk analysis (Baer *et al.,* 2009). The finding is consistent with findings from the FSD (2013) financial access survey which indicated that only 20% of the population has heard of a credit reference bureau.

The statement that they have too little debt right now and wish could get more had the highest score of 4.18, SE=.094 and that they have too much debt right now and have or may have difficulty paying it off had the lowest mean score of (2.27, SE=.075).. Majority (3.78, SE=.107) agreed that they have the right amount of debt right now and face no problems with it. The average score of 3.14 depicts that the operators of microenterprises in Nairobi County are aware of the importance of the credit in business and the associated benefits and costs. The coefficient of variation values ranged from 0.022 to 0.033'; 'I have too little debt right now and wish I could get more' had a value of 0.022 and 'I have the right amount of debt right now and I face no problems with it' was 0.028.

This shows that there was little variation in the micro enterprise characteristics regarding credit rating. Most of them had little debt and wish they could get more. They also had not obtained their credit reports. The skewness average score of credit rating constructs are negatively skewed (-.951) and is relatively near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub-constructs have a flat peak (0.784).

4.4.5 Investment Literacy

Investment literacy was also crucial for the microenterprise to enable them grow and expand. The respondents had been asked to indicate the extent to which they respond to various investment literacy techniques. The pertinent results are summarized in Table 4.7

Table 4.7   Respondents' Investment literacy

Description	N	Mean Score	SE	CV	Skewness	Kurtosis
In addition to my savings plan I also I have an investment plan	391	4.20	.074	0.018	-.163	2.386
I regularly monitor returns on my investments	391	4.02	.118	0.029	-.694	1.893
I diversify my investments and change them depending on the returns/yields	391	3.95	.114	0.029	.324	2.890
An investment with a high return is likely to be high risk	391	3.88	.098	0.025	-.069	2.817
Average scores	**391**	**4.01**	**.101**	**0.025**	**-.151**	**2.747**

From Table 4.7, the results show that the average scores for investment literacy was (4.01 SE=.101). In terms of individual scores, having an investment plan in addition to savings had the highest mean score (mean score = 4.20, SE=.074) and an investment with a high return is likely to be high risk with the lowest mean score (mean score=3.88, SE=.098). Further there was also an agreement with the statements that they regularly monitor returns on their investments and diversify their investments and change them depending on the returns/yields with (mean score=4.02, SE=.118) and (mean score=3.95, SE.114) respectively.

Investment literacy construct had low coefficient of variation ranging between 0.018 and 0.029. The overall CV was 0.025. Thus, there are low variations in the microenterprises characteristics with regards to investment literacy such as having investment plan and monitoring returns on investments. Overall, the results depict that entrepreneurs in Nairobi City County are aware about investment opportunities and therefore willing to diversify, grow and expand their businesses provided they have the necessary resources.

The results further indicated that the skewness average score of investment literacy sub constructs are negatively skewed around the mean (-.151) and is relatively far from zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a flat top near the mean (2.747).

4.4.6   Insurance Literacy

Insurance literacy among the respondents was also very crucial for the study. This was to ascertain if the microenterprises are aware about the availability of the insurance and its importance to their business. The results obtained are presented in Table 4.8.

Table 4.8   Respondents' Insurance Literacy

Description	N	Mean Score	SE	CV	Skewness	Kurtosis
I understand the importance of insurance	391	4.58	.076	0.017	.952	1.553
I know the different insurance policies in the market	390	2.48	.073	0.029	.813	2.176
I understand the term insurance premium	388	2.34	.096	0.041	-.026	2.010
Insurance is too costly and I cannot afford it	391	4.33	.108	0.025	.438	1.787
I do not have any information about insurance products that are appropriate for my business	391	4.57	.076	0.017	.324	2.890
Average Scores	**390**	**3.66**	**.086**	**0.023**	**.500**	**2.013**

From Table 4.8, the results show that the average mean scores for insurance literacy was =3.66, SE=.086 with understanding the importance of insurance recording the highest mean score of (4.58, SE=.076) and understanding the term insurance premium had the lowest scores (mean score=2.34, SE=.096). Further, majority also indicated that insurance is too costly and I cannot afford it and I do not have any information about insurance products that are appropriate for my business as indicated by (mean score=4.33, SE=.108) and (mean score=4.57, SE=.076), respectively.

Insurance literacy construct also had low coefficient of variation ranging between 0.017 and 0.041 with the overall being 0.023. This points to low variation in the microenterprises characteristics with regards to insurance literacy.

While they understand importance of insurance, most of them do not understand insurance premiums and policies depicting that a majority of them are not insured. This depicts that microenterprise owners are aware about the insurance on the market but majority are not informed about the insurance services that can benefit their business.

More so insurance policies available are perceived as unaffordable by majority of microenterprises. This finding is consistent with findings from the FSD *et al* (2013) Fin Access Survey which indicated that only 16.6% of business owners have insurance. From skewness, the study observed that the average score of the insurance literacy constructs are positively skewed (.500) and is near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platykurtic distribution (2.013).

4.4.7 Financial Access

Finance is an important determinant of the performance of microenterprises. However, entrepreneurs from developing countries report financial constraints as a key obstacle to their daily business operations (Ayagari et al., 2008). The respondents had been asked to state the extent of agreement on account ownership. The relevant results are presented in Table 4.9.

Table 4.9   Respondents' Ownership of Accounts

Description	N	Mean Score	SE	CV	Skewness	Kurtosis
I have a transaction account (e.g. current account, mobile/paybill money account)	391	2.17	.099	0.046	-.627	1.336
I have a loan account	391	2.15	.100	0.047	-.324	2.496
I have only one savings account in a financial institution	391	4.14	.074	0.018	-1.086	3.157
I have a combination of call and fixed deposit savings accounts	391	2.08	.096	0.046	-.368	1.233
I have an insurance account	391	1.05	.102	0.097	-.761	.322
I have an investment account at NSE	391	1.40	.106	0.076	-1.859	4.495
I have a pension account	391	2.00	.095	0.048	2.256	3.141
I have an NSSF account	391	2.98	.110	0.037	.049	1.370
I have an NHIF account	391	1.95	.202	0.104	-.676	.741
Average Scores	**391**	**2.23**	**.109**	**0.049**	**-.377**	**1.321**

The results in Table 4.9 show that the average score for ownership of accounts was 2.23. As far as the ownership of accounts statements are concerned, the statement that they have only one savings account in a financial institution had the highest score (mean score=4.14, SE=.074) while having an insurance account recorded the lowest score (mean score=1.05, SE=.102). Further majority also disagreed that they have a transaction account (e.g. current account, mobile/pay bill money account) and that they have a loan account (mean score=2.17, SE=.099) and (mean score=2.15, SE=.100). Statements that they have an investment account at NSE and a pension account also had low scores (mean score= 1.40, SE .106; mean score= 2.0, SE .095 respectively).

Ownership of accounts had low coefficients of variation with an average of 0.049 and the lowest and highest values of 0.018 and 0.104, respectively. This points to low variation in the microenterprises characteristics with regards certain indicators of accounts ownership. There was consistency in response to ownership of one savings account by the microenterprises and failure to have a NSSF and transaction accounts.

These findings are consistent with findings of the FSD *et al* (2013) financial access which indicated that pensions and investments products are used by fewer than 20% of the adult population across all age groups and across livelihood groups. The skewness indicates that the average score of the ownership of accounts constructs are negatively skewed (-.377) and is very near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platy-kurtic distribution (1.321).

4.4.8 Utilization of a variety of financial services and providers

The study assessed the extent to which microenterprises utilize a variety of financial services and providers. This was to ascertain if they benefit from the services provided by financial institutions to boost their enterprises.

Table 4.10:   Respondents' Utilization of a variety of financial services and providers

Description	N	Mean Score	SE	CV	Skewness	Kurtosis
Transactions						
I use the following for my daily transactions (e.g. payment of bills, payment to suppliers)						
ATM	391	1.51	.101	0.067	-2.300	8.252
Cheque	391	1.40	.107	0.076	-.015	3.129
Mobile money (Mpesa, Yu money etc.)	391	4.05	.094	0.023	-.011	1.033
Cash	391	4.25	.087	0.020	.270	0.875
Average scores	**391**	**2.80**	**.097**	**0.035**	**-.514**	**1.554**
Loans						
In the last twelve months, I have obtained a loan	391	2.62	.147	0.056	.034	0.322
Before I apply for a loan, I have a plan on how the loan funds will be used	198	4.18	.164	0.039	.761	1.110
After I take the loan, I stick to the plan and ensure the loan funds are used according to the plan	198	4.31	.126	0.029	.868	.154
I invested the whole loan amount in my business	179	4.26	.095	0.022	1.089	.616
Average scores	**242**	**3.92**	**0.133**	**0.034**	**.688**	**.085**

Type of financial service provider: In the last twelve month I have been able to access loans from the following institutions						
	N	Mean Score	SE	CV	Skewness	Kurtosis
Commercial Bank	391	1.52	.097	0.064	1.151	.407
Microfinance institution	391	3.45	.096	0.028	1.123	.798
Rosca/Asca/Merry go round (including chama group),family and friends	391	4.43	.093	0.021	1.250	.459
Sacco	391	1.31	.085	0.065	2.054	2.234

Mobile money (e.g. Mpesa)	391	3.17	.105	0.033	.965	3.081
Average scores	**391**	**2.78**	**.095**	**0.034**	**.885**	**.129**
Savings literacy: Savings: I have a savings account in:	N	Mean Score	SE		Skewness	Kurtosis
An MFI	391	2.13	.118	0.055	-.087	2.003
A commercial bank	391	4.10	.118	0.029	.173	0.846
A Sacco	391	2.10	.100	0.048	.046	1.078
Mobile phone account (e.g. M-Shwari)	391	3.97	.116	0.029	-1.207	.711
Rosca/Chama/merry go round	391	3.70	.194	0.052	-1.020	.173
I regularly liquidate my savings to boost my business	391	4.47	.090	0.020	.003	.273
I sell my shares/bonds when the yields are high and invest in my business	287	1.42	.099	0.070	-.006	.545
I do not liquidate my savings until they mature	247	1.42	.090	0.063	.035	2.249
Average scores	**360**	**2.42**	**.116**	**0.048**	**-.258**	**2.309**

The study evaluated the extent of microenterprises transactions with the financial institutions services in their daily businesses, accessibility to loans, type of financial services providers and the extent of savings with the available financial institutions. The results in Table 4.10 show that the average mean score for the transactions was 2.80, SE=.097. The overall coefficient of variation was 0.035 depicting low variability in the transactional cost incurred by the microenterprises.

Loan accessibility had an average mean score of 3.92, SE=.133 with coefficient of variation of 0.034; type of financial service provider had an average mean score of 2.78, SE=.095 with a coefficient of variation of 0.034; and, savings with financial institutions had an average mean score of 2.42, SE=.116 with a coefficient of variation of 0.048.

Individual responses on the utilization of a variety of financial services and providers had varied responses with the highest score of daily cash transactions (mean score= 4.25, SE=.087) and the lowest score on accessing loans from commercial bank (mean score=1.52, SE=.097). This finding is consistent with the findings from the FSD *et al.* (2013) financial access survey, which indicated that only 29.2% of the population utilize commercial banks and that a majority of small business owners use informal groups and MFIs.

The results suggest that majority of microenterprises do not utilize a variety of financial services and providers e.g. transacting using ATM, cheques and also majority do not have loans accounts with commercial banks and other financial institutions. This finding is consistent with the FSD *et al.* (2013) which indicated that only 19.7% of the population has an ATM or debit card, only 1.7% has a current account with a cheque book, 17.2 % has a current account and 9.8% has a bank savings account.

However, the analysis shows that majority of the microenterprises have adopted the use of mobile phone accounts e.g. Mshwari which gives them short term loan at low interest rates with less formalities required. This finding is consistent with findings of FSD *et al.* (2013) FinAccess survey (2013), which indicated that 62% of the population use mobile phone financial services.

The skewness indicates that the average score for the constructs of the utilization of a variety of financial services and providers are negatively skewed and is very near to zero which indicated that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platykurtic distribution.

The study also sought to determine the transaction costs incurred to obtain financial services in terms of total amount of fees paid to obtain the last loan, total amount of fees paid to open a savings account, amount paid to open a transaction account and opportunity costs. The findings were as indicated in Table 4.11.

Table 4.11   Transaction Costs

Description	N	Average Score (Kshs)	Skewness	Kurtosis
Total amount of fees paid to obtain the last loan				
Loan amount	186	86,405.68	1.089	1.575
Total fees paid (application fees, legal fees Insurance fees etc)	186	1,250.90	-.254	2.521
Amount spent on documentation	186	156.56	-1.306	1.452
Other incidental costs (transport, lunch, greasing)	186	680.45	.955	1.516
Average scores	**186**	**695.97**	**1.027**	**3.532**
Total amount of fees paid to open a savings account				
Savings amount	387	4,570.75	-.189	1.062
Fees paid	387	500.00	.798	1.176
Amount spent on documentation	387	7.50	1.189	2.210
Other incidental costs (transport, lunch, greasing)	387	187.45	-.302	1.605
Average scores	**387**	**231.65**	**-1.012**	**2.563**
Amount paid to open a transaction account				
Minimum balance	74	1,000	2.627	6.532
Account opening fees	74	500.00	-.057	1.066
Fees per transaction	74	30.00	-.134	1.030
Amount spent on documentation	74	26.45	.015	3.204
Average scores	**74**	**185.48**	**1.792**	**4.427**
Opportunity costs		**Days**		
Time spent following up on loan application	186	8	-1.025	2.651
Waiting days before obtaining Loan	186	3	-.047	2.301
Waiting days before obtaining savings	388	1	2.175	3.208
Waiting days before obtaining insurance	37	7	1.643	1.086
Average scores	**199**	**5**	**1.053**	**2.719**

The results in Table 4.11 show that the average for the total amount of fees paid to obtain the last loan was Kshs. 695.97, total amount of fees paid to open a savings account had an average mean of Kshs. 231.65, amount paid to open a transaction account had a mean of Kshs 185.48 and opportunity costs involved in obtaining financial services showing the average mean score of 5 days. This implies that in order for the microenterprises to obtain financial services e.g. loans, payment through banks services, transaction accounts and insurance services they must pay charges which may be affordable or unaffordable depending on the nature and size of the enterprise.

The skewness values of the construct ranged from negative to positive indicating both positively and negatively skewed distribution. Amount of fees paid to obtain loan had average skewness of 1.027 and kurtosis of 3.532, amount of fees paid to open a savings account had skewness of -1.012 and kurtosis of 2.563. Amount paid to open a transaction account and Opportunity costs had a skewness of 1.792 and 1.053, and kurtosis of 4.427 and 2.719 respectively. Thus, the distribution were, overall, positively skewed and mesokurtic.

4.4.9   Enterprise performance

Enterprise performance was measured using both financial and non-financial indicators. Financial indicators comprised of percentage growth in: enterprise profits, employee numbers, market share and sales turnover. Non-financial indicators comprised of entrepreneurial satisfaction as measured by satisfaction with income derived from the business, improvement of standard of living, ability to meet life goals, psychological satisfaction and preference for running the business rather than formal employment.

To measure the financial indicators of enterprise performance, each respondent was asked to evaluate its financial performance with respect to the following four dimensions: enterprise profits, employee numbers, market share/number of customers, and enterprise turnover/growth in sales. All these were benchmarked to 100% in 2008 as the base year. The results are presented in Table 4.12

Table 4.12: Enterprise Performance

Constructs considered	Annual growth or decline as a percentage (%)						Overall Annual growth	Skewness	Kurtosis
	2008= 100%	2009	2010	2011	2012	2013			
Enterprise profits	100%	22	23	23	24	31	24.6	-.032	1.241
Employee numbers	100%	2	2	3	3	3	3	-.031	1.894
Market Share/Number of customers	100%	22	23	23	24	24	23.2	.047	2.853
Enterprise turnover/Sales	100%	15	15	20	21	24	23	-.734	1.215

From the findings on enterprises performance with 2008 being the base year and benchmarked at 100%, the year 2009 registered an average score of (22%), the year 2010 registered an average score of (23%), the year 2011 registered an average score of (23%), an average score of (24%) for the year 2012 with the year 2013 registering the highest percentage average profit representing (31%).

As far as employee numbers is concerned, there was an average of 2 employees in 2009, an average of 2 in 2010, an average of 3 in 2011, an average of 3 in 2012 with an average of 3 employees in 2013.

Further, the market share/number of customers in 2009 was 22% while in 2010 and 2011 it stood at a constant of (23%). In 2012 and 2013, the market share stood at (24%) showing a positive increase of (1%) as compared to the previous years. Furthermore, the enterprise turnover/sales showed a progressive increase throughout the period with the highest being in 2013 with an average of (24%). The overall growth was exhibited in the enterprise profits with the best performing year registering (24.6%). The growth of profits may be attributed to the high turnover and low cost structures that are typical of retail businesses.

The employee numbers averaged at (3) for the five years still indicating that most of the surveyed enterprises are still very small. The sales turnover increased considerably to correspond with the growth in profits but this may not have been across board. It is worth noting that despite a favorable enterprise performance the market share is still very depressed at a partly (23.2%) annually. The data distribution was asymmetrical and gauged by the skewness and kurtosis values ranging between -.734 and .047, and 1.215 and 2.853, respectively.

Thus, the peakedness was mesokurtic and the distribution was both positively and negatively skewed. Entrepreneurial satisfaction includes measures such as income derived from the business, contribution to standard of living, psychological satisfaction and meeting life goals. Table 4.13 summarizes the level of satisfaction as perceived by enterprise owners.

Table 4.13: Entrepreneurial satisfaction

Description	N	Mean Score	SE	Skewness	Kurtosis
I am satisfied with the income derived from my business	391	4.53	.096	-.373	1.485
My business has enabled me to improve my standard of living (housing, education, health)	391	4.53	.093	.564	1.687
My business has enabled me to meet my life goals	391	4.03	.079	.707	1.790
I derive a lot of psychological satisfaction because of my business	391	3.95	.122	-1.148	1.443
I prefer self-employment than formal employment (even if an opportunity for formal employment arose)	391	3.85	.105	-.919	1.801
Average Scores	391	**4.18**	**.099**	**-.234**	**1.521**

The results in Table 4.13 show that the average scores for entrepreneurial satisfaction was 4.18, SE=.099. For entrepreneurial satisfaction to be high, business expectations must be met. This implies that entrepreneurial satisfaction is an important measure of enterprise performance. As far as the individual responses are concerned, satisfied with the income derived from the business had the highest score (mean score=4.53, SE=.096).

Income derived from the business not only boosts owners' satisfaction but also enables the business to grow and expand. As indicated from the above table, the average skewness value is -.234 which is negative implying negatively skewed and is relatively near to zero which implies that the constructs are asymmetrical. Kurtosis average value of 1.521 indicated that all the sub constructs had platykurtic distribution.

4.5   Sampling Adequacy

In order to establish the validity of study variables, tests of sampling adequacy were used. This enabled the study identify whether the items were appropriate for further analysis. Table 4.14 below shows Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and Bartlett's test of sphericity.

Table 4.14:   Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

Factors	KMO Test	Bartlett's Test of Sphericity			Determinant
		Approx. Chi-Square	df	Sig.	
Financial literacy	.804	352.056	10	.000	0.058
Financial access	.720	150.838	3	.000	0.297
Transaction cost	.814	585.613	21	.000	0.009
microenterprise Performance	.779	192.378	6	.000	0.212

The test results show that the scales had values above the threshold of 0.7 as established by Williams *et al*, 2012): financial literacy (0.804), financial access (0.720), transaction cost (0.814) and enterprise performance (0.779). Williams *et al* (2012) stated that KMO of 0.50 is acceptable degree for sampling adequacy with values above 0.5 being better.

Bartlett's Test of sphericity which analyzes if the samples are from populations with equal variances produced p-values less than .05 (p < .001) thus indicating an acceptable degree of sampling adequacy. Financial literacy had a chi-square value of 352.056 (p < .001), financial access (150.838, p <0.001), transaction cost (585.613, p < 0.001) and enterprise performance (192.378, p < 0.001). Determinant values are more than 0: financial literacy (0.058), financial access (0.297), transaction costs (0.009) and enterprise performance (0.212). Thus, it was acceptable to proceed with the analysis.

4.6   Confirmatory Factor Analysis

Factor analysis method was used to describe variability among observed variables and correlated variables in terms of lower number of unobserved/latent variables called factors. This helps in reducing a large number of variables to small numbers of factors for modeling purposes and to select subset variables from a large set, based on which original variables had the highest correlations with the factor. Factor loadings are the correlations between the original variables and factors and the key to understanding the nature of a particular factor. According to Hare (1998), factor analysis helps in grouping variables with similar characteristics together.

This study used factor analysis to create a small number of factors (financial literacy, financial access, and transaction cost) from a large number of variables/indicators which were capable of explaining the observed variance in the larger number of variables. These factors were then used for further analysis. Squared factor loading indicated what percentage of the variance in the original variables is explained by a factor (Rummel, 2002).

The factors were grouped into four constructs: financial literacy, financial access, transaction costs and microenterprise performance. Each construct had at least three indicators for each latent variable in the factor analysis models. Chi-square test output, which is a function of the differences between the observed covariances and the covariances of the model, was 127.743 at $p < .001$.

Though the chi-square is significant which implies that the model does not fit the data adequately, Meade and Kroustalis (2006) aver that chi-square test is a poor measure of overall goodness-of-fit especially with large samples. Nevertheless, since the p value is below 0.05, the null hypothesis of good fit is rejected. Thus, the study improved the model by removing indicators that had low loadings (below 0.7) or had high standardized covariances with other factors.

By convention, the indicator variables should have standardized regression weights of 0.7 or higher on the latent variable they represent (Pett*et al*, 2003). Factor loadings are the correlation coefficients between the variables and communality (squared standardized regression weight or squared factor loadings) measures the percent of variance in a given indicator (observed) variable explained by its latent variable (Pett*et al,* 2003).

Similarly, Brown (2006) avers that, analogous to Pearsons R, the squared factor loading is the percent of variance in that variable explained by the factor. Thus, if a variable has low theoretic importance and a low communality, it is targeted for removal in the model-modification. By removing factors with low loadings, the model improved as Chi-square values improved from 127.743 to 41.012 though p-value remained at $p < .001$.

CMIN/DF was 5.126, GFI was .902 which exceed the recommended 0.9, CFI was 0.941 which is close to 0.95, RMSEA improved to .181 though the PCLOSE was <.001. Table 4.15 presents the unstandardized regression weights based on raw data or covariance matrixes (used when comparing across groups which have different variances, unstandardized comparisons are preferred), and standardized estimate (regression weights).

Table 4.15:   CFA - Model

			Estimate	Standardized Estimate	S.E.	Critical Ratio C.R.	P Label
LIT	<---	Financial Literacy	1	0.853			
ACC	<---	Financial Access	0.968	0.877	0.075	12.865	***
TRA	<---	Transaction Cost	0.889	0.833	0.076	11.774	***
PERF	<---	Microenterprise Performance	0.839	0.720	0.089	9.39	***

From the Table 4.15, these four observed constructs load favourably on the common factor given a standardized regression weights above 0.7: LIT (financial literacy) = 0.720, ACC (financial access) = 0.833, TRA (transaction cost) = 0.877, PERF (microenterprise performance) = 0.853. The critical ratio (CR) and significance of path coefficients of above 1.96 and below .05 depicts that the estimated path parameters were significant.

4.7   Tests of Statistical Assumptions

The study performed tests on statistical assumptions i.e. test of regression assumption and statistic used. This included test of normality, linearity, independence, homogeneity and collinearity. Normality was tested using the Shapiro-Wilk test which has power to detect departure from normality due to either skewness or kurtosis or both.

Its statistic ranges from zero to one and figures higher than 0.05 indicate the data is normal (Razali and Wah, 2011). Linearity was tested by use of ANOVA test of linearity which computes both the linear and nonlinear components of a pair of variables whereby nonlinearity is significant if the F significance value for the nonlinear component is below 0.05 (Zhang *et al.*, 2011). Independence of error terms, which implies that observations are independent, was assessed through the Durbin-Watson test whose statistic ranges from zero to four. Scores between 1.5 and 2.5 indicate independent observations (Garson, 2012).

Homoscedasticity was tested by use of Levene's test of homogeneity of variances. If the Levene statistic is significant at $\alpha = 0.05$ then the data groups lack equal variances (Gastwirth *et al.*, 2009). Levene's test measures whether or not the variance between the dependent and independent variables is the same. Thus it is a check of whether the spread of the scores (reflected in the variance) in the variables are approximately similar (Bryk*et al*, 1988). Multicollinearity was tested by computing the Variance Inflation Factors (VIF) and its reciprocal, the tolerance.

It is a situation in which the predictor variables in a multiple regression analysis are themselves highly correlated making it difficult to determine the actual contribution of respective predictors to the variance in the dependent variable. The multicollinearity assumption has a VIF threshold value of 10 maximum (Robinson *et al*, 2009). Normality was tested using the Shapiro-Wilk test which has power to detect departure from normality due to either skewness or kurtosis or both.

All the results were above 0.05 confirming normality. Normality assumes that the sampling distribution of the mean is normal. All the computed readings were above 0.05 confirming linear relationships (constant slope) between the predictor variables and the dependent variable. Testing the independence of error terms, the test results ranged between 1.81 and 2.21 supporting independence of error terms. Homoscedasticity was tested by use of Levene's test of homogeneity of variances.

The test was not significant at $\alpha = 0.05$ confirming homogeneity. In the current study tolerance ranged from 0.60 to 0.80 and therefore its reciprocal, the VIF was between one and two, way below the threshold. Five assumptions of regression were tested and their results together with those of the test for reliability and the results showed that the assumptions of regression were met and subsequently the data were subjected to further statistical analysis including tests of hypotheses. The results are presented in table 4.16. The threshold levels for the respective test statistics are listed below each assumption.

Table 4. 16: Results of Tests of Statistical Assumptions (Test of regression assumption and statistic used)

		N	Normality *(Shapiro-Wilk test)*	Linearity *(ANOVA test)*	Independence *(Durbin-Watson test)*	Homogeneity *(Levene test)*	Collinearity *VIF (Tolerance test)*
Threshold: Assumption is met if			p > 0.05	p > 0.05	1.5- 2.5	p > 0.05	VIF 10 max
Entrepreneur Financial Literacy	• Financial Management • Debt Literacy • Savings Literacy • Investment literacy • Insurance Literacy	391	0.39	0.42	2.02	0.32	1.25 (0.80)
Financial Access	• Ownership of accounts • Utilization of a variety of financial services and providers	391	0.66	0.37	1.64	0.47	1.59 (0.63)
Transaction Costs	• Total amount of fees paid to obtain the last loan • Total amount of fees paid to open a savings account • Amount paid to open a transaction account • Opportunity costs	391	0.10	0.16	1.73	0.78	1.51 (0.66)
Microenterprise Performance	• Growth in profits • Growth in sales • Growth in market share • Growth in employment • Entrepreneurial Satisfaction	391	0.10	0.31	2.03	0.75	1.47 (0.71)

4.8   Correlation between independent and dependent variables

The main objective of the study was to determine the relationship between entrepreneur financial literacy, financial access, transaction costs and the performance of microenterprises. The first objective of the study was to assess the relationship between Entrepreneur financial literacy and microenterprise performance. Financial literacy comprised of five dimensions namely financial management, savings literacy, debt literacy, investment literacy and insurance literacy.

Respondents had been asked to indicate the extent to which they agreed on the financial literacy dimensions. Enterprise performance measures were composed of four financial indicators and one non-financial dimension. Financial indicators were percentage in growth in profits, percentage growth in sales, percentage growth in employment and percentage growth in market share. The non-financial indicator was entrepreneurial satisfaction. Before further inferential analysis was conducted, it was necessary to conduct correlation tests to determine the existence, strength and direction of the linear relationship between the study variables. Accordingly, correlation analysis by means of Pearson Product Moment Correlation technique was used.

4.8.1   Correlation between entrepreneur financial literacy, financial access, transaction costs and microenterprise performance

The correlation analysis results showing the relationship between entrepreneur financial literacy, financial access, transaction costs and microenterprise performance are shown in Table 4.17.

Table 4.17: Correlation between financial literacy, financial access, transaction costs and microenterprise performance

		Financial Literacy	Financial Access	Transaction Cost	Microenterprise Performance
Financial literacy	Pearson Correlation Sig. (2- tailed) N	1 391			
Financial Access	Pearson Correlation Sig. (2- tailed) N	0.768 0.000 391	1 391		
Transaction cost	Pearson Correlation Sig. (2- tailed) N	0.753 0.000 391	0.653 0.000 391	1 391	
Microenterprise performance	Pearson Correlation Sig. (2- tailed) N	0.854 0.000 391	0.765 0.001 391	0.553 0.000 391	1 391
** Correlation is significant at the 0.01 level (2-tailed).					
* Correlation is significant at the 0.05 level (2-tailed).					

The results in Table 4.17 indicate that the relationship between financial literacy and microenterprise performance is good, positive and statistically significant (R = .854, p-value < .001). Similarly, the relationship between financial access and microenterprise performance is good, positive and statistically significant (R = .765, p-value = .001).

However, the relationship between transaction cost and microenterprise performance is positive but moderately significant as indicated by Pearson correlation coefficient of .553 and p-value <.001. This implies that the study variables considered i.e. financial literacy; financial access and transaction cost play a critical role of influencing microenterprise performance in Nairobi County. The best relationship was between financial literacy and microenterprise performance (R = 0.723, p-value < .001). This suggests that the success of microenterprise is determined by how well the owner/management is equipped with financial knowledge in running the enterprise.

Further, a positive and very good linear relationship was established between financial access and financial literacy (R = 0.768; p < .001). This confirms the assumption that for a variable to mediate the relationship between two variables, it must significantly linearly and independently be linearly related with the two. Thus, financial access has good and significant linear relationship with both financial literacy (R = 0.768; p < .001) and microenterprise performance (R = .765, p-value = .001). Positive and very good linear relationship was established between transaction costs and financial literacy (R = 0.753; p <.001). Transaction costs have good and significant linear relationship with both financial literacy and microenterprise performance, and can moderate the relationship between the two.

4.8.2 Correlation between financial literacy dimensions and microenterprise performance

In order to establish the relationship between financial literacy dimensions and microenterprise performance, a correlation analysis was conducted to determine the strength and direction of the relationship between the dimensions of the two. The results of the relationship are summarized in the Table 4.18.

Table 4.18: Correlation between financial literacy dimensions and microenterprise performance

		Financial Management	Debt Literacy	Savings Literacy	Investment Literacy	Insurance Literacy
Financial management	Pearson Correlation Sig. (2- tailed) N	1 391				
Debt literacy	Pearson Correlation Sig. (2- tailed) N	0.742 0.000 391	1 391			
Savings literacy	Pearson Correlation Sig. (2- tailed) N	0.842 0.000 391	0.542 0.000 391	1 391		
Investment literacy	Pearson Correlation Sig. (2- tailed) N	0.771 0.000 391	0.664 0.000 391	0.732 0.000 391	1 391	
Insurance literacy	Pearson Correlation Sig. (2- tailed) N	0.421 0.000 391	0.342 0.000 391	0.341 0.000 391	0.232 0.000 391	1 391
Microenterprise performance	Pearson Correlation Sig. (2- tailed) N	0.811 0.000 391	0.532 0.000 391	0.691 0.000 391	0.789 0.000 391	0.352 0.000 391

The results in Table 4.18 indicate that the relationship between financial management and microenterprise performance is good, positive and statistically significant (R=.811, p-value < .001). Similarly, the relationship between investment literacy and microenterprise performance is good, positive and statistically significant (R=.789, p-value < .001). The relationship between microenterprise performance, and savings literacy and debt literacy were also significant and good (R=.691, p-value < .001) and (R=.532, p-value < .001) respectively.

However, the relationship between insurance literacy and microenterprise performance is positive but moderate as indicated by Pearson correlation coefficient of .352 and p-value < .001. This implies that the financial literacy dimensions of financial management, debt literacy, savings literacy, investment literacy and insurance literacy play a critical role of influencing Microenterprise performance in Nairobi County. The best relationship was between financial management and microenterprise performance (R=.811, p-value < .000).

4.8.3 Correlation between entrepreneur financial literacy and financial access

To determine the relationship between entrepreneur financial literacy and financial access a correlation analysis was conducted. The results of the correlation between entrepreneur financial literacy and financial access pertinent results are summarized in Table 4.19.

Table 4.19   **Correlation between entrepreneur financial literacy and financial access**

		Financial management	Debt literacy	Savings literacy	Investment literacy	Insurance literacy	Financial access
Financial management	Pearson Correlation Sig. (2-tailed) N	1 391					
Debt literacy	Pearson Correlation Sig. (2-tailed) N	0.742 0.000 391	1 391				
Savings literacy	Pearson Correlation Sig. (2-tailed) N	0.842 0.000 391	0.542 0.000 391	1 391			
Investment literacy	Pearson Correlation Sig. (2-tailed) N	0.771 0.000 391	0.664 0.000 391	0.732 0.000 391	1 391		
Insurance literacy	Pearson Correlation Sig. (2-tailed) N	0.421 0.000 391	0.342 0.000 391	0.341 0.000 391	0.232 0.000 391	1 391	
Financial access	Pearson Correlation Sig. (2-tailed) N	0.733 0.000 391	0.821 0.000 391	0.752 0.000 391	0.841 0.000 391	0.236 0.000 391	1 391
** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).							

The results in Table 4.19 indicate that the relationship between financial management and financial access is good, positive and statistically significant (R=.733, p-value < .001). Similarly, the relationship between investment literacy and financial access is good, positive and statistically significant (R=.821, p-value < .001). The relationship between savings literacy and debt literacy was also significant and good (R=.841, p-value < .001) and (R=.752, p-value < .001) respectively.

However, the relationship between insurance literacy and financial access is positive but moderate as indicated by Pearson correlation coefficient of .236 and p-value < .001. This implies that the financial literacy dimensions i.e. financial management, debt literacy, savings literacy, investment literacy and insurance literacy play a critical role of influencing financial access in Nairobi City County. The best linear relationship was between investment literacy and financial access (R=.841, p-value < .001).

4.9   Tests of Hypotheses H_1, H_2, H_3, H_4, H_5

The main goal of the study was to establish the relationship between entrepreneur financial literacy and performance of microenterprises. Five hypotheses were developed to empirically test the relationship between entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises in Nairobi County.

Hypothesis H_1 predicted that entrepreneur financial literacy has a significant influence on performance of microenterprises. Hypothesis H_2 predicted that entrepreneur financial literacy has a significant influence on financial access. Hypothesis H_3 predicted that financial access has a significant intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises.

Hypothesis H_4 predicted that transaction costs have a significant moderating effect on the relationship between entrepreneur financial literacy and performance of microenterprises. Finally, hypothesis H_5 predicted that the joint influence of all the variables on the performance of microenterprises was greater and different than the influence of the individual variables.

Hypothesis testing involved testing the influence of the predictor variable namely entrepreneur financial literacy on the predicted variable namely performance of microenterprises; the influence of entrepreneur financial literacy on financial access; the intervening effect of financial access on the relationship between entrepreneur financial literacy and the performance of microenterprises; the moderating influence of transaction costs on the relationship between entrepreneur financial literacy and performance of microenterprises and finally the joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises. These relationships were tested using inferential statistics namely simple and multiple regression analyses.

4.9.1 The relationship between entrepreneur financial literacy and microenterprise performance

Test of hypothesis H₁

The first objective of the study was to determine the influence of entrepreneur financial literacy on micro enterprise performance. To achieve this objective, the following hypothesis was formulated and tested:

H₁: *Entrepreneur Financial Literacy has a significant influence on performance of micro enterprises.*

To test H_1 a simple regression analysis was conducted. Data used to test this hypothesis was obtained by asking respondents the extent to which they agreed with various statements associated with various dimensions of financial literacy.

The composite index of the financial literacy dimensions and microenterprise performance was computed and a regression analysis performed to establish the influence of financial literacy on microenterprise performance. The relevant results are presented Table 4.20.

Table 4. 20   Regression results of entrepreneur financial literacy and microenterprise performance

Model Summary and coefficients					
a. Model Summary					
R	**R^2**		**Adjusted R Square**	**Std. Error of the Estimate**	
.854	.730		.710	.04353	
b. Coefficients					
Model	**Un-standardized Coefficients**		**Standardized Coefficients**		
	B	**Std Error**	**Beta**	**t-value**	**Significance p-value**
(Constant)	.456	.101		4.499	.000
Financial literacy	.877	.114	.854	4.034	.000
Predictors: Entrepreneur Financial Literacy Dependent Variable: Enterprise Performance					

The results in Table 4.20 show that financial literacy had a statistically significant influence on microenterprise performance. It explained 73% of its variation (R^2=.730). This implies that financial literacy has a strong relationship with microenterprise performance.

The overall model reveals a statistically significant relationship between predictor variable and the dependent variable (F=57.438, p-value < .001) as shown in Appendix V(a). This implies that there is a significant relationship between the predictor variable (financial literacy) and microenterprise performance.

The unstandardized regression coefficient (β) value of the computed (composite index) scores of financial literacy was 0.877 with a t-test of 4.034 and significance level of p-value < .001. This was used in line with regression constant assumption. The first objective of the study sought to establish the relationship between financial literacy and microenterprise performance.

The results achieved objective one of the study and confirmed that financial literacy had a statistically significant influence on enterprise performance as it explained 73% of its variation (R^2=.730). Having achieved the objective, the study accepted the hypothesis that financial literacy influences microenterprise performance. The regression equation to estimate the enterprise performance was stated as:

Microenterprise Performance = 0.456 +0.877*Financial Literacy

4.9.2 The relationship between Entrepreneur Financial Literacy and Financial Access

Test of hypothesis H$_2$

The second objective of the study was to determine the influence of entrepreneur financial literacy on financial access. To achieve this objective, the following hypothesis was formulated and tested:

H₂: *Entrepreneur Financial Literacy has a significant influence on financial acces*s

To test hypothesis H_2, a simple regression analysis was conducted to determine the magnitude of the relationship between entrepreneur financial literacy and financial access. The composite index of the financial literacy dimensions and financial access was computed and a regression analysis performed to establish the influence of financial literacy on financial access. The relevant results are presented Table 4.21.

Table 4. 21   Regression Results of Entrepreneur Financial Literacy and Financial Access

Model Summary and coefficients					
a. Model Summary					
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**		
.768	.590	.576	.05553		
b. Coefficients					
Model	**Un-standardized Coefficients**		**Standardized Coefficients**		
	B	**Std Error**	**Beta**	**T-Value**	**Significance p-value**
(Constant)	.219	.108		2.020	.051
Financial Literacy	.820	.122	.768	5.886	.000
Predictor: Entrepreneur Financial Literacy. Dependent Variable: Financial Access					

The results in Table 4.21 show that entrepreneur financial literacy had a statistically significant influence on financial access. This is based on R^2 value of 0.590 and adjusted to 0.576. It, thus, explained 59% of its variation in financial access. This implies that financial literacy has a strong relationship with financial access.

The overall model reveals a statistically significant relationship between predictor variable and the dependent variable (F=39.606, p-value < .001) as shown in Appendix V(b). This implies that there is a significant relationship between the predictor variable financial literacy and financial access.

The regression coefficient also show that entrepreneur financial literacy is statistically significant (β=.820, p-value < .001). This implies that financial literacy influences financial access. Objective two of the study was to determine the relationship between financial literacy and financial access. To achieve this objective hypothesis H_2 was formulated predicting that entrepreneur financial literacy had a significant influence on financial access.

The results achieved the second objective of the study and confirmed that the influence of financial literacy on financial access was statistically significant as it explained 59% of its variation. The hypothesis that financial literacy influences financial access of microenterprises in Nairobi City County was, therefore, supported by findings. The following regression equation was derived to estimate financial access for a given measure of changes in the financial literacy:

Financial Access = .219 + .820*Financial Literacy

4.9.3 Financial Access, Entrepreneur Financial Literacy and Micro-eenterprise Performance

Test of hypothesis H$_3$

The third objective of the study sought to establish the influence of financial access on the relationship between entrepreneur financial literacy and microenterprise performance. To achieve this objective, the following hypothesis was formulated:

H$_3$:   *Financial access has a significant intervening influence on the relationship between entrepreneur financial literacy and microenterprise performance*

To determine the influence of financial access on the relationship between financial literacy and microenterprise performance, financial access was first regressed on enterprise performance and the standardized regression coefficients (beta) examined to determine the size and direction of the relationship and whether it was statistically significant. If this relationship is not statistically significant, there can be no intervening effect. The equation used to measure the intervening influence was:

$Y = \beta_0 + \beta_1 X + \beta_2 IV$

Where X = Independent variable (entreprenuer financial literacy)

IV = intervening variable (financial access)

Y = microenterprise performance

The pertinent results are summarized in Table 4.22.

Table 4. 22:   Regression Results of Entrepreneur Financial Literacy and Enterprise Performance

Model summary and coefficients					
a. Model summary					
R	R Square		Adjusted R Square	Std. Error of the Estimate	
.854	.730		.710	.04353	
b. Coefficients					
Model	Un-standardized Coefficients		Standardized Coefficients		
	B	Std Error	Beta	**t-value**	Significance p-value
(Constant)	.456	.101		4.499	.000
Financial Literacy	.877	.114	.854	4.034	.000
Predictors: Entrepreneur Financial literacy. Dependent Variable: Enterprise Performance					

The results in Table 4.22 show that financial literacy had a statistically significant influence on performance of microenterprises. It explained 73% of its variation (R^2=.730). This implies that financial literacy has a strong relationship with microenterprise performance. The overall model reveals a statistically significant relationship between the predictor variable and the dependent variable (F=57.438, p-value < .001). This implies that there is a significant relationship between the predictor variable financial literacy and microenterprise performance and that relationship is positive and statistically significant.

In the second step, a regression analysis to assess the relationship between financial access and enterprise performance was conducted. In this step, financial access was treated as the independent variable and enterprise performance as the dependent variable. The results are summarized in Table 4.23.

Table 4. 23 Regression Results of Entrepreneur Financial Access and Enterprise Performance

Model Summary and Coefficients			
a. Model Summary			
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
.765[a]	.585	.525	.700

b. Coefficients					
Model	Un-standardized Coefficients		Standardized Coefficients		
	B	Std Error	Beta	t-value	Significance p-value
(Constant)	1.644	.128		1.889	.049
Financial Access	.062	.165	3.301	10.894	.001
Predictors: Financial Access					
Dependent Variable: Enterprise Performance					

The results in Table 4.23 show that financial access had a statistically significant influence on enterprise performance. It explained 58.5% of its variation (R^2=.585). This implies that financial access has a strong relationship with enterprise performance. The overall model reveals a statistically significant relationship between predictor variable and the dependent variable (F=10.894, p-value < .001) (Appendix V(c)). This implies that there is a significant relationship between the enterprise performance and financial access.

Finally, a regression analysis was performed and the betas examined for the strength, direction and significance of the relationship. In step one, enterprise performance was regressed on financial access and in step two, enterprise performance was regressed on financial literacy then adding financial access to assess if there was a significant change. When controlling for the effects of the financial access on enterprise performance, the effect of financial literacy on enterprise performance should no longer be statistically significant at α=.05. The relevant results are summarized in Table 4.24.

Table 4. 24   Regression results of Financial Access on Entrepreneur Financial Literacy and Enterprise Performance

Model Summary and Coefficients									
a. Model summary									
	R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R^2 **Change**	**F Change**	**Df 1**	**Df 2**	**Sig. F Change**
1	.854	.730	.710	.04353	.730	57.438	1	389	.000
2	.915	.837	.811	.03772	.107	1.3812	1	388	.002

b. Coefficients						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**		
		B	**Std Error**	**Beta**	**t-value**	**Significance p-value**
1	(Constant)	.456	.101		4.499	.000
	Financial Literacy	.877	.114	.854	4.034	.000
2	(Constant)	1.188	.143		8.312	.000
	Financial Literacy	.955	.085	.897	4.193	.000
	Financial Access	.120	.102	.083	3.175	.002
a. Dependent Variable: Enterprise Performance b. Predictors: (Constant), Financial Literacy c. Predictors: (Constant), Financial Literacy, Financial Access						

The results in Table 4.24 show that financial literacy explains 73% of the variation in enterprise performance (R^2 =.730). At step 2, financial access, adds significantly to enterprise performance as the variation increased from .730 to .837 (R^2 change= .107 p-value < .002). The results reveal that the variance explained by financial access is significant (F=57.438, p-value <.001) and the significance change (F=29.438, p-value < .001) in the second step. The results also revealed that the regression coefficients for financial literacy increased from .877 to .955 when financial access was added to the regression suggesting that financial access may be exerting a partial intervening effect.

The results confirmed that financial access had an intervening influence on the relationship between entrepreneur financial literacy and the performance of enterprises. Therefore, objective three of the study was achieved and supported hypothesis four of the study. From the regression results of the intervening regression model, the following model is established:

Microenterprise Performance = 1.188 + 0.955X + 0.120IV

X = Financial Literacy

IV = Financial Access

The fourth objective of the study was to establish the relationship between financial literacy, transaction costs and the performance of microenterprises. The findings indicate a linear relationship between microenterprise performance and financial literacy. There was statistically significant relationship between transaction cost and microenterprise performance (R = 0.553, p < .001) as indicated in Table 4.24. This implies that changes in the transaction cost affect microenterprise performance.

4.9.4 The relationship between transaction costs, entrepreneur financial literacy and microenterprise performance

Tests of hypothesis H$_4$

The study sought to determine the moderating effect of transaction costs on the relationship between entrepreneurial financial literacy and microenterprise performance. To assess the moderating effect, hypothesis four was formulated as follows:

H$_4$:   Transaction costs have a significant moderating effect on the relationship between entrepreneur financial literacy and microenterprise performance

Path analysis advanced by Baron *et al.,* (1986) for testing for moderation was employed for purposes examining the moderating influence of transaction costs. This involved testing the main effects of the independent variable (financial literacy) and moderator variable (transaction cost) on the dependent variable (enterprise performance) and the interaction between financial literacy and the transaction cost. The significance of the independent variable and the moderator variable is not particularly relevant in determining moderation. Moderation is assumed to take place if the interaction between the financial literacy and transaction cost is significant. The moderated equation used to measure the moderating influence was:

$Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 XZ$

Where X= Independent variable (entreprenuer financial literacy)

Z= Moderator (transaction cost)

XZ= Product of the standardized scores for the independent variable and

the moderator

Y= microenterprise performance

To create an interaction term, entrepreneur financial literacy and transaction cost measures were first standardized and a single item indicator representing the product of the two measures calculated. The creation of a new variable by multiplying the scores of financial literacy and transaction cost factors risks creating a multicollinearity problem. To address the multicollinearity problem, which can affect the estimation of the regression coefficients for the main effects, the two factors were converted to standardized (Z) scores that have mean zero and standard deviation one.

The two standardized variables (financial literacy and transaction cost) were then multiplied to create the interaction variable. The above hypothesis would be supported if the effect of the interaction between financial literacy and transaction cost (XZ) on microenterprise performance is statistically significant. The regression analysis based on the standardized scores for the independent and moderating variables yielded the results presented in Table 4.25.

Table 4. 25   Regression Results of the Moderating Effect of transaction costs

Model Summary and Coefficients					
a. Model summary					
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	
1	.735a	.541	.539	.92614	
2	.797a	.635	.632	.82739	
b. Coefficients					
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	1.361	.130		10.467	.000
	Financial Literacy	.732	.092	.730	7.985	.000
	Transaction cost	.006	.089	.006	2.064	.049
2	(Constant)	2.502	.163		15.333	.000
	Financial Literacy	.376	.089	.375	4.204	.000
	Transaction cost	.211	.082	.216	2.562	.011
	Product of Financial literacy and transaction cost	-.675	.068	-.354	-3.957	.046
Model 1: Predictors: (Constant), Transaction Cost, Financial Literacy					
Model 2. Predictors: (Constant), Transaction Cost, Financial Literacy, Transaction Cost* Financial Literacy. Dependent Variable: Microenterprise Performance					

The results in Table 4.25 indicated that financial literacy and transaction cost explained 54.1% of the variation in enterprise performance (R^2=.541). However, the moderated regression analysis explained 63.5% of the variations in microenterprise performance given a R^2 value of 0.635. This represents an increase of 9.4% when the interaction variable (financial literacy*transaction cost) was added. The change was statistically significant at α =.05 (p-value < .001).

The results in the above Table show that both the unmediated and moderated regression models were significant at 95% confidence level (p-value < .001). The f value changed from 307.996 to 208.019 owing to moderation with a significance value of p < .001 as shown in Appendix V(e). This shows that the moderating effect of transaction cost was significant.

The results in Table 4.25 showed statistically significant regression coefficients for financial literacy (β =.732; p-value < .001) indicating that there is a linear dependence of enterprise performance on financial literacy. In addition, there was a statistically significant relationship between transaction cost and enterprise performance (β=.006, p-value=.049). On introduction of the moderating effect, the significance of transaction cost improved from 0.006 to 0.211 at p = .011. The coefficient of financial literacy changes from 0.732 to 0.376 at p < .001.

A statistically linear relationship of enterprise performance on the multiplicative term of financial literacy and transaction cost was detected (β= -.675, p = .046). This implies that changes in the transaction cost moderates the relationship between financial literacy and microenterprise performance.

The multiple regression equation used to estimate the moderating effect of transaction cost on the financial literacy and enterprise performance relationship is stated as follows:

Microenterprise Performance = 2.502 + 0.376X + 0.211Z - 0.675XZ

X= Financial Literacy

Z=Transaction Cost

XZ= Product of Financial Literacy and Transaction Cost

The fourth objective of the study was to establish the relationship between financial literacy, transaction costs and the performance of microenterprises. The findings indicate a linear relationship between microenterprise performance and financial literacy. There was statistically significant relationship between transaction cost and microenterprise performance and the interaction term. This implies that changes in the transaction cost affect the relationship between financial literacy and microenterprise performance relationship; the fourth hypothesis is, thus, confirmed.

4.9.5 The relationship between eentrepreneur financial literacy, financial access, transaction costs and microenterprise performance

Test of hypothesis H_5

The fifth objective of the study sought to determine the joint influence of financial literacy, financial access and transaction cost on enterprise performance. To assess the joint effect, hypothesis five was formulated as follows:

H_5: *The joint influence of entrepreneur financial literacy, financial access and transaction costs on microenterprise performance is greater than individual influence of the individual influence of the variables*

To test the hypothesis on the joint effects of the study variables, stepwise multiple linear regression analysis was conducted. The analysis involved testing the joint effect of financial literacy, financial access and transaction costs on performance of microenterprises. The analysis also tested individual effects of the variables on performance. The joint influence results were then compared with the individual effects to establish the magnitude of the difference between the two. The relevant results for the joint effect are as summarized in Table 4.26.

Table 4. 26: **Regression Results for the joint effect of the predictor variables on microenterprise performance**

Model Summary and Coefficients									
a. Model Summary									
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.854	.730	.710	.04353	.730	57.438	1	389	.000
2	.915	.837	.811	.03772	.107	1.3812	1	388	.002
3	.961	.923	.905	.1151	.086	2.1831	1	387	.007
b. Coefficients									
Model			Unstandardized Coefficients	Standardized Coefficients		t		Sig.	
			B	Std. Error	Beta				
1	(Constant)		.456	.101		4.499		.000	
	Financial Literacy		.877	.114	.854	4.034		.000	
2	(Constant)		1.188	.143		8.312		.000	
	Financial Literacy		.955	.085	.897	4.193		.000	
	Financial Access		.120	.102	.083	3.175		.002	
3	(Constant)		1.673	.096		11.066		.000	
	Financial Literacy		.743	.067	.617	4.815		.000	
	Financial Access		.284	.058	.259	3.482		.002	
	Transaction Cost		-.405	.162	-.382	-2.839		.016	
Model 1: Predictors: (Constant), Financial Literacy Model 2: Predictors: (Constant), Financial Literacy, Financial Access Model 3: Predictors: (Constant), Financial Literacy, Financial Access, Transaction Cost									

The results in Table 4.26 reveal that the joint effect of financial literacy, financial access, transaction cost explain 92.3% of the variation in microenterprise performance (R^2=.923). The results show that 10.7% of the variation in microenterprise performance is contributed by financial access (R^2 changed from 0.730 to 0.837). In addition, 8.6% of the variation in microenterprise performance is brought about by the addition of transaction cost in the model as R^2 changed from 0.837 to 0.923.

The ANOVA results show that the joint influence of the study variables is statistically significant and caused a change in f-value from 57.438 in the first model that only had one variable to 131.060 in the joint model at $p < .001$. The results, further, show that the joint influence of the variables strengthened the model. Initially financial literacy had an explanatory power of 0.877. This changed to 0.955 with addition of financial access which had a contribution of 0.120 to the model. This implies that financial access is integral in microenterprise performance as it is not enough for management of microenterprises to have financial literacy without access to financial services. Addition of transaction cost to the model reduced the explanatory power of financial literary from 0.955 to 0.743.

Transaction cost had a coefficient of -0.405 and financial access coefficient became 0.284. Transaction cost is a financing cost to business whose increase raises business expenses, thus, negatively influencing microenterprise performance. Thus, the findings confirm objective five that the joint influence of entrepreneur financial literacy, financial access and transaction costs is different and greater than the individual influence of the variables.

This finding achieved objective five of the study which sought to determine the joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises. The study, thus, accepted hypothesis H_5 that the joint effect of all the variables is different and greater than the individual effects of the variables as the joint model explained more variations of the changes in the performance. The regression model that was used to estimate microenterprise performance taking into consideration the joint effect of its financial literacy, financial access, and transaction cost is stated as follows:

Microenterprise Performance = 1.673 + 0.743*Financial Literacy+ 0.284*Financial Access - 0.405*Transaction Costs   p = 0.001

4.10   Summary of Data Analysis and Results

This chapter presented the results of the analysis of the descriptive and inferential data collected from 391 micro enterprises which formed the study sample. Descriptive statistics computed for the study included mean, standard deviation, frequency distribution, coefficient of variance, skewness and kurtosis. These statistics provided a profile of the entrepreneurs and micro enterprises under study.

Tests of sampling adequacy were conducted to establish the validity of study variables. The Kaiser-Meyer-Olkin (KMO) test of sampling adequacy showed that the scales had values above the threshold of 0.7 as established by Williams *et al*, (2012). Bartlett's Test of sphericity which analyzes if the samples are from populations with equal variances produced p-values less than .05 ($p < .001$).

This indicated an acceptable degree of sampling adequacy. Factor analysis method was used to reduce a large number of variables to small numbers of factors for modelling purposes and to select subset variables from a large set. Tests of statistical assumptions including test of normality, linearity, independence, homogeneity and collinearity were also conducted. Correlation was conducted to determine the strengths of the relationships among the various measures of each variable and performance of microenterprises. This was to facilitate selection of measures which would be used to represent the variables. Five hypothesis were formulated for the study. Inferential statistics including correlation analysis, simple and multiple regressions were used to test the hypotheses.

The results of the simple regression analysis conducted on hypothesis H_1 indicated that entrepreneur financial literacy had a statistically significant influence on microenterprise performance as it explained It explained 73% of its variation ($R^2=.730$). Similarly, the results of the simple regression analysis conducted on hypothesis H_2 indicated that that entrepreneur financial literacy had a statistically significant influence on financial access as it explained 59% of the variation in financial access (R^2 value of 0.590).

The results of the multiple regression analysis to examine the relationship between entrepreneur financial literacy, financial access and microenterprise performance indicated that the variance explained by financial access was significant (F=57.438, p-value <.001) and the significance change (F=29.438, p-value < .001) in the second step. The results also revealed that the regression coefficients for financial literacy increased from .877 to .955 when financial access was added to the regression suggesting that financial access may be exerting a partial intervening effect.

The results therefore confirmed that financial access had an intervening influence on the relationship between entrepreneur financial literacy and the performance of enterprises. The results for the multiple regression analysis to establish the relationship between entrepreneur financial literacy, transaction costs and micro enterprise performance indicated that there was a statistically linear relationship of enterprise performance on the multiplicative term of financial literacy and transaction cost was detected (β= -.675, p = .046). This implied that changes in the transaction cost moderate the relationship between financial literacy and microenterprise performance transaction cost and microenterprise performance was positive but moderately significant as indicated by Pearson correlation coefficient of .553 and p-value < .001.

The multiple regression analysis results to establish the joint influence of entrepreneur financial literacy, financial access, transaction costs and microenterprise performance indicated that the joint effect of financial literacy, financial access, transaction cost explain 92.3% of the variation in microenterprise performance (R^2=.923). The results show that 10.7% of the variation in microenterprise performance is contributed by financial access (R^2 changed from 0.730 to 0.837). In addition, 8.6% of the variation in microenterprise performance is brought about by the addition of transaction cost in the model as R^2 changed from 0.837 to 0.923. Thus, the findings confirm objective five that the joint influence of entrepreneur financial literacy, financial access and transaction costs is different and greater than the individual influence of the variables.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1 Introduction

This chapter explains the results regarding the relationship between entrepreneur financial literacy and the performance of microenterprises. It also explains the intervening role of financial access and moderating role of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance. The chapter discusses the results of the hypothesized relationship of all predictor variables and individual effects of each variable on microenterprise performance. Finally, the chapter presents discussions on how the findings relate to existing theory and findings from empirical studies.

5.1.1 The influence of entrepreneur financial literacy and performance of microenterprises

Objective one of the study sought to establish the relationship between financial literacy and microenterprise performance. Financial literacy comprised of financial management, savings literacy, debt literacy, investment literacy and insurance literacy. Respondents had been asked to indicate the extent to which they agreed on the financial literacy dimensions. Enterprise performance measures comprised of percentage growth in sales, percentage growth in employment, percentage growth in profits, percentage growth in market share and entrepreneurial satisfaction. To achieve objective one, it was hypothesized that financial literacy has a significant influence on the performance of microenterprises.

Before testing the hypothesis, a correlation analysis was conducted to determine the strength and direction of the relationship between the dimensions of financial literacy and the performance of microenterprises. The results of the correlation analysis indicated that relationship between the different dimensions of entrepreneur financial literacy and performance of microenterprises was good, positive and statistically significant.

The study further carried out a regression analysis to determine the magnitude of the relationship between entrepreneur financial literacy and microenterprise performance. The composite index of the financial literacy dimensions and microenterprise performance was computed and a regression analysis performed to establish the influence of financial literacy on microenterprise performance. The study established that there was a positive and significant relationship between financial literacy and performance of microenterprises in Nairobi City County, Kenya. The findings indicated that entrepreneur financial literacy explained 73% of its variation in microenterprise performance (R^2=.730).

The results are consistent with extant literature and previous studies that suggested that financial literacy leads to superior enterprise performance. Extant literature suggests that financial literacy is positively related to microenterprise performance. Financial literacy enables entrepreneurs to interpret financial information in order to make effective financial decisions that contribute to the financial goals of the firms (Dolezalek, 2006).

Weak financial literacy undermines entrepreneurial activity contributes to the low prevalence of new venture creation and ultimately the high failure rate of small firms (GEM, 2010; Bosma *et al*, 2006). Financial literacy results in financial efficiency which allows entrepreneurs to access and utilize of financial products without waste and unnecessary cost as well as promoting financial practices that enhance enterprise growth (Capuano *et al*, 2011). Empirical evidence also confirms that financial literacy influences microenterprise performance.

Njoroge (2013) studied the relationship between financial literacy and entrepreneur success among SMEs in Nairobi City County, Kenya and established that entrepreneurs in the county had some level of financial literacy and that in some cases those in formal SMEs were highly financially literate. Siekei *et al* (2013) studied the effect of financial literacy education on performance of small firms in Njoro, Kenya and established that training in financial analysis, budgeting and credit management improved the performance of microenterprises.

The study is also consistent with a study by Zindiye (2008) which established that financial skills, particularly book keeping skills, financial statements preparation, debit and credit control, budgeting skills and tax calculation influenced the performance of the enterprises. The study further confirmed the findings by Siekei *et al* (2013) which showed that training in financial analysis, budgeting and credit management improved the performance of microenterprises.

However, the finding contradicted the findings of a study on the impact of financial training on financial outcomes in India by Carpena *et al* (2011) which established that financial literacy did not immediately enable individuals to discern costs and rewards that require high numeracy skills, but it significantly improved basic awareness of financial choices and attitudes toward financial decisions. In confirming that financial literacy influenced the performance of microenterprises, the study achieved the objective one of establishing the relationship between financial literacy and microenterprise performance in Nairobi County, Kenya

5.1.2 The influence of entrepreneur financial literacy and financial access

The second objective of the study was to establish the relationship between financial literacy and financial access. To achieve this objective, it was hypothesized that entrepreneur financial literacy has a significant influence on financial access. Financial access was measured using utilization of loans, savings, insurance, investment, transaction accounts as well as obtaining services from formal or informal financial service providers. A correlation analysis was conducted to determine the relationship between the different dimensions of entrepreneur financial literacy and financial access a correlation analysis was conducted.

The study further carried out a regression analysis to determine the magnitude of the relationship between entrepreneur financial literacy and financial access. The composite index of financial literacy dimensions and financial access was computed and a regression analysis performed to establish the influence of financial literacy on financial access.

The results indicated that entrepreneur financial literacy had a statistically significant influence on financial access as it accounted for 59% of the variation in financial access (R2=.590). This finding is consistent with extant literature which suggests that access to finance is critical to the performance and growth of microenterprises. Financial capital provides resource slack, allowing experimentation with new strategies and innovative projects that might not be possible in a more resource-constrained environment which in turn increases the willingness to innovate and pursue new opportunities (Wilkund *et al,* 2007).

However, in many developing countries, majority of informal businesses have limited access to financial services and while many factors contribute to this, lack of financial literacy has been identified as one of the factors that limits financial access (OECD, 2012). Without broad access to financial services, such credit constraints make it difficult for poor households and small-scale entrepreneurs to finance high-return investment projects (Beck *et al,* 2007).

The finding is consistent with empirical studies which established that financial literacy influenced financial access. Mengich *et al* (2012) studied the challenges to the uptake of equity financing by SMEs in Kenya and established that information asymmetries, lack of financial literacy and transaction costs constrained the uptake of equity financing by SMEs in Kenya.

Wachira *et al* (2012) examined the impact of financial literacy on access to financial services by SMEs in Kenya and established that financial literacy was low and this impeded access to financial services. Mira *et al* (2013) examine the challenges hindering access to credit facilities by among women entrepreneurs in Nairobi Central Business District, Kenya and concluded that that lack of information, insufficient skill and knowledge level, lack of collaterals required and socio-cultural roles had a strong and negative influence on access to credit for women.

Bruhn *et al* (2011) studied the impact of business and financial literacy training for young entrepreneurs in Bosnia and Herzegovina, and concluded that improvements in basic financial knowledge had a significant impact on the growth of surviving firms. Barte (2011) studied the effect of financial literacy on microenterprises in the fishing subsector in the Philippines and established that the fish vendors had low levels of financial literacy which negatively affected their enterprises.

However, the findings are not consistent with findings by Eresia-Eke *et al* (2013) who studied the relationship between the financial literacy of entrepreneurs and business growth in South Africa and established that there was no correlation between financial literacy and the growth of Small, Micro and Medium Enterprises (SMMEs). In confirming that entrepreneur financial literacy has a significant influence on financial access, the results achieved objective two of the study.

5.1.3 The Influence of Financial Access on the Relationship between entrepreneur financial literacy and microenterprise performance

The third objective of the study was to establish the relationship between financial literacy, financial access and microenterprise performance. To achieve this objective, it was hypothesized that financial access has a significant intervening influence on the relationship between financial literacy and microenterprise performance.

To determine the influence of financial access on the relationship between financial literacy and microenterprise performance, enterprise performance was first regressed on financial literacy and the standardized regression coefficients (beta) examined to determine the size and direction of the relationship and whether it was statistically significant. The results indicated that financial literacy had a statistically significant influence on the performance of microenterprises as it explained 73% of its variation (R^2=.730). In the second step, a regression analysis to assess the relationship between entrepreneur financial literacy and financial access was conducted.

The results indicated that entrepreneur financial literacy had a statistically significant influence on financial access. As it explained 59% of its variation (R^2=.590). The regression results for the intervening influence of financial access indicated that revealed that the regression coefficients for financial literacy increased from .575 to .578 when financial access was added to the regression suggesting that financial access may be exerting a partial intervening effect. The results are consistent with extant literature which suggests that financial access is an important determinant of the performance of microenterprises.

Financial access provides working capital, fosters greater firm innovation and dynamism, enhances entrepreneurship, promotes more efficient asset allocation and enhances the firm's ability to exploit growth opportunities (Beck, *et al* 2006). The finding on the relationship between entrepreneur financial literacy and performance of microenterprises is consistent with empirical studies which established that financial literacy influences financial access which in turn influences microenterprise performance.

In a study on microenterprises in Sri Lanka, Del Mel (2008) established that financial literacy improved the usage of financial products by the enterprises, which in turn improved their performance. Nunoo *et al* (2012) studied utilization of financial services by SMEs in Ghana and confirmed that financially literate entrepreneurs were more likely to access and utilize financial services which in turn improved the performance of their enterprises.

Using the national financial access (Fin Access) survey data in Kenya, Mwangi, *et al* (2012) also established that financial literacy influences financial access and that this had a negative influence on the performance of the firms. By confirming that financial access intervenes in the relationship between entrepreneur financial literacy and performance of microenterprises, the results achieved objective three of the study.

5.1.4 The Influence of Transaction Costs on the Relationship between Entrepreneur Financial Literacy and Microenterprise Performance

Objective four of the study sought to establish the relationship between entrepreneur financial literacy and microenterprise performance.

To achieve this objective, it was hypothesized that transaction costs have a significant moderating influence on the relationship between financial literacy and microenterprise performance. To test this hypothesis, path analysis technique (Baron *et al,* 1986) was used. This involved testing the main effects of the independent variable (financial literacy) and moderator variable (transaction cost) on the dependent variable (enterprise performance) and the interaction between financial literacy and the transaction cost.

Moderation is assumed to take place if the interaction between the financial literacy and transaction cost is significant. A statistically linear relationship of enterprise performance on the multiplicative term of financial literacy and transaction cost was detected (β= -.675, p = .046). This implies that changes in the transaction cost moderates the relationship between financial literacy and microenterprise performance. This finding is consistent with studies which examined the relationship between transaction costs, financial literacy and performance of microenterprises. Entrepreneurs with lower levels of financial literacy incur higher transaction costs due to information asymmetries in the financial markets characterized by opaque and complicated fees structures (Lusardi *et al,* 2008).

The finding is consistent with the findings by Hieltjes *et al* (2013) who examined the influence of financial literacy, information and transactions costs as factors driving demand for and use of savings accounts among low income individuals and established that compared to financial literacy, transaction costs influenced the uptake and utilization of bank accounts.

Beck *et al* (2008) established that financial market imperfections such as informational asymmetries due to lack of financial literacy, transactions costs and contract enforcement costs are particularly binding on poor or small entrepreneurs who lack collateral, credit histories, and connections. Sharma *et al* (2011) studied the financing constraints for microenterprises in Fiji, and established that most microenterprises were constrained by high fees, high collateral requirements and high disclosure requirements. In confirming that transaction costs influence the relationship between financial literacy and microenterprise performance, objective four, which sought to establish the relationship between financial literacy, transaction costs and performance of microenterprises, was achieved.

5.1.5 The Joint Influence of Entrepreneur Financial Literacy, Financial Access and Transaction Costs on Microenterprise Performance

Objective five of the study was to determine the joint effect of financial literacy, financial access and transaction costs on the performance of microenterprises. To achieve this objective, the study hypothesized that the joint effect of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprises is greater than the effect of a single variable.

The analysis involved testing the joint effect of financial literacy, financial access and transaction costs on performance of microenterprises. The analysis also tested individual effects of the variables on performance. The combined effects were compared with the individual effects to establish the magnitude of the difference between the two.

The results of the analysis indicated that the joint effects of financial literacy, financial access, transaction cost explain 69% of the variation in enterprise performance (R^2=.691). The results show that the joint effect of the study variables are statistically significant (F=12.079, p-value=.000. This implies that the study variables jointly predict enterprise performance.

The findings are consistent with literature on the relationship between financial literacy financial access and transaction costs. This relationship is often explained by the concept of financial inclusion. Financial inclusion is defined as the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches (Atkinson et al, 2012). The definition consolidates the key variables of the study namely financial access, transaction costs.

The findings are also consistent with previous studies which established that there is a correlation between financial literacy and financial inclusion (Gardeva et al, 2011). Financial inclusion aims at drawing the unbanked population) into the formal financial system to enable them access a wide range of financial services including savings, payments, money transfers and credit and insurance (Hannig et al, 2010). Financial inclusion of small firms reduces liquidity constraints, encourages investment which in turn influences industrial structure, firm size, and competition in an economy (Beck, et al, 2006).

Financial inclusion also leads to financial deepening, which drives investment, growth, poverty reduction and total factor productivity in the economy (Atkinson et al, 2012). The results confirmed that the joint effects of entrepreneur financial literacy, financial access and transaction costs was greater than their individual effects thus achieving objective five of the study.

5.2   Summary of study results and discussions

The results from the data analysis provided empirical evidence on the relationship between entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises. Some of the results confirmed findings from previous empirical studies while others contradicted some findings. The result on the relationship between entrepreneur financial literacy and performance of microenterprises confirms that entrepreneur financial literacy has a significant influence on the performance of microenterprises. The finding is consistent with previous studies that suggested that financial literacy leads to superior enterprise performance.

Njoroge (2013) studied the relationship between financial literacy and entrepreneur success among SMEs in Nairobi County, Kenya and established that entrepreneurs in Nairobi County had some level of financial literacy and that in some cases those in formal SMEs were highly financially literate. Siekei *et al* (2013) studied the effect of financial literacy education on performance of small firms in Njoro, Kenya and established that training in financial analysis, budgeting and credit management improved the performance of microenterprises.

The result is also consistent with findings by Zindiye (2008) established that financial skills, particularly book keeping skills, financial statements preparation, debit and credit control, budgeting skills and tax calculation influenced the performance of the enterprises. However, the finding was not consistent with findings of a study on the impact of financial training on financial outcomes in India by Carpena *et al*, (2011) which established that financial literacy did not immediately enable individuals to discern costs and rewards that require high numeracy skills, but it significantly improved basic awareness of financial choices and attitudes toward financial decisions.

The result on the relationship between entrepreneur financial literacy and financial access confirms the hypothesis that entrepreneur financial literacy has a significant influence on financial access. The result is consistent with findings b**y** Mengich *et al* (2012) who studied the challenges to the uptake of equity financing by SMEs in Kenya and established that information asymmetries, lack of financial literacy and transaction costs constrained the uptake of equity financing by SMEs in Kenya.

Wachira *et al* (2012) examined the impact of financial literacy on access to financial services by SMEs in Kenya and established that financial literacy was low and this impeded access to financial services. The result is also consistent with findings by Mira *et al* (2013) who examined the challenges hindering access to credit facilities by among women entrepreneurs in Nairobi Central Business District, Kenya and concluded that that lack of information, insufficient skill and knowledge level, lack of collaterals required and socio-cultural roles had a strong and negative influence on access to credit.

Bruhn *et al* (2011) studied the impact of business and financial literacy training for young entrepreneurs in Bosnia and Herzegovina, and concluded that improvements in basic financial knowledge had a significant impact on the growth of surviving firms. The result on the influence of financial access on the relationship between financial literacy and microenterprise performance confirms that financial access has a significant intervening influence on the relationship.

The result is consistent with previous studies which established that financial literacy influences financial access which in turn influences the performance of microenterprises. In a study on the effect of finance on the performance of microenterprises in Sri Lanka, Del Mel (2008) established that financial literacy improved the usage of financial products by the enterprises, which in turn improved their performance. Nunoo *et al* (2012) studied utilization of financial services by SMEs in Ghana and confirmed that financially literate entrepreneurs were more likely to access and utilize financial services which in turn improved the performance of their enterprises.

Wachira, *et a*l (2012) also established that financial literacy influences financial access and that this had a negative influence on the performance of the firms. The results on the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance indicated that transaction costs exert a moderating influence on the relationship. The result is consistent with previous studies which established that transaction costs influence the relationship between entrepreneur financial literacy and performance of microenterprises.

Hieltjes et al (2013) examined the influence of financial literacy, information and transactions costs as factors driving demand for and use of savings accounts among low income individuals and established that compared to financial literacy, transaction costs influenced the uptake and utilization of bank accounts. Beck *et al* (2008) established that financial market imperfections such as informational asymmetries due to lack of financial literacy, transactions costs and contract enforcement costs are particularly binding on poor or small entrepreneurs who lack collateral, credit histories, and connections.

Sharma *et al* (2011) studied the financing constraints for microenterprises in Fiji, and established that most microenterprises were constrained by high transaction costs of financial services. The result on the joint influence of entrepreneur financial literacy, financial access, and transaction costs on microenterprise performance confirmed that the joint influence was greater than the individual influence of the variables. The result is consistent with previous studies e.g. Gardeva *et al*, (2011) who established that low levels of financial literacy are major barriers to financial inclusion because they lead to high transaction costs and restrict access to financial services.

CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1   Introduction

This chapter provides a summary of the study findings and conclusions based on the findings and discussions in chapter four and five. The conclusions are derived by relating the findings to the achievement of the five objectives of the study as well as the hypotheses that had been formulated for the study. The chapter also highlights the contributions of the study to theory, methodology, policy and practice in both entrepreneurship and microenterprise development. Finally, the chapter highlights limitations of the study and outlines proposed areas of future research.

6.2   Summary of the Study Findings

The main objective of this study was to establish the relationship between financial literacy, financial access, transaction cost and performance of microenterprise in Nairobi, County Kenya. Five objectives were developed for the study namely to establish the influence of entrepreneur financial literacy on microenterprise performance; to determine influence of entrepreneur financial literacy on financial access ; to establish the influence of financial access on the relationship between financial literacy and microenterprise performance; to determine the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance and to establish the joint influence of entrepreneur financial literacy, financial access, transaction costs and microenterprise performance.

To achieve these objectives, five hypotheses were formulated and tested using correlation analysis and simple and multiple regressions. The results supported all the five hypotheses of the study as discussed in the following sections.

6.2.1 Influence of entrepreneur financial literacy on performance of microenterprises

The first objective of the study was to assess the relationship between Entrepreneur financial literacy and microenterprise performance. Financial literacy comprised had five dimension namely financial management, savings literacy, debt literacy, investment literacy and insurance literacy. Respondents had been asked to indicate the extent to which they agreed on the financial literacy dimensions. Enterprise performance was measured by both financial and non-financial indicators. Financial indicators were % growth in sales, % growth in profits, % growth in income and % growth in employment. Non-financial indicators was entrepreneurial satisfaction as measured by satisfaction with income derived from the business, achievement of life goals, improvement of standards of living and preference to run the business over formal employment.

The results indicated that financial literacy had a statistically significant influence on enterprise performance. It explained 73% of its variation (R^2=.730). The standardized regression coefficient (β) value of the computed (composite index) scores of financial literacy was .575 with a t-test of 4.034 and significance level of p-value=.000. The findings indicated that financial literacy had a statistically significant influence on enterprise performance. The hypothesis that financial literacy influences enterprise performance was therefore supported by the current study.

6.2.2 The influence of entrepreneur financial literacy on financial access

The second objective of the study was to establish the relationship between financial literacy and financial access. Financial access was measured by five dimensions namely financial management, debt literacy, savings literacy, investment literacy, insurance literacy and utilization of a variety of financial services and financial service providers. To determine the relationship between entrepreneur financial literacy and financial access, a linear regression analysis was conducted. The results indicated that the financial literacy had a statistically significant influence on financial access.

The overall model revealed a statistically significant relationship between entrepreneur financial literacy and financial access. The standardized regression coefficient also shows that the financial literacy is statistically significant. This implied that financial literacy influence financial access. The hypothesis that financial literacy influence financial access of microenterprises surveyed in Nairobi County was therefore supported. This finding supports extant literature and empirical studies which have established that higher levels of financial literacy improve access to financial services.

6.2.3 The intervening influence of financial access on the relationship between entrepreneur financial literacy and performance of microenterprises.

The third objective of the study was to determine the relationship between entrepreneur financial literacy, financial access and performance of microenterprises. To achieve this objective, it was hypothesized that financial access had an intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises.

First the relationship between financial literacy and financial access was examined betas examined for the strength, direction and significance of the relationship. The regression results revealed that relationship between financial literacy and financial access was positive and statistically significant. To test the intervening effect of financial access, enterprise performance was regressed on financial access and on financial literacy to assess if there was a significant change.

The results revealed that the regression coefficients for financial literacy increased from .575 to .578 when financial access was added to the regression suggesting that financial access may be exerting a partial intervening effect. The results also indicated that the variance explained by financial access was significant. The finding added new insights to extant literature on how the interaction between financial literacy and financial access influences performance of microenterprises.

6.2.4 The moderating influence of transaction costs on the relationship between entrepreneur financial literacy and performance of microenterprises

The fourth objective sought to determine the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance. Transaction costs was measured by total amount paid by entrepreneurs to open transaction and savings accounts, total amount paid to obtain loans and opportunity costs measure by number of days it took to obtain financial services.

To measure the moderating effects of transaction costs, multiple regression analysis were conducted. The results indicated that under change statistics, that the R^2 change increased when the interaction variable (financial literacy*transaction cost) was added. The change was statistically significant. The results therefore showed a statistically significant relationship between financial literacy, transaction cost and the interaction.

However the change was negative implying that changes in the transaction cost may negatively affect financial literacy and enterprise performance. By confirming this relationship, this finding achieved the fourth objective of the study. The finding adds new insights in existing body of knowledge on how transaction costs influence the relationship between entrepreneur financial literacy and performance of microenterprises.

6.2.5 The joint influence of financial literacy, financial access and transaction costs on performance of microenterprises

The fifth objective of the study sought to determine the joint effect of financial literacy, financial access and transaction cost on enterprise performance. To achieve this objective, it was hypothesized that the joint effects of entrepreneur financial literacy, financial access and transaction cost was greater than the individual effects of the variables. To test this hypothesis, multiple regression analysis was used.

The results indicated that the joint effect of financial literacy, financial access, transaction cost explain 69% of the variation in enterprise performance (R^2=.691). Further, the results indicated that the joint effect of the study variables are statistically significant (F=12.079, p-value=.000). This implies that the study variables jointly predict enterprise performance and should be considered when developing microenterprise development.

In confirming the relationship, hypotheses five was supported and objective five of the study was achieved. Since the configuration of the integrated model was unique to this study, the findings provide new insights into the need to use integrated models when designing and implementing microenterprise development programmes. The summary of research objectives, hypothesis, findings and conclusions is presented in table 6.1.

Table 6.1   Summary of Research Objectives, Hypotheses, Findings and Conclusions

Objective	Hypothesis	Findings	Conclusion
To establish the influence of entrepreneur financial literacy on microenterprise performance	H_1.Entrepreneur financial literacy has a significant influence on the performance of microenterprises	The findings established that entrepreneur financial literacy had a significant influence on performance of microenterprises.	H_1 was supported
To determine the influence of entrepreneur financial literacy on financial access	H_2. Entrepreneur financial has a significant influence on financial access	The findings established that entrepreneur financial literacy had a significant influence on financial access	H_2 was supported
To establish the influence of financial access on the relationship between financial literacy and microenterprise performance	H_3. Financial access has a significant intervening influence on the relationship between financial literacy and performance of microenterprises	The findings established that financial access had a significant intervening influence on the relationship between entrepreneur financial literacy had a significant influence on performance of microenterprises.	H_3 was supported

To assess the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance	H_4. Transaction costs have a significant moderating influence on the relationship between entrepreneur financial literacy and the performance of microenterprises	The findings established that transaction costs had a significant moderating influence on the relationship between entrepreneur financial literacy and performance of microenterprises	**H_4 was supported**
To determine the joint influence of entrepreneur financial literacy, financial access and transaction costs on microenterprise performance	H_5.The joint influence of entrepreneur financial literacy, financial access and transaction costs on the performance of microenterprise is greater than their individual influence	The findings established that the joint influence of entrepreneur financial literacy, financial access and transaction costs on performance of microenterprises is greater than the individual influence of each variable.	**H_5 was supported**

The results in Table 6.1 show that the findings indicated a statistically significant positive relationship between entrepreneur financial literacy and performance of microenterprises. This finding achieved objective one of the study and supported hypothesis one of the study. The results also show a statistically significant relationship between entrepreneur financial literacy and financial access. This achieved objective one and supported hypothesis two of the study.

The study further established that financial access has a significant intervening influence on the relationship between entrepreneur financial literacy and performance of microenterprises. This achieved objective three of the study and supported hypothesis three of the study.

Tests on hypothesis five established that transaction costs have a significant moderating influence on the relationship between entrepreneur financial literacy and microenterprise performance. This achieved objective four of the four of the study and supported hypothesis four. Finally, the results in table 6.1 indicate that the joint effect of financial literacy, financial access and transaction costs and microenterprise performance is significantly greater than their individual influence of each variable.

This result achieved objective five and supported hypothesis five of the study. The results achieved the overall objective of the study which was to establish the relationship between entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises in Nairobi City County.

6.3   Conclusions of the Study

The main objective of the study was to determine the relationship between entrepreneur financial literacy and performance of microenterprises in Nairobi County, Kenya. . Five specific objectives were derived from the main objectives. To achieve the specific objectives five hypotheses were formulated based on a review of literature and empirical studies. The hypotheses were subjected to correlation and regression analysis.

From the findings of the study, various conclusions were drawn. Objective one sought to determine the relationship between entrepreneur financial literacy and performance of microenterprises. To achieve objective one, the study concluded that entrepreneur financial literacy had a statistically significant influence on the on the performance of microenterprises.

The study also sought to establish the influence of financial access on the relationship between financial literacy and microenterprise performance. This objective was achieved and the study concluded that the relationship between financial literacy and financial access is positive and statistically significant. This means that financial literacy predicts financial access outcome of the microenterprises. Objective three of the study sought to determine the influence of transaction costs on the relationship between entrepreneur financial literacy and microenterprise performance.

The results therefore showed a statistically significant relationship between financial literacy, transaction cost and the interaction. The study achieved the objective and concluded that transaction costs have a moderating effect on the relationship between entrepreneur financial literacy and performance of microenterprises. The fifth objective sought to determine the joint effect of financial literacy, financial access and transaction cost on performance of microenterprises. The results confirmed that the joint effect of financial literacy, financial access, and transaction cost are statistically significant. The study therefore concluded that the joint effects of entrepreneur financial literacy, financial access and transaction costs are greater than individual effects of the variables.

6.4   Implications of the Research Findings

The study examined the relationship between entrepreneur financial literacy, financial access, transaction costs and enterprise performance. The study bridged some of the conceptual, methodological and contextual gaps that had been identified in the literature review.

The findings from this research present a number of issues that have implications for the theory, policy and the practice of entrepreneurship and microenterprise development. As regards theory, the study advances theoretical arguments for the use of Resource-based theory (RBT) in entrepreneurship research. The study also advances the use of contingency theory in entrepreneurship research to examine the role of independent, intervening and moderating roles of entrepreneur financial literacy, financial access and transaction costs on performance of microenterprises.

The study developed an empirical model depicting the relationship among the study variables. The model presents a useful framework for entrepreneurship and microenterprise research. The findings also have implications for improving the management of microenterprises. Firstly, the study highlights the role of entrepreneur literacy in improving the performance of microenterprises. Therefore entrepreneurs need to invest in improving their financial literacy in order to improve the performance of their microenterprises. Key areas of improvement in financial management include financial planning, budgeting, cash flow management and preparation of financial statements.

The findings also call for improvements in the entrepreneurs' savings literacy which will improve their capacity to save in order to increase internally generated funds. Improvements in insurance literacy, will improve the entrepreneurs' knowledge and uptake of savings products in order to protect them against business and personal risks. The findings require entrepreneurs to improve their investment literacy in order to enhance their participation in the stock markets.

This will give them access to more low-cost financial instruments. Findings on the intervening role of financial access on the relationship between entrepreneur financial literacy and performance of microenterprises require entrepreneurs to improve their financial literacy skills in order to enhance access to financial services.

Results on the moderating role of transaction costs on the relationship between entrepreneur financial literacy and performance of microenterprises also requires entrepreneurs to improve their financial literacy skills in order to negotiate for lower costs of financial services.

At policy level, Kenya's strategy for revitalizing microenterprises and Vision 2030 both aspire to boost microenterprises through creating an enabling environment. In this regard, Vision 2030 aspires to invest in training, research and development and improve efficiency in the market system. The findings of this study indicated that entrepreneur financial literacy influences the performance of microenterprises. In addition, the study reported on the intervening role of financial access and the moderating role of costs. The Government policy should therefore focus on improving entrepreneur financial literacy and reducing the transaction costs of financial services.

6.5   Limitations of the Study

Although this study helped to shed light on the influence of financial literacy, financial access and transaction costs on a key sector in Kenya's economy, it was subject to a number of limitations. The study used a cross-sectional research design and focused on microenterprises in Nairobi County.

Data was collected from microenterprise owners at a single point in time regarding the variables and constructs under study. The study was not able to examine the influence of these variables on the performance of microenterprises over time. The study respondents of the study were microenterprise owners whose responses may have been subjective and biased. The self-reported and the single-informant approach suffer the potential for mono-method bias which may affect the survey responses (Gatignon and Xuereb, 1997; Greenley, 1995). Because of the nature of microenterprises, the study used perceptual and subjective measures of the variables.

However, such information from microenterprises may be contaminated by source bias because due to legal reasons small firms tend to manipulate some data, and control such manipulation through subjectively adjusting measures (Sapienza *et al*., 1988).

6.6   Suggestions for Further Research

The findings add to the existing conceptual and empirical evidence that financial literacy influences enterprise performance. In addition, the findings add to the existing conceptual and empirical evidence that this relationship is moderated by other extraneous variables such as the transaction cost and intervening effect of the financial access on the financial literacy and enterprise performance relationship. The factors used to measure the study variables, namely; financial literacy (financial management, savings literacy, debt literacy, investment literacy and insurance literacy) financial access (ownership of accounts and utilization of a variety of financial services and providers), transaction cost and enterprise performance are not exhaustive.

A further review of both financial literacy and transaction cost literature would identify additional intervening and moderating variables which would broaden the range of variables that influence performance of microenterprises. Testing of additional variables would enhance the robustness of the study models as well as the generalizability and validity of the results. Future studies on financial literacy on microenterprise should use both subjective and objective measures of performance so that the relationship between the two can be investigated. Balakrishnan (1996) contends that there is a strong relationship between subjective and objective measures of firm performance. However, this relationship has not been tested in the context of the microenterprise sector in Kenya. It may be useful for future studies to develop constructs that combine both subjective and objective performance measures.

The replication of this study in other sectors of the such as SMEs and macro enterprises as well as in other countries especially in the Sub-Saharan region would demonstrate the universality and significance of the financial literacy-performance relationship in general and on the performance of microenterprises in particular. Future research should use longitudinal study designs in order to provide a better assessment of how the study variables improve over time. A longitudinal testing of financial literacy would also be important in terms of establishing causal linkages instead of relationship testing established in cross-sectional design. Finally, future research should consider combining multiple internal informants with views of other informants such as suppliers, customers, distributors and other enterprise stakeholders to generate dependable conclusions of the study variables.

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APPENDICES

Appendix i: Letter of Introduction

Dear Respondent,

My name is Beatrice Sabana. I am doctoral student at the University of Nairobi, School of Business. I am carrying out a study on Financial Literacy, financial access and transaction costs in microenterprises and your firm has been selected for this study. I would appreciate if you could spare a few minutes of your time to respond to the following questionnaire.

The aim of the study is to contribute to a better understanding of the problems that entrepreneurs face so that better policies can be developed to support them. The findings of the study will be disseminated to all relevant stakeholders and you will be invited for the dissemination. The study findings will be used be used for academic purposes only and in no other way injurious to you, your family or your business.

Thank you for your cooperation.

Beatrice Sabana

Principal Researcher

Appendix ii: Questionnaire

SECTION A: ENTREPRENEUR AND ENTERPRISE PROFILE

Entrepreneur profile

1. Please tick the appropriate gender

❑   Female

❑   Male

2.   Marital Status

❑   Married

❑   Single

❑   Separated/divorced

❑   Widowed

3. Please tick your appropriate age group

❑   18-24yrs

❑   25-34yrs

❑   35-44yrs

❑   45-54yrs

❑   55-64yrs

4. Please indicate the highest level of educational qualification you attained

❑   KCPE

❑   KCSE

❑   Diploma

❑   Certificate

❑   University degree

❑   No formal education

5. Please indicate your ethnic group _____

6. Enterprise profile

   i.   Please indicate the how many years your enterprise has been in operation

❑   1-5

❑   5-10

❑   10-15

❑   Over 15 years

   ii.   Type of business

❑ Retail

❑ Wholesale

❑ Manufacturing

❑ Service

iii.   Business ownership

❑ Sole proprietor

❑ Partnership

❑ Company

SECTION B

7. Financial literacy

Please indicate your level of agreement with each of the statements in sections a-i

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
i. **Financial Management**					
I have a cash book which I use to record all business revenues and expenditure					
I separate my business and personal finances					
I draw a salary from the business which I use for my personal/household expenses					
I make an annual financial plan for my business and monitor it regularly					
I make cash flow projections for my business					
I prepare financial statements for my business (Balance Sheet, Income statement)					
I understand the financial information in financial statements and use it to manage my business					

I have a written business plan for my enterprise					
ii. Savings literacy					
I know the importance of savings for my business					
I have a savings plan					
I save regularly					
I do not draw into my savings to meet regular expenditure					
iii. Debt Literacy					
Debt is inevitable in a business					
Borrowing is risky for the business					
I know the difference between base rate, nominal and effective interest rate (respondent to explain)					
I know what a 'real interest ' means					
I know the difference between simple and compounded interest rates					
I prefer loans that are paid on flat rate basis than on reducing balance					
You purchase an appliance which costs Kshs.10,000. To pay for this appliance, you are given the following two options: a) Pay 12 monthly installments of Kshs.1,000 each; b) Borrow at a 20% annual interest rate and pay back Kshs.12,000 a year from					

now. Which is the more advantageous offer?					
Option (a);					
option (b)					
Credit rating					
In the past 12 months, I have you obtained my credit report					
Perception of Debt burden **Which of the following best describes your current debt position?** I have too much debt right now and I have or may have difficulty paying it off.					
I have about the right amount of debt right now and I face no problems with it.					
I have too little debt right now. I wish I could get more					
I just don't know					
iv. investment literacy					
In addition to my savings plan I also I have an investment plan					
I regularly monitor returns on my investments					

I diversify my investments and change them depending on the returns/yields				
An investment with a high return is likely to be high risk				
v. **Insurance literacy**				
I understand the importance of insurance				
I know the different insurance policies in the market				
I understand the term insurance premium				
Insurance is too costly and I cannot afford it				
I do not have any information about insurance products that are appropriate for my business				

SECTION C

8. Financial Access

Please indicate your level of agreement with each of the following statements:

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
i. Ownership of accounts					
I have a transaction account (e.g. current account, mobile/paybill money account)					
I have a loan account					
I have only one savings account in a financial institution					
I have a combination of call and fixed deposit savings accounts					
I have an insurance account					
I have an investment account at NSE					
I have a pension account					
I have an NSSF account					
I have an NHIF account					

ii. **Utilization of a variety of financial services and providers**					
Transactions					
I use the following for my daily transactions (e.g. payment of bills, payment to suppliers)					
ATM					
Cheque					
Mobile money (Mpesa, Yu money etc.)					
Cash					
Loans					
In the last twelve months, I have obtained a loan					
Before I apply for a loan, I have a plan on how the loan funds will be used					
After I take the loan, I stick to the plan and ensure the loan funds are used according to the plan					
I invested the whole loan amount in my business					

Type of financial service provider:					
In the last twelve month I have been able to access loans from the following institutions					
Commercial Bank					
Microfinance institution					
Rosca/Asca/Merry go round (including chama group),family and friends					
Sacco					
Mobile money (e.g. Mpesa)					
Savings: I have a savings account in:					
An MFI					
A commercial bank					
A sacco					
Mobile phone account (e.g. M-Shwari)					
Rosca/Chama/merry go round					

I regularly liquidate my savings to boost my business					
I sell my shares/bonds when the yields are high and invest in my business					
I do not liquidate my savings until they mature					

SECTION D

9. TRANSACTION COSTS

Please answer the following questions

Total amount of fees paid to obtain the last loan:
Loan amount: Kshs:_____ Total fees paid (application fees, legal fees   Kshs:_____ Insurance fees etc) Amount spent on documentation   Kshs _____ Other incidental costs (transport, lunch, greasing) Kshs _____
Total amount of fees paid to open a savings account:
Savings amount: Kshs_____ Fees paid   Kshs:_____ Amount spent on documentation;   KShs _____

Other incidental costs (transport, lunch, greasing) Kshs _____
Amount paid to open a transaction account:
Minimum balance: Kshs: _____
Account opening fees: Kshs _____
Fees per transaction: Kshs _____
Amount spent on documentation: Kshs _____
Opportunity costs:
Time spent following up on loan application: No. of days _____
Waiting days before obtaining financial service
Loan   No. of days _____
Savings   No. of days _____
Insurance   No. of days _____

SECTION E:

10. Enterprise performance

(i) Financial performance

Please give the percentage (%) figure relating to the **increase** or **decrease** in the parameters in the Table below for the period of five years. For increase or decrease the benchmark is 100%.

Constructs considered	Annual growth or decline as a percentage (%)						Overall Annual growth
	2008=100%	2009	2010	2011	2012	2013	
Enterprise profits							
Employee numbers							
Market Share							
Enterprise turnover							

On overall, how would you rate the growth of your enterprise for the past 5 years?

Exceptional growth ☐ Satisfactory growth ☐ No growth ☐ Negative Growth ☐

ii. Entrepreneurial satisfaction

Please indicate your overall satisfaction with your business using the following scales

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I am satisfied with the income derived from my business					
My business has enabled me to improve my standard of living (housing, education, health)					
My business has enabled me to meet					

my life goals					
I derive a lot of psychological satisfaction because of my business					
I prefer self-employment than formal employment (even if an opportunity for formal employment arose)					

THANK YOU VERY MUCH FOR YOUR TIME.

Please provide your contact details in case you wish to be contacted during the dissemination of the results.

Contact Name	
P.O. BOX	
PHYSICAL ADDRESS	
TELEPHONE	
E-mail	
Others	

Appendix iii: Letter of introduction to conduct research

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
DOCTORAL STUDIES PROGRAM

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

14 January 2014

TO WHOM IT MAY CONCERN

The bearer of this letter... SABANA   BEATRICE ....
Registration number... D80IP18463I2000 ....

is a bona fide student in the Doctor of Philosophy in Business Administration degree program in this University.

She is required to submit as part of her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable her collect data in your organization.

Thank you.

JANE MUTURI
Ph.D. ADMINISTRATOR,
Ph.D. OFFICE, AMBANK HOUSE
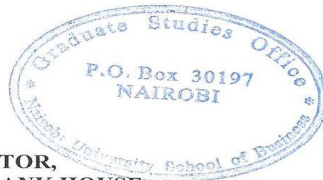
Appendix iv: Pilot Study: Cronbach Alpha

Scale: Entrepreneur profile

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.741	4

Item Statistics

	Mean	Std. Deviation	N
Gender	1.5556	.52705	9
Marital Status	1.5556	.72648	9
Age group	2.0000	.50000	9
Educational qualification	3.3333	1.73205	9

Scale: Enterprise profile

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.803	3

Item Statistics

	Mean	Std. Deviation	N
Years in operation	1.7000	.82327	10
Type of business	3.2000	1.31656	10
Business ownership	1.6000	.69921	10

Financial literacy

Scale: Financial management

Reliability Statistics

Cronbach's Alpha	N of Items
.851	8

Item Statistics

	Mean	Std. Deviation	N
I have a cash book which I use to record all business revenues and expenditure	3.9000	.73786	10
I separate my business and personal finances	4.1000	.56765	10
I draw a salary from the business which I use for my personal/household expenses	4.1000	.56765	10
I make an annual financial plan for my business and monitor it regularly	3.5000	.52705	10
I make cash flow projections for my business	3.2000	.91894	10
I prepare financial statements for my business (Balance Sheet, Income statement)	3.3000	1.05935	10
I understand the financial information in financial statements and use it to manage my business	3.0000	.94281	10
I have a written business plan for my enterprise	3.3000	.67495	10

Scale: Savings literacy

Reliability Statistics

Cronbach's Alpha	N of Items
.707	4

Item Statistics

	Mean	Std. Deviation	N
I know the importance of savings for my business	4.3000	.67495	10
I have a savings plan	3.7000	.48305	10
I save regularly	3.6000	.51640	10
I do not draw into my savings to meet regular expenditure	3.8000	.63246	10

Scale: Debt literacy

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.889	8

Item Statistics

	Mean	Std. Deviation	N
Debt is inevitable in a business	3.9000	.87560	10
Borrowing is risky for the business	3.2000	1.31656	10
I know the difference between base rate, nominal and effective interest rate (respondent to explain)	3.2000	1.03280	10
I know what a 'real interest ' means	3.7000	.82327	10
I know the difference between simple and compounded interest rates	4.1000	.99443	10
I prefer loans that are paid on flat rate basis than on reducing balance	3.5000	1.43372	10
Option (a);	3.8000	1.13529	10
option (b)	3.3000	1.25167	10

Scale: Credit rating

Reliability Statistics

Cronbach's Alpha	N of Items
.733	5

Item Statistics

	Mean	Std. Deviation	N
In the past 12 months, I have you obtained my credit report	3.7000	1.25167	10
I have too much debt right now and I have or may have difficulty paying it off.	3.3000	1.15950	10
I have about the right amount of debt right now and I face no problems with it.	3.9000	.56765	10
I have too little debt right now. I wish I could get more	3.3000	.82327	10
I just don't know	3.2000	1.03280	10

Scale: Investment literacy

Reliability Statistics

Cronbach's Alpha	N of Items
.767	4

Item Statistics

	Mean	Std. Deviation	N
In addition to my savings plan I also I have an investment plan	3.5000	.84984	10
I regularly monitor returns on my investments	3.2000	1.31656	10
I diversify my investments and change them depending on the returns/yields	3.8000	.78881	10
An investment with a high return is likely to be high risk	3.7000	.67495	10

Scale: Insurance literacy

Reliability Statistics

Cronbach's Alpha	N of Items
.886	5

Item Statistics

	Mean	Std. Deviation	N
I understand the importance of insurance	3.6000	.84327	10
I know the different insurance policies in the market	3.2000	.78881	10
I understand the term insurance premium	3.5000	.52705	10
Insurance is too costly and I cannot afford it	3.7000	.67495	10
do not have any information about insurance products that are appropriate for my business	3.8000	.78881	10

Financial Access

Scale: Ownership of accounts

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.751	9

Item Statistics

	Mean	Std. Deviation	N
I have a transaction account (e.g. current account, mobile/paybill money account)	3.6000	.84327	10
I have a loan account	3.5000	.84984	10
I have only one savings account in a financial institution	3.1000	.87560	10
I have a combination of call and fixed deposit savings accounts	3.4000	1.07497	10
I have an insurance account	3.1000	.99443	10
I have an investment account at NSE	3.4000	.96609	10
I have a pension account	6.6000	9.67471	10
I have an NSSF account	4.0000	.66667	10
I have an NHIF account	3.9000	.56765	10

Scale: Utilization of financial services and providers

Reliability Statistics

Cronbach's Alpha	N of Items
.799	5

Item Statistics

	Mean	Std. Deviation	N
I use the following for my daily transactions (e.g. payment of bills, payment to suppliers)	4.1000	.56765	10
ATM	4.1000	1.19722	10
Cheque	4.2000	.63246	10
Mobile money (Mpesa, Yu money etc.)	4.1000	.73786	10
Cash	3.9000	.73786	10

Scale: Loans

Reliability Statistics

Cronbach's Alpha	N of Items
.886	4

Item Statistics

	Mean	Std. Deviation	N
In the last twelve months, I have obtained a loan	4.0000	.70711	9
Before I apply for a loan, I have a plan on how the loan funds will be used	4.3333	.86603	9
After I take the loan, I stick to the plan and ensure the loan funds are used according to the plan	4.2222	.83333	9
I invested the whole loan amount in my business	4.0000	.86603	9

Scale: Type of financial service provider

Reliability Statistics

Cronbach's Alpha	N of Items
.695	7

Item Statistics

	Mean	Std. Deviation	N
In the last twelve month I have been able to access loans from the following institutions	3.8889	.92796	9
Commercial Bank	4.0000	.86603	9
Microfinance institution	3.7778	.97183	9
Post Bank	10.7778	20.71097	9
Rosca/Asca/Merry go round (including chama group),family and friends	3.5556	.72648	9
Sacco	3.3333	1.00000	9
Mobile money (e.g. Mpesa)	3.4444	.52705	9

Scale: Savings

Reliability Statistics

Cronbach's Alpha	N of Items
.717	8

Item Statistics

	Mean	Std. Deviation	N
An MFI	3.6250	.51755	8
A commercial bank	3.8750	.83452	8
A sacco	3.8750	.83452	8
Mobile phone account (e.g. M-Swari)	3.7500	1.38873	8
Rosca/Chama/merry go round	3.2500	1.48805	8
I regularly liquidate my savings to boost my business	4.0000	.53452	8
I sell my shares/bonds when the yields are high and invest in my business	4.0000	.53452	8
I do not liquidate my savings until they mature	3.8750	.64087	8

Scale: Transaction cost

Reliability Statistics

Cronbach's Alpha	N of Items
.696	16

Item Statistics

	Mean	Std. Deviation	N
Loan amount:	33111.1111	41416.91817	9
Total fees paid	1197.7778	2497.00710	9
Amount spent on documentation	394.4444	693.92203	9
Other incidental costs (transport, lunch, greasing)	388.8889	682.72330	9
Savings amount:	555.5556	845.74096	9
Fees paid	500.0000	661.43783	9
Amount spent on documentation;	270.0000	419.94047	9
Other incidental costs (transport, lunch, greasing)	844.4444	1685.31237	9
Minimum balance:	655.5556	1637.15539	9
Account opening fees:	355.5556	652.13325	9
Fees per transaction:	355.5556	418.66189	9
Amount spent on documentation:	229.4444	503.46577	9
Time spent following up on loan application	28.3333	43.73214	9
Waiting days before obtaining financial service loan	8.0000	12.73774	9
Savings	50.7778	78.53626	9
Insurance	4.0000	4.92443	9

Scale: Enterprise performance

Reliability Statistics

Cronbach's Alpha	N of Items
.359	15

Item Statistics

	Mean	Std. Deviation	N
Year 1	8.6667	4.72582	3
Year 2	8.6667	4.72582	3
Year 3	8.6667	4.72582	3
Year 4	2.6667	2.08167	3
Year 5	7.3333	6.80686	3
Year 1	8.3333	10.11599	3
Year 2	2.3333	2.30940	3
Year 3	6.3333	4.04145	3
Year 4	3.0000	2.64575	3
Year 5	3.0000	1.73205	3
I am satisfied with the income derived from my business	2.3333	1.52753	3
My business has enabled me to improve my standard of living (housing, education, health)	3.3333	3.21455	3
My business has enabled me to meet my life goals	4.0000	3.46410	3
I derive a lot of psychological satisfaction because of my business	3.3333	1.15470	3
I prefer self-employment than formal employment (even if an opportunity for formal employment arose)	4.0000	.00000	3

Appendix v: List of microenterprises sampled in Nairobi City County

1.	KEADES HARDWARE	Small Trader Shop/Retail Service
2.	GITA ELECTRONICS	Small Trader Shop/Retail Service
3.	SARCHITO AUTO SPARES	Small Trader Shop/Retail Service
4.	KEZZY TEXTILE SHOP	Small Trader Shop/Retail Service
5.	BARWAQO SHOP	Small Trader Shop/Retail Service
6.	BLESSED HANDS	Small Trader Shop/Retail Service
7.	SIMON MUGO KUNGU	Small Trader Shop/Retail Service
8.	WISDOM PRODUCTION	Small Trader Shop/Retail Service
9.	MUKULIMA RETAIL SHOP	Small Trader Shop/Retail Service
10.	EKR PROMOTIONS	Small Trader Shop/Retail Service
11.	MARICHA GENERAL SHOP	Small Trader Shop/Retail Service
12.	BARAKA BOUTIQUE	Small Trader Shop/Retail Service
13.	KINANGOP GREEN GROCERS	Small Trader Shop/Retail Service
14.	SUBUKIA RETAIL SHOP -	Small Trader Shop/Retail Service

15.	JAMBO BOUTIQUE	Other Informal Sector
16.	MARY WANJIKU NGANGA	Other Informal Sector
17.	WAMBUI GAS RETAILER	Other Informal Sector
18.	NEEMA EMBROIDERS	Other Informal Sector
19.	JOHN MBOGO NJAGI	Other Informal Sector
20.	MARGY EXCLUSIVE WEAR	Other Informal Sector
21.	DANIEL KYALO KIMEU	Other Informal Sector
22.	SARESO SALON	Other Informal Sector
23.	LEOCH GARMENTS	Other Informal Sector
24.	NANCY WANJIKU NJUGUNA	Other Informal Sector
25.	STYLE BOUTIQUE	Other Informal Sector
26.	DOWN TOWN BY PATIENCE	Other Informal Sector
27.	NAZARENA KARIMI BAUNI	Other Informal Sector
28.	SUPER SHAPE ENGINEERING	Other Informal Sector
29.	MACHINE SERVICE REPAIR	Other Informal Sector
30.	GRACE WANJERI MWANGI	Other Informal Sector
31.	ESTHER WAMBUI	Other Informal Sector
32.	AGNES MBULA MULEVU	Other Informal Sector
33.	KATINDI MUTWOTA	Other Informal Sector
34.	DISHON MAINA	Other Informal Sector
35.	PENA CLASSIC TEXTILE	Other Informal Sector
36.	NANCY MUTHONI MUGI	Other Informal Sector
37.	ELIMAR FASHIONS	Other Informal Sector
38.	SUSAN NYAMBURA WANGARI	Other Informal Sector
39.	ELIMO FASHIONS	Other Informal Sector
40.	SAINT ELECTRONICS	Other Informal Sector
41.	VIRGINIA NGUBIA	Other Informal Sector
42.	BABY CENTRE	Other Informal Sector
43.	MARGARET NYOKABI NDUNGU	Other Informal Sector
44.	KAREN BUTCHERY	Other Informal Sector

45.	WAZUE	Other Informal Sector
46.	JOYCE TAILORING AND DRESS MAKING	Other Informal Sector
47.	MOKA GENERAL STORE	Other Informal Sector
48.	MAMA JULIET EMBROIDERY	Other Informal Sector
49.	QCUMBER GROUP	Small Eating House; Snack Bar; Tea House "Hotel"
50.	RONA'S CAFE	Small Eating House; Snack Bar; Tea House "Hotel"
51.	LAKE VICTORIA HOTEL	Small Eating House; Snack Bar; Tea House "Hotel"
52.	GALAXY	Small Eating House; Snack Bar; Tea House "Hotel"
53.	DOMINION CATERERS	Small Eating House; Snack Bar; Tea House "Hotel"
54.	WAMU CAFE	Small Eating House; Snack Bar; Tea House "Hotel"
55.	ANGELA CATERERS	Small Eating House; Snack Bar; Tea House "Hotel"
56.	NAJMA CAFE	Small Eating House; Snack Bar; Tea House "Hotel"

57.	SORENTO RESTAURANT & CATERING	Small Eating House; Snack Bar; Tea House "Hotel"
58.	PETER KAMAU	Small Eating House; Snack Bar; Tea House "Hotel"
59.	MAGGIE TAILORING SHOP	Small Trader Shop/Retail Service
60.	PURITY WAMBUI	Small Trader Shop/Retail Service
61.	PESHAVI DRY CLEANER	Small Trader Shop/Retail Service
62.	POTTERS AUTO SPARES	Small Trader Shop/Retail Service
63.	ONE SASIRU COLLECTIONS	Small Trader Shop/Retail Service
64.	FORTHALL SALON	Small Trader Shop/Retail Service
65.	RAJESH KARSANDAS BOOKSHOP	Small Trader Shop/Retail Service
66.	CASPADE FASHIONS	Small Trader Shop/Retail Service
67.	DORCAS HAIR SALON	Small Trader Shop/Retail Service
68.	AMANA AUTOMOTIVES	Small Trader Shop/Retail Service
69.	SHAWILL SHOP	Small Trader Shop/Retail Service
70.	MAUREEN HAIR SALON	Small Trader Shop/Retail Service

71.	PHALEDEPHIA SELECTION	Small Trader Shop/Retail Service
72.	JAMES KARIITHI	Small Trader Shop/Retail Service
73.	PANDI ENTERPRISES	Small Trader Shop/Retail Service
74.	LUELLA PINK HAIR AND BEAUTY SALON	Small Trader Shop/Retail Service
75.	PAT FASHIONS	Small Trader Shop/Retail Service
76.	UMOJA ELECTRICALS AND HARDWARE	Small Trader Shop/Retail Service
77.	MOHAMED ABSHIR KARISHI	Small Trader Shop/Retail Service
78.	BEWAPOINT UNISEX SALON &COSMETIC	Small Trader Shop/Retail Service
79.	DAHIR AHMED MUHUMED	Small Trader Shop/Retail Service
80.	BRAIN WAVE BOOKSHOP	Small Trader Shop/Retail Service
81.	KWA JOEL GEN. SHOP	Small Trader Shop/Retail Service
82.	MAPOLS BEAUTY PARLOUR	Small Trader Shop/Retail Service
83.	SHIKOS HAIR SALON	Small Trader Shop/Retail Service
84.	MAMA SONI SALON	Small Trader Shop/Retail Service
85.	KEFA MINI SHOP	Small Trader Shop/Retail Service

86.	WAMURITHI BOUTIQUE	Small Trader Shop/Retail Service
87.	WABETTY HARDWARE	Small Trader Shop/Retail Service
88.	LIZ HAIR SALON	Small Trader Shop/Retail Service
89.	KINAK TRADERS	Small Trader Shop/Retail Service
90.	SHIKOS HAIR SALON	Small Trader Shop/Retail Service
91.	BRILLIANT SERIES	Small Trader Shop/Retail Service
92.	LIGHTS ELECTRICALS SALES & SERVICES	Small Trader Shop/Retail Service
93.	ISAAC MAINA	Small Trader Shop/Retail Service
94.	KAZART STORES	Small Trader Shop/Retail Service
95.	RUAI HEALTH SHOP	Small Trader Shop/Retail Service
96.	SHAYS B.B SHOP	Small Trader Shop/Retail Service
97.	GRACE KIRIGO MWANGI	Small Trader Shop/Retail Service
98.	FARAH ALI ABDI	Small Trader Shop/Retail Service
99.	B SMART PRODUCTS	Small Trader Shop/Retail Service
100	HERGAT ENTERPRISES	Small Trader Shop/Retail Service

101	CENTURY SOFT SYSTEMS LTD	Small Trader Shop/Retail Service
102	MUKASON INVESTMENT	Small Trader Shop/Retail Service
103	FRASAKA CONNECTION	Small Trader Shop/Retail Service
104	CITIZEN ENTERPRISES	Small Trader Shop/Retail Service
105	TRUE STORES	Small Trader Shop/Retail Service
106	CHRISPA CEREAL SHOP	Small Trader Shop/Retail Service
107	WEBTECH INVESTMENTS	Small Trader Shop/Retail Service
108	SIYAD SHEIKH NOOR ALI	Small Trader Shop/Retail Service
109	LALS AUTO SPARES	Small Trader Shop/Retail Service
110	DAVID MUNGAI KIRURI	Small Trader Shop/Retail Service
111	BLUE LIGHT HARDWARE AND PAINTS	Small Trader Shop/Retail Service
112	JANTECH COMPUTERES	Small Trader Shop/Retail Service
113	ABDI NOOR AHMED	Small Trader Shop/Retail Service
114	MASHALLAH SHOP	Small Trader Shop/Retail Service
115	RAJINDDRA WORLD WIDERS	Small Trader Shop/Retail Service

116	SMART SHOP	Small Trader Shop/Retail Service
117	JOBRA BUSINESS ENTERPRISES	Small Trader Shop/Retail Service
118	WAIREGI HARDWARE	Small Trader Shop/Retail Service
119	LIPCY ENTERPRISES	Small Trader Shop/Retail Service
120	ROSA ENTERPRISES	Small Trader Shop/Retail Service
121	MELVINS AUTO SPARES	Small Trader Shop/Retail Service
122	CHUPETE LIMITED	Small Trader Shop/Retail Service
123	LINZERS AGENCIES	Small Trader Shop/Retail Service
124	OMAR KASSIM M	Small Trader Shop/Retail Service
125	OZONE ENTERPRISES	Small Trader Shop/Retail Service
126	HAWA ILMI SHIEKH	Small Trader Shop/Retail Service
127	BIN SHARIFF SHOP	Small Trader Shop/Retail Service
128	DAUDI SALAD KADIYE	Small Trader Shop/Retail Service
129	NDAMBOS ENTERPRISES	Small Trader Shop/Retail Service
130	VALENTINE SHOP	Small Trader Shop/Retail Service

131	TYSY TRADERS	Small Trader Shop/Retail Service
132	MACKAS INVESTMENTS	Small Trader Shop/Retail Service
133	ABDI YASSIN	Small Trader Shop/Retail Service
134	CHROMSTAR ELECTRONICS	Small Trader Shop/Retail Service
135	UPENDO ENTERPRISES SHOP (JOYCE WANJIRU MUNENE)	Small Trader Shop/Retail Service
136	HODAN ABDIRAHMAN RAGE	Small Trader Shop/Retail Service
137	CLASSIC BOUTIQUE	Small Trader Shop/Retail Service
138	GOODMORNING SHOP	Small Trader Shop/Retail Service
139	J.N.D HARDWWARE	Small Trader Shop/Retail Service
140	PASSOVER TAILORS	Small Trader Shop/Retail Service
141	HAVILLAH SALON AND KINYOZI	Small Trader Shop/Retail Service
142	MATROSE TECHNICAL SERVICES	Small Trader Shop/Retail Service
143	MARKA ADEY SHOP 4	Small Trader Shop/Retail Service
144	MUTHURI WA CHANIA	Small Trader Shop/Retail Service
145	NIKKI LOGISTICS	Small Trader Shop/Retail Service

146	RAY-LIGHT TRADERS AND SUPPLIERS	Small Trader Shop/Retail Service
147	NANTONS ENTERPRISES	Small Trader Shop/Retail Service
148	WINSLINE MUSIC STORE	Small Trader Shop/Retail Service
149	WEMA GAS POINT	Small Trader Shop/Retail Service
150	ASHA AHMED	Small Trader Shop/Retail Service
151	PURPLE HEARTS SALON (HOME OF BEAUTY)	Small Trader Shop/Retail Service
152	EMILY GACHERI NICHURAI	Small Trader Shop/Retail Service
153	FARHIYA HASSAN	Small Trader Shop/Retail Service
154	PROFESSIONAL SHOE SHINE CENTRE-NATIONAL ARCHIEVES	Small Trader Shop/Retail Service
155	KIHURO SHOEMAKER & REPAIR	Small Trader Shop/Retail Service
156	ZOELINAH BEAUTY SALON	Small Trader Shop/Retail Service
157	ANGELSAM CHEMIST	Small Trader Shop/Retail Service
158	KAWANGA INVESTMENT	Small Trader Shop/Retail Service
159	JOYCE ACHIENG ATENG	Small Trader Shop/Retail Service
160	LUQMAN SHOES SHOP	Small Trader Shop/Retail Service

161	CHARITY WAMBUI MWANIKI	Small Trader Shop/Retail Service
162	MAMA SAMMY SHOP	Small Trader Shop/Retail Service
163	RAHMA TULLAHI SHOP	Small Trader Shop/Retail Service
164	SEMA	Small Trader Shop/Retail Service
165	BOKORA	Small Trader Shop/Retail Service
166	JOYSACY INVESTMENTS	Small Trader Shop/Retail Service
167	ROSE WANJIRU JACKSON	Small Trader Shop/Retail Service
168	PRINTSTAR IMAGING SYSTEMS (K) LTD	Small Trader Shop/Retail Service
169	JOMAR ELECTRICALS	Small Trader Shop/Retail Service
170	JULJAN SCHOOL UNIFORM	Small Trader Shop/Retail Service
171	VINE SHOP & VEVE BASE	Small Trader Shop/Retail Service
172	QUEENS COLLECTIONS	Small Trader Shop/Retail Service
173	SALLY DESIGNS	Small Trader Shop/Retail Service
174	LIMURU SEEDS	Small Trader Shop/Retail Service
175	KENNEDY MWANGI MUCHIRI	Small Trader Shop/Retail Service

176	MERCY NJAMBI	Small Trader Shop/Retail Service
177	PLEASUREZ	Small Trader Shop/Retail Service
178	LUCY WANJIRU NGUGI	Small Trader Shop/Retail Service
179	SARAH HAIR SALON	Small Trader Shop/Retail Service
180	MICHAEL NJUGUNA GITAU	Small Trader Shop/Retail Service
181	NJERI FASHIONS	Small Trader Shop/Retail Service
182	TITH ENTERPRISES LIMITED	Small Trader Shop/Retail Service
183	GLOBAL UNIFORMS	Small Trader Shop/Retail Service
184	JOAMONI ELECTRONICS	Small Trader Shop/Retail Service
185	RIZIKI SHOP	Small Trader Shop/Retail Service
186	LAW GRIAEST GENERAL ENTERPRISES	Small Trader Shop/Retail Service
187	GEMUE ENTERPRISES	Small Trader Shop/Retail Service
188	NYOTA NEEMA FLOUR MILLERS	Small Trader Shop/Retail Service
189	MVINJE SHOP	Small Trader Shop/Retail Service
190	SAFARI TRADERS	Small Trader Shop/Retail Service

191	MINI PRICE SHOP	Small Trader Shop/Retail Service
192	UNIQUE CURTAINS	Small Trader Shop/Retail Service
193	TRIPPLE ONE	Small Trader Shop/Retail Service
194	GELKY LAB. CHEM. & EQUIPS	Small Trader Shop/Retail Service
195	AMERICAN HAIR CUTS	Small Trader Shop/Retail Service
196	GOLIBA	Small Trader Shop/Retail Service
197	RAAGE SHOP 11	Small Trader Shop/Retail Service
198	TAMBONET ENTERPRISES	Small Trader Shop/Retail Service
199	CAROLINE KAWIRA BOORE	Small Trader Shop/Retail Service
200	RURAL PUBLISHERS	Small Trader Shop/Retail Service
201	ECONOMIC COMPANY TRADERS	Small Trader Shop/Retail Service
202	SNOWPY ENTERPRISES	Small Trader Shop/Retail Service
203	MOHAMUD ABDULLAHI HASSAN	Small Trader Shop/Retail Service
204	REMS ENTERPRISES	Small Trader Shop/Retail Service
205	NEEMA HARDWARE	Small Trader Shop/Retail Service

206	PHILLIS SALON	Small Trader Shop/Retail Service
207	TEXAS ENTREPRISES	Small Trader Shop/Retail Service
208	JOWA ENTERPRISES	Small Trader Shop/Retail Service
209	MARUNGO FRUITS & VEGETABLE JUICE	Small Trader Shop/Retail Service
210	CREATIVE DESIGNER	Small Trader Shop/Retail Service
211	RENEES BOUTIQUE	Small Trader Shop/Retail Service
212	JAPI PRINTERS & STATIONERIES	Small Trader Shop/Retail Service
213	MARY WANGARI THANDE	Small Trader Shop/Retail Service
214	KENSAM ENTERPRISES	Small Trader Shop/Retail Service
215	WAMBAARI ENTERPRISES	Small Trader Shop/Retail Service
216	WAMAR TIMBER AND G. HARDWARE	Small Trader Shop/Retail Service
217	AVENUE INVESTMENTS	Small Trader Shop/Retail Service
218	MAMA KENDI SHOP	Small Trader Shop/Retail Service
219	JEFAN	Small Trader Shop/Retail Service
220	VILLAS INTERIOR DESIGNERS	Small Trader Shop/Retail Service

221	WESCHAM ENTERPRISES	Small Trader Shop/Retail Service
222	CANDY SHOP STORES	Small Trader Shop/Retail Service
223	RUBETS INVESTMENTS	Small Trader Shop/Retail Service
224	BEST HOPE MOTORS	Small Trader Shop/Retail Service
225	PAUSTAR BEAUTY AND COSMETICS	Small Trader Shop/Retail Service
226	HOPE SALON	Small Trader Shop/Retail Service
227	GWORKS INVESTMENTS LTD	Small Trader Shop/Retail Service
228	VICTORY SHOP	Small Trader Shop/Retail Service
229	PRINCE PHILIP PRODUCTIONS	Small Trader Shop/Retail Service
230	GLADNESS BEAUTY HAIR SALON	Small Trader Shop/Retail Service
231	EXOTIC COLLECTION FASHIONS	Small Trader Shop/Retail Service
232	GREEN SHOP	Small Trader Shop/Retail Service
233	JOANS ENTERPRISES	Small Trader Shop/Retail Service
234	MENJA FURNITURE	Small Trader Shop/Retail Service
235	ELEGANCE INTERNATIONAL HOLDING LTD	Small Trader Shop/Retail Service

236	BLESSED	Small Trader Shop/Retail Service
237	HORIZON BARBER	Small Trader Shop/Retail Service
238	MUSTARD ELECTONICS	Small Trader Shop/Retail Service
239	ABDI MOHAMED OSMAN	Small Trader Shop/Retail Service
240	STANLEY MAGFU NJIHIA	Small Trader Shop/Retail Service
241	DREMATIC AGENCIES	Small Trader Shop/Retail Service
242	JUMU TRADERS	Small Trader Shop/Retail Service
243	NEEMA SHOP	Small Trader Shop/Retail Service
244	ROSEN ENTERPRICES	Small Trader Shop/Retail Service
245	JAY ENTERPRISES	Small Trader Shop/Retail Service
246	HENRY MUKIRI	Small Trader Shop/Retail Service
247	CROWN SHOP	Small Trader Shop/Retail Service
248	STRETFORD END KINYOZI	Small Trader Shop/Retail Service
249	RAMADHAN FONES	Small Trader Shop/Retail Service
250	PERI KAB BOUTIQUE	Small Trader Shop/Retail Service

251	YUSUF ABURO WANO	Small Trader Shop/Retail Service
252	ROSE ANYANGO OBONYO	Small Trader Shop/Retail Service
253	DENNO ELECTRONICS	Small Trader Shop/Retail Service
254	SUKIM TRADERS	Small Trader Shop/Retail Service
255	ALICE NZISA MAUNDU	Small Trader Shop/Retail Service
256	RUMA COLLECTION	Small Trader Shop/Retail Service
257	GRACE HAIR SALON	Small Trader Shop/Retail Service
258	TRIPEES	Small Trader Shop/Retail Service
259	NET CHEM INTERNATIONAL	Small Trader Shop/Retail Service
260	STEPS VARIETY SHOP	Small Trader Shop/Retail Service
261	MAISHA PARK	Small Trader Shop/Retail Service
262	HED-COM ENTERPRISES	Small Trader Shop/Retail Service
263	CHROME TECH ENTERPRISES	Small Trader Shop/Retail Service
264	NEWAKA BEAUTY SHOP	Small Trader Shop/Retail Service
265	GENESIS M/MARKET	Small Trader Shop/Retail Service

266	KENKA HARDWARE	Small Trader Shop/Retail Service
267	MBIMA ENTERPRISES	Small Trader Shop/Retail Service
268	WAVE SALON	Small Trader Shop/Retail Service
269	DAVERIC SYSTEMS	Small Trader Shop/Retail Service
270	AL-RESALAH	Small Trader Shop/Retail Service
271	ADAM CLIVE THE MENS SHOP	Small Trader Shop/Retail Service
272	MUJOMU SPARE PARTS	Small Trader Shop/Retail Service
273	ESSY AUTO SPARES	Small Trader Shop/Retail Service
274	OSMAN BASHIR MOHAMED	Small Trader Shop/Retail Service
275	LUCY WANJA THUKU	Small Trader Shop/Retail Service
276	WHITE ROSE FASHIONS	Small Trader Shop/Retail Service
277	LUCAS MANINGI MWINAMI	Small Trader Shop/Retail Service
278	TOPCARE SALON AND BEAUTY	Small Trader Shop/Retail Service
279	GENERAL HARDWARE	Small Trader Shop/Retail Service
280	ABDI HUSSEIN MOHAMED	Small Trader Shop/Retail Service

281	GRACE ENTERPRISES	Small Trader Shop/Retail Service
282	FASHION TRACK DESIGNERS AND DRESSMAKERS	Small Trader Shop/Retail Service
283	ESTHER WANJIRU KARAGACHA	Small Trader Shop/Retail Service
284	ABDULLAHI MOHAMED MOHAMUD	Small Trader Shop/Retail Service
285	RIVER ELECT & HARDWARE	Small Trader Shop/Retail Service
286	EQUATOR CEREALS	Small Trader Shop/Retail Service
287	AL-FURQAN SHOP	Small Trader Shop/Retail Service
288	FAVEUR INVESTMENTS	Small Trader Shop/Retail Service
289	HARDY GROCERY	Small Trader Shop/Retail Service
290	BERNARD GACHOBE KOINANGE	Small Trader Shop/Retail Service
291	W. M. GITHINJI WIMMY AUTOPARTS	Small Trader Shop/Retail Service
292	JAY-EVE BOUTIQUE	Small Trader Shop/Retail Service
293	THUMUNI TRADERS	Small Trader Shop/Retail Service
294	NASHKA BEAUTY SALOON	Small Trader Shop/Retail Service
295	SHOPPERS PARADISE	Small Trader Shop/Retail Service

296	NEW ELEMENT OPTICIANS	Small Trader Shop/Retail Service
297	NEW LOOK PINKY SALON	Small Trader Shop/Retail Service
298	SANNA BOUTIQUE	Small Trader Shop/Retail Service
299	SUNSHINE BAGS & JEWELLERY	Small Trader Shop/Retail Service
300	BLACK BEAUTY HAIR SALON	Small Trader Shop/Retail Service
301	EUROTRUCKS AUTO SPARES	Small Trader Shop/Retail Service
302	IN THE BEGINNING SHOP	Small Trader Shop/Retail Service
303	DAVINCH ELECTRONICS	Small Trader Shop/Retail Service
304	FRINDA HAIR SALON	Small Trader Shop/Retail Service
305	PERMHAND ENTERPRISES	Small Trader Shop/Retail Service
306	LIZ COLLECTIONS	Small Trader Shop/Retail Service
307	JAWAKI ADVENTURES	Small Trader Shop/Retail Service
308	EBY ELECTRONICS	Small Trader Shop/Retail Service
309	JOKEKAM AGENCIES	Small Trader Shop/Retail Service
310	PRETTY WORLD BEAUTY PARLOUR	Small Trader Shop/Retail Service

311	NAFRIP TAILORING SHOP	Small Trader Shop/Retail Service
312	MEANTIDE NILE ENT.	Small Trader Shop/Retail Service
313	AMAZING GRACE SHOP	Small Trader Shop/Retail Service
314	IKRAM SHOPPING	Small Trader Shop/Retail Service
315	ZIMAX ENTERPRISES	Small Trader Shop/Retail Service
316	NDUNGUS SHOP	Small Trader Shop/Retail Service
317	ELIENEA MUSSA PALANGYO	Small Trader Shop/Retail Service
318	DUTY FREE SHOP	Small Trader Shop/Retail Service
319	MUTHURI MUUGI GENERAL SHOP	Small Trader Shop/Retail Service
320	JUBILEE SHOP	Small Trader Shop/Retail Service
321	GENERATIONS HAIR PARLOUR	Small Trader Shop/Retail Service
322	DUKA MOJA	Small Trader Shop/Retail Service
323	WACIKU HAIR DRESSING	Small Trader Shop/Retail Service
324	TUMAINI SHOP	Small Trader Shop/Retail Service
325	NEW VISION	Small Trader Shop/Retail Service

326	BEAU MONDE BOUTIQUE	Small Trader Shop/Retail Service
327	ANGELS BEAUTY	Small Trader Shop/Retail Service
328	NACTO TAILORING SHOP	Small Trader Shop/Retail Service
329	HASHI ESTERLIN MAHAMUD	Small Trader Shop/Retail Service
330	EMIRATES ELECTRICAL AND SUPPLIES	Small Trader Shop/Retail Service
331	EASTEND AUTO SPARES	Small Trader Shop/Retail Service
332	GERLMAX MOBILE SOLUTIONS	Small Trader Shop/Retail Service
333	TRIPPLE 'K' COMMUNICATION	Small Trader Shop/Retail Service
334	MWANA MGENI MAINGI	Small Trader Shop/Retail Service
335	FAVOUR BEAUTY PARLOUR	Small Trader Shop/Retail Service
336	ABDINASIR MOHAMED MOHAMUD	Small Trader Shop/Retail Service
337	EQUIPMENT & CONSUMABLES	Small Trader Shop/Retail Service
338	SNOWFIRE BEAUTY CENTRE	Small Trader Shop/Retail Service
339	AMIIBRA ENTERPRISES	Small Trader Shop/Retail Service
340	ADAN SHOP	Small Trader Shop/Retail Service

| 341	USHINDI BASE	Small Trader Shop/Retail Service
342	ILLAN GENERAL SHOP	Small Trader Shop/Retail Service
343	ELIMES ENTERPRISES	Small Trader Shop/Retail Service
344	RIPPLES SERVICES	Small Trader Shop/Retail Service
345	AL HAMDU SHOP	Small Trader Shop/Retail Service
346	PERFECT ENTERPRISES	Small Trader Shop/Retail Service
347	SHAMMAH DRESS MAKERS	Small Trader Shop/Retail Service
348	COREPOWER ELECTRICALS	Small Trader Shop/Retail Service
349	MUKILI ENTERPRISES	Small Trader Shop/Retail Service
350	FRANCIS NZYUKO KIMENYE	Small Trader Shop/Retail Service
351	TODAYS WEAR LADIES AND MEN	Small Trader Shop/Retail Service
352	SPIRAL TRADERS	Small Trader Shop/Retail Service
353	TOPSTOP SALON	Small Trader Shop/Retail Service
354	TELEZ BAY COMMUNICATION	Small Trader Shop/Retail Service
355	STENGATA LTD	Small Trader Shop/Retail Service

356	SARAHCOM COMMUNICATIONS	Small Trader Shop/Retail Service
357	EASY COOL REFRIGERATION	Small Trader Shop/Retail Service
358	PENETRA EQUIPMENT & SUPPLIES AGENCIES	Small Trader Shop/Retail Service
359	MAUREEN DESIGNERS	Small Trader Shop/Retail Service
360	TANGERINE COMPUTERS	Small Trader Shop/Retail Service
361	ADAN MOHAMED EDOW	Small Trader Shop/Retail Service
362	MODERN INTENTION FASHIONS	Small Trader Shop/Retail Service
363	KEJJO TRADERS	Small Trader Shop/Retail Service
364	MOKIM MERCHANTS	Small Trader Shop/Retail Service
365	IMAN SHOP	Small Trader Shop/Retail Service
366	SHOP ONE STOP	Small Trader Shop/Retail Service
367	SHEM G. MATHENGE	Small Trader Shop/Retail Service
368	WOODS KINYOZI	Small Trader Shop/Retail Service
369	SAMWEL MURITHI	Small Trader Shop/Retail Service
370	FATIMA ABDI ALI	Small Trader Shop/Retail Service

371	KYAWANGO JUNIOR SHOP	Small Trader Shop/Retail Service
372	SILVERLINE FABRIQUE & DESIGNERS	Small Trader Shop/Retail Service
373	MAKUTANO SHOP	Small Trader Shop/Retail Service
374	LUMA FASHIONS	Small Trader Shop/Retail Service
375	JOE MAG COMPUTERS	Small Trader Shop/Retail Service
376	ROSE FASHION DESIGNERS	Small Trader Shop/Retail Service
377	RAINDROP HAIR SALON	Small Trader Shop/Retail Service
378	MOTOGEN SOLUTIONS	Small Trader Shop/Retail Service
379	WA GRACE HAIR SALON	Small Trader Shop/Retail Service
380	MWANZIA'A ENETERPRISES	Small Trader Shop/Retail Service
381	WILTRONIC SUPER SOUND	Small Trader Shop/Retail Service
382	KANYALA TAILORING	Small Trader Shop/Retail Service
383	ARISE AND SHINE BOUTIQUE	Small Trader Shop/Retail Service
384	GOODHOPE OUTFIT	Small Trader Shop/Retail Service
385	ROSE CARDS	Small Trader Shop/Retail Service

386	PITEX AUTOMART	Small Trader Shop/Retail Service
387	SUPERLINK KENYA LTD	Small Trader Shop/Retail Service
388	SUFFIYAN EXHIBITION	Small Trader Shop/Retail Service
389	ABERDARES DHOBI	Small Trader Shop/Retail Service
390	AMMY ENTERPRISES	Small Trader Shop/Retail Service
391	LADIES SHOE PALACE	Small Trader Shop/Retail Service

Source: Nairobi City County Licensing Department

Appendix vi: Map of Nairobi City County
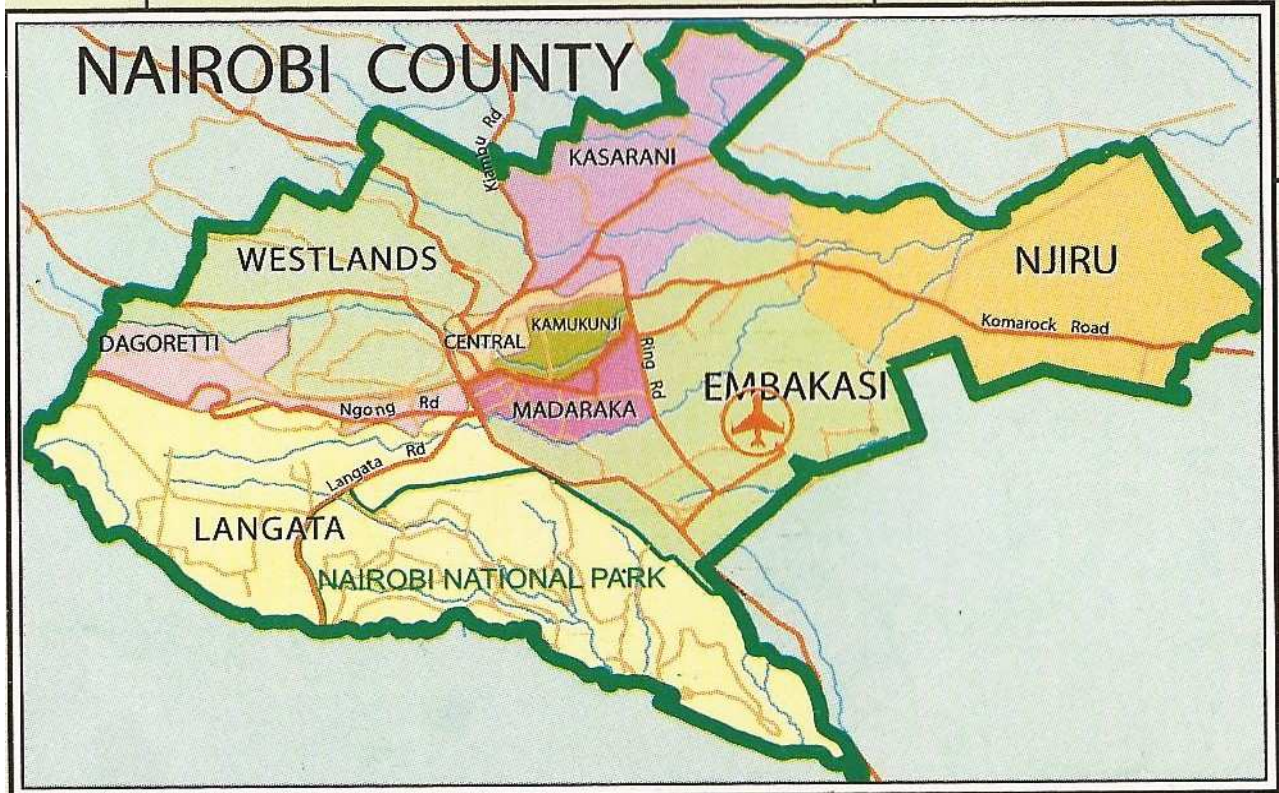
Source: Google Maps

Appendix vii. Map of Kenya showing Counties

Source: Google Maps