THE EFFECTS OF LONG-TERM CREDIT ON ENTREPRENEURIAL BEHAVIOR AND ENTERPRISE PERFORMANCE AMONG SMALL AND MEDIUM SIZE ENTERPRISES IN KENYA.

BY

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or any other award.

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We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

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DEDICATION

This work is dedicated to my parents, Musa and Marion, who took me to school.

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The efforts of many have led to successful completion of this thesis at Kenyatta University. First and foremost, I give thanks to God for bringing to an end what often seemed to be an impossible task to achieve.

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ABBREVIATIONS AND ACRONYMS

ACEG	African Center for Economic Growth
DFCK	Development Finance Company of Kenya
Dyn	Environmental Dynamism
Comp	Competitive aggressiveness
EB	Entrepreneurial Behavior
EIB	European Investment Bank
EO	Entrepreneurial Orientation
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
GDP	Gross Domestic Product
GL	Global Loans
GoK	Republic of Kenya
GPE	Global Private Enterprise
Host	Environmental Hostility
ICDC	Industrial and Commercial Development Corporation
IDB	Industrial Development Bank
InoV	Innovativeness
ILO	International Labor Organization
IMF	International Monetary Fund
KIE	Kenya Industrial Estates
LC	Long term credit
MSEs	Micro and Small Enterprises
OLS	Ordinary Least Squares

PC	Personal Computer
PF	Enterprise Performance
Proc	Pro-activeness
R&D	Research and Development
Risk	Risk Taking
SAP	Structural Adjustment Program
SC	Social Capital
SPSS	Statistical Package for Social Sciences
SMEs	Small and Medium-sized Enterprises
UK	United Kingdom
USD	United States Dollar
VIF	Variance Inflation Factor
WAPI	Weighted Average Performance Index

DEFINITION OF TERMS

Small sized enterprise- a firm employing 10 to 49 people (Ayyagari et al., 2003).

Medium sized enterprise- a firm employing 50 to 249 people (Ayyagari et al., 2003).

Long-term credit - credit or loan with original maturity structure of more than one year (Brealey and Myers, 1996).

Entrepreneurial behavior – strategic actions reflecting *risk-taking, pro-activeness, competitive aggressiveness* and *innovativeness* (Covin and Slevin, 1991; Wiklund, 1999; Lumpkin and Dess, 1996).

Competitive aggressiveness - the intensity of an enterprise's efforts to outperform industry rivals (Lumpkin and Dess, 1997, 2001).

Risk-taking - the degree to which entrepreneurs are willing to make large and risky resource commitments on projects that have a reasonable chance of costly failures (Miller and Friesen, 1978).

Pro-activeness - an enterprise's intensity of identifying and capitalizing on available market asymmetries. (Miller, 1983; Davis, 2007)

Innovativeness - an enterprise's propensity to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or processes (Lumpkin and Dess, 1996).

Enterprise performance – the extent to which an enterprise achieves both its financial (e.g., higher profit rates) and non-financial (e.g., industry leadership) objectives (Blackman, 2003).

Effect - a change or changed state occurring as a direct result of action by something else (Hornby, 2000).

ABSTRACT

Over the past four decades, Kenya has implemented actions to provide long-term credit to small and medium sized enterprises (SMEs). This is on the premise that long-term credit stimulates both entrepreneurial behavior and improves performance of SMEs. To date, empirical literature is inconclusive on the effect of long-term credit on entrepreneurial behaviour and enterprise performance. The specific objectives of this study were to investigate effect of long-term credit on both entrepreneurial behavior and each of its dimensions, namely *pro-activeness, risk-taking, competitive aggressiveness* and *innovativeness.* In addition, the study sought to examine how long term credit affects enterprise performance. Past research studies were reviewed which revealed definitive evidence of knowledge gaps in this stream of literature. The philosophical base of the research was realism while the research design was both explanatory and descriptive. A sample of 81 SMEs was drawn from enterprises funded under the European Investment Bank Global loan scheme in Kenya. Data was collected using standardized measurement instruments developed by Miller (1983), Covin and Slevin (1989, 1991) and Gupta and Govindarajan (1984). A 58 percent response rate was attained on the basis of 47 duly filled questionnaires. Using hierarchical regression analysis, empirical results showed that long term credit had a positive and statistically significant effect on entrepreneurial behavior. It also revealed that while long term credit had a positive and statistically significant effect on each dimension of entrepreneurial behaviour, the quantum of the effects on each dimension was not the same. The effect of long term credit on enterprise performance was positive but statistically not significant. The study makes key research and practical contributions. The new approach of examining the effects of long term credit on each dimension of entrepreneurial behavior revealed better understanding on how long term credit stimulates entrepreneurship. On a practical perspective, financing of SME through long term credit may not be an optimal financing strategy. If the goal was to maximize value of SME, it would appear that one way to do this was to minimize long term debt in the capital structure of the enterprise.

CHAPTER ONE
INTRODUCTION

1.1 Background

Shortage of long term credit has been viewed as constraint to industrial performance and growth in developing countries, particularly Sub-Sahara Africa (McCarthy, 2003). It is thought that long term credit finance allows enterprises to invest in more productive technologies, even when they do not provide immediate returns, without the fear of premature liquidation (Jaramillo and Schiantarelli, 2002). This belief led to the establishment of state-owned financial institutions specializing in long term credit financing in Sub-Sahara Africa (Oliveria, 2003).

In Kenya, deliberate policy to remove constraints of access to long-term credit to promote growth and development of small and medium sized enterprises (SME) sector can be traced back to the 1960s when the Government set up development finance institutions like Industrial Development Bank (IDB), Kenya Industrial Estates (KIE) and Development Finance Company of Kenya (DFCK). McCarthy (2003) observed that due to the underdeveloped financial market, these government sponsored special development finance institutions (DFIs) were established to provide easy and adequate access to long term debt financing to SMEs. A second argument leading to the establishment of DFIs was that there was, in general, a shortage of finance and that such institutions were required for filling the gap. In addition, DFIs were also expected to meet the foreign currency resources requirements of the industry.

In the past two decades, the performance of SMEs has received considerable public attention due to their contribution to technological innovation, employment creation and economic growth (World Bank, 2002; Ayyagari et al. 2003, 2006). Indeed, Obwocha (2006) observed that in 2003, Kenya's SMEs contributed about 18 percent of GDP and employed 5.1 million representing 74

percent of Kenyan labor force. Yet it is not clear whether SMEs benefited from long term credit finance that has been provided over the past five decades.

The current economic blueprint, *Kenya Vision* 2030 identifies development and growth of the SMEs sector as a vehicle to prosperity (GoK, 2007). While Kenya's recognition of the vital role played by SMEs can be traced back to the publication of the ILO Report (ILO 1972), it was not until mid-1980s, following the publication of Sessional Paper No.1 of 1986 on *Economic Management for Renewed Growth* (GoK, 1986) and Sessional Paper No.2 of 1992 on *Small Enterprises and Jua Kali Development in Kenya* (GoK, 1992), that government policies aimed at removing constraints, and specifically access to credit became more refined. The policy to provide long-term credit to support SMEs is reiterated in the Sessional Paper No.2 of 1996 on *Industrial Transformation to the year 2020* (GoK, 1996), the *Economic Recovery Strategy for Wealth and Employment Creation* (ERSWEC) for the period 2003-7 (GoK, 2003a). The thrust of the policy on long-term credit in Kenya as articulated in the foregoing policy documents is to assist the micro and small enterprises (MSEs) graduate to medium scale enterprises that provide quality products and employment needed for industrial take-off and sustainable development.

By its nature, long-term credit is supposed to promote entrepreneurship by encouraging entrepreneurial behavior exhibited through emergence of new enterprises, products, services and more efficient organization management processes (Barclay and Smith, 1995; Guedes and Opler, 1996; Black and Strahan 2002). This view is echoed in Kenya's Sessional Paper No 3 of 2005 on *Development of Micro and Small Enterprises for Wealth Creation, Employment Generation and Poverty Reduction* (GoK, 2005a) which recognized the central role long-term credit plays in the promotion of entrepreneurship. The Sessional Paper recommended restructuring of distressed DFIs to enhance supply of long term credit to stimulate entrepreneurial behavior.

Whereas considerable efforts were undertaken to enhance supply of long term credit for purposes of stimulating entrepreneurial behavior, scanty research exist to determine its benefits. A number of new projects emerged through supply of long term credit from selected DFIs in Kenya over the period 1995-2008 as indicated in Table 1.1. About Kshs 9 billion in long term credit funded slightly over 950 projects, of which 70 percent were from Kenya Industrial Estates (KIE).

Table1.1: New projects funded by selected DFIs in Kenya, 1995-2008

Institution	Number of projects			Total amount Shs millions		
	1995-9	2000-4	2005-8	1995-9	2000-4	2005-8
1. Industrial Development Bank	19	19	4	548	451	105
2. Development Finance Company of Kenya	15	33	117	770	1231	4,994
3. Kenya Industrial Estates	144	232	308	36	39	96
4. Industrial & Commercial Development Corporation	17	42	4	310	29	502
Total	195	326	433	1664	1,750	5,697

Source: GoK (2005b, 2009)

In general, a positive association is reflected between supply of long term credit and number of new projects, a pointer to the perceived importance of the former in promoting entrepreneurship. On performance of SMEs, Beck and Fuchs (2004) observed that 90 percent non-performing debt portfolio among DFIs in Kenya is in part an indication of the inability of the borrowers to repay the loans. Thus, suggesting a possible negative association between long term credit and SME performance, although not verified empirically.

This observation is consistent with earlier empirical findings by the World Bank (1987) on the outcome of a two-decade (1966-1986) effort to provide long-term credit assistance through KIE for some 800 African-Kenyan owned investment projects to accelerate growth of their entrepreneurial capacities. Empirical results show showed disappointing outcome. For instance, out of the total loans advanced by the KIE between 1979 and 1986, 67 percent were in arrears, a probable indicator of poor financial performance of borrowers. The study revealed that as at end of 1984, Industrial and Commercial Development Corporation (ICDC), IDB, KIE and DFCK had lent a total of Kshs 1.6 billion as long-term credit to SMEs but provided about 10 percent of total investment as debt write-offs. The foregoing empirical evidence on the effects of long-term credit on entrepreneurial behavior and enterprise performance are inconclusive. This study seeks to provide more empirical data that could help in making conclusions on this matter.

1.2 Research Setting

It is important to understand the context or the environment in which entrepreneurs and their businesses operate due to the effects on entrepreneurial behavior and enterprise performance. This study was undertaken among SMEs in Kenya funded by the European Investment Bank (EIB) through its global loan program in the African, Pacific and Caribbean countries (McCarthy, 2003). The period of interest was 1991-2008 and was relevant for two reasons. First, it represents the period of deep economic and structural reforms that had far reaching impact on the business operating environment. Secondly, it was within this period that the EIB long term loan program was launched in Kenya (CBK, 2003). Under the program, entrepreneurs were provided with long term credit for start-ups and expansions for projects that add value to products and services (McCarthy, 2003). A summary of the background information and key features of the EIB Global loan scheme is provided in Appendix A.

Kenya's business environment in the period 1991-2008 was characterized by changes that had implications on entrepreneurial behavior and SMEs performance. For instance, the business environment became more competitive following implementation of deep economic reforms that included removal of variety of regulations controlling business activities, abolition of foreign exchange and interest rates control, removal of quantitative import restrictions, emphasis towards indirect taxes and reduction in corporation tax rate (IMF, 1995; 2004). In addition, external shocks occasioned by political reforms in the early 1990s and the severe drought and destructive floods (la *Nina* and el *Niño* weather phenomena) of late 1990s had a bearing on SMEs performance (World Bank, 2008). As a consequence, GDP grew at an annual average rate of 2.2 percent in the early 1990s to peak at 7.1 percent in 2007 but fell to 1.7 percent in 2008 following the post-election violence of 2007/8. Due to sustained economic and structural reforms, the structure of Kenya's economy was gradually transformed and by 2008, the average share to GDP for agriculture, service and manufacturing sectors stood at 29.3, 53.0 and 17.7 percent, respectively (World Bank, 2008).

1.3 Statement of the Research Problem

Whereas substantial amounts of long-term credit has been provided to support SMEs, empirical literature is inconclusive on the extent to which long-term credit influence entrepreneurial behavior and enterprise performance (Beck et al., 2005; Ayyagari et al., 2006). In the Kenyan context, progress has been made in investigating access to credit constraints that hinder growth and development of SMEs (Kimuyu and Omiti, 2000; Mullei and Bokea, 2000; Atieno, 2001; Green et al., 2002) but the effects of long term credit have not been analyzed. The effect of long term credit on entrepreneurial behavior has not been conclusively established. Earlier research suggests that long term credit broadens an organization scope to implement entrepreneurial strategies (Greene and Brown, 1997; Dollinger, 1999; Winborg and Landstrom, 2000). Jaramillo and Schiantarelli (2002) and Cassar (2004) assert that long-term credit has positive

effect on *innovativeness* and *risk taking* - two dimensions of entrepreneurial behavior. However, it is unknown how it affects other dimensions like *pro-activeness* and *competitive aggressiveness*. In addition, no known empirical study has conclusively shown how long-term credit affects SMEs performance. Cassar and Holmes (2003) found positive correlation between long term credit and growth of enterprise but Esperanca et al., (2003) found mixed evidence while others (Fama and French, 2002; Frank and Goyal 2003, 2008) found negative correlation between long term credit and profitability. Beck et al., (2005) found no long term credit effect on enterprise performance among large enterprises while Ayyagari et al. (2006) findings were to the contrary. The absence of unequivocal empirical work examining effect of long term credit on entrepreneurial behavior – both as a uni- and multi-dimensional construct – and enterprise performance among SMEs points to knowledge gap in this stream of literature. Insights on the effect of long term credit might aid in stimulating entrepreneurial behavior and performance of SMEs. It is imperative that credit policies and strategies supporting entrepreneurship rest on conclusive empirical findings to avoid undesirable outcomes.

1.4 Objective of the Study

1.4.1 General objectives

The general objective of the study was to determine the effects of long-term credit on entrepreneurial behavior and enterprise performance.

1.4.2 Specific objectives

The specific objectives were to determine the:-

1. effect of long-term credit on entrepreneurial behavior
2. effect of long term credit on *innovativeness.*
3. effect of long term credit on *competitive aggressiveness.*

4. effect of long term credit on *risk taking*.
5. effect of long term credit on *pro-activeness*.
6. effect of long-term credit on enterprise performance.

1.5 Statement of Alternative Hypotheses

In order to achieve the specific objectives of the study, the following alternative hypotheses are postulated.

H_1: Long-term credit has positive effect on entrepreneurial behavior.

H_2: Long term credit has a positive effect on *innovativeness.*

H_3: Long term credit has a positive effect on *competitive aggressiveness*.

H_4: Long term credit has a positive effect on *risk taking*.

H_5: Long term credit has a positive effect on *pro-activeness*.

H_6: Long-term credit has positive effect on enterprise performance.

1.6 Significance of the Study

The performance of SMEs has important implications to economic growth and poverty reduction in Kenya. Understanding the effects of long-term credit on entrepreneurial behavior and enterprise performance is crucial if benefits attributed to SMEs are to be optimised. The results of this study might help policy makers design effective long-term credit policies that promote entrepreneurship and better performing SMEs. The findings may inform financial institutions specialized in long term credit on effective and credible mechanisms for allocating this form of financial resource more efficiently.

In addition, this study contributes to entrepreneurship literature by providing deeper insights on the consequence of long term credit on both entrepreneurial behavior and enterprise performance. Whereas under capital structure theory, long term credit finance is least preferred form of debt finance from an enterprise

performance perspective, it is not clear under what conditions, if any, long term credit promotes entrepreneurial behavior. Furthermore, there is a dilemma as to whether entrepreneurial behavior is a *multi-dimensional* or *uni-dimensional* construct, thus creating concerns over the validity of the construct itself (Covin et al., 2006). Indeed, the conceptual relationship between long term credit and the individual dimensions of entrepreneurial behavior and enterprise performance can be unique and need to be explained.

As a consequence of this research, this conceptual relationship may be clarified and further areas of research identified to bridge the knowledge gap in this area. Current entrepreneurial theories have been developed largely on the basis of studies conducted in the industrialized countries. Indeed, Hills and LaForge (1992) stressed the importance of conducting entrepreneurship research in international contexts. The continued shift towards market-based systems due to sustained liberalization in less developed countries has brought about research opportunities to assess the role of long term credit in promoting entrepreneurship and SMEs performance. With the purpose to extend generalizability of hypotheses developed on the basis of research that is predominantly industrialized countries - based, the study was conducted in Kenya, a developing country.

1.7 Scope of the Study

The focus of this study was on 200 SMEs funded under the EIB Global loans scheme. The time scope was 1991-2008, being the period between the commencement of the EIB Global loans scheme and the year the field study began. The study focused on how long term credit affected both entrepreneurial behaviour and enterprise performance. The empirical study was conducted among SMEs operating in Kenya.

1.8 Limitation of the Study

This study was limited to entrepreneurs with surviving SMEs. As a result, if enterprises did not survive for reasons related to long term debt, there may be some bias proportional to the effect of this factor and to the number of such cases. In addition, data was collected exclusively in Kenya, among a limited number of SMEs, therefore limiting the generalizability of the findings. The relationship between long term credit, entrepreneurial behavior and the enterprise's context may change across countries, since both concepts are related to cultural issues.

The small sample size limited further rigorous statistical analysis like cluster analysis by characteristic of entrepreneur or enterprise which would have thrown more light in the relationships. However, regression analysis was appropriate for exploring structural relationships for the sample, but the research model is not a putative causal model and causality could not, therefore, be assumed. To have achieved such an end would have required the gathering of data from a much larger sample, an outcome not possible within reasonable budgetary limits. Nevertheless, within the constraints of the survey used, the extent of the relationships found was quantified.

This study is a cross sectional snapshot of events even though there was attempt to mitigate this weakness with recall time questions. This approach cannot identify the long term implications and trend, therefore the causality in the construct relationship limits the external validity of the regression results. However, previous studies and theoretical evidence suggests the direction of causality of most of the relationships. The causal direction between long term credit, entrepreneurial behavior and enterprise performance can be called to question. Whereas there are conceptual arguments in favour of long term credit impact on entrepreneurial behavior and performance, the other casual direction is also possible. Notwithstanding the foregoing limitations, this study is still scholarly and has practical value.

1.9 Overview of the study

This study is organized as follows: Chapter one introduced the background and the research setting of the study followed by the statement of the research problem. The general and specific objectives of the study and alternative hypotheses were clearly stated. In addition, the significance, scope and limitation of the research study were explained. In the second chapter, long-term credit, concept of entrepreneur, entrepreneurial behavior and its dimensions and, enterprise performance is discussed. The theoretical perspective on typologies of organizations and the capital structure of enterprises is presented as a basis for the proposed relationships. A review on empirical work on the relationship between long term credit, entrepreneurial behavior and enterprise performance is presented. The review highlights both the conceptual inadequacies and strengths of current research in explaining the relationships. The reviewed literature provided basis for the proposed relationships presented in the conceptual framework and the hypotheses postulated in chapter one. Chapter three highlights the methodological and data analyses techniques, providing explanations and discussions of their application. Results of these analyses are provided and discussed in chapter four. Finally, chapter five provides a summary, conclusions and recommendations of the study. The suggested areas for future research in this stream of literature are presented.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter begins with a detailed review of the literature on the concept of long term credit, definitions and past measures of entrepreneurial behavior, and enterprise performance. The concept of entrepreneurship is introduced and discussed. Building on the work of Wiklund (1991) and Lumpkin and Dess (1996), this initial discussion also seeks to clearly differentiate entrepreneurial orientation and entrepreneurial behavior as separate yet closely related concepts. A theoretical foundation for the study and a detailed review of the contribution of past literature in explaining the effect of long term credit on entrepreneurial behavior and enterprise performance is discussed. The theoretical and empirical perspectives revealed the existing knowledge gaps in the current stream of literature and provided foundation for the research problem. Emerging from the literature review, a conceptual framework is proposed for testing the hypotheses postulated in chapter one.

2.2 Long Term Credit

Literature in corporate finance (Myers, 1977; Brealey and Myers, 1996; Emery et al., 1998) define long term credit as credit extended by a lender to a borrower to be repaid over a period exceeding one year. The credit may be repaid in installments over the loan maturity period or in one lump-sum. During the life of the loan, the debtor usually pays interest on the principal loan amount outstanding. Since most of the principal repayment is spread over a long period, the borrower has substantial flexibility to utilize the available credit during the life of the loan (Titman and Wessels, 1988; Barclays and Smith, 1995). Creditors require collateral or assets pledged by the borrower to secure the loan. In the event of default the loan repayment of the principal amount, the pledged assets are subject to seizure by the creditor. Long term credit is used to finance capital investment or durable assets. This ensures optimum asset-liabilities management to minimize risks that may trigger loan default (Guedes and Oppler, 1996).

Guth and Ginsberg (1990) and Berger and Udell (1998) observed that access to long term credit requires comprehensive disclosures of information to the creditors on the characteristics of both entrepreneur and the enterprise. This information typically includes management style and practices, available collateral and growth potential of the enterprise to safeguard creditor interest. On collateral, the enterprise should be able to offer sufficient guarantees, whether implicit or explicit, to mitigate creditor's risk. As far as the implicit guarantees are concerned, the enterprises should be able to generate the positive net flows (*pledgeable income*) necessary to service the debt while, in terms of explicit guarantees, the enterprises should be able to use *immaterial* (patents, copyrights, personal guarantees etc.) and particularly *enterprise specific assets* as collateral (Cassar and Holmes, 2003; Beck et al., 2008).

Guedes and Opler (1996) noted that there are two principal approaches to measurement of long term debt. The first is to express any amount of debt due over a period of more than one year as a ratio or percentage of total debt. In the second approach, long term debt is measured in terms of ratio or percentage of total debt outstanding to equity. Schiantarelli and Sembenelli (1997) operationalized long term credit as ratio of long term debt financing to equity.

2.3 The Concept of Entrepreneur

The most influential concept of entrepreneur was by Schumpeter (1934) who observed that entrepreneurs improved products and processes replacing old inefficient products and processes. Schumpeter (1934) termed this as the process of 'creative destruction'. In examining entrepreneurs, Wilken (1979) saw a continuum of innovation. On one extreme end are those who create new enterprises and ventures while at the other opposite end of the continuum, are those who will make minor changes on the existing enterprises.

Rogoff and Lee (1979) provide an extensive review on the term 'entrepreneurs'. They observed that entrepreneurs are traders who risked their own capital by purchasing goods at fixed price and gambled on selling at higher, but uncertain price. Risk taking was regarded a central component in entrepreneurship. Later research by Brockhaus (1980), Lumpkin and Dess (2001) and Timmons and Spinelli (2003) concurred with this view that entrepreneurs are risk takers.

Carland, et al. (1984) proposed a distinction between small business owners and entrepreneurs. The distinction postulated rests with the emphasis on an entrepreneur's focus on innovation along with goals of growth and profit, whereas the small business owners have less emphasis on innovation and sees the business as an extension of his or her personal goals.

2.4 Entrepreneurial Behavior

How is the entrepreneurial nature of the individual revealed? Wiklund and Shepherd (2005, p4) defines entrepreneurial orientation (EO) as '...a strategic posture capturing specific entrepreneurial aspects of decision making styles, methods and practices'. Lumpkin and Dess (1996) assert that EO reflects the 'how' rather than 'what' the entrepreneur does. Wiklund (1999) and Brown and Davidsson (1998) support this position and observe that EO is a self-perceptive construct, a disposition towards an action rather than an action itself and should not be confused with entrepreneurial behavior, which is the *action.*

Drawing on definitions suggested in past empirical literature, Wiklund (1999) identified five set of variables as constituting entrepreneurial behavior. The first three variables relate to behaviors relating to the three dimensions of entrepreneurial orientation by Covin and Slevin (1991), that is, *risky, innovative* and *proactive* behavior. The fourth group relate to *establishment of new organizations*, that is, start-ups subsidiaries or additional independent enterprises. The fifth variable is *growth or expansion* of the existing enterprise.

Schumpeter (1934) emphasized the role of enterprise or organization creation as the principal criteria for an activity to be considered entrepreneurial. Other scholars (Gartner, 1985; Storey, 1994) have also supported the view that entrepreneurial behavior begins with creation of an enterprise or organization. This organization may or may not become self-sustaining and in fact may never earn significant revenues. According to Timmon and Spinneli (2003) when individuals act to create a new organization, they have entered the entrepreneurship paradigm. Thus, without creation of an organization, entrepreneurship has not occurred.

Indeed, Schumpeter (1934) viewed entrepreneurial behavior as the creation of new organization in pursuit of a discontinuous opportunity. An illustration of this is the creation of a subsidiary enterprise to pursue new line of business. In creating a new organization, the individual expects a return, which may or may not be financial. It is this distinction of a new organization, either as a new venture or as a new venture within an existing organization that sets entrepreneurial behavior apart from management tasks of allocating resources to existing opportunities. There is a general consensus in the literature on entrepreneurship (Jennings, 1994; Storey, 1994; Wiklund, 1999; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2005) that 'new entry' as a reflection of entrepreneurship. 'New entry', as defined by Lumpkin and Dess (1996, p136) refers to "entering new or established markets with new or existing goods or services...by starting a business, through an existing business or internal corporate venturing"

Lumpkin and Dess (1996) proposed that two additional variables - *competitive aggressiveness* and *autonomy* to constitute entrepreneurial behavior. Covin et al. (2006) and Davis (2007) observed that whereas proponents of these two constructs have provided credible empirical support for inclusions, few researchers have included these variables in their research on entrepreneurial

behavior. A possible reason is that the two variables are partially explained by the innovation and pro-activeness.

For clarity reasons, *competitive aggressiveness* is the intensity in which an enterprise seek to outperform it rivals in the market while pro-activeness is seeking new opportunities. *Autonomy* refers to independent action of individuals to bring develop and implement an idea in the enterprise while innovation is the exploitation of new ideas. The current study has opted not to include *autonomy* as a dimension of entrepreneurial behavior proposed by Wiklund (1999). Its exclusion is intended to reduce conceptual ambiguity due to inability to distinguish the actions of the entrepreneur from that of others within an SME. In addition, creation or expansion of new enterprises or venture is also omitted in the definition of entrepreneurial behavior as long term credit is used to finance new assets of the enterprise. In this study, entrepreneurial behavior comprises of *risk-taking, innovative, proactive* and *competitive aggressive actions.*

Thus, the entrepreneurial nature of an individual is revealed based on the presence or absence and strength of the above constructs. It is these constructs which contribute to the degree of entrepreneurial behavior of an individual that serve as the foundation for hypothesis development in the current study. Before turning to further discussion on dimensions of entrepreneurial behavior, it is important to clarify whether entrepreneurial behavior is a firm level or individual level construct and whether it is a uni-dimensional or multidimensional construct.

(i) Enterprise or organizational level versus individual level construct

Davis (2007) observed that EO was originally developed as a firm-level construct and has primarily been applied in that way but there is increasing concern over the credibility of this approach. In a majority of entrepreneurship literature (Covin and Slevin, 1986; Lumpkin and Dess, 1996, 2001: Wiklund and Shepherd, 2005), the response is focused on one individual (usually the chief executive officer or owner-manager) to represent the entrepreneurial behavior of

the entire enterprise. It is believed that these responses are indicative of the entrepreneurial behavior of the entire enterprise. This argument holds in small enterprises where the impact of the owner or proprietor is likely to be highly reflected in the enterprise's approach to entrepreneurship. From this perspective, EO and of course, entrepreneurial behavior becomes an individual-level construct, rather than organization-level. In this study, entrepreneurial behavior is assumed to be an individual level construct.

(ii) Uni-dimensionality versus multi-dimensionality of entrepreneurial behavior

Stetz et al., (2000) provided support for a multidimensional perspective on entrepreneurial behavior earlier proposed by Lumpkin and Dess (1996). The study concluded that individual dimensions of EO can vary independently of each other and should be treated as independent, or unique, variables in EO research. In response to these empirically driven conclusions, Covin et al., (2006) proposed that a theoretical perspective on this debate is also necessary when considering the uni/multidimensional nature of EO. One such argument on theoretical grounds is based on the view that while the individual dimensions can vary independently, it is their combined influence which makes an organization entrepreneurial (Miller,1983; Zahra,1995; Wiklund,1999; Covin et al., 2006). Empirical studies call for unique consideration of each variable while theoretical perspective argues for a uni-dimensional construct. It is in this respect that Covin et al., (2006) suggest the uni-dimensional versus multidimensional debate should be investigated further by researchers to enable extension of this stream of literature.

If questions and empirical dilemmas are present, the validity of the construct is called into question. Alternatively, if questions and empirical dilemmas are ignored, the result is the continued progression of a field of study which could possibly be built on a faulty foundation. Thus, Davis (2007) recommends that some clarity should still be provided before we blindly dismiss the empirical support for a multidimensional approach in lieu of adopting a more theoretically

acceptable and convenient uni-dimensional perspective. This study will use both uni/multidimensional approaches to entrepreneurial behavior to contribute to the refinement of this stream of literature.

2.4.1 Innovativeness

Schumpeter (1934) recognized innovation, the development of new products and processes as one of the essential elements in entrepreneurship. Researchers have continued to cite innovation as a key measure for entrepreneurial behavior (Miller and Friesen, 1982, 1983; Miller, 1983; Drucker, 1985; Wiklund and Shepherd, 2005). Miller and Friesen (1982) developed two competing models of innovation, depending on the goals and type of organization: the conservative model and the entrepreneurial model. The conservative model describes the innovative practices of organizations using innovation as a measure of defense, or as a retaliation mechanism. Enterprises following this approach innovate in the midst of competitive situations to regain their original market position.

In contrast, the entrepreneurial model is practiced in enterprises which consistently and aggressively pursue innovative practices that will give that enterprise an advantage. As Miller and Friesen (1982, p16) discussed, organizations utilizing the entrepreneurial model of innovation viewed it as "a natural state of affairs" with innovative practices being essential to the functioning and future of their enterprise. Innovation has been viewed in several ways by researchers in the field of entrepreneurship. For instance, early researchers sought to dichotomize innovation as either product-market or technological (process) innovation. Innovation practices focusing on marketing or advertising functions, product design and/or market research would be typical of product-market innovation (Miller and Friesen, 1982). Davis (2007) observed that technological innovation is characterized by innovative practices focusing on product/market development, with primary focus being placed on industry and technological expertise. While this distinction is important, future research noted

the difficulty of distinguishing between the two types of innovation in academic research (Lumpkin and Dess, 1996).

Kimberly (1981) definition of innovation focused on the extent to which an organization could develop new technologies or practices which were currently not available in a market. Miller and Friesen (1982) extended this definition by adding the channels through which innovation is achieved. They viewed innovativeness as the efforts an organization put forth towards introducing new products, services, processes, technologies, systems, plans or structures. In more recent literature, scholars have viewed innovation as an organizational response. With the presence of the various definitions of innovation, use of a single definition for this study is important to avoid any ambiguity in both hypothesis development and methodological testing. As such, this analysis will use the definition developed by Lumpkin and Dess (1996, p142) which defines innovativeness as "an enterprise's propensity to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or processes."

Given the extensive amount of literature examining innovation, many different operationalizations of the construct have been used. Measures have differed based on the type of innovativeness being measured, technological or product/market. A high level of either type of innovation represents a strong devotion to innovative practices within the enterprise (Wiklund and Shepherd, 2005). Lumpkin and Dess (1996) suggest enterprises fall along a continuum of innovativeness, ranging from a willingness to try a new product line or other new technology to a zealous pursuit of and commitment to leading an industry in technological and product advancement.

Measurements of innovation within an enterprise have primarily come in the form of individual response through survey or analysis of existing financial and other organizational data. For example, technological innovation has been

examined in several ways. This type of innovation focuses on the pursuit of new processes or production methods, thus indicating a need for different measurement than that which measures product innovation. Survey questions for this construct have centered around an enterprise's emphasis on technological development, ability to adapt new processes, and desire to have a reputation for trying and producing new processes and/or methods (Zahra and Covin, 1995). In contrast, measures of product/market-specific innovation have put more emphasis on funds allocated to new product development (Miller 1987).

A commonly used measure for this type of innovation has been a count of the number of new products or services introduced by an organization (Miller and Friesen, 1982; Covin and Slevin, 1989). The measures described above were intended to dichotomize the type of innovation, thus only measuring part of an organization's innovative practices. The variety of measures used in analyzing *innovativeness* of an organization provides a strong foundation for future investigation of this variable.

2.4.2 Pro-activeness

The second unique dimension of entrepreneurial behavior, as operationalized in this study, is *pro-activeness*. Davis (2007) defines pro-activeness as an enterprise's intensity in identifying and capitalizing on available market asymmetries. Miller and Friesen (1982) discussed the importance of introducing new products/technologies ahead of competitors, rather than following other enterprises or simply responding to competitive threats in the environment. In this respect, proactive organizations seek to seize opportunities ahead of their competitors. Several studies have acknowledged the importance of capturing first-mover advantage, often labeling this as the key criterion of *pro-activeness* (Miller, 1983). The advantages are achieved by those enterprises that are able to quickly and efficiently exploit market asymmetries first in a market, thus resulting in the establishment of brand recognition prior to the entrance of other competitors.

Miller and Camp (1985) questioned the benefits of being a first mover relative to other organizations who quickly followed into a newly established market. In their analysis, they argued that organizations could still be characterized as novel, fast, and forward thinking without being the first mover. Further, they found that the first and second enterprises to enter a market were considered to have an equal likelihood of success in the new market. Thus, while being the first mover has great advantages, these advantages can still be captured by another enterprise that quickly follows a leader into an emerging market. On the other hand, being first might not be of utmost importance, quick market entry and/or quick response to the actions of industry competitors are both vital to organizational success in emerging markets.

More recent definitions of *pro-activeness* have moved away from making this component the defining variable of the construct. One interesting difference between some of the most commonly accepted definitions of pro-activeness is the broad or narrow focus each takes on what activities determine a proactive organization. For instance, Venkatraman (1989) included the modification of internal processes as an element of pro-activeness. This involved such changes as strategic evaluation and adaptation/elimination of operations based on their current stage in the life cycle.

More recent contributions to the definition have eliminated the consideration of internal alterations as proactive activities and have placed emphasis on anticipating and pursuing new opportunities in emerging markets and taking initiative in the market place by having a forward-looking perspective in identifying market asymmetries (Lumpkin and Dess, 1996; 2001).

Several discussions have surrounded the measurement of the *pro-activeness* variable. One topic of particular interest arises when measuring the construct as a continuous variable. Some scholars like Knight (1997) examining *pro-activeness*

viewed a proactive organization to be aggressive in relation to its competitors, while an organization on the opposite end of the continuum would be labeled "reactive". However, Lumpkin and Dess (1996) suggest the use of "reactive" is inappropriate as this term suggests enterprises are responding to their competition. Thus, they suggest measuring *pro-activeness* on a continuum ranging from "proactive" to "passive." As the authors suggest, passiveness is "indifference or an inability to seize opportunities or lead in the marketplace" (Lumpkin and Dess, 1996, p147). Using the concepts of *pro-activeness* and passiveness as anchors of a continuum, reactiveness falls somewhere in the middle and represents organizations who are not market leaders, but have the ability to adapt to change and recognize the need for the pursuit of developing markets.

Operationalization of the *pro-activeness* construct has taken several forms over the years, coinciding with important theoretical contributions. In some earlier studies examining *pro-activeness* as part of the entrepreneurial orientation construct, Miller (1983) suggest examination of the number of first mover pursuing projects in an organization. This same approach has also been used in more recent literature. Lee et al., (2001) analyzed the funds allocated for first mover pursuing projects in an organization. Other suggestions for operationalization have focused on measuring the tendency of an organization to be a leader, rather than a follower, in the development of new technologies, products and processes (Covin and Slevin, 1986, 1989; Miller, 1983). This approach removed the possibility of a purely objective measure (such as "first mover projects pursued"), but allows for a more realistic examination of how proactive an organization is, considering it does not require the organization to be the first mover.

An additional note concerning the measurement of *pro-activeness* is the cited existence of possible covariation between innovativeness and pro-activeness (Lumpkin and Dess, 1996). Some previous studies like Morris and Paul (1987)

have failed to find a significant difference between the two constructs when factor analyzing the latent constructs of the variables thus resulting in a single dimension representing both constructs. However, such findings have been sporadic at best and the dimensions will be considered independent of each other in the current study.

2.4.3 Risk-Taking

Risk-taking is the third component of the entrepreneurial behavior construct. The influence of *risk-taking* behavior on the actions of entrepreneurs was first proposed when the idea of entrepreneurship was originally generated. Rogoff and lee (1979) viewed *risk-taking* propensity as the sole principle element that differentiated entrepreneurs from others. This definition was later broadened to include the concept of combining factors of production, also noting that entrepreneurs must have special qualities. The risk at this time came as a result of the entrepreneur's choice to be self-employed rather than hired by an organization. While the types of risk taken by entrepreneurs has broadened over time, as the term entrepreneurship has come to represent more than only self-employed individuals, the *risk-taking* behavior of entrepreneurs continued to be a key element in distinguishing them from other individuals or organizations (Davis, 2007).

Risk-taking as an entrepreneurial behavior has been well documented (Miller and Friesen, 1978; Miller, 1983; Lumpkin and Dess, 1996, 2001). Proposed definitions of *risk-taking* have included elements of opportunity capitalization, resource commitments, potential for returns, and uncertainty.

In a definition which has been used repeatedly over the years, Miller and Friesen (1978) capture the notion of *risk-taking*. In their view, *risk-taking* is "the degree to which managers are willing to make large and risky resource commitments – i.e., those which have a reasonable chance of costly failures" (Miller and Friesen, 1978, p923). This definition adequately considers the role of resource

commitments and uncertainty and will be adopted as the definition of *risk-taking* for the current study.

The risks taken by entrepreneurial organizations have been classified by Baird and Thomas (1985) as falling into one of three strategic risk categories. The first of these represents the risks assumed when borrowing is undertaken to fund a project/venture. Borrowing heavily places intense financial pressure on an organization, often resulting in non-financial actions taken by lenders. For instance, a common practice by venture capitalists lending large amounts of resources to an individual or enterprise is partial managerial control over organizational actions and decisions. Under venture capital arrangement, this control can be exerted by the lending party in many different ways including, managerial changes made by the lending party changes in compensation structures, specified allocation of cash flow and control rights (Kaplan and Stromberg, 2001). This situation exemplifies the risks associated with heavy borrowing by entrepreneurial individuals.

The second type of risk is the excessive commitment of resources into a specific investment. Davis (2007) observed that this is a common type of risk taken at both the small-business entrepreneurship and corporate entrepreneurship levels. In small-business entrepreneurship, this excessive commitment of resources can refer to the percentage of resources being allocated to a specific venture or product. What this suggests is that risk is enhanced as the level of resource commitment is increased. The third type of risk proposed by Baird and Thomas (1985) is that of venturing into the unknown. This type of risk refers to the uncertainty, not necessarily financial, associated with entering an industry/market in which little is known. New development of products or technological processes/operations is often associated with this type of risk because no precedent has been established to provide the security of market demand.

The amount of risk organizations are willing to endure has been researched in many different ways, with varying types of operationalizations of the risk-taking variable (e.g., Miller, 1983; Lee et al., 2001). As Lumpkin and Dess (1996) discuss, no enterprises operate at a level of zero risk. This leaves organizations to consider what level of risk they want to pursue, or tolerate in many cases. Risk is undertaken through heavy borrowing, excessive resource commitments, and/or entering unknown environments. Thus, the level of risk in an enterprise can be plotted somewhere along a continuum, ranging from low to high risk.

Several measures of *risk-taking* propensity have been used in past entrepreneurship research. A common measure of risk focuses on the risk level of projects undertaken by an organization. For instance, several authors (e.g., Miller, 1983; Lee et al., 2001) have used measures of the number of risky R&D projects pursued and the resources allocated to those risky projects to represent an organization's *risk-taking* propensity.

Venkatraman (1989) took a similar approach, asking managers several questions related to the types of projects they pursued (certain outcomes versus uncertainty). The many areas of risk which have been investigated illustrate the influence of this variable on organizational action and its importance in research on entrepreneurship.

2.4.4 Competitive aggressiveness

Lumpkin and Dess (1996, p146) defined *competitive aggressiveness* as "how enterprises related to competitors, that is how enterprises respond to trends and demand that already exists in the market place." It refers to the intensity of an enterprise's efforts to outperform industry rivals (Lumpkin and Dess, 1997, 2001). It is characterized by a strong offensive posture directed at overcoming competitors and may be quite reactive as when an enterprise aggressively enters a market that a rival has identified.

Competitive aggressiveness is a response to threats as opposed to *pro-activeness* which is a response to opportunity. Lumpkin and Dess (1997) observed that entrepreneurial enterprises set ambitious market share goals and take bold steps to achieve them by cutting prices and sacrificing profitability (Venkatraman, 1989), or spending aggressively compared to competitors on marketing, product service and quality, or manufacturing capacity.

Some studies (Covin and Slevin, 1989, 1991; Davis, 2007) have addressed *competitive aggressiveness* by equating it with pro-activeness. These authors suggest that proactive enterprises compete aggressively with others and that the attribute is not unique to entrepreneurial enterprises. However, Lumpkin and Dess (1997) using factor analysis method with 'promax' rotation observed that pro-activeness and *competitive aggressiveness* are distinct constructs. Competitive aggressiveness is operationalized using the Covin and Slevin (1989) scale where managers are asked whether they prefer to 'un-do the competitors' or to 'live and let live'.

2.5 Enterprise Performance

In studies in strategic management and business finance, enterprise or organization performance is regarded as a multidimensional construct. Broadly, it refers to the extent to which an enterprise or organization achieves its goals and objectives in the market (Chandler and Hanks, 1993). Although organization performance can be approached, conceptualized, operationalized, and measured in several ways there are two strategic outcomes: success or failure. Success can be distinguished in terms of financial and other success, and short vis a vis long term success. Cassar (2004) further notes that even enterprise failure has different definitions which include, bankruptcy, insolvency, liquidation, death, deregistration, closure and exit. Indeed, in most empirical studies, enterprise performance is measured by sales growth, number of employees, market share, profitability (profit, return on investment), and survival. Some researchers (Chandler and Hanks, 1993; Cooper et al., 1994: Blackman, 2003) regard growth

as the most appropriate measure of performance in small business. Moreover, growth is an important precondition for the achievement for other financial goals of business. But Lumpkin and Dess (1996) argue that the combination of growth and profitability is a better reflection of performance in an enterprise.

Cooper et al., (1994) argues that the measure of financial performance in small enterprises is regarded inappropriate due to a number of reasons. First, the central goals and objectives of a small enterprise may be other than financial. Second, it is difficult to obtain reliable information on factors affecting financial performance in small enterprises (e.g. in family owned businesses). Thirdly, organizational form can create artificial differences, for instance, procedures for handling owner compensation. Fourthly, is the reluctance of small enterprises to provide financial data. Finally, it may take several years before new business venture becomes profitable. Instead, performance indicators calculated from financial statements combined with self perceptive assessments of enterprise performance are recommended.

Blackman (2003) on empirical study on SMEs in Australia observed that measurement of enterprise performance using financial data is often difficult in small enterprises largely because the owners of these enterprises are the sole controllers of the information and are sensitive about releasing it. Blackman further notes that profitability of small business is not considered a reliable measure of enterprise performance since distribution of profits tend to vary with the tax obligations of the owner-manager and the asset structure of the business and the owner's personal intentions for the business. In practice, profitability is not the only measure of enterprise performance. Covin and Slevin (1989, 1991) used financial performance measures like sales level, sales growth rate, cash flow, return on shareholder equity, gross profit margin, return on investment while Lumpkin and Dess (1996, 2001) and Wiklund and Shepherd (2005) ascribe to the view that enterprise performance is multi-dimensional in nature and their "measure can conflict" and, therefore, measure performance from growth and financial terms.

Performance is defined similarly in this study to describe performance of SMEs using measures such as profitability, growth, and survival depending on how the examined enterprises rate their objectives. The rating can be both subjective (e.g., owner satisfaction to achievement of goal) and objective (e.g., income earned through the enterprise). Performance can either be high or low depending on whether an enterprise has achieved its goals or not. The merit of this approach is that these measures are widely used and replicated.

2.6 Theoretical Perspectives

Research on entrepreneurship has been built around the concept of strategic decision. The implementation of strategic decisions made within an organization influence various aspects of the organization, including organization performance (Miller and Friesen, 1978; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2005; Davis, 2007). Miles and Snow's (1978) typology of enterprises is based on these decision-making process variables and the extent to which enterprises differed in their approach on each of these. The Miles and Snow's typology together with Capital Structure Theory on how enterprises finance their assets is presented.

2.6.1 Miles and Snow's typology

In the seminal study of typologies of organization by Miles and Snow (1978), the strategy of an enterprise is described as having three spheres of influence namely: 1) the entrepreneurial, 2) the administrative, and 3) the technical. The entrepreneurial sphere refers to an enterprise's market orientation. The administrative sphere refers to the ability of the organization to effectively coordinate and implement activities, decisions and processes. The technical sphere refers to the available technology and processes utilized for the production of goods and services. On the basis of different business strategies used, Miles and Snow (1978) categorized organizations as *Defenders*, *Prospectors*, *Analyzers* and *Reactors*.

'Defenders' are organizations that seek stability through cost and product efficiency with a focus on a single type of technology. The organization has highly skilled manpower but limited to the area of operation and do not tend to search outside of their domains for new opportunities. Although innovative in the creation of technology and new processes, 'Defenders' are not viewed as entrepreneurial since they do not seek to utilize innovative practices to take advantage of opportunities available in the environment. As a result of this narrow focus, these organizations seldom need to make major changes in their technology, structure, or methods of operation. This type of organization focuses attention to improving the efficiency of their existing operations.

"Prospectors" focus on new product development and the creation of new technologies in attempt to create or maintain competitive advantage. Thus, "Prospectors" are innovators who seek industry and market change through the development of products and markets. This type of organizations continually search for new opportunities and experiment regularly with responses to emerging market environment trends. 'Prospectors' lay great emphasis on innovation. However, because of their strong concern for product and market innovation, these organizations usually are not completely efficient. The description of the "Prospector" type fits closely with other descriptions of entrepreneurial organizations.

"Analyzers" type of organization operates in two types of product-market domains: one rapidly changing, the other relatively stable. "Analyzers' seeks to maintain a traditional set of customers and markets, but simultaneously introduce new products and business ideas. However, they are viewed as imitators of industry leaders as they wait for new ideas to be developed and tested before entering a market. In this way, 'Analyzers' are open to change and entrance into new markets after the market has already been established. It is therefore expected that 'Analyzers' management must be capable of dealing with strategy in different modes.

In "Reactors" type of organization top managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively. "Reactors' lack consistent strategy-structure relationship and rarely makes adjustment of any sort until forced to do so by environmental factors.

One noteworthy argument pertaining to the typology proposed relates to the expected performance of each type. Analyzers, Prospectors and Defenders are considered to be uniquely efficient and effective in each of their strategic approaches. This suggests that while certain types of organizations are more successful in specific environments, the overall performance of these three types of organizations should be relatively equal given the trade-offs associated with each approach.

2.6.2 Capital structure theory

In corporate finance, capital structure refers to the way an enterprise finances its assets through a combination of debt and equity. The seminal study by Modigliani and Miller (1958) argued that the value of the enterprise is independent of capital structure under certain conditions. In other words, the decision concerning the maturity structure of a debt contracted by an enterprise can never increase or decrease the value of an enterprise. One important condition was perfect capital markets, (i.e., no taxes, no transaction costs, and no bankruptcy costs). Another condition was information symmetry, (i.e., investors and managers have equal information about the enterprise's investment potential). In a subsequent paper Modigliani and Miller (1963) eased the conditions and showed that under a capital market imperfection where interest expenses are tax deductible, enterprise value will increase with higher financial leverage. The 'pecking order' (Myers and Majluf, 1984), 'trade-off' and 'agency' (Jensen and Meckling, 1976) approaches are extensions of the Modigliani-Miller model incorporating market imperfections to reflect the real world.

The 'trade-off' approach argues that the marginal benefit of increasing debt declines as debt increases but the marginal cost continues to increase. In this situation, the optimal capital structure will be determined by a trade-off between increased bankruptcy risk from a higher debt load and the tax advantage associated with debt. The 'pecking order' approach asserts that enterprises prefer internal sources to fund good projects and only assume debt when there is a need for additional funds to finance less attractive projects.

The two perspectives on optimal capital structure reach different conclusions. The 'trade-off' perspective argues for a proportional relationship between economic performance and leverage due to the tax advantage of debt. In contrast, the 'pecking order' perspective, if anything, is more likely to cause an inverse relationship between performance and leverage as internal funds are reserved for projects with the highest return potentials.

Under the 'agency cost' approach, it is considered that there are agency costs associated with equity financing which relate to management's potential divergence of productive resources toward employment benefits with no or limited returns to the shareholders. This discrepancy between management and shareholder interests may have implications for the enterprise's investment decisions. Management could obtain financing through issuance of new equity to gain flexibility in pursuit of their own objectives and engage in questionable investments some of which might represent negative net present values, that is, it could lead to an 'over investment' problem. Assuming more debt might arguably solve this problem. On the other hand, excessive financial leverage can create an 'under investment' problem as high debt service commitments limit the discretion to engage in new business propositions and thereby discourage investment in positive net present value projects (Myers, 1977).

From the perspective of agency theory, debt can be used as a disciplinary tool to ensure that managers give preference to wealth creation for the equity holders (Jensen 1986). In this set-up, lenders are the prime governance constituents because debt payment obligations and restrictive covenants make it more difficult for indebted enterprises to engage in peripheral and riskier business ventures. Conversely, it will also reduce the number of strategic options available to the enterprise and hence make it more difficult for management to maneuver in a dynamic market environment. In other words, debt can become too restrictive for enterprises operating in rapidly changing industries that require a high degree of strategic responsiveness. Together, these arguments imply that the appropriate financial strategy for enterprises operating in dynamic industries is to reduce leverage to economize on transaction cost and ensure sufficient flexibility to respond to environmental change and higher levels of business risk.

2.7 Empirical Perspectives

Empirical literature on the effects of long term credit on entrepreneurial behavior and enterprise performance is reviewed highlighting knowledge gaps in this stream of research. The effect of other factors on entrepreneurial behavior and enterprise performance is also discussed.

2.7.1 Long term credit and entrepreneurial behavior

Empirical literature reveals that credit finance broadens an organization scope to implement entrepreneurial strategies (Greene and Brown, 1997; Dollinger, 1999; Winborg and Landstrom, 2000). Other research has observed that long-term credit dampens the fear of liquidation and bankruptcy due to the longer repayment profile and facilitates investment with long gestation period (Titman and Wessels, 1988; Venkatraman, 1989; Jaramillo and Schiantarelli, 2002; Black and Strahan, 2002).

In choosing the type of investment to finance through borrowing, enterprises try to match the maturity of assets and liabilities to reduce the risk that incoming

cash flows might be insufficient to cover interest payments and capital outlays. For instance, debt with a maturity longer than the maturity of assets is risky because debt might have to be repaid after the assets have ceased to yield income. Thus, long term debt is used to finance long term assets. It facilitates new venture creation or start-ups and expansion of existing enterprises (Barclay and Smith, 1995; Guedes and Opler, 1996; Black and Strahan, 2002). The longer repayment period of credit allows the enterprise to strategically navigate effectively within its operating environment. It encourages a culture of experimentation in new processes and strategies, investment in untried technologies that bring new products and services (Cooper et al., 1994).

Using econometric analysis, Ronge and Kimuyu (1997) on a study of private investment in Kenya reveal that availability of credit finance has a positive effect on the level of investment. Indeed, the study recommended that to promote private enterprise development and growth in Kenya, the Government should seek ways to promote supply of credit by limiting its domestic borrowing level. The study however does not disaggregate credit by maturity structure. Gray et al. (1997) also found that lack of capital was a major impediment for start-up or business expansion among small scale manufacturing in Kenya.

Pissarides (1999, p520) on European Bank for Reconstruction and Development's experience with SMEs in central and Eastern Europe observed that SMEs constitute the most dynamic enterprises and are 'likely to move into areas of comparative advantage and high value addition' but are constrained by a number of factors including long-term credit. The findings have encouraged EBRD to tailor its financing instruments to address the financing gap to promote formation and growth of SMEs in the European emerging markets.

Jaramillo and Schiantarelli (2002) investigated whether long term credit facilitates innovativeness among Ecuadorian SMEs. Results from a sample of 731 manufacturing companies showed that long term credit facilitated access to

more productive technologies. The findings suggest that the lesser fear of liquidation associated with long term debt encourages *innovativeness* and improved productivity.

Wagenvoort (2003) observed that in a survey of 7600 SMEs in 19 European countries about 15 percent of the firms with less than 50 employees felt that long term credit is a major constraint to the development of their business. Among the medium sized firms, results showed that 28 percent cited lack of long term credit as a major obstacle to innovation. Overall, the empirical results suggest that long term credit constraints prevented full exploitation of growth potential of SMEs.

Using a sample of 292 Australian enterprises, Cassar (2004) carried out a longitudinal survey to investigate the determinants of capital structure and types of financing used in business start-ups. The results showed that long term debt financing is positively related to long term assets, consistent with the theoretical arguments for matching the maturity structure of liabilities and assets to minimize risk of default. It was further observed that holders of longer term debt are relatively large enterprises. This finding is similar to that by Scherr and Hulburt (2001) among American enterprises although Heyman et al., (2003) did not observe this relationship in Belgium enterprises.

No known empirical research has examined the effect of long term credit on all the individual dimensions of entrepreneurial behavior. Whereas there is empirical evidence, albeit vague, suggesting that long term credit promotes *innovativeness* (Cooper et al. 1994) and *risk-taking* (Winborg and Landstrom, 2000; Black and Strahan, 2002; Cassar, 2004), the absence of unequivocal empirical work examining effect of long term credit on the individual dimensions of entrepreneurial behavior points to knowledge gap in this stream of literature.

2.7.2 Long term credit and enterprise performance

According to the capital structure theory of corporate finance, there is a particular preference order for financing choices used in an enterprise (Myres, 1977) and that the structure of finance offers different incentives that may affect enterprise performance. Long term credit lengthens the investment horizon of the enterprise with positive performance implications. Caprio and Demirguc-Kunt (1998) observed that the scarcity of long-term credit is a key impediment to greater private sector investment and growth in developing economies due to imperfection of the financial markets. They observe that an active stock market allow enterprises to grow faster than relying on internal sources of funds and short-term credit alone.

Schiantarelli and Sembenelli (1997) empirically investigated the consequences of maturity structure of debt using panel data from 604 UK quoted companies and 750 private Italian companies. Data was collected from balance sheet information compiled by official agencies, Data-Stream, UK and Mediobanca, Italy. In respect of UK data, long-term debt is defined as loans with remaining repayment period of more than one year. Thus, long-term debt that is due to be fully repaid in less than one year is treated as short-term debt in UK data but excluded in Italy. Cross-country interpretation must therefore be treated with caution because the definition of maturity is not exactly identical for the two countries. Bivariate correlations show that longer debt maturity, larger enterprise size and higher growth rates of real sales tend to go together. Longer debt maturities are also positively associated with higher cash-flow rate. The evidence therefore is not supportive of the hypothesis that short-term debt provides a better disciplining device that improves performance.

Schiantarelli and Sembenelli (1997) used Cobb-Douglas gross production function that included maturity and leverage as explanatory variables in addition to labour and materials. Leverage is included as an independent variable to control for the impact of general financial pressure on productivity. The

dependent variable is the logarithm of ratio of sales and capital stock. The independent variables are the logarithm of the ratio of employment to capital stock, logarithm of the ratio between material and capital stock and the logarithm of capital stock itself. The effect of maturity of debt on enterprise's performance depends upon the timing of the maturity variable. When both contemporaneous and lagged maturity is entered as independent variables, the sum of coefficients is positive and significant for both UK and Italy. The results support the view that long-term debt promotes productivity.

Using data from 500 US companies from 11 industries, Kinsman and Newman (1998) investigated the effect of long term credit against six performance measures namely, firm value, earnings, cash-flow, liquidity, institutional ownership, and managerial ownership. The study statistically controlled for the impact of factors such as type of industry, market and economic conditions, riskiness of the firm and firm size. Results showed that long term credit was negatively correlated at a statistically significant level to the value of the enterprise but earnings were positively correlated to long term credit.

According to Hall et al., (2004), an entrepreneurs' objective to attain high growth places greater demand on internally generated funds. In absence of internal funding, entrepreneurs resort to borrowing to finance assets that generate the required business growth. This assertion supports earlier findings by Michaelas et al., (1999) of positive relation between enterprise growth and long term debt. Other researchers like Cassar and Holmes (2003) also found similar results of correlation between debt and growth of enterprise but Esperanc et al (2003) found mixed evidence while others (Fama and French, 2002; Frank and Goyal, 2003, 2008) found negative correlation between debt and profitability.

Beck et al., (2005) examined enterprise level data of over 4000 enterprises in 54 countries to identify constraints to enterprise performance and growth around the world. Results from regression analysis revealed that larger enterprises were

barely affected by long term credit constraints compared to smaller enterprises. Whereas access to long term credit was rated as a major constraint, it did not significantly affect enterprise performance. The study concludes that this may partly be due to possible substitution of short term credit for long term credit.

Using enterprise level survey data for 80 countries, Ayyagari et al., (2006) investigated the effect of long term credit on enterprise performance. The results from regression analysis showed that credit constraint was a binding constraint regardless of the country or type of enterprise. Examining the credit constraint in detail, empirical result showed that only the rate of interest on long term credit was directly constraining enterprise performance. It is worthwhile to note that the cost of borrowing itself is due to inadequate supply of long term credit arising from imperfections in the financial markets and difficulties in providing adequate collateral. Indeed, using data from a survey of 91 banks in 45 countries, Beck et al., (2008) provided evidence suggesting that the lending environment particularly in developing countries is more important in shaping bank financing to SMEs. Banks perceive macroeconomic instability in developing countries and competition in developed countries as the main obstacles to lending to SMEs.

The contradicting results of the foregoing studies partly reflect methodological limitations of the study. For instance, the use of longitudinal study approach allows certain (e.g., changes in capital structure) factors in between to potentially create bias on the coefficients. Furthermore, single measures of performance like growth, profitability and productivity are used as opposed to a composite measure of performance that takes into account the broader objectives of the entrepreneur, particularly in relatively small enterprises.

2.7. 3 Other Factors

(i) Environmental uncertainty

Pearce and Robinson (2002) and Covin et al., (2006) assert that business environment conditions directly affect enterprise performance. External environmental factors such as, government policy, public taste, technology and social cultural factors affect an enterprise ability to reach its goal. Environmental uncertainty conceptualized by Dess and Beard (1984) consist of three dimensions namely munificence, dynamism and hostility. Environmental munificence refers to the scarcity or abundance of resources available in an environment and demanded by one or more enterprises (Dess and Beard, 1984). The level of munificence is directly related to an enterprise's ability to acquire resources from the environment and may impact enterprise performance. Lumpkin and Dess (1996, 2001) note the importance of abundant resources in the development and implementation of new strategies and that environments characterized with resource scarcity cause enterprises to abdicate proactive behaviors to safeguard the limited resources.

Miller and Friesen (1982) defined environmental dynamism, to as the unpredictable change in the enterprise's external environment (e.g., increase in the size and number of enterprises within an industry, an increase in the rate of technological change and its diffusion throughout that industry). Increased environmental dynamism requires increased innovative strategies, risk-taking, aggressive competitiveness and pro-activeness to respond to changing competitive pressures. Organizations operating in dynamic environments are more likely to display new product innovation than enterprises operating in stable environments (Miller, 1983; Zahra, 1993).

According to Miller (1988, p284), "product innovation is generally more prevalent and useful in dynamic environments...without innovation, enterprises in such settings fall behind, losing market share and sales". Zahra (1996) found that environmental dynamism was positively associated with pioneering

activities and radical product technologies in entrepreneurial enterprises. Zahra and Bogner (2000) argued that dynamic environments served to "encourage the development of radically new products and technologies in order to capture premium market segments, or preempt competitors' entry". They found that enterprises in dynamic environments achieved the highest levels of performance by frequently developing radical new products and upgrading these products.

There is also an intuitive link between the adoption of proactive enterprise behaviors and environmental dynamism. Dynamic environments create new opportunities for enterprises. Proactive strategies can allow enterprises to seize these opportunities and gain a competitive advantage (Zahra, 1991). Accordingly, Zahra (1996) found that dynamic environments acted to increase the evidence of pioneering activities in entrepreneurial enterprises. Similarly, Lumpkin and Dess (2001) found that "both sales growth and profitability are positively and significantly related to a pro-activeness-dynamism link" (Lumpkin and Dess, 2001, p444). Thus, it is expected that proactive enterprise behaviors will be positively associated with performance in dynamic environments.

The environmental hostility represents the intensity of competition and scarcity of resources in an enterprise's environment. It has been commonly used to describe the unfavorable external forces in an organization's environment. Miller and Friesen (1983, p222) defined hostility as "the degree of threat to the enterprise posed by the multifacetedness, vigour and intensity of the competition and the downswings and upswings of the enterprise's principal industry." This definition will be used in the current analysis when referring to the environmental hostility facing the enterprise.

Environmental hostility has been a commonly considered factor in entrepreneurial behavior literature. Its role as a moderating factor in the relationship between entrepreneurial activities and performance investigated in empirical studies (Covin and Slevin, 1989; Zahra, 1993; Kreiser et al., 2002).

This suggests that activities such as innovation within the organization are negatively impacted by the presence of a hostile environment, where competition is high and resources are scarce. While this theoretical argument supports the findings of a negative effect of hostility on the EO-performance relationship, other research has produced inconclusive findings (Covin and Slevin, 1989). Kreiser et al., (2002) attributed the inconsistent findings of past research to the use of aggregated measures of EO.

(ii) Entrepreneur characteristics

Theoretical and empirical literature on entrepreneurial behavior as a predictor of success or failure is largely based on findings related to traits and demographic variables of entrepreneurs. Under the trait approach, it is assumed that individuals exhibit certain dispositions that identify entrepreneurs from non-entrepreneurs. Carland et al., (1984) summarized these traits to include the need for high achievement (McClelland, 1965), internal locus of control (Brockhaus, 1980), measured risk taking (McClelland, 1965), creativity and innovativeness (Schumpeter, 1934). The underlying assumption of the trait approach was that the unique characteristics of entrepreneurs may be isolated and identified. Nonetheless, the literature on trait approach has been questioned. Gartner (1985) observed that most of these factors have not been found to be unique to entrepreneurs but rather they are common to many successful individuals who are not entrepreneurs.

Brockhaus (1980) used demographic data to develop characteristics of the typical entrepreneur. Variables such as birth order, role models, age, education level, work habits are studied as predictors. Individual's characteristics are fall under twos broad categories: attributed or achieved. Attributed characteristics are those fixed by social background such as race, ethnicity, gender, and socio-economic origin. Wagner (2005) asserts that consistent evidence emerging in the literature on nascent entrepreneurship is that gender matters. In particular, women exhibit a

consistently lower likelihood of becoming nascent entrepreneurs than their male counterparts.

Research has also revealed that age influences entrepreneurial behavior. Lévesque and Minniti (2006) argue that younger individuals are more likely to start a new enterprise than older ones. An international study by Blanchflower et al., (2001) also found that for individuals, the probability of preferring to be self-employed strongly decreased with age. A common interpretation of this consistent finding is that younger individuals may be more adventurous and, hence, may be more likely to have entrepreneurial preferences. The incentives of an individual to starting new enterprises decrease over the life span, as expectation of collecting future payments out of entrepreneurship declines.

Research also suggests that social capital may impact entrepreneurship in general and nascent entrepreneurship in particular (Davidsson and Honig, 2003; Foo and Lee, 2005). They have argued that individuals who come from families who own businesses (bonding social capital), or from community networks that own or encourage self-employment (bridging social capital), will utilize their individual level social capital resulting in more successful discovery activities (i.e. nascent entrepreneurship) than those who do not. Wagner (2005) also found a positive effect of having entrepreneurial family and friends, i.e. entrepreneurial role models. On the one hand social capital provides a mechanism for absorbing entrepreneurial experience and transforming it into learning and the augmentation of entrepreneurial skills, which would suggest a positive relationship between social capital and the likelihood of ex-entrepreneurs to become renascent entrepreneurs. On the other hand might the entrepreneurial experience gained during the career of the ex-entrepreneur become a substitute for the need of entrepreneurial social capital. Wagner (2005) argued that entrepreneurial social capital might also have normative effects, as ex-entrepreneurs that are active in a social environment with many entrepreneurs might feel peer-pressure for starting again.

Biggs and Shah (2006) examined the role of business networks on SME growth and performance in Sub-Saharan Africa. Empirical results show that SMEs in Sub-Sahara Africa exchange business information and enforce group compliance to support relation-based governance, such as financing, sales and distribution to customers outside the immediate neighborhood. Furthermore, community connection play a key role in the membership of African business networks and ethnicity is a strong indicator of network activity. Members who belong to a business network have a comparative advantage and explain dominance of ethnic communities in particular segments of the economy. Social networks or affiliations have been viewed as an important constituent of the entrepreneurial behavior (Ostgaard and Birley, 1996). They provide entrepreneurs with support, contact, and credibility. A network helps business owners acquire new customers and obtain resources in terms of supply, capital, and workforce.

Achieved characteristics are those that relate to individual social and intellectual growth, such as education. Bailey (1986) found that a certificate of education or trade qualification was related to higher index of entrepreneurial growth for his sample of 67 Australian entrepreneurs. Individuals' breadth of experience, functional experience, and management experience tend to be viewed as one of the major predicators of entrepreneurial growth.

(iii) Enterprise characteristics

In the context of entrepreneurship, Hall et al., (2004) drew on the 'pecking order' theory when they tested how the age of an enterprise influences its capital structure. The pecking order theory proposes that an enterprise increases its ability to accumulate funds with time, and hence has less need for debt to fund its assets. The empirical findings reveal that both short- and long-term debts are lower for older enterprises. However, the same is not true for new enterprises. Like SMEs, new enterprises are expected to have less access to external funds

than large enterprises. Therefore, new enterprises have to depend on internal funding or external equity. As the enterprises grow, they have more financing source options.

New enterprises are perceived to be at high risk to lenders, as it is in the early years of operation that they introduce new products or services and with very little proven know-how. Zahra (1995) observed that smaller companies are generally believed to be more innovative than larger enterprises Younger companies, in search of brand recognition customer loyalty, and competitive advantages, are believed to be more innovative than older enterprises. Also, older companies tend to focus on existing products, services, and technologies, while using marketing to establish their position. Population ecology theorists proposed that younger business carry a liability of newness (Mead and Leadholm, 1998). Whereas the foregoing empirical literature suggests that younger enterprises should be less successful than older ones, data from research in Africa does not support this view (Frese, 2000).

While previous research has examined the relationship between company size (measured as the number of years from the founding date) and entrepreneurship (Kamien and Schwartz, 1982), the effect on entrepreneurial activity is unclear. For example, while a smaller company's simple structure may allow it to respond quickly to changing markets, the enterprise may lack the financial resources necessary for entrepreneurial activities. Smaller enterprises or organizations may find it relatively more costly to resolve information asymmetries with lenders and financiers. Consequently, smaller enterprises are offered less financing or are offered capital at significantly higher costs to larger enterprises, which discourages outside financing (Wald, 1999).

Business owners arrange enterprises in different ways to form a behavior setting for entrepreneurial process. The existence of other partners means additional human resources and brings with it the possibility to share business tasks

according to the specific strengths of individuals. Participation of family members may have performance implications. But some of these same concerns may make a family business prioritize family concerns over business concerns. Maintaining good family relationships is of high importance, at times more so than profitability (Sharma et al., 2001).

Goddard et al., (2002) asserts that the economic sector under which an enterprise operates influences performance. For instance, enterprises that are agro-based are more susceptible to weather related changes while export oriented enterprises tend to be sensitive to fluctuations in exchange rate movements. With the onset of global economic slowdown, competition among enterprises to survive has to be intensified ever more. This is more the case for enterprises that operate in sectors that are integrated into the global economy.

2.8 Summary of Theoretical and Empirical Literature

The theoretical literature support the view that long-term credit has a positive effect on entrepreneurial behavior and enterprise performance (Winborg and Landstrom, 2000; Jaramillo and Schiantarelli, 2002; Cassar, 2004). Further, other factors like entrepreneur and enterprise characteristics and the business environment have been shown to affect entrepreneurial behavior and enterprise performance (Lévesque and Minniti, 2006). Results from past empirical studies are inconclusive on the effect of long term credit on entrepreneurial behavior and enterprise performance (Black and Strahan, 2002; Beck and Fuchs, 2004; Beck et al., 2006). This may be attributed to short-comings in research methodology. First, unlike in past empirical studies that examined effect of long term credit on *risk-taking* and *innovativeness* as proxies of entrepreneurial behavior, this study disaggregated entrepreneurial behavior into four dimensions comprising of *innovativeness, risk-taking, competitive aggressiveness* and *pro-activeness* and investigates how each construct is affected by long term credit through a system of linear regression equations.

Secondly, empirical studies (e.g., Zahra and Covin, 1995; Wiklund and Shepherd, 2005) examining factors affecting entrepreneurial behavior and enterprise performance have used longitudinal approach which suffers from relatively high response bias compared to cross-sectional approach. Repeated measures in longitudinal research approach may influence subjects' behavior. Thus, to mitigate against this shortcoming, cross-sectional approach was used but with recall type questions to gather historical information. Thirdly, unlike in previous studies on EO/enterprise performance, the Miller / Covin and Slevin EO measurement scales for entrepreneurial behavior was modified to reflect action taken by enterprises rather than willingness to take entrepreneurial actions as recommended by Wiklund (1999). Although the composite indices entrepreneurial behavior and enterprise performance adopted in this study suffer from aggregation bias, they remain the most commonly used measures for the two constructs.

Fourthly, it should be noted that unlike the research work by Lumpkin and Dess (1996, 2001) and Wiklund and Shepherd (2005) that treated entrepreneurial behavior as an enterprise-level construct, this study advocates for an individual-level entrepreneurial behavior in the enterprise. The study notes the prominent use of individuals as representative of the organization in scale-based surveys of organizations when examining entrepreneurial behavior in SMEs. It is argued that the actions of entrepreneurs in SMEs or small organizations serve as total representation for the actions of their organizations. Decision-making responsibilities in these institutions often lie solely on the entrepreneur, thus making enterprise-level entrepreneurship highly correlated with the individual-level orientation of the entrepreneur. Finally, unlike in previous studies on enterprises from one (Blackman, 2003; Quince and Whittaker, 2003; Cobham, 1999) or two - economic sectors (Lumpkin and Dess, 1996, 2001; Wiklund and Shepherd, 2005) and from industrialized countries, this study widened the sector coverage to include nine economic sectors within a developing country setting.

Empirical results based on few sectors limit generalization of results as enterprises from different sectors exhibit different organizational characteristics that influence performance.

2.9 Conceptual Framework

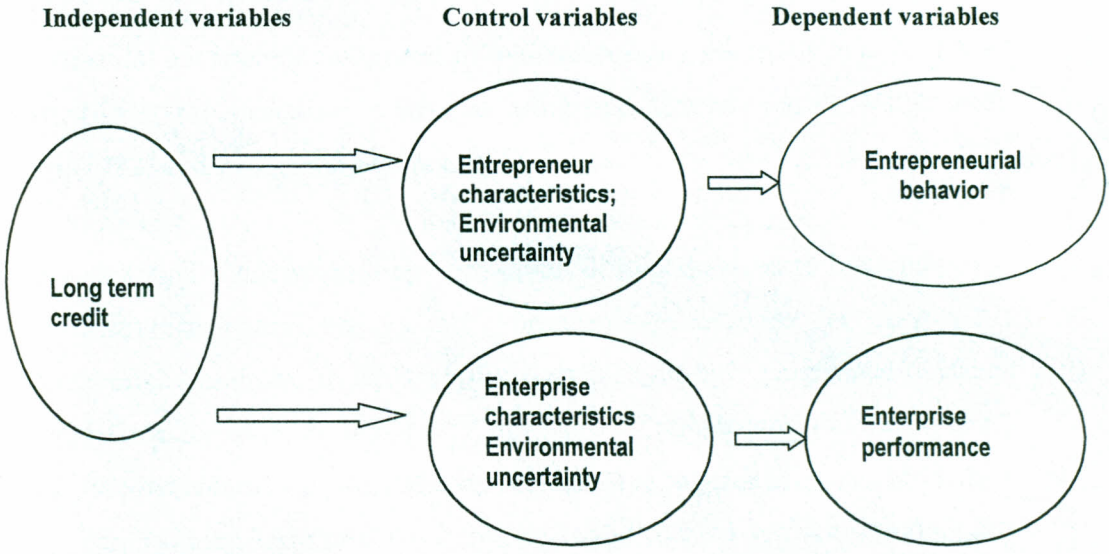
The conceptual framework shown in Figure 2.1 outlines the way in which long term credit affects entrepreneurial behavior and enterprise performance. Theoretical and empirical literature by Myres (1977), Covin and Slevin (1991), Lumpkin and Dess (1996, 2001), Cassar and Holmes (2003), Wiklund and Shepherd (2005) and Lévesque and Minniti (2006) inform the conceptual framework.

The conceptual framework visualizes *three levels of interaction*. In the *first level*, long term credit, an *independent variable* affects entrepreneurial behavior – as a uni- and multi-dimensional construct -, a *dependent variable*. Empirical evidence (Lévesque and Minniti, 2006; Lumpkin and Dess, 1996, 2001) has shown that entrepreneurs' characteristics and environmental uncertainty affect entrepreneurial behavior. Thus, in the proposed conceptual framework entrepreneurs' characteristics is a *control variable* in the relationship between long term credit and entrepreneurial behavior.In the *second level*, long term credit, an *independent variable* affects each of the four individual dimensions of entrepreneurial behavior. *Innovativeness, pro-activeness*, *risk taking* and *competitive aggressiveness* are *dependent variables*.

In the *third level*, long term credit, an *independent variable* affects enterprise performance, a *dependent variable*. Results from empirical studies (Zahra, 1995; Covin et al., 2006) have shown that both environmental uncertainty and enterprise characteristics affect enterprise performance. Thus, in the proposed conceptual framework both environmental uncertainty and enterprise characteristics are *control variables* in the relationship between long term credit and enterprise performance. Figure 2.1 below summarizes the different construct

and their hypothesized relationships. The six alternative hypotheses are postulated from these relationships.

Figure 2.1: Conceptual model



Measure of the above variables:

1. *Long term credit*: **proportion of long term credit to total project cost**
2. *Enterprise characteristics:* **age of enterprise, enterprise economic sector**
2. *Entrepreneur's characteristics:* **social network, prior business experience and training**
3. *Enterprise performance:* **level of productivity, industry leadership, job creation, business stability, high profit rates, low production costs, community development and business growth**
4. *Entrepreneurial behavior*: **innovativeness, risk taking, pro-activeness, and competitive aggressiveness.**
5. *Environmental uncertainty*: **environmental hostility, environmental dynamism**

Source: Developed from theoretical and empirical literature

Long term credit was measured in form of a ratio of long term credit to total project cost. A high ratio suggests larger uptake of long term credit finance. A

measurement index for entrepreneurial behaviour and each of its four dimensions and, enterprise performance were derived from scales widely used by researchers in similar studies (Lumpkin and Dess, 1996, 2001; Wiklund and Shepherd, 2005; Covin et al., 2006). A high index suggests higher entrepreneurial behavior or enterprise performance. Enterprise characteristic was measured by age of the enterprise or the number of years the enterprise has been in existence. Environmental uncertainty comprised of two dimensions, *environmental hostility* and *environmental dynamism*, measured using scales developed by Miller and Friesen (1982) and Covin and Slevin (1986).

In the conceptual framework, long term credit is hypothesized to have positive effect on entrepreneurial behaviour by broadening the scope for pursuit of entrepreneurial strategies. In addition, long term credit is hypothesized to have positive effect on each of the four dimensions of entrepreneurial behaviour, *namely innovativeness, pro-activeness, competitive aggressiveness* and *risk-taking.* Finally, long term credit was hypothesized to have a positive effect on enterprise performance by facilitating the achievement of the enterprise goals and objectives.

2.10 Conclusion

The chapter explored the literature pertaining to the definition and theoretical underpinnings on long term credit, entrepreneurial behavior and enterprise performance. The constructs and their dimensions were identified and variables that represent each dimension were reviewed in terms of the research that exists in the domains. The interaction between the constructs and variables in terms of the work done by researchers were explored to highlight key relationships, knowledge gaps that formed basis for development of the hypotheses. The research methodology following in chapter 3, describes the philosophy and design of the research investigating whether tangible evidence exists to support the proposal that long term credit has significant effect on entrepreneurial behaviour and performance of SMEs in Kenya.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the research philosophy and methodology of this study. The objective of the study was to determine the effect of long-term credit on entrepreneurial behavior and enterprise performance among SMEs in Kenya. The presentation of the research methodology includes discussion on research design, the source of data, the data gathered, how they were collected and the methods of data analysis.

3.1 Research Philosophy

This research involved drawing conclusions, and considering research issues using a quantitative research approach. Therefore this research relies on a realism paradigm combining positivist involvement of statistical analysis approach. This is closely associated with the 'scientific' approach and implies that investigations should be capable of replication (Kothari, 2009). To achieve this, a sufficiently large numbers of participants were required to complete the questionnaire. In addition, the research was interested in understanding why something was happening rather than describing what was happening. Thus, an inductive approach was used to conduct the empirical study using qualitative data.

3.2 Research Design

The research design for the study was both explanatory and descriptive. The explanatory design was used as the researcher wanted to establish relationships between long term credit, entrepreneur behavior and its dimensions and performance among SMEs. Further, a descriptive design was used as the research objective was to describe the state of affairs as it existed after long term credit was received by the SMEs. The variables of interest can be quantified, thus justifying the use of quantitative approach. However, given that underlying motives of human behavior was a matter of interest in the study, a qualitative

research approach was also considered. This multi-method approach was applied, so that the limitations of one method are compensated for by the counter-balancing strengths of another (Saunders et al., 2003; Kothari, 2009). It was a cross-sectional study and the object and unit of analysis are SMEs in Kenya that received long-term credit from the European Investment Bank Global Loan scheme.

The study assumed that the entrepreneurial behavior and enterprise performance can be understood only from the point of view of individuals directly involved in the activities in question. In line with this assumption, the entrepreneur or small-enterprise owner was seen to be the most appropriate informant and the research methods used was believed to provide valid information about the research phenomena. This approach is consistent with Lyon et al., (2000) observations that management perceptions of enterprise-level variables such as strategy, structure, decision-making process, and enterprise performance are often used in entrepreneurship research. In the study, the entrepreneur was defined as the person who actively leads the enterprise. This individual may be a founder or successor of the enterprise or owner-manager. Therefore, the research was conducted from an enterprise internal viewpoint, which in the case of SMEs – means the entrepreneurs' viewpoint.

3.3 Target Population and Sampling Frame

The target population and the sampling frame consisted of 200 SMEs funded under the EIB-Global Loan Scheme in Kenya. The scheme provided long-term credit exclusively to start-ups and business expansion in agro-industry, manufacturing, horticulture / floriculture, fishing, education, health, services, mining and tourism sectors (CBK, 2003). The SMEs were selected due to their wider sector distribution and are subjected to similar credit allocation appraisal system applied throughout the Africa, Caribbean and Pacific (ACP) countries under the EIB-Global Loans scheme. Empirical results from the study can therefore be generalized for SMEs in the ACP region.

3.4 Sample and Sampling Method

The sample was selected using purposive sampling method. Saunders et al (2003) asserts that purposive sampling is often used when one wishes to select cases that are particularly informative. In addition, the logic on which to base the strategy for selecting cases for a purposive sampling should be dependent on objectives of the study.

The purposive sampling strategy used in this study was the homogeneous sampling, which focuses on one particular sub-group in which all sample members have similar characteristics. In applying purposive sampling method to select the sample from the sampling frame of 200 SMEs, the SMEs selected met the following criteria that have been used in previous studies (Brown and Davidsson, 1998; Brown et al., 2001; Blackman, 2003):-

(i) borrowed only once from the EIB-Global Loans scheme,

(ii) operational or surviving,

(iii) have outstanding long term debt over the past one year, and

(iv) managed by the owner or individual owned.

Thus, using purposive sampling method 84 SMEs were selected from the sampling frame of 200 SMEs. Out the 84 SMEs sampled, 3 were selected randomly for pilot-test discussed under section 3.6.2 below. Thus, the sample size for the study was 81 SMEs. As a non-probability sampling method, the sample drawn may not be representative of the population and the results are therefore subject to bias. Despite this limitation, Saunders et al., (2003) observed that non-probability sampling is useful when descriptive comments about the sample itself are desired.

Appendix B shows list of 81 enterprises which formed the sample arranged by sector (with names and addresses suppressed to safeguard privacy and confidentiality).

3.5 Data Collection

3.5.1 Baseline data

A letter was sent to the CBK explaining the purpose of the study and requesting for information regarding borrowers under the EIB-Global loan scheme. CBK, the agency administering the loan scheme provided un-published information on the loan scheme on the understanding that the details of beneficiaries of the scheme will not be publicly disclosed in the study. The list received had the following information:- name and address of beneficiary enterprise, economic sector, purpose of the loan, amount and currency of the loan, outstanding loan over the past one year, location and address of the enterprise, operating or closed – down, principal shareholder and name of chief executive at the time of loan allocation. The baseline data was used to select the sample. In addition, data from official publications on Kenya's economic performance and business investment climate were used in the interpretation and verification of consistency of the primary research findings.

3.5.2 Primary data

The primary data collected was on the following areas, namely:-

(i) characteristics of the entrepreneur and the business enterprise,
(ii) details on long term credit,
(iii) performance of the enterprise,
(iv) strategic actions,
(v) business environment, and
(vi) General commentary on long term credit.

The form of data collected under (i)-(v) above was quantitative data while (vi) was qualitative data.

3.5.3 Research Instrument

The instrument used to collect primary data was a modified structured questionnaire that was developed by Miller (1983), Covin and Slevin (1989, 1991) and Gupta and Govindarajan (1984). See Appendix C. The questionnaire was slightly modified to measure entrepreneurial behavior as an '*action*' rather than '*disposition*'. The structured questionnaire had one 'open' question at the end to gather qualitative data while the rest of the questions were of "closed' or 'forced' format. Mugenda and Mugenda (2003) observed that questionnaires are commonly used to collect descriptive and explanatory data about opinions, behaviors and attributes. Saunders et al., (2003) argue that a reliable instrument is one where the same results are obtained from multiple applications. Hence, the rationale for using a questionnaire employed in past research.

3.5.4 Data collection procedures

Telephone contact were made with chief executive officers or senior managers of the sampled SMEs and explained about the survey and the need for the instrument to be filled by the proprietor of the enterprise. In addition, each was requested to indicate the respondents preferred mode of receiving the survey instrument. On the basis of the responses received, 12 questionnaires were faxed, 11 were delivered physically to the enterprises offices and 58 were sent electronically. Follow-up calls were made 14 days after transmission of survey instrument and repeated after 7 days to all of the respondents who had not responded to the questionnaires and in some cases questionnaires were re-sent.

To boost the response rate, a number of efforts were made drawn from recommendations by Dillman (2000). Specifically, the following measures were taken to enhance the response rate:-

(i) The cover letter (scanned, e-mailed or faxed) emphasized the importance of the project; the wordings were tailored to make the topic relevant to the respondent. The cover letter asked for the

respondent's help and expertise. This strategy encouraged respondents to promptly respond.

(ii) To gain trust and credibility, the letter was accompanied with a copy of a letter from the Ministry of Education Science and Technology authorizing the researcher to undertake the study.

(iii) Respondents were assured of anonymity and indeed the questionnaire did not require them to identify themselves.

(iv) The headings of each category (that is, the demographics of the enterprise and its owner, amount and terms for long term credit, entrepreneurial behavior, business environment and enterprise performance) of questions were printed in color to enhance visibility and attractiveness. However, this was not relevant for questionnaires that were sent by fax.

3.5.5 Pilot-Test

In order to strengthen content validity and reliability of the instrument used, a pre-test was conducted before the actual data collection. Three SMEs participated in the pilot-test. The purpose of the pre-test was to identify and correct problems related to the proposed research instrument. Their feedback led to a number of minor changes. It was observed that the 28 questions can be answered within 30 minutes. There were no complaints about resistance to answer any question. One important suggestion that emerged through pilot-test sending the questionnaire through e-mail or fax rather than via mail post as earlier envisaged.

Finally, a coefficient Alpha (Chronbach) test was performed to examine the reliability of the scale for the indices for entrepreneurial behavior and enterprise performance. The scores in Table 3.1 indicate that both Alpha coefficients were above 0.7 threshold considered acceptable by Nunnally (1978).

Table 3.1: Reliability scale for entrepreneurial behavior and enterprise performance

Scale	Alpha	Number of items
Entrepreneurial behavior	0.7116	14 (n=47)
Enterprise performance	0.7301	8 (n=47)

3.6 Operationalization of Variables

3.6.1 Long-term credit

This variable was measured as ratio of long term credit received to total project cost. This measurement method is similar to that used by Beck et al., (2005).

3.6.2 Innovativeness

The variable, *innovativeness* was measured as a composite index derived from 3-items on a 7-point scale developed by Miller (1983) and Covin and Slevin (1986, 1989). The *innovativeness* index is the aggregate score on the three items as ratio of possible score of 21.

3.6.3 Competitive aggressiveness

The variable, *competitive aggressiveness* was measured as a composite index derived from 3-items on a 7-point scale developed by Miller (1983) and Covin and Slevin (1986, 1989). The *competitive aggressiveness* index is the aggregate score on the three items as ratio of possible score of 21.

3.6.4 Risk taking

The variable, *risk taking* was measured as a composite index derived from 3-items on a 7-point scale developed by Miller (1983) and Covin and Slevin (1986, 1989). The *risk taking* index is the aggregate score on the three items as ratio of possible score of 21.

3.6.5 Pro-activeness

The variable, *pro-activeness* was measured as a composite index derived from 4-items on a 7-point scale developed by Miller (1983) and Covin and Slevin (1986, 1989). The *pro-activeness* index is the aggregate score on the four items as ratio of possible score of 28.

3.6.6 Entrepreneurial behavior

Entrepreneurial behavior, as a uni-dimensional construct comprises of *innovativeness, risk taking, pro-activeness,* and *competitive aggressiveness.* It was measured using slightly modified scales (to reflect action taken rather than disposition) developed and tested for reliability by Miller (1983), Covin and Slevin (1989, 1991) and Lumpkin and Dess (2001). The 13-item 7-point scale was employed in a single statement format asking the respondents to indicate their action on a 7 point Likert type scale, ranging from "strongly disagree" to "strongly agree".

The *entrepreneurial behavior* index was therefore measured as the aggregate score on the 13-items as ratio of possible score of 91.

3.6.7 Enterprise performance

Like in previous studies by Lumpkin and Dess (1996, 2001), Blackman (2003), Wiklund and Shepherd (2005) and Covin et al., (2006), enterprise performance was assessed using a multi-dimensional measure. The use of multiple measures recognizes the multifaceted nature of enterprise performance and the advantages in integrating various measures in empirical studies. These studies assert that in previous empirical studies on enterprise performance, owner manager or chief executive's own interpretation of performance in the SME is closely related to externally obtained secondary data on performance. Enterprise performance was measured using weighted average performance scale developed by Gupta and Govindarajan (1984) and was therefore adopted in this study.

The variable was measured as an aggregate score on 8-item, 5-point Likert-type scale, as a ratio of possible score of 40 on the "degree of importance" respondents attached to high level of productivity, industry leadership, job creation, business stability, high profit rates, low production costs, community development and business growth. An aggregate score was derived on the "degree of satisfaction' on each of the performance criteria. The 'satisfaction' score were multiplied by the 'importance' score to compute a weighted average performance index or enterprise performance index.

3.6.8 Control variables

Environmental uncertainty was measured using scales developed by Miller and Friesen (1982) and Slevin and Covin (1997). The two environmental measures – *environmental hostility* and *environmental dynamism* has 4 and 5 items, respectively on a 5-point scale. The two measures were treated as control variables in this research because they have both been repeatedly shown to impact on entrepreneurial behaviour and enterprise performance (Foo and Lee, 2005; Lumpkin and Dess, 2001; Wiklund and Shepherd, 2005, Covin et al., 2006). The measurement index is expressed as ratio of total rating to total possible score. High index reflects more dynamism or hostility.

Age of the enterprise was selected as a control variable for enterprise characteristics. The number of years was used as a measure for the variable. *Social capital,* an entrepreneur attributed characteristic according to Davidsson and Honig (2003), was also included as a control variable. Sharma et al., (2001) observed that individuals whose families have entrepreneurial background view business ownership more positively and are therefore likely to be more entrepreneurial.

In this study, entrepreneurs whose parents or relatives (i.e., social capital) owned business were coded as 1, while those who did not were coded 0. Table 3.2 provides a summary of measurement indices for key constructs used in the study.

Table 3.2: Summary of measurement indices

	Construct	Measurement indices
1	Long term credit	Long term credit as a ratio of total project cost
2	Innovativeness	Aggregate score on the 4 items as a ratio of total possible score 21
3	Competitive aggressiveness	Aggregate score on the 4 items as a ratio of total possible score 21
4	Risk taking	Aggregate score on the 4 items as a ratio of total possible score 21
5	Pro-activeness	Aggregate score on the 4 items as a ratio of total possible score 28
6	Entrepreneurial behavior	Aggregate score on the 13 items as a ratio of total possible score 91
7	Enterprise performance	Aggregate score for importance score divided by total possible score of 40 multiplied by the aggregate score for satisfaction.
8	Environmental hostility	Aggregate scores for 5 items divided by total possible score 25
9	Environmental dynamism	Aggregate scores for 4 items divided by total possible score 20
10	Social capital	Entrepreneurs whose parents / relatives are or had business were coded as 1 and those were not coded 0.
11	Age of enterprise	Number of years

3.7 Data Analysis

Kothari (2009) defines data analysis as the application of logic to understand and interpret data collected. In preparing for data analysis, data was edited, coded, classified and tabulated. The next step was getting a 'feel' of the data which entailed computation of indices or measures with the objective for searching for patterns of relationship that exist among data group. The important statistical measures that were used include measures of central tendency (i.e., mean,

median and mode), measures of dispersion (i.e., standard deviation), measures of asymmetry (i.e., Kurtosis) and measures of relationship (i.e., coefficient of correlation). These steps were taken before testing the hypotheses.

In the following subsections, the model specification is presented, the purpose of factor analysis, regression analysis, reliability tests and choice of SPSS statistical tool in this study is explained.

3.7.1 Model Specification

A system of linear regression equations formed the analytical framework for this study. This approach has been used in past research (Lumpkin and Dess, 2001; Blackman, 2003; Wiklund and Shepherd, 2005; Covin et al., 2006) on entrepreneurial behavior.

$$EB = \alpha_0 + \alpha_1 LC + \alpha_2 Host + \alpha_3 Dyn + \alpha_4 SC + \pi \quad \text{----} \quad \text{Equation 3.1}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

$$InoV = \beta_0 + \beta_1 LC + \beta_2 Host + \beta_3 Dyn + \beta_4 SC + \theta \quad \text{----} \quad \text{Equation 3.2}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

$$Comp = \eta_0 + \eta_1 LC + \eta_2 Host + \eta_3 Dyn + \eta_4 SC + \mu - \quad \text{----} \quad \text{Equation 3.3}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

$$Risk = \Omega_0 + \Omega_1 LC + \Omega_2 Host + \Omega_3 Dyn + \Omega_4 SC + \sigma \quad \text{----} \quad \text{Equation 3.4}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

$$Proc = \omega_0 + \omega_1 LC + \omega_2 Host + \omega_3 Dyn + \omega_4 SC + \tau \quad \text{----} \quad \text{Equation 3.5}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

$$PF = \delta_0 + \delta_1 LC + \delta_2 Age + \delta_3 Host + \delta_4 Dyn + \psi \quad \text{----} \quad \text{Equation 3.6}$$
$$(+) \quad (+) \quad (-) \quad (+)$$

Where,

PF = enterprise performance,

EB = entrepreneurial behavior and

LC = long term credit

InoV = *Innovativeness*

Comp = *Competitive aggressiveness*

Risk = *Risk taking*

Proc = *Proactiveness*

α, β, η, Ω, ω , and δ are parameters while π, θ, μ, σ, τ, χ and ψ are error terms.

The model was used to test each alternative hypothesis as follows:

- H_1: Long-term credit has a positive effect on entrepreneurial behavior (i.e., $\alpha_1 > 0$). Equation 3.1 was used to test the hypothesis.

- H_2: Long-term credit has a positive effect on *innovativeness* (i.e., $\beta_1 > 0$). Equation 3.2 was used to test the hypothesis.

- H_3: Long-term credit has a positive effect on *competitive aggressiveness*. (i.e., $\eta_1 > 0$). Equation 3.3 was used to test the hypothesis.

- H_4: Long-term credit has a positive effect on *risk-taking* (i.e., $\Omega_1 > 0$). Equation 3.4 was used to test the hypothesis.

- H_5: Long-term credit has a positive effect on *pro-activeness* (i.e., $\omega_1 > 0$). Equation 3.5 was used to test the hypothesis.

- H_6: Long-term credit has a positive effect on enterprise performance (i.e., $\delta_1 > 0$). Equation 3.6 was used to test the hypothesis.

3.7.2 Factor Analysis

Davis (2007) recommended that in studies on entrepreneurial behavior, there is need for researchers to clarify the validity for a multidimensional approach vis-a-vis a uni-dimensional approach when examining the construct. This study used both uni/multidimensional approaches to entrepreneurial behavior to explore and confirm whether entrepreneurial behavior is truly a multi-dimensional construct with a purpose of contributing to the refinement of this stream of literature.

Factor analysis was chosen as the appropriate method for identifying underlying structures in the data set for entrepreneurial behavior. This method has been used in studies on entrepreneurial behavior by (Wiklund and Shepherd, 2005; Covin et al., 2006). It entailed examination of underlying pattern of variables that fall under each of the dimensions of entrepreneurial behavior namely, *innovativeness, competitive aggressiveness, risk-taking* and *pro-activeness.* The factor loading scores indicated how well a variable coincided with a 'factor' or 'dimension'. In order to facilitate interpretation, the solution is 'rotated' so that items are rearranged under the respective dimensions of entrepreneurial behavior.

Factor analysis can either be exploratory or confirmatory (Hair et al, 1998). In the confirmatory approach, the purpose is to assess the degree of match between the data and structure derived from theory. Exploratory factor analysis brings out patterns in collected data and reveals the structure of variables in each component, or the number of components to be extracted.

In this study, the factors that constitute each of the dimensions of entrepreneurial behavior have been pre-determined and extensively applied by previous researchers (Lumpkin and Dess, 1996, 1997; Jogaratnam, 2002; Wiklund and Shepherd, 2005; Covin et al., 2006). However, there was need to confirm whether the emerging pattern in this study is similar to that of previous researchers to enable comparability of results.

Thus, the individual dimension of entrepreneurial behavior were analysed using both exploratory factor analysis and confirmatory factor analysis employing the principal component method with varimax rotation analysis was used to assess the discriminant validity of the individual constructs (i.e., *innovativeness, pro-activeness, competitive aggressiveness* and *risk-taking*).

Exploratory factor analysis, employing the principal component method with varimax rotation analysis was used to reduce data which did not account for the variance of the constructs form the scales. Any construct with a component loading below 0.4 was excluded from the entrepreneurial behavior construct according to suggestion by Anderson and Gerbing (1982).

3.7.3 Regression analysis

Hair et al., (1998) observed that regression analysis is the logical choice of method for evaluation of individual effects of a variable on the other. The general objective of the study was to establish the effect of long term credit on entrepreneurial behavior and enterprise performance. Hierarchical regression analysis was used to test the six alternative hypotheses. Variables other than the independent variables were used to control for factors that have a significant relationship with the dependent and independent variables. This helped control for spurious relationships between variables. The variables were both included in the hierarchical regression analysis to partial out their effects of long term credit on entrepreneur behavior and enterprise performance. The control variables were held constant at each stage of regression analysis when testing the hypotheses. Hierarchical approach has been found appropriate when analyzing highly correlated independent variables.

In testing the hypotheses, an effect exist if, and only if, the variable of principal interest (e.g., long term credit) gives significant contribution over and above the direct effects of other independent variables. The results were interpreted and discussed. Estimates of the regression parameters were made by ordinary least

squares (OLS), considered as the best linear unbiased estimators for the parameters under the following conditions: linearity in parameters, random sampling, zero conditional mean (of error term), no perfect collinearity, and homoskedacticity. During the analysis, tests made to verify if data suffered from problems regarding these criteria showed no signs of such problems emerged.

3.7.4 Reliability and validity tests

Reliability and validity tests were performed on the data. Tabachnick and Fidell (2001) states that reliability relates to the constancy with which a measuring instrument yields a certain result, where the results of constructs measured demonstrate a high percentage of similar outcomes and is without bias. Hair et al. (1998) state that validity is the extent to which the concept one wishes to measure is actually being measured by a particular scale or index and is concerned with how well the concept is defined by the measure(s). Four strategies for determining a measure's validity are provided as, face validity and content validity which rely on the internal logic of the measure; and criterion validity and construct validity which are less subjective and more empirical. In this study the measurement indices of variables were considered to have both face and content validity following pre-testing of the structured questionnaire.

A coefficient Alpha (Chronbach) test was performed to examine the internal consistency of the scale for the indices for entrepreneurial behavior and enterprise performance. Scores above the 0.7 are considered acceptable by Nunnally (1978). In the regression analysis, test of normality, homoscedasticity and multicollinearity were performed to ensure that the models were well specified, reliable and valid.

The Bartlet's test of sphericity and Kaiser-Meyer-Oklin (KMO) test was carried out to establish whether the results meet the appropriateness of sample for exploratory factor analysis. The common threshold levels for the KMO value is that it should be at least be over 0.5 but preferably 0.6. The Bartlet's test is a

statistical test for non-zero correlations among variables, and the Chi-square value should be high and significant.

Normal probability plot and scatter plot were used to test for normality and homoscedasticity assumptions. Normality assumption indicates that the distribution of all independent variables in the model is normal. The normal probability plot with the multivariate distribution of the independent variable that falls on the diagonal is considered to be perfectly normal.

In social science research, obtaining perfect normality of independent variables is quite difficult to achieve, as it is difficult to control the extraneous factors that affect the variables. These are observed real life data and therefore, a normal probability plot with the multivariate distribution closely overlapping the diagonal were considered to be a good fit.

Each of the principal regression models used for testing the hypotheses were tested for multicollinearity which exists when there is high correlation among variables used in that analysis. The collinearity diagnostics that yields a Variance Inflation Factor (VIF) of 5 and above indicates a multicollinearity problem. Multicollinearity statistics for both, VIF that is close to 1 are considered as good indicators of low multi-collinearity (Gujarati, 2005).

3.7.5 Qualitative data analysis

Data gathered from responses to the open question *'Do you have any comments you would like to add on long term credit received under the EIB-Global Loan scheme? Your thoughts will be valued'* was subjected to qualitative data analysis and used to help explain findings. Qualitative data analysis was guided by research objectives. The qualitative data collected was edited, disaggregated into short sentences and listed under three broad categories, namely:-

(i) Long term credit and entrepreneurial behavior

(ii) Long term credit and enterprise performance

(iii) Other related matters

The emerging pattern and relationships were explained based on the theoretical framework of the research study.

In summary, Table 3.3 shows methods of data analysis employed in each research objective. The parametric statistical test used for testing the alternative hypotheses to meet the research objective is indicated in the third column of the table.

Table 3.3: Summary of data analysis and tests by research objective

	Research objective	**Data analysis**	**Statistical test for hypothesis**
1	Effect of long term credit on entrepreneurial behavior	• Measures of central tendency, dispersion, asymmetry and relationships • Factor analysis • Regression analysis • Qualitative data analysis	• *t* test ($\alpha_1 > 0$, $p<0.05$)
2	Effect of long term credit on *innovativeness*	• Measures of central tendency, dispersion, asymmetry and relationships • Regression analysis	• *t* test ($\beta_1 > 0$, $p<0.05$)
3	Effect of long term credit on *competitive aggressiveness*	• Measures of central tendency, dispersion, asymmetry and relationships • Regression analysis	• *t* test ($\eta_1 > 0$, $p<0.05$)
4	Effect of long term credit on *risk-taking*	• Measures of central tendency, dispersion, asymmetry and relationships • Regression analysis	• *t* test ($\Omega_1 > 0$, $p<0.05$)
5	Effect of long term credit on *pro-activeness*	• Measures of central tendency, dispersion, asymmetry and relationships • Regression analysis	• *t* test ($\omega_1 > 0$, $p<0.05$)
6	Effect of long term credit on enterprise performance	• Measures of central tendency, dispersion, asymmetry and relationships • Regression analysis • Qualitative data analysis	• *t* test ($\delta_1 > 0$, $p<0.05$)

3.7.6 Statistical tool

SPSS for Windows version 12 was the tool used for the computation of measures of central tendency, dispersion, asymmetry and relationships and scale reliability calculations, factor analyses and regression analysis. The statistical tool was found effective in past empirical studies (Quince and Whittaker, 2003; Blackman, 2003; Wiklund and Shepherd, 2005) examining relationship between entrepreneurial behavior and organization performance.

3.8 Ethical Considerations

All participants were volunteer SME owners. The researcher informed all participants about the survey individually via a cover letter. The survey was anonymous, with no participant identification requested. Only interested parties took part in the survey. This is consistent with guidelines for conducting ethical research by Saunders et al., (2003).

3.9 Conclusion

This chapter provided a description of the methodology used in this research and the analytical framework used to test the alternative research hypotheses to achieve the objectives of the study. In the following chapter, results from data analysis are presented and discussed.

CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.0 Introduction

In this chapter, the results obtained from the study are discussed. The chapter begins with description of data collected, correlation analysis and qualitative data analysis. Thereafter each alternative hypothesis is tested using the model specified in chapter 3, section 3.7.1 to meet the objective of the study. Finally, the findings of the study are discussed.

4.1 Response Rate

Out of the sample of 81 respondents, only 47 responded. This translated to an overall response rate of 58 percent.

4.2 Description of Quantitative Data

4.2.1 Description of entrepreneurs and their enterprises

Table 4.1 presents a summary description of characteristics of the 47 entrepreneurs who responded to the questionnaire. It comprises of 38 Kenyans, 4 Indian, 3 Swiss and 2 British entrepreneurs. Out of the total, 41 entrepreneurs had established their business themselves, 5 purchased while 1 inherited the business.

A total of 34 respondents had parents or relatives who owned or operated businesses. The results also showed that 28 entrepreneurs belonged to a professional membership group compared to 19 entrepreneurs who were not members. The average age of entrepreneurs was 54.5 years. Out of the total respondents, 28 had at least graduate level education while 21 had prior business training. The majority of entrepreneurs were male (44).

Table 4.1: Entrepreneur characteristics

Variable		N	Percentage	Cumulated %
Gender	Male	44	91.5	91.5
	Female	3	8.5	100.0
Age	30-39 years	3	6.8	6.8
	40-49 years	16	35.1	41.9
	50-59 years	21	43.8	85.7
	>60 years	7	14.3	100.0
Nationality	Kenyan	38	80.8	80.8
	Indian	4	8.5	89.3
	Swiss	3	6.4	95.7
	British	2	4.3	100.0
Highest level of education	Secondary school	12	25.5	25.5
	Certificate/diploma	7	14.9	40.4
	Bachelor's degree or equivalent	18	38.3	78.7
	Masters	10	21.3	100.0
Professional membership	No	19	40.4	40.4
	Yes	28	59.6	100.0
Prior business training	No	26	55.3	55.3
	Yes	21	44.7	100.0
Business ownership by parents or relatives	Yes	34	72.3	72.3
	No	13	27.7	100.0
Path to ownership	Purchased	5	10.6	10.6
	Founded	41	87.2	97.8
	Inherited	1	2.2	100.0

As shown in Table 4.2 most of the businesses operated are in the manufacturing sector (31.9 percent) followed by horticulture/floriculture (25.5 percent) and tourism (10.6 percent). Other industries were agro-industry (8.5 percent), education, health care and service (each 6.4 percent). The sectors with least representations were quarrying/mining and fishing (each 2.1 percent). On average, businesses had been operating for 12.9 (Mode = 18 years, Median 13 years).

Table 4.2: Enterprise characteristics

Variable		N	Percentage	Cumulated %
Age	<5 years	4	8.5	8.5
	6-10 years	14	29.8	38.3
	11-15 years	7	14.9	53.1
	16-20 years	21	44.7	97.8
	> 20 years	1	2.2	100.0
Sector	Agro-industry	4	8.5	8.5
	Horticulture/ floriculture	12	25.4	33.9
	Tourism	5	10.5	44.4
	Quarrying/Mining	1	2.2	46.6
	Manufacturing	15	32.0	78.6
	Fish processing	1	2.2	80.8
	Education	3	6.4	87.2
	Health Care	3	6.4	93.6
	Service Industry	3	6.4	100.0

4.2.2 Description of variables of interest

Appendix E provides a summary of descriptive statistics for long term credit, entrepreneurial behavior and its individual dimensions, enterprise performance and environmental uncertainty. The statistical characteristics of each of these variables are discussed.

(i)Long term credit

The long term credit (LC) as a ratio of total project cost ranged from 0.24 and 0.48 with a mean of 0.40, standard deviation of 0.07. The most frequent amount in the data-set, that is, the Mode is 0.48 while the Median is 0.42 as shown in Appendix E. The histogram in Figure 4.1 shows that the distribution is moderately skewed left or negatively skewed (Skewness = - 0.68).

(ii) Entrepreneurial behavior

Entrepreneurial behavior (EB) score ranged from a minimum of 0.38 to a maximum 0.93. The Mean is 0.70 with a standard deviation of 0.16 while the Mode = Medium = 0.73. The histogram in Figure 4.2 shows that the distribution is moderately skewed left or negatively skewed (Skewness = - 0.68).

Figure 4.1: Histogram for long term credit.

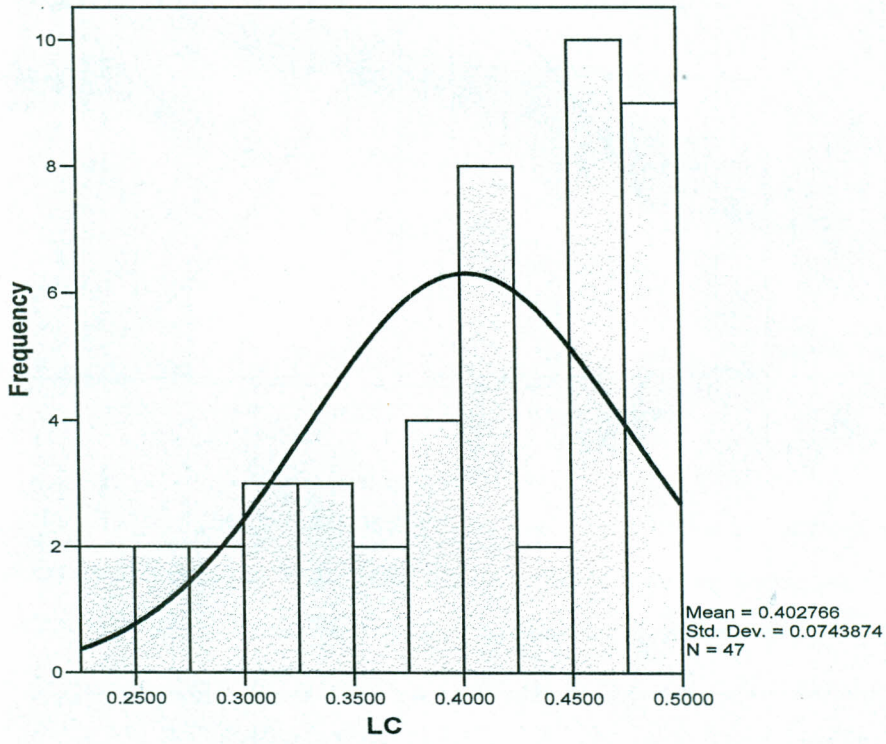
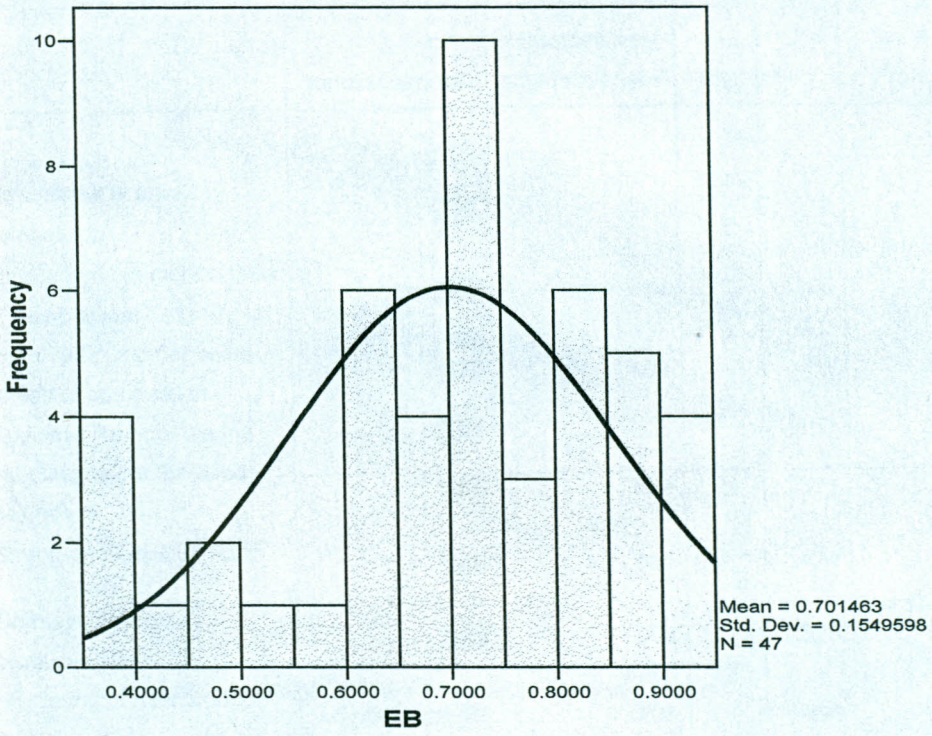


Figure 4.2: Histogram for entrepreneurial behavior



The results from factor analysis revealed that entrepreneurial behavior is a multi-dimensional construct with four distinct dimensions as shown in Table 4.3. Entrepreneurial behavior had Cronbah's alpha value of 0.91. The KMO Measure of Sampling Adequacy yielded a score of 0.531 and a Chi square value of 583.893 and a significance level of 0.000 obtained using Bartlett's test of Sphericity.

Table 4.3: Pattern Matrix for dimension of entrepreneurial behavior

	Component			
	1 Innovativeness	2 Competitive aggressiveness	3 Risk-taking	4 Proactive
New products ahead of competition	**.648**	.540	.072	.329
Quality improvement ahead of competition	**.635**	.634	-.106	.113
Improved customer value ahead of competition	**.532**	.402	-.051	.528
Business Re-engineering	**.755**	.228	.162	.151
No punishment for failed risk takers	**.551**	.536	.323	-.157
Strong emphasis on R&D	**.737**	-.084	.424	.391
Dramatic change in production lines	**.788**	-.064	.525	.128
Marketing of new product lines	**.905**	.235	.098	-.035
Created partnerships before competition	.067	**.759**	.323	.127
Proactive pricing	.145	**.853**	.197	.080
Always takes actions to avoid failure	.206	.335	**.788**	.133
Acceptance of moderate risk of failure	.225	.312	**.818**	-.065
Ahead of Competitors in market entry	.137	.162	-.026	**.861**

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 18 iterations.

The rearranged factors under the relevant components are shown in Table 4.4. The mean entrepreneurial behavior index of 0.701 out of the possible 1.0 suggests that respondents were highly entrepreneurial.

Table 4.4: Components of entrepreneurial behavior using factor analysis

	Mean	Std. Deviation
Component 1: Innovativeness		
New products ahead of competition	5.0213	1.91662
Quality improvement ahead of competition	5.2766	1.76564
Improved customer value ahead of competition	4.9787	1.27670
No punishment for failed risk takers	4.0638	1.98258
Business Re-engineering	4.1915	1.88401
Strong emphasis on R&D	4.9574	1.70622
Dramatic change in production lines	4.7447	1.59439
Marketing of new product lines	3.9787	1.49622
Index	**0.6645**	
Component 2: Competitiveness		
Created partnerships before competition	4.5532	1.71703
Proactive pricing	4.1489	1.65475
Index	**0.6215**	
Component 3: Risk Taking		
Always takes actions to avoid failure	5.3830	1.55414
Acceptance of moderate risk of failure	4.8723	1.67614
Index	**0.7325**	
Component 4: Pro-activeness		
Ahead of Competitors in market entry	5.5106	1.38112
Index	**0.7872**	
Entrepreneurial Behavior Index	**0.7014**	

(iii) Dimensions of entrepreneurial behavior

As shown in Appendix E, the mean scores for all dimensions of entrepreneurial behavior were relatively high, a pointer to strong entrepreneurial behavior among the respondents. *Pro-activeness* had a high mean score of 0.787 (SD = 0.193) followed by *risk-taking* (Mean =0.733, SD=0.219). The mean scores for other two dimensions, *innovativeness* (Mean =0.665, SD=0.195) and *competitive*

aggressiveness (Mean =0.622, SD=0.217) were also on the higher end of the scale. In general, the distribution is moderately skewed left with *competitive aggressiveness* and *pro-activeness* tending towards normal distribution.

(iv) Enterprise performance

Table 4.5 indicates change in entrepreneur income over the past three years from the business. The results, suggest that 46.8 percent of entrepreneurs reported increased income.

Table 4.5: Change in entrepreneur's income derived from the business.

Change in personal income	N	Percentage	Cumulated percentage
Increased by 20%	18	38.3	38.3
Increased by less than 20%	4	8.5	46.8
About the Same	19	40.4	87.2
Decreased by less than 20%	3	6.4	93.6
Decreased by 20% or More	3	6.4	100.0

Table 4.6 summarizes the results on how respondents rated 'importance' of a number of enterprise objectives in relation to enterprise performance upon receiving EIB long term credit. 'Creating job opportunities' received the highest rating (Mean 4.38, SD = 0.71) followed by 'business growth' (Mean 4.34, SD = 0.81). Relatively lower score was recorded in "High profit rates" (Mean 3.77, SD=0.87).

Enterprise performance 'by degree of importance' scale had a Cronbach's alpha coefficient of 0.6806. The KMO Measure of Sampling Adequacy yielded a score of 0.497 indicating that the sample size was just within the 0.5 'rule of thumb threshold' required. A Chi square value of 120.852 and a significance level of 0.000 obtained using Bartlett's test of sphericity. The measurement scale was therefore acceptable.

Table 4.6: Rating of enterprise performance by degree of 'importance'

Enterprise Objectives	Degree of Importance					Mean	SD
	Not (%)	Slightly (%)	Moderately (%)	Very (%)	Extremely (%)		
Creating job opportunities	-	-	12.8	36.1	51.1	4.38	0.71
Business growth	-	4.3	8.4	36.2	51.1	4.34	0.81
Business stability	-	-	8.5	55.3	36.2	4.28	0.62
Highly productivity	-	8.5	8.5	51.1	31.9	4.06	0.87
Lower production costs	6.4	2.1	12.8	46.8	31.9	3.96	1.06
Community development	-	6.4	23.4	51.1	19.1	3.83	0.82
Industry Leadership	4.3	8.5	12.7	53.2	21.3	3.79	1.02
High profit rates	-	2.1	44.7	27.7	25.5	3.77	0.87

With respect to enterprise performance by degree of 'satisfaction', both 'Business growth' and 'Business stability' received the highest rating (Mean 4.38, SD = 0.68) and (Mean 4.36, SD=0.61), respectively as shown in Table 4.7. Relatively lower scores were recorded on 'High profit rates' (Mean 3.68, SD=0.64).

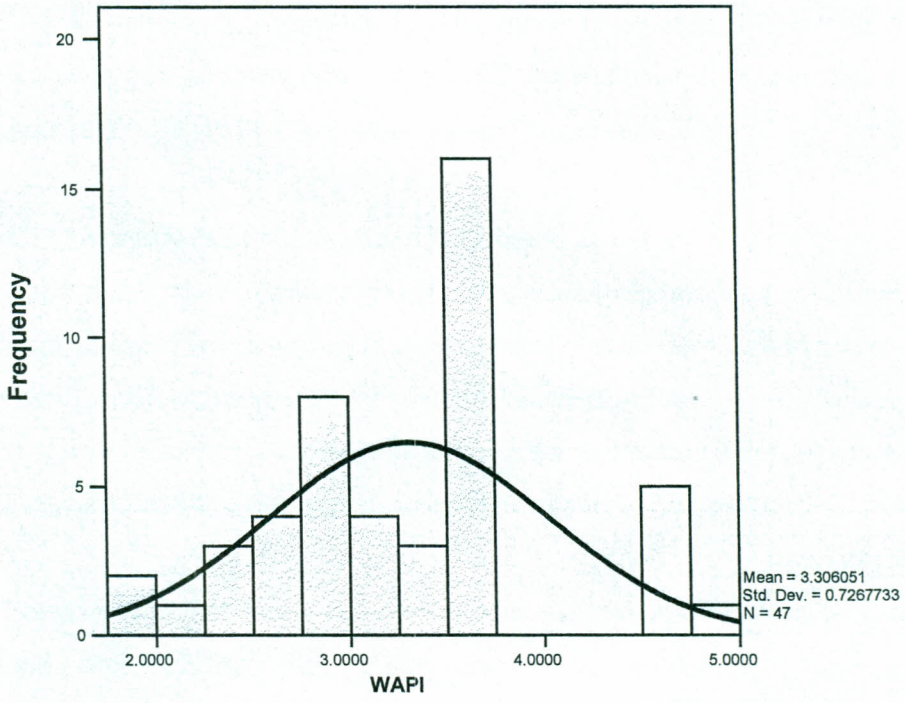
Table 4.7: Rating of enterprise performance by degree of 'satisfaction'

Enterprise Objectives	Degree of Satisfaction					Mean	SD
	Not (%)	Slightly (%)	Moderately (%)	Very (%)	Extremely (%)		
Business growth	-	-	10.7	40.4	48.9	4.38	0.68
Business stability	-	-	6.4	51.1	42.5	4.36	0.61
Highly productivity	-	-	19.2	46.8	34.0	4.15	0.72
Industry Leadership	-	6.4	8.5	51.1	34.0	4.13	0.82
Creating job opportunities	-	6.4	12.8	48.9	31.9	4.06	0.84
Community development	-	6.4	19.1	48.9	25.6	3.94	0.84
Lower production costs	8.5	-	23.5	48.9	19.1	3.70	1.06
High Profit rates	-	2.1	48.9	27.7	21.3	3.68	0.84

The enterprise performance scale by degree of 'satisfaction' had a Cronbah's alpha coefficient of 0.807. The KMO Measure of Sampling Adequacy yielded a score of 0.643 indicating that the sample size was adequate for the number of variables entered into the analysis. A Chi square value of 211.304 and a significance level of 0.000 obtained using Bartlett's test of sphericity. The measurement scale for enterprise performance by degree of 'satisfaction' is therefore acceptable.

The results of the composite index of enterprise performance, the Weighted Average Enterprise Performance Index (WAPI) are shown in Appendix E. WAPI or enterprise performance scores ranged from a minimum of 1.8 to a maximum 5. The mean score was 3.306 with a standard deviation of 0.727 while the Mode = 3.50 and Median =3.4. The mean, mode and median had close values (Skewness = 0.264) suggesting tendency towards normal distribution as shown in Figure 4.3.

Figure 4.3: Histogram for enterprise performance



The KMO Measure of Sampling Adequacy yielded a score of 0.612, a Chi square value of 157.216 and a significance level of 0.000 obtained using Bartlett's test of Sphericity. WAPI had Cronbah's alpha value of 0.710.

(v) Environmental hostility

As indicated in Appendix E, *environmental hostility* score ranged from a minimum of 0.2857143 to a maximum 1. The mean score was 2.812 with a standard deviation of 1.00 while the Mode = 3.8 and Median =3. The distribution was moderately skewed left with skewness of negative 0.504.

(vi)Environmental dynamism

Environmental dynamism score ranged from a minimum of 2.00 to a maximum 3.75 as shown in Appendix E. The mean score was 3.218 with a standard deviation of 0.465 while the Mode = 3.5 and Median =3.25. The distribution was moderately skewed left with skewness of negative 0.779.

4.3 Correlations of Variables of Interest

Appendix F shows the matrix of correlations of variables of interest. Results from correlation analysis indicated that long term credit was positively significantly correlated with enterprise performance (r=0.351, $p<0.05$). A relatively stronger positive and significant correlation was observed between long term credit and entrepreneurial behavior (r=0.791, $p<0.01$).

Positive and significant correlation was also evident between long term credit and each of the four dimensions of entrepreneurial behavior namely, *innovativeness* (r= 0.575, $p<0.01$), *pro-activeness* (r= 0.523, $p<0.01$), *competitive aggressiveness* (r=0.676, $p<0.01$) and *risk-taking* (r=0.595, $p<0.01$). All dimensions of entrepreneurial behavior had strong ($p<0.01$) and positive correlations to each other.

4.4 Description of Qualitative Data

Qualitative data was analyzed under three categories as shown in Table 4.8. In category 1, responses pointed toward a positive relationship between long term credit and entrepreneurial behavior. The text suggest that long term credit gave new impetus to business, offered flexibility and enable investment in technology based enterprises.

Table 4.8: Comments on long term credit by respondents

Category	Comments
1. Long term credit and entrepreneurial behavior	1. 'It gave us the leg up that we needed to kick start our business....' 2. '....extremely good and flexible ' 3. '.... the best thing that has happened to the technology driven industry against the traditional banking facilities based on PURE collateral based lending.' 4. 'No country has industrialized with short term loans with high interests for sustainable development in Science and Technology.' 5. For Kenya to realize achievement of VISION 2030, we need to look into getting competitive Loans like those of EIB for fast pace of industrialization/development.
2. Long term credit and enterprise performance	1. 'The interest rate can still be lower....to minimize cost of running the business' 2. The EIB-Global Loan scheme was very helpful in our expansion program. 3. 'Term loan helped us create more job opportunities'. 4. Promotes industrialization of Kenya 5. Exchange rate fluctuation cost us a lot. 6. The interest rates were reasonable.
3. Other related matters	1. Kenya needs much more of EIB – Global Loan scheme as locally we do not have funds for larger investments. 2. The need for the banking policy to address the needs of industry is vital in the process of industrialization especially if we have to reach the target of NIC status by 2030. ...as we have a policy for banks to lend a certain percentage to Agriculture sector we need a policy for the high technology industry sector.. 3. Complicated/difficult to get without using the right consultants to do your feasibility....not necessarily very professional, their fees are high but they will get you the loan. The local banks charge high commitment fees, high interest rates compared to what they are charged, requiring excessive guarantees and other fees etc.... A considerable amount is spent before the loan is received. 4. To ensure sustainability of enterprise in Kenya, steps should be taken to do the following: • Reduction in cost of electricity • Reduction in cost of diesel fuel for manufacturing purposes • Improve infrastructure, i.e. roads and railway • Improve security

In category 2, long term credit had 'reasonable' interest rates point to lower costs. It was associated with business expansion and job creation. Costs associated with exchange rate fluctuations were probably associated with foreign currency denominated long term credit suggested negative effects on enterprise performance. Overall, respondent comments suggest a positive relationship between long term credit and enterprise performance. In the final category classified as 'other related matters', comments highlight challenges that were experienced by the respondents in the context of Kenya's business environment. The limited access and supply of long term, cost of input and lack of infrastructure were identified as constraints to growth of SMEs in Kenya.

4.5 Testing for Assumptions

4.5.1 Normality and Homoscedasticity

The results obtained from the normality test indicate that all models met the assumption of normality as reflected by multivariate distributions of the independent variables which closely overlapped the diagonals. The homoscedasticity assumption indicates that the error variances of the independent variables are not correlated. In other words, the standardized predicted values are not correlated with standardized residuals. This is indicated in the scatter plot in Appendix G. Note that almost all the plots of the equations have random distribution and the patterns within these plots do not reflect pronounced correlation. Although this might be the case, some caution should be exercised while interpreting the results of these models. The random distribution indicates homoscedasticity, which was met in the case of most models.

4.5.2 Multicollinearity

Table 4.9 indicates that all multicollinearity measure by Variance Inflation Factor (VIF) ranged between 1.58 and 3.08. According to Gujarati (2005), a VIF exceeding 5 reflects a multicollinearity problem while a score of 1 indicates low multicollinearity. VIFs were therefore within tolerable levels.

Table 4.9: Results of multicollinearity tests

Equation No.	Regression equation	VIF
3.1	$EB = \alpha_0 + \alpha_1 LC + \alpha_2 Host + \alpha_3 Dyn + \alpha_4 SC + \pi$	3.08
3.2	$InoV = \beta_0 + \beta_1 LC + \beta_2 Host + \beta_3 Dyn + \beta_4 SC + \theta$	1.58
3.3	$Comp = \eta_0 + \eta_1 LC + \eta_2 Host + \eta_3 Dyn + \eta_4 SC + \mu$	2.47
3.4	$Risk = \Omega_0 + \Omega_1 LC + \Omega_2 Host + \Omega_3 Dyn + \Omega_4 SC + \sigma$	1.70
3.5	$Proc = \omega_0 + \omega_1 LC + \omega_2 Host + \omega_3 Dyn + \omega_4 SC + \tau$	1.63
3.6	$PF = \delta_0 + \delta_1 LC + \delta_2 Age + \delta_3 Host + \delta_4 Dyn + \psi$	2.70

4.6. Testing Alternative Hypothesis

4.6.1 Long term credit and entrepreneur behavior

The first research objective was to investigate the effect of long-term credit on entrepreneurial behavior. Data was collected and analyzed based on this objective.

Long term credit had a Mean score of 0.40 (SD = 0.07) while entrepreneurial behavior reflected a Mean score of 0.70 (SD = 0.16). Results from Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with entrepreneurial behavior ($r=0.791$, $p<0.01$).

The alternative hypothesis,

H_1: Long-term credit has significant positive effect on entrepreneurial behavior.

was tested using equation 3.1 from section 3.5 in chapter 3, re-stated as follows

$$EB = \alpha_0 + \alpha_1 LC + \alpha_2 Host + \alpha_3 Dyn + \alpha_4 SC + \pi \quad \text{---- Equation 3.1}$$

(+) (-) (+) (+)

Under hierarchical regression analysis approach, the control variables {*environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.1 Appendix H, indicate that both *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 26 percent (Ad.R^2=0.26) of the variation in entrepreneurial behavior.

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

EB = 0.097+ 0.015LC - 0.024Host+ 0.013Dyn + 0.052SC Equation 4.1

se =	(0.12)	(0.002)	(0.014)	(0.032)	(0.033)	*Ad.*R^2 = 0.64
t =	(0.837)	(6.908)	(-1.72)	(0.404)	(1.56)	n = 47
p =	(0.407)	(0.000)	(0.093)	(0.689)	(0.126)	

Equation 4.1 shows that on average, long term credit will increase entrepreneurial behavior index by 0.015. The introduction of variable LC increased adjusted R squared by 0.38 to 0.64 suggesting that 38 percent of the variation in entrepreneurial behavior is explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and entrepreneurial behavior, that is, the true slope coefficient $\alpha_1 > 0$. The results indicate that the standardized regression coefficient ($\alpha_1 = 0.015$) for long term credit had positive sign, pointing to the foreseen direction and was statistically significant (t = 6.908, $p<0.001$). Thus, the alternative hypothesis is accepted and the results provide answer to the research objective on the effect of long term credit on entrepreneurial behavior.

4.6.2 Long term credit and innovativeness.

The second research objective was to examine the effect of long-term credit on *innovativeness*, a dimension of entrepreneurial behavior. Data was collected and analyzed based on this objective.

Long term credit had a Mean score of 0.40 (SD = 0.07) while *innovativeness*, a dimension of entrepreneurial behavior reflected a Mean score of 0.67 (SD = 0.20). Results from Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with *innovativeness* ($r= 0.575$, $p<0.01$).

The alternative hypothesis,

H_2: Long-term credit has significant positive effect on *innovativeness*.

was tested using equation 3.2 from section 3.5 in chapter 3, re-stated as follows

$$InoV = \beta_0 + \beta_1 LC + \beta_2 Host + \beta_3 Dyn + \beta_4 SC + \theta \quad \text{----} \quad \text{Equation 3.2}$$

(+) (-) (+) (+)

Under hierarchical regression analysis approach, the control variables {*environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.2 in Appendix H, show that both *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 12 percent ($Ad.R^2=0.12$) of the variation in *innovativeness*.

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

InoV = 0.070+ 0.013LC -0.002Host+ 0.001Dyn + 0.086SC ---Equation 4.2

se =	(0.203)	(0.003)	(0.024)	(0.056)	(0.058)	$Ad.R^2$ = 0.31
t =	(0.346)	(3.524)	(-0.092)	(0.034)	(1.479)	n = 47
p =	(0.730)	(0.001)	(0.926)	(0.972)	(0.146)	

Equation 4.2 shows that on average, long term credit will increase *innovativeness* index by 0.013. The introduction of variable LC increased adjusted R squared by 0.18 to 0.31 suggesting that 18 percent of the variation in innovativeness is explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and entrepreneurial behavior, that is, the true slope coefficient $\beta_1 > 0$. The results indicate that the standardized regression coefficient ($\beta_1 = 0.013$) for long term credit had positive sign, pointing to the foreseen direction and was statistically significant ($t = 3.524$, $p<0.01$). Thus, the alternative hypothesis is accepted and the results provide answer to the research objective on the effect of long term credit on *innovativeness*.

4.6.3 Long term credit and competitive aggressiveness

The third research objective was to investigate the effect of long-term credit on *competitive aggressiveness*, a dimension of entrepreneurial behavior. Data was collected and analyzed based on this objective.

Long term credit had a Mean score of 0.40 (SD = 0.07) while *competitive aggressiveness*, a dimension of entrepreneurial behavior reflected a Mean score of 0.62 (SD = 0.22). Results from Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with *competitive aggressiveness* ($r= 0.676$, $p<0.01$).

The alternative hypothesis,

H_3: Long-term credit has significant positive effect on *competitive aggressiveness*.

was tested using equation 3.3 from section 3.5 in chapter 3, re-stated as follows

$$Comp = \eta_0 + \eta_1 LC + \eta_2 Host + \eta_3 Dyn + \eta_4 SC + \mu \quad \text{---- Equation 3.3}$$

(+) (-) (+) (+)

Under hierarchical regression analysis approach, the control variables {*environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.3 in Appendix H, indicate that both *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 25 percent ($Ad.R^2$=0.25) of the variation in *competitive aggressiveness.*

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

$$Comp = 0.168 + 0.018LC - 0.074Host - 0.036Dyn + 0.045SC \quad \text{--- Equation 4.3}$$

se =	(0.180)	(0.003)	(0.021)	(0.050)	(0.051)
t =	(0.933)	(5.543)	(-3.368)	(-0.729)	(0.877)
p =	(0.000)	(0.000)	(0.002)	(0.470)	(0.385)

$Ad.R^2$ = 0.56

n = 47

Equation 4.3 shows that on average, long term credit will increase *competitive aggressiveness* index by 0.018. The introduction of variable LC increased adjusted R squared by 0.31 to 0.56 suggesting that 31 percent of the variation in *competitive aggressiveness* is explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and entrepreneurial behavior, that is, the true slope coefficient $\eta_1 > 0$. The results indicate that the standardized regression coefficient ($\eta_1 = 0.018$) for long term credit had positive sign, pointing to the foreseen direction and was statistically significant ($t = 5.543$, $p<0.001$). Thus, the alternative hypothesis is accepted and the results provide answer to the research objective on the effect of long term credit on *competitive aggressiveness*.

4.6.4 Long term credit and risk taking.

The fourth research objective was to examine the effect of long-term credit on *risk taking*, a dimension of entrepreneurial behavior. Data was collected and analyzed based on this objective.

Long term credit had a Mean score of 0.40 (SD = 0.07) while *risk taking*, a dimension of entrepreneurial behavior reflected a Mean score of 0.73 (SD = 0.22). Results from Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with *risk taking* ($r = 0.595$, $p<0.01$).

The alternative hypothesis,

> H_4: Long-term credit has significant positive effect on *risk taking,* a dimension of entrepreneurial behavior.

was tested using equation 3.4 from section 3.5 in chapter 3, re-stated as follows

$$\text{Risk} = \Omega_0 + \Omega_1 LC + \Omega_2 Host + \Omega_3 Dyn + \Omega_4 SC + \sigma \quad \text{----} \quad \text{Equation 3.4}$$
$$(+) \quad (-) \quad (+) \quad (+)$$

Under hierarchical regression analysis approach, the control variables {*environmental hostility* (Host), *environmental dynamism* (Dyn) and *social*

capital (SC)} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.4 in Appendix H, indicate that both *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 8 percent (Ad.R^2= 0.08) of the variation in *risk taking.*

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

Risk = 0.253+ 0.018LC -0.074Host- 0.020Dyn - 0.039SC Equation 4.4

se =	(0.220)	(0.004)	(0.026)	(0.061)	(0.063)
t =	(1.149)	(4.427)	(-1.997)	(-0.339)	(-0.619)
p =	(0.257)	(0.000)	(0.052)	(0.736)	(0.539)

Ad.R^2 = 0.36

n = 47

Equation 4.4 shows that on average, long term credit will increase *risk taking* index by 0.018. The introduction of variable LC increased adjusted R squared by 0.28 to 0.36 suggesting that 28 percent of the variation in *risk taking* is explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and entrepreneurial behavior, that is, the true slope coefficient $\Omega_1 > 0$. The results indicate that the standardized regression coefficient (Ω_1= 0.018) for long term credit had positive sign, pointing to the foreseen direction and was statistically significant (t = 4.427, $p<0.001$). Thus, the alternative hypothesis is accepted and the results provide answer to the research objective on the effect of long term credit on *risk taking.*

4.6.5 Long term credit and pro-activeness

The fifth research objective was to investigate the effect of long-term credit on *pro-activeness*, a dimension of entrepreneurial behavior. Data was collected and analyzed based on this objective.

Long term credit had a Mean score of 0.40 (SD = 0.07) while *pro-activeness*, a dimension of entrepreneurial behavior reflected a Mean score of 0.73 (SD = 0.22). Results from Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with *pro-activeness* ($r= 0.523$, $p<0.01$).

The alternative hypothesis,

H_5: Long-term credit has significant positive effect on *pro-activeness.*

was tested using equation 3.5 from section 3.5 in chapter 3, re-stated as follows

$$Proc = \omega_0 + \omega_1 LC + \omega_2 Host + \omega_3 Dyn + \omega_4 SC + \tau \quad \text{----} \quad \text{Equation 3.5}$$

$$(+) \quad (-) \quad (+) \quad (+)$$

Under hierarchical regression analysis approach, the control variables {*environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.5 in Appendix H, indicate that both *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 24 percent ($Ad.R^2=0.24$) of the variation in *pro-activeness.*

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

Proc = -0.105+ 0.009LC +0.033Host+ 0.107Dyn + 0.114SC Equation 4.5

se =	(0.197)	(0.003)	(0.024)	(0.055)	(0.056)	$Ad.R^2$ = 0.33
t =	(-1.531)	(2.528)	(1.378)	(1.951)	(2.012)	n = 47
p =	(0.598)	(0.015)	(0.175)	(0.057)	(0.050)	

Equation 4.5 shows that on average, long term credit will increase *pro-activeness* index by 0.018. The introduction of variable LC increased adjusted R squared by 0.09 to 0.33 suggesting that 9 percent of the variation in *pro-activeness* is explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and entrepreneurial behavior, that is, the true slope coefficient $\omega_1 > 0$. The results indicate that the standardized regression coefficient ($\omega_1 = 0.018$) for long term credit had positive sign, pointing to the foreseen direction and was statistically significant ($t = 2.528$, $p<0.05$). Thus, the alternative hypothesis is accepted and the results provide answer to the research objective on the effect of long term credit on *pro-activeness*.

4.6.6 Long term credit and enterprise performance

The sixth research objective was to examine the effect of long-term credit on enterprise performance. Data was collected and analyzed based on this objective.

Results show that 46 percent of entrepreneurs reported increase in income from the business over the past 3 years compared to 12.8 percent who reported decline. Long term credit had a Mean score of 0.40 (SD = 0.07) while enterprise performance reflected a Mean score of 3.30 (SD = 0.727). Results from

Pearson's coefficient of correlation indicated that long term credit had significant strong positive relationship with enterprise performance ($r= 0.351, p<0.05$).

The alternative hypothesis,

H_6: Long-term credit has significant positive effect on enterprise performance.

was tested using equation 3.1 from section 3.5 in chapter 3, re-stated as follows

$$PF = \delta_0 + \delta_1 LC + \delta_2 Age + \delta_3 Host + \delta_4 Dyn + \psi \quad \text{----} \quad \text{Equation 3.6}$$

(+) (+) (-) (+)

Under hierarchical regression analysis approach, the control variables {*age of enterprise* (Age) *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} were regressed first before long term credit (LC) - the independent variable to partial out their effects from the relationship of principal interest.

The results of the regression analysis in Equation 3.6 in Appendix H, indicate that both *age of enterprise* (Age), *environmental hostility* (Host), *environmental dynamism* (Dyn) and *social capital (SC)*} explain 59.2 percent ($Ad.R^2=0.59$) of the variation in enterprise performance.

In the next step of hierarchical regression analysis, long term credit (LC) is introduced as the independent variable. The results are as follows:

$$PF = 1.661 + 0.007LC - 0.003Age - 0.412Host + 0.747Dyn + 0.219SC \quad \text{Equation 4.6}$$

se=	(0.585)	(0.011)	(0.014)	(0.075)	(0.175)	(0.169)	$Ad.R^2$= 0.59
t =	(2.838)	(0.6473)	(-0.236)	(-5.496)	(4.272)	(1.298)	n = 47
p =	(0.007)	(0.521)	(0.813)	(0.000)	(0.000)	(0.201)	

Equation 4.6 shows that on average, long term credit will increase enterprise performance index by 0.007. The introduction of variable LC did not change the

adjusted R squared suggesting that variation in enterprise performance is not explained by long term credit.

The t-test was used to test the alternative hypothesis that there is a statistically significant positive relationship between long term credit and enterprise performance, that is, the true slope coefficient $\delta_1 > 0$. The results indicate that the standardized regression coefficient ($\delta_1 = 0.007$) for long term credit had positive sign, pointing to the foreseen direction but was not statistically significant ($t = 0.647$, $p=0.521$). The alternative research hypothesis that long term credit has a positive effect on enterprise performance is rejected and the results provide answer to the research objective on the effect of long term credit on enterprise performance.

The summary results of the hypotheses tests and are shown in Table 4.10. Five hypotheses were accepted while one rejected. The results provide insights on the underlying relationships between long term credit, entrepreneurial behavior and enterprise performance among SMEs in Kenya. This is discussed in detail in the following section.

Table 4.10: Summary of results of test of alternative hypotheses

Alternative hypothesis	**Outcome**
H_1: Long-term credit has positive effect on entrepreneurial behavior.	Accepted
H_2: Long term credit has a positive effect on *innovativeness*.	Accepted
H_3: Long term credit has a positive effect on *competitive aggressiveness*.	Accepted
H_4: Long term credit has a positive effect on *risk taking*.	Accepted
H_5: Long term credit has a positive effect on *pro-activeness*.	Accepted
H_6: Long-term credit has positive effect on enterprise performance.	Rejected

4.7 Discussion of Findings

This research study set out to determine the extent to which long term credit affects entrepreneurial behavior and enterprise performance using cross sectional data set of SMEs funded under the EIB Global loans in Kenya. In order to do so, the theoretical constructs of long term credit, entrepreneurial behavior – as uni and multi-dimensional construct and enterprise performance were clearly defined and operationalized. The descriptive and statistical measures were presented and variables of interest analyzed and used to test the six alternative hypotheses using regression equation models set out under section 3.5 in Chapter 3 to meet the specific objectives of the study. The section that follows discusses the findings.

4.7.1 Entrepreneurs, long term credit and characteristics of SME

On the characteristics of entrepreneurs, most (38) are owned by Kenyans, average age is 54.5 years and a majority are male (44). The findings revealed that most respondents had strong academic qualification, prior business training and strong social networks, characteristics previously found relevant in successful entrepreneurial process. Borrowing was skewed towards the borrowing ceiling and a positive association was observed between social capital and long term credit ($r=0.34$, $p<0.05$). This finding is in agreement with observations made by Cassar and Holmes (2003) and Beck et al., (2008) that an entrepreneur with superior profiles characterized by strong social networks and business training had relatively better access to larger amount of credit.

Out of a total of 47 SMEs, 41 were founded or set-up by the respondents suggesting that the individuals were highly entrepreneurial. This assertion supports Blackman (2003) claim that individuals who start their own businesses are more entrepreneurial than those who purchased or inherited the enterprise. This position is further supported by the empirical results that showed a relatively high entrepreneurial behavior score of 0.70. In general, these individuals fell under the 'Prospector' typology as postulated by Miles and Snow (1978).

Indeed, the results indicate that these individuals, through their enterprise, actively introduced new products ahead of competition (Mean 5.02, SD=1.9), engaged in quality improvement ahead of competition (Mean 5.27, SD=1.76) and are ahead of competitors in market entry (Mean 5.51, SD=1.38). These are strategic actions most researchers like Covin and Slevin (1989), Zahra (1995), Lumpkin and Dess (1997), Wiklund and Shepherd (2005) and Covin et al., (2006) considered entrepreneurial.

It is instructive to note that on average, enterprises have been in operation for about 13 years. Given that the EIB loans on average have a maturity period of 6 years it is safe to conclude that most borrowers under the EIB-Global Loan scheme were not new enterprises and therefore outgrown the phase of high mortality referred to by Cassar (2004).

Most of the SMEs fell under two sectors namely, manufacturing (31.9 percent) and horticulture/floriculture (25.5 percent), two sectors that are relatively export-oriented prone to external shocks. Entrepreneurs considered the Kenyan business environment as very hostile (score of 3.22 out of possible 5.0), a reflection of high intensity in competition in a highly liberalized economy following economic reforms of the 1990s. These observations are similar to those made by the World Bank (2004, 2008) on Kenya's business environment during 1991-2008.

4.7.2 Entrepreneurial behavior

As postulated in theory, the results from factor analysis suggest that entrepreneurial behavior is a multi-dimensional construct. Empirical findings agree with those of Wiklund (1999). Again, this should not be surprising since these individual dimensions represent different ways by which an entrepreneur acts in a business environment. Researchers examining the concept of entrepreneurial orientation (Zahra 1993; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2005) attest to the multidimensionality entrepreneurial behavior.

The empirical findings did not agree on the composition of each dimension of entrepreneurial behavior with those in the standard instrument developed by Covin and Slevin (1989). Items for *pro-activeness* and *innovativeness* loaded on one factor. Entrepreneurs failed to distinguish strategic actions that belong to either of the two constructs. The reason is that enterprises that, for example, are innovative and develop new products also re-organise more often, start new business lines to a larger extent, and are more proactive. Indeed, Lumpkin and Dess (1996) on examining the dimensions of entrepreneurial behavior referred *pro-activeness* as being associated with *innovativeness* (creation of new ideas). This methodological challenge would explain cross-loading of items. Indeed, in this empirical study the predicted effects of *environmental hostility, environmental dynamism* and *social capital* on entrepreneurial behavior received little support from regression analysis.

The multi-item measurement of entrepreneurial behavior confirms that it is a homogenous construct judging from its relatively high Alpha value of 0.91. Although Lumpkin and Dess (2001) from a conceptual standpoint hold that not only enterprises that exhibit high levels of all dimensions should be regarded entrepreneurial, it seems that entrepreneurial behavior is one coherent type of behavior with many different but coordinated manifestations. The finding of this study agrees with Miller's (1983) notion that entrepreneurial enterprises are entrepreneurial along a number of dimensions.

4.7.3 Enterprise performance as a composite construct

The multi-item measurement of performance also appears to be one homogenous construct with an Alpha value 0.71 level considered for a 'reliable' scale. The Alpha value for "degree of importance enterprise objectives" was slightly low at 0.68. Foo and Lee (2005) argue that statistically, low alphas cause a downward bias of the correlation coefficient but do not change the significance levels. Thus, given the significant results found in this study, the low alpha (below the 0.70

rule of thumb threshold) is not a threat to the efficacy of the results. It only points to the need to develop better scales in future work.

The mean weighted scores for enterprise performance pointed to 66 percent (that is a WAPI score of 3.28 out of possible score of 5). Higher ratings were observed on business growth, business stability and job creation. Lower success was reported in 'lowering production costs' and attaining 'higher profits'. This is explained by the nature of the prevailing business environment in Kenya during the last five years (time when borrowers were actively servicing their EIB long term debts). The business environment has been stable and competitive following successful implementation of structural and economic reforms. Higher production costs associated with labor, cost of credit, infrastructure including energy costs continued to hinder private sector investment (World Bank 2008). The predicted direction of the effect of both *environmental hostility* ($p<0.001$) and *environmental dynamism* ($p<0.001$) on enterprise performance received strong support from regression analysis.

4.7.4 Long term credit and entrepreneurial behavior

Long term credit had a Mean score of 0.40 (SD=0.07). It implies that, on average entrepreneurs funded 40 percent of total project outlay using long term credit and the remaining 60 percent of the project cost was financed through other sources of finance. It is therefore evident that entrepreneurs used less long term credit compared to other forms of funds to finance their projects. This is consistent with earlier findings by Green et al. (2002) on Kenya's micro and small enterprises. SMEs tended to use less long term debt than other forms of finance.

Indeed, the findings of this study are in agreement with the theoretical framework on optimal capital structure that enterprises tend to use more of their own resources than debt financing. It supports the position by Holmes (2003), Cassar (2004) and Hall et al. (2004) entrepreneurs seek optimal capital structures of their enterprises taking into account bankruptcy costs, which tend to increase with the

level of debt. It is also consistent with the assertion by Titman and Wessels (1988) and Berger and Udell (1998) that long term credit is less preferred by entrepreneurs due to high cost of resolving information asymmetries. Thus, the findings of the study support the 'pecking order' hypothesis that other forms of financing were dominant than long term credit in the financing of SMEs in Kenya. It also confirms the assertion of capital structure theory that finance is not a homogenous resource and that there exists a 'pecking order' on the preferred form as hypothesized by Myres (1977) and (Myers and Majluf, 1984).

A positive relationship was found between long term credit and entrepreneurial behavior. The Pearson Correlation coefficient of 0.791 was significant ($p=0.01$) to support this conclusion. Empirical results from regression analysis indicate that long term credit is a significant predictor ($t = 6.908$, $p<0.001$) of entrepreneur behavior. While controlling for the effect of *environmental hostility*, *environmental dynamism* and *social capital*, long term credit explained 38 percent of variation in entrepreneurial behavior. The findings are in agreement with those by Michaelas et al. (1999), Esperanca et al (2003), and Cassar (2004) that credit finance is critical in the promotion of entrepreneurship. It supports the position by Winborg and Landstrom (2000) and Wagenvoort (2003) that long term credit broadens the scope for implementing entrepreneurial strategies.

Results from qualitative data analysis point towards positive relationship between long term credit finance on entrepreneurial behavior. For instance, long term credit was cited to have helped 'kick-start business', 'expand business', 'facilitates achievement of fast paced industrialization ...and... *Kenya Vision 2030'*. Other respondents regarded the loan as 'best thing that happened...' In summary, the results from both multivariate and qualitative data analysis support the proposition that long term credit is a critical factor in the promotion of entrepreneurship.

4.7.5 Long term credit and innovativeness

A positive relationship was found between long term credit and *innovativeness*, a dimension of entrepreneurial behavior. The Pearson Correlation coefficient of 0.575 was significant ($p<0.01$) to support this assertion. While controlling for effect of *environmental hostility*, *environmental dynamism* and *social capital* long term credit explained 18 percent of variation in *innovativeness*. Empirical results from hierarchical regression analysis show that long term credit is a significant predictor ($t = 3.524$, $p<0.01$) of *innovativeness*, a dimension of entrepreneurial behavior.

The findings of this study suggest that long term credit stimulates the desire to introduce novel, innovative or creative processes or solutions among SMEs. Results from qualitative analysis suggest that long term credit 'promotes growth of technology driven industry' in Kenya. The findings are in agreement with the assertion by Cooper et al., (1994) that due to the longer repayment period, long term credit encourages a culture of experimentation in new processes and strategies and, investment in untried technologies. The results also supports findings among Ecuadorian SMEs by Jaramillo and Schiantarelli (2002) that long term debt tend to encourage *innovativeness*.

4.7.6 Long term credit and competitive aggressiveness

Whereas previous studies have not examined the effects of long term credit on *competitive aggressiveness*, observations made by Parissarides (1999) that indicate that provision of longer term finance enables enterprises to move to those areas where they have a comparative advantage over their industry rivals. Empirical results from this study found a positive relationship was found between long term credit and *competitive aggressiveness*. The Pearson Correlation coefficient of 0.676 was significant ($p=0.01$) to support this conclusion.

While controlling for effect of *environmental hostility*, *environmental dynamism* and *social capital,* long term credit explained 31 percent of variation in *competitive aggressiveness*. Results from regression analysis indicate that long term credit is a significant predictor (t = 5.543, $p<0.001$) of *competitive aggressiveness*. These empirical findings unequivocally show that long term credit promotes competitiveness through better pricing, implementation of cost effective measures and stronger collaboration through business networks.

4.7.7 Long term credit and risk taking

Lumpkin and Dess (2001) argued that *risk-taking* is at the centre of entrepreneurship and borrowing is a risky undertaking. The longer repayment period for long term credit dampens the fear of liquidation of an enterprise and gives courage to entrepreneurs to 'venture into the unknown'. In this study, a positive relationship was found between long term credit and *risk taking*. The Pearson Correlation coefficient of 0.595 was significant ($p=0.01$) to support this point. While controlling for effect of *environmental hostility*, *environmental dynamism* and *social capital* long term credit explained 28 percent of variation in entrepreneurial behavior.

In addition, the results from regression analysis indicate that long term credit is a significant predictor (t = 4.427, $p<0.001$) of *risk-taking*, a dimension of entrepreneurial behavior. The findings from this study agree with those of Black and Strahan (2002) and Cassar (2004) that credit finance promotes *risk-taking* among entrepreneurs. The results supports the central role long term credit plays in stimulating entrepreneurial activities and processes among SMEs in Kenya.

4.7.8 Long term credit and pro-activeness

A positive relationship was also found between long term credit and *pro-activeness*. The Pearson Correlation coefficient of 0.523 was significant ($p=0.01$) to support this conclusion. However, when controlling for effect of *environmental hostility*, *environmental dynamism* and *social capital,* long term

credit explained only 9 percent of variation in *pro-activeness*. The low R^2 may be attributed to failure to control in the regression equation for the effects of diverse industry sectors. Covin et al (2006) argued that diversified firms might employ different strategic processes across their products lines, a possibility that would confound results.

On undertaking further analysis using hierarchical regression, results show long term credit is a significant predictor ($t = 2.528$, $p<0.05$) of *pro-activeness*, a dimension of entrepreneurial behavior. This was not surprising as *pro-activeness* embodies entrepreneur's pursuits for favourable business opportunities as earlier observed by Wiklund and Shepherd (2005) and Covin et al., (2006) and long term credit finance is expected to facilitate the process. However, this study has clearly demonstrated empirically that long term credit has a positive effect on *pro-activeness*.

4.7.9 Long term credit and enterprise performance

Correlation analysis between long term credit and enterprise performance show a positive albeit weak relationship. The Pearson Correlation coefficient of 0.351 was significant ($p=0.05$) though at relatively lower level of confidence to support this conclusion. However, when controlling for effect of *age of enterprise, environmental hostility*, *environmental dynamism* and *social capital* long term credit did not explain any variation in enterprise performance.

Further examination using regression analysis indicated that long term credit had positive ($\delta = 0.007$) but statistically not significant ($t = 0.647$, $p=0.521$) effect on enterprise performance. The strength of the relationship should be treated with caution as the coefficient of long term credit is near zero. The alternative hypothesis, H_6 is not supported by the findings of the study.

The findings are not in agreement with empirical results in studies carried out by Schiantarelli and Sembenelli (1997), Caprio and Demirguc-Kunt (1998), Ayyagari et al., (2006) which showed positive effects of long term credit on

enterprise performance. However, findings from some past studies (Sorgob-Mira, 2005; Cassar and Holmes, 2003; Hall et al., 2004; Fama and French, 2002; Frank and Goyal, 2003, 2008) support the view that long term credit does not have a positive effect on enterprise performance if the latter were measured in terms of profitability. The results from this study support the findings from this stream of empirical literature.

The negative coefficient of long term credit supports the Pecking Order Hypothesis of capital structure theory which postulates that profitability is negatively related to the debt equity ratio (Myers and Majluf, 1984). This is valid in two fronts. First, higher proportion of debt adds to increased debt servicing costs and reduced profitability. Second, at the initial stages of the enterprise life cycle, debt financing dominates until a time when the enterprise becomes profitable and begins to plough back its earnings. In other words, an increase in profit increases the level of internal financing and reduces debt financing required by the entrepreneur. Similar results pointing to negative relationship between long term credit financing and profitability were reported in World Bank (1987) study on the poor performance of Kenya's SMEs funded under long term credit finance through KIE and the relatively recent empirical study on Ghanian SMEs (Abor 2008).

In this empirical study, enterprise performance goes beyond the measure of profitability to include employment creation, business growth, industry leadership, lowering production costs, increasing productivity and social corporate responsibility. The relatively high weighted average performance index (WAPI) score of 0.7102 suggests that long term credit was an important factor in enterprise performance. Furthermore, about 47 percent of entrepreneurs reported increased income from the business since receiving long term credit compared to 13 percent who reported a decline. Comments from entrepreneurs at Appendix I indicate that long term credit helped 'create more job opportunities for Kenyans'" and 'promotes industrialization of Kenya'. In addition, the terms of the loan were considered 'reasonable,' competitive' and 'flexible'. This

anecdotal evidence points towards support of long term credit in enterprise performance. Thus, the empirical results from this study may be attributed to the efficacy of the measurement scale for enterprise performance.

On the other hand, qualitative data analysis reveal that 'high interest cost', 'exchange rate fluctuations', ' security', ' excessive guarantees', 'high (bank) fees', 'high cost of electricity' and 'poor road network' are cited as factors undermining success of EIB long term credit. This research points out that other factors are also important in predicting SME performance and should not be neglected. For instance, results from regression analysis show that both *environmental dynamism* and *environmental hostilities* each make independent contributions to enterprise performance *($p<0.001$)*.

Thus, the insignificant but positive effect of long term credit on enterprise performance possibly attributed to inappropriate measure of enterprise performance.

4.8 Conclusion

This chapter includes the process through which the variables identified in Chapter 3 were operationalised into measures, which were used for data analysis to meet the objective of the research. The hierarchical regression analysis was conducted on the sample of 47 entrepreneurs. Each equation specified in Chapter 3 was tested under each research objective and the results led to the acceptance of five hypotheses and rejection of one hypothesis, the summary is presented in Table 4.5. Test for assumptions on multicollinearity, normality and homoscedasticity were undertaken among independent variables for the principal equations used to test the hypotheses and results show that they are within acceptable level. The findings of the regression analysis contributed to more understanding on the relationship between long term credit, entrepreneurial behavior and its dimensions and enterprise performance. In the following chapter, the summary of findings, conclusions and recommendations are presented.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides summary of findings, conclusions and recommendations based on the empirical results of the study. Suggested areas for future research are also presented.

5.1 Summary of Findings

Research in the entrepreneurship field has placed an intense focus on the characteristics of high-performing entrepreneurial organizations and other variables influencing their performance. Central to this area of research has been the examination of long term credit financing, entrepreneurial behavior and its relationship to the performance of the enterprise. The overall objective of this study was to determine the effect of long term credit on entrepreneurial behavior and enterprise performance among SMEs in Kenya. The intention was to bridge the existing knowledge gap in this area. Past research has largely been limited to identification of economic, social and administrative constraints to growth and development of SMEs. In addition, the understanding the relationship between long term credit, entrepreneurial behavior and enterprise performance might aid the promotion of entrepreneurship in Kenya.

Empirical evidence was collected from 47 SMEs in Kenya which accessed long term credit provided under the European Investment Bank Global loan scheme. A majority (38) of SMEs are Kenyan-owned and mostly (44) male. Entrepreneurs have strong academic credentials and strong social networks and 41 had founded their SMEs, a pointer to highly entrepreneurial individuals. The average entrepreneurial behavior score of 0.70 among the respondents supported this observation.

The first objective of the study was to determine the effect of long term credit on entrepreneurial behavior. A significant (p=0.01) positive correlation was found to exist between long term credit and entrepreneurial behavior, a multi-dimensional construct. Results from regression analysis indicated that long term credit explained 38 percent variation in entrepreneurial behavior. In addition, long term credit had a positive statistically significant effect (t=6.908, p<0.001) on entrepreneurial behavior.

The outcome of qualitative data analysis of entrepreneur's comments on EIB Global Loans suggests a positive relationship between long term credit and entrepreneurial behavior. Specifically, long term credit helped entrepreneurs 'kick-start business', 'expand business', 'promote technology...". Some considered the loans as ' the best thing that happened..".

The second objective of the study was to determine the effect of long term credit on *innovativeness*, a dimension of entrepreneurial behavior. A significant (p=0.01) positive correlation was found to exist between long term credit and *innovativeness*. Results from regression analysis indicated that long term credit explained 18 percent variation in *innovativeness*. In addition, long term credit had a positive statistically significant(t=3.524, p<0.01) effect on *innovativeness.*

The third objective of the study was to determine the effect of long term credit on *competitive aggressiveness*, a dimension of entrepreneurial behavior. A significant (p=0.01) positive correlation was found to exist between long term credit and *competitive aggressiveness*. Results from regression analysis indicated that long term credit explained 31 percent variation in *competitive aggressiveness*. In addition, long term credit had a positive statistically significant(t=5.543, p<0.001) effect on *competitive aggressiveness*.

The fourth objective of the study was to determine the effect of long term credit on *risk taking*, a dimension of entrepreneurial behavior. A significant (p=0.01)

positive correlation was found to exist between long term credit and *risk taking*. Results from regression analysis indicated that long term credit explained 28 percent variation in *risk taking*. In addition, long term credit had a positive statistically significant (t=4.427, $p<0.001$) effect on *risk taking*.

The fifth objective of the study was to determine the effect of long term credit on *pro-activeness*, a dimension of entrepreneurial behavior. A significant ($p=0.01$) positive correlation was found to exist between long term credit and *pro-activeness*. Results from regression analysis indicated that long term credit explained only 9 percent variation in *pro-activeness*. Nevertheless, long term credit had a positive statistically significant effect (t=2.528, $p<0.05$) on *pro-activeness*.

The final objective of the study was to determine the effect of long term credit on enterprise performance. Results from correlation analysis between long term credit and enterprise performance show a positive albeit weak (r=0.34, $p<0.05$) relationship. This is consistent with the findings from regression analysis showed that long term credit did not explain any variation in enterprise performance. Further analysis revealed that long term credit had a positive but statistically not significant effect ($\delta = 0.007$, t=0.647 $p=0.521$) on enterprise performance. This was surprising given the high enterprise performance score by entrepreneurs on use of long term credit.

5.2 Conclusions

On average, entrepreneurs with superior profiles characterized by strong social capital mitigate creditor's risk and therefore have more access to long term credit finance. In spite of this, long term credit was not always the preferred form of financing the enterprise. Findings show that on average, 60 percent of the project costs were finance through other forms of finance. In the 'pecking order' of financing, long term credit was less preferred due to its cost and risk.

Nevertheless, long term credit finance was critical in shaping entrepreneurial behavior in the SME sector. It stimulates *innovativeness, pro-activeness, competitiveness* and *risk-taking strategic actions* in pursuit of favorable business opportunities while allowing for investment in longer term assets. The findings of this study show that long term credit affects each dimension in a 'unique' way. Long term credit has more effect on *risk taking* and *competitive aggressiveness* than on *innovativeness* and *pro-activeness.* This multi-dimensional view of entrepreneurial behavior has an important implication in business management. The unique effects of long term credit on each dimension of entrepreneurial behavior revealed how this form of finance helped stimulate entrepreneurial behavior among SMEs in Kenya.

The effect of long term credit on enterprise performance remains inconclusive. Although entrepreneurs considered long term credit as a key contributory factor to enterprise performance, the results from regression analysis do not support this view. Instead, the prediction of 'pecking order' hypothesis of capital structure theory that long term credit is less preferred than other forms of finance seems to explain relatively well the financing policy of SMEs. An enterprise financing strategy that is skewed towards long term credit financing undermines business success. Whereas results from regression analysis present a pessimistic view on the effect of long term credit on enterprise performance, evidence from both quantitative and qualitative data analysis support the importance of long term credit in the success of SMEs.

5.3 Recommendations

This study has implications for research, theory, and practice. An important implication for research and theory is the fruitfulness of examining effect of long term credit on each dimension of entrepreneurial behavior. The approach may represent and additional path towards further understanding between long term credit and entrepreneurship. By revealing the relative importance of each

dimension of entrepreneurial behavior, researchers will be able to provide more precise and relevant recommendations to practitioners.

Key managerial implications can also be drawn on the basis of this study. First, long term credit can be used as a catalyst to spur entrepreneurship in the SME sector in Kenya. The *Vision 2030* envisages transformation of Kenya into a middle-income country with a vibrant entrepreneurial private sector. Provision of long term credit can be one of the key intervention policy tools for achieving this goal.

Second, long term credit is associated with quality borrowers. Capacity building in business management is critical in the development of effective owner-managers of SMEs. Institutions of higher learning can play a key role in capacity building among owner-managers of SMEs to improve access to larger allocation of longer term credit and promote entrepreneurship.

Finally, long term credit can be detrimental to performance of SMEs and should be closely evaluated and monitored by both the borrower and lender. Whereas long term credit stimulates entrepreneurial behavior, results from this study suggest that avoidance of long term debt financing may be an optimal financing strategy.

5.4 Areas of Further Research

The limitations of this study point to future research directions. Whereas the use of exploratory factor analysis and regression analysis to explore relationships among variables was appropriate for the sample size, the research model is not a putative causal model and causality could not therefore be assumed. Given the complexity of the underlying relationships further research is needed to demonstrate a causal path from long term credit to entrepreneurial behavior and finally to enterprise performance using a larger sample in a longitudinal study.

A second prospect for further research lies in the need to use dynamic models to undertake analysis at different stages of the life cycle of an enterprise to determine the effect of long term credit on entrepreneurial behavior and enterprise performance. Conceptually, reverse effects can occur. For instance, at start-up stage, pro-active behavior may be more pronounced as an SME seeks first mover advantage due to brand recognition but may lapse thereafter to conservative business practices when entrepreneur feels satisfied with the level of business performance. Although by virtue of its 'start-up' status this is considered entrepreneurial venture, the transition to non-entrepreneurial stage is not adequately dealt with in entrepreneurship literature. Incorrect categorization of such enterprises has serious consequences on empirical research in the filed of entrepreneurship.

Finally, long term credit is not the key to entrepreneurial behavior but one of several contributing ingredients. The possible reason why long term credit alone does not have an even larger influence on entrepreneurial behavior is methodological. The methodological reason is that the employed entrepreneurial behavior construct does not fully reflect all feasible strategic actions. Furthermore, long term credit does not have equal effects on all these strategic actions. In order to sort out the likelihood of this possible explanation, an assessment of what fully constitutes entrepreneurial behavior is required.

On this issue, the result findings suggest that although the measurement of entrepreneurial behavior used is relevant, it is far from perfect. A measurement instrument that more clearly reflect all key strategic actions and accorded appropriate weights is required since entrepreneurial strategic actions seem to predict performance of SMEs. It is essential that such a measure is developed and validated.

REFERENCES

Abor, J. (2008). Determinants of the capital structure of Ghanaian Firms. *AERC Research Paper* No. 176, African Economic Research Consortium, Nairobi.

Anderson, J. C. and Gerbing, D.W.(1982). Some methods for re-specifying measurement models to obtain uni-dimensional construct measurement. Journal of Marketing Research 14(November), 453–460.

Atieno, R. (2001). Formal and informal institutions' lending policies and access to credit by small-scale enterprises in Kenya: An empirical assessment. *AERC Research Paper* No. 111: African Economic Research Consortium, Nairobi.

Ayyagari, M., Beck, T and Demirguc-Kunt, A.(2003). Small and medium enterprises across the Globe: A new data base. *World Bank Policy Research Working Paper* 3127. Washington DC: World Bank

Ayyagari, M., Demirguc-Kunt, A. and Maksimovic, V.(2006). How important are financing constraints? The role of finance in the business environment. *World Bank Policy Research Working Paper* 3127. Washington DC: World Bank

Baffes, J and Meerman J.(1998). The role of long-term finance: Theory and evidence. *The World Bank Research Observer* 13, No.2 .Washington DC: World Bank

Bailey, J. (1986). Learning styles of successful entrepreneurs, '*Frontiers of entrepreneurship research*', Robert Ronstadt, Robert Hornedeg, Rein Peterson, and Karl Vesper, eds. Pg. 199-210. Wellesley, MA: Babson College.

Baird, I.S. and Thomas, H. (1985). Toward a contingency model of strategic risk taking. *Academy of Management Review*, 10: 230-243.

Barclay, M.J., and Smith, C.W.(1995). The Maturity Structure of Corporate Debt. *Journal of Finance* 50: 609-631.

Bartlett, M. S. (1937). Properties of sufficiency and statistical tests. *Proceedings of the Royal Statistical Society,* Series A 160, 268–282.

Beck, T., Demirguc-Kunt, A. and Maksimovic, V.(2005). Financial and legal constraints to firm growth: Does firm size matter? *Journal of Finance* 60, 137-177.

Beck, T., Demirguc-Kunt, A and Peria, M.S.M.(2008). Bank Financing for SMEs around the World: Drivers, obstacles, business models and lending practices. *Policy Research Working Paper* No 4785. Washington: World Bank.

Beck, T. and Fuchs, M. (2004). Structural issues in the Kenyan financial system: Improving competitions and access. *Policy Research Working Paper* No 3363. Washington: World Bank.

Berger, A.N., Udell, G.F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking and Finance* 22 (6-8): 613-673.

Biggs, T and Shah, M.K. (2006). African small and medium enterprises, network and manufacturing performance. *World Bank Policy Research Working Paper 3855*. World Bank: Washington

Bird, J.B.(1989). *Entrepreneurial behavior*. 5th edn. McGraw-Hill, New York.

Black, S.E. and Strahan, P.E. (2002). Entrepreneurship and Bank Credit Availability. *The Journal of Finance* 57:6, 2807-2833.

Blackman, A.J. (2003) *Entrepreneurs: Interrelationships between their characteristics, values, expectations, management practices and SME performance*. PhD Thesis. Griffith University, Australia.

Blanchflower, D.G., Oswald, A and Stutzer, A. (2001). Latent entrepreneurship across nations. *European Economic Review*. Elsevier. Vol.45 (4-6): 680-691.

Brealey, R.A and Myers, S.C.(1996). *Principles of corporate finance* (5th edn.), McGraw-Hill, New York.

Brockhaus, R.H. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal, 23: 509-520.*

Brown, T.H, Davidsson, P., and Wiklund, J., (2001). An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity-based firm behavior. *Strategic Management Journal*, 22: 953–968.

Brown, T.H., and Davidsson, P. (1998). Entrepreneurial orientation versus entrepreneurial management: Relating Miller/Covin & Slevin's conceptualization of entrepreneurship to Stevenson's. In P.D. Reynolds, W.D. Bygrave, N.M. Carter, S. Manigart, C. M. Mason, G.D. Meyer, & K.G. Shaver (Eds.), *Frontiers of Entrepreneurship Research* (pp. 352-353). Wellesley, MA: Babson College.

Caprio, G and Demirguc-Kunt, A. (1998). The role of long-term finance: Theory and evidence. *World Bank Research Observer* 13: 171-89.

Carland, J.W., Hoy, F., Boulton, W.R and Carland, J.C., (1984). Differentiating Entrepreneurs from small business owners: A conceptualization. *Academy of Management Review* 9(2): 354-9.

Cassar G. (2004). The financing of business start-ups. *Journal of Business Venturing* 19: 261-283.

Cassar G and Holmes S.(2003). Capital structure and financing of SMEs: Australian evidence. *Journal of Accounting and Finance* 43: 123-147.

Central Bank of Kenya.(2003). *European Investment Bank Global Private Enterprise Loan Scheme*. Central Bank of Kenya, Nairobi.

Chandler, G.N., and Hanks, S.H. (1993). Measuring the performance of emerging businesses: A validation study. *Journal of Business Venturing* 8: 391-408

Cobham, A. (1999). The financing and technology decisions of SMEs: Finance as a determinant of investment. *QEH Working Paper No. 24.* University of Oxford, UK.

Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing* 9:5, 371-395.

Covin, J.G., and Slevin D.P. (1986). The development and testing of an organizational-level entrepreneurship scale. In R. Ronstadt, J.A. Hornaday, R. Peterson, & K.H. Vesper (Eds.), *Frontiers of Entrepreneurship Research*: Babson College, Wellesley, MA.

Covin, J. G., and Slevin, D.P. (1989). Empirical relationships among strategic posture, environmental context variables, and new venture performance. In Frontiers *of Entrepreneurship Research.* R. Brockhaus et al. (eds), Babson College, Wellesley, MA.

Covin, J. G., and Slevin, D.P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Theory & Practice* 16(1) 7-24.

Covin, J. G., Green, K.M and Slevin, D.P. (2006). Strategic process effects on entrepreneurial orientation – sales growth rate relationship. *Entrepreneurship: Theory & Practice* 16(1) 7-24.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16(3)*, 297-334.

Davidsson, P. and Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing* 18 (3): 301-331.

Davis, B. (2003) *Entrepreneurs: Interrelationships between their characteristics, values, expectations, management practices and SME performance*. PhD Thesis. Griffith University, Australia.

Davis, J.L. (2007) *Firm level entrepreneurship and performance: An examination and extension of relationships and measurements of the entrepreneurial orientation construct*. PhD Thesis. USA: University of Texas at Arlington:

Dess, G.G. and Beard, D.W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly, 17: 313-327.*

Dess, G.G., Lumpkin, G.T., and Covin, J.G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677-695.

DeVaus, D.A. (2002). *Surveys in Social Research* (5th edn), Routledge, London

Dillman, D.A. (2002). *Mail and Telephone interviews: The total design method* Wiley & Sons, New York.

Diamond, D. W., (1991) Debt maturity structure and liquidity risk, Quarterly *Journal of Economics* 106, 709-738.

Dollinger, M.J. (1995). *Entrepreneurship: Strategies and resources*. Irwin, Boston.

Donaldson, L. (1996). Structural contingency theory. In Handbook of Organizational Studies, ed. Clegg, S., Hardy, C. & Nord, W. Sage Publications, London.

Doty, D.H., Glick, W.H. and Huber, G.P. (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal,* 36(6): 1196-1250.

Drucker, P. (1985). *Innovation and Entrepreneurship.* Harper Business, New York, NY.

Dunstan, K.D., Dwyer D., and S. Holmes. (1994). The cost of debt for small enterprises: *Evidence from Australia, Journal of small business management* 32(1): 27-35.

Emery, D.R, Finnerty, J.D. and Stowe, J.D. (1998). *Principles of financial management.* Prentice-Hall, New Jersey:

Esperanca J.P., Ana, P.M.G and Mohamed A.G. (2003). Corporate debt policy of small firms: an empirical (re)examination. *Journal of Small Business and Enterprise Development,* 10(1) 62-80.

Fama, E., and French, K.R. (2002). Testing trade-off and pecking order predictions about dividends and debt, *Review of Financial Studies,* 15,1-33.

Foo, M. D. and Lee, S. F. (2005). *Entrepreneurial Orientation and opportunity evaluation: The moderating effects of EO on cognitive factors and business size.* Working Paper No 8. NUS Entrepreneurship Centre, University of Singapore:

Frank, M.Z. and Goyal, V.K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics,* 67, 217-248.

Frank, M.Z. and Goyal, V.K. (2008). Trade-Off and Pecking Order Theories of Debt in *Handbook of Corporate Finance: Empirical Corporate Finance, Volume 2.* (Handbook in Finance Series, Elservier/North Holland). Centre for Governance, Tuck School of Business at Dortmouth.

Frese, M. (2000). *Success and failures in micro-business owners in Africa: A new psychological approach.*: Greenwood Publications Inc. Westport, C.T.

Gartner, W.B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4): 696-706.

Gartner, W.B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing*, 5(1): 15-28.

Goddard, J., J. Wilson and P. Blandon (2002), 'Panel Tests of Gibrat's Law for Japanese Manufacturing', *International Journal of Industrial Organization* , 20: 415-433.

Greene, P., and Brown, T. (1997). Resource needs and the dynamic capitalism typology. *Journal of Business Venturing* 12:161-173.

Gray, Kenneth, R., William Cooley, and Jesse Lutabingwa. (1997). "Small-Scale Manufacturing in Kenya." *Journal of Small Business Management,* 35:1, 66-72.

Green, C., Kimuyu, P., Manos, R and Murinde, V. (2002). How do small firms in developing countries raise capital? Evidence from a large-scale survey of Kenyan micro and small scale enterprises (MSEs). *Finance and Development Research Program.* Working Paper No 47. Manchester: Institute of development Policy and Management, University of Manchester.

Griffin, T and Coulthard, M. (2005) Impact of entrepreneurial orientation on Australian wine industry. Paper presented at the Small Enterprise Association of Australia and New Zealand (SEAANZ) Conference, 26-29 September 2004, Brisbane, Australia

Guedes, J. and Opler, T. (1996). The determinants of the maturity of corporate debt issues. *Journal of Finance* 51:1.

Gupta, A., and Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness as strategy implementation. *Academy of Management Journal* 27: 25-41.

Guth, W.D., and Ginsberg, A. (1990). Guest editors' introduction: Corporate entrepreneurship. *Strategic Management Journal* 11:5-15.

Gujarati, D.N. (2005). *Basic Econometrics* (3rd edn), Tata McGraw-Hill, New Delhi.

Hair, J.H., Anderson R.E., Tatham R.L. and Black W.C., (1998). *Multivariate Data Analysis* (5th edn), Prentice-Hall, London.

Hall, G.C, Hutchingson, P.J and Michaelas, N. (2004). Determinants of capital structure in European SMEs. *Journal of Business Finance and Accounting.* 31(5/6): 711-28.

Hills, G., and LaForge, R. (1992). Research at the marketing interface to advance entrepreneurship theory. *Entrepreneurship Theory and Practice* 16(Spring):33-59.

Heyman, D, Deloof, M and Oghee, H. (2003). The debt-maturity structure of small firms in a creditor-oriented environment. *Vlerick Leuven Gent Working paper Series* 2003/24. Vlerick Leuven Gent: Management School. Hill, New York, NY.

Hornby. A.S. (2000). *Oxford Advanced Learner's Dictionary of current English.* (6th edn), Oxford University Press, London.

International Labour Organization. (1972). *Employment, incomes and equity: a strategy of increasing productive employment in Kenya,* International Labour Organization, Geneva.

International Monetary Fund. (2004). *Kenya-Staff report for the 2004 Article IV Consultation, First Review under the Poverty Reduction and Growth Facility, and Requests for Augmentation of access, rephrasing of the arrangement, and waiver of performance criteria.* IMF, Washington.

International Monetary Fund. (1995). *Kenya - Recent Economic Developments Series: IMF Staff Country Report No. 95/133*, IMF, Washington:

Jaramillo, F. and Schiantarelli, F. (2002). Access to long term debt and effects on enterprises' performance: Lessons from Ecuador. *Research Network Working Paper* No. R460. Inter-American Development Bank.

Jennings, D.F., Rajaratnam, D. and Lawrence, F.B. (2003). Strategy-performance relationships in service firms: A test for equifinality. *Journal of Managerial Issues, 15(2):208-220.*

Jennings, D.F. (1994). *Multiple perspectives of entrepreneurship: text, readings and cases.* (5th edn), Southwestern publishing, Ohio.

Jensen, M.C. (1986). The agency costs of free cash flow: corporate finance and take-overs. *American Economic Review.* Vol.76 No. 2.

Jensen, M.C and Meckling, W.H. (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Finance.*

Jogaratnam, G. (2002). Entrepreneurial orientation and environmental hostility. An assessment of small independent restaurant business. *Journal of Hospitality and Tourism Research. Vol.24 No3.*

Kanungo, R. (1998). *Entrepreneurship and innovation: Models for development,* Sage Publications India Pvt Ltd, New Delhi:

Kaplan, S.N. and Stromberg, P. (2001). Venture capitalists as principals: contracting, screening, and monitoring. *AEA Papers and Proceedings,* 426-430.

Kamien M., Schwartz, N., (1982). *Market Structure and Innovation,* University Press, Cambridge.

Kimberly, J.R. (1981). Managerial innovation. In P.C. Nystrom & W.H. Starbuck (Eds.), *Handbook of organizational design*, 1: 84-104. Oxford University Press, New York, NY.

Kimuyu, P and Omiti, J. 2000 Institutional impediments to access to credit by micro and small scale enterprises in Kenya. *IPAR Discussion Paper* No. 26. IPAR, Nairobi.

Kinsman, M.D and Newman, J.A. (1998). Debt tied to lower firm performance. *Graziadio Business Review*, Vol 1, Issue 3. Pepperdine University, Los Angeles

Knight, G.A, (1997). Cross cultural reliability and validity of the scale to measure a firm entrepreneurial orientation, *Journal of Business Venturing* 12: 213-225

Kothari, C.R (2009). *Research Methodology: Methods and techniques*. New Age International Publishers, New Delhi.

Kraus, A. and Litzenberger, R. (1973). "A State-Preference Model of Optimal Financial Leverage," *Journal of Finance*, 28(4): 911-922.

Kreiser, P.M., Marino, L.W. and Weaver, K.M. (2002). Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis. *Entrepreneurship: Theory & Practice*, 71-94.

Krueger, N.F., Reilly, M.D and Carsud, A.L. (2000). Competing models of entrepreneurial intentions, *Journal of Business Venturing* 15: 411-432

Lee, C., Lee, K. and Pennings, J., (2001). Internal capabilities, external networks, and performance: A study on technology-based ventures. *Strategic Management Journal*, 22(6/7): 615-640.

Levesque, M. and Minniti (2006). The effect of aging on entrepreneurial behavior, *Journal of Business Venturing* 21(2): 177-194

Loos, A. A. J. and Coulthard, M. (2005). The impact of entrepreneurial orientation on the Australian automotive components industry. *Working Paper 17/05 presented at Australian Graduate School of Entrepreneurship- Babson Conference,* 24-25 February 2004, Monash University, Melbourne.

Lumpkin, G.T. and Dess, G.G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review* 21 (1): 135-172

Lumpkin, G. T., and Dess, G. G. (1997). "Pro-activeness versus Competitive Aggressiveness: Teasing Apart Key Dimension of an Entrepreneurial Orientation." In P. D. Reynolds, W. D. Bygrave, N. M. Carter, P. Davidsson, W. B. Gartner, C. M. Mason, and P. P. McDougall (Eds.), *Frontiers of Entrepreneurship Research.*: Babson College, Wellesley, MA.

Lumpkin, G.T. and Dess, G.G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing* 16: 429-451

Lyon, D. W., Lumpkin, G.T. and Dess, G.G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of management* 26(5): 1055-1085

Maalu, J. Khayesi, M., Alila, P., Chitere, P., Kibas P., Karega, R., Bowen M. and Onjala, J. (1999). Effect assessment of the WEDCO Enterprise Development Project. *Institute of Development Studies Occasional Paper No. 68*. University of Nairobi, Nairobi.

McCarthy, S. (2003). Industrialization, the financial sector, diasporas and the European Investment Bank. *the courier*. January-February. Pg 50-52. ACP Secretariat, Brussels.

McClelland, D.C. (1965). Achievement and Entrepreneurship: A longitudinal study. *Journal of Personality and Social Psychology* (14): 389-92.

Mead, D.C and Leadholm, C. (1998). The dynamics of micro and small enterprises in developing countries. *World Development* 26(1), 61.

Miles, R. and Snow, C. (1978). *Organizational Strategy, Structure and Process.* McGraw-Hill, New York.

Miller, D. and Friesen, P. (1978). Archetypes of strategy formulation. *Management Science* 24(9), 921-933.

Miller, D. 1987. "Strategy Making and Structure: Analysis and Implication for Performance." *Academy of Management Journal*, 30(1): 7–32.

Miller, A. and Camp, B. (1985). Exploring determinants of success in corporate ventures. *Journal of Business Venturing,* 1(2): 87-105.

Miller, D. (1983). The correlates of entrepreneurship in three types of enterprises. *Management Science*, 29, 770-791.

Miller, D., and Friesen, P. (1982). Innovation in conservative and entrepreneurial enterprises: Two models of strategic momentum. *Strategic Management Journal*, 3, 1-25.

Modigliani, F and Miller, M.H. (1958). The cost of capital, corporation finance and theory of investment. *American Economic Review*. Vol 48:.261-297.

Modigliani, F. and Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53, 433-43.

Morris, M.H. and Paul, G.W. (1987). The relationship between entrepreneurship and marketing in established firms. *Journal of Business Venturing*, 2(3): 247-259.

Mugenda, M.O and Mugenda, A.G. (2003) *Research Methods*, ACTS, Nairobi.

Mullei, A. and Bokea, A. (2000). *Micro and small enterprises in Kenya: Agenda for improving the policy environment.* African Economic Research Consortium, Nairobi.

Myers, S.C. and Majluff, N. (1984). Corporate financing and investment decisions when firms have information investors do not have. *Journal of Financial Economics* 131: 187-221.

Myers, S.C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics* 5(2): 147-175.

Michaelas, N., Chittenden, F., Poutziouris, P., (1999). Financial Policy and capital structure choice in U.K SMEs: Empirical evidence from company panel data. *Small Business Economics*. 12 (2): 113-130.

Nunnally, J.C. (1978). *Psychometric Theory.* 2nd edn. McGraw-Hill, New York.

Obwocha, H. (2006). Small businesses and Economic Growth in Eastern Africa. Speech by Minister for Planning and National Development, Republic of Kenya to the International Finance Corporation "*Credit Reporting Conference*" at Safari Park Hotel, Nairobi on 2nd March 2006.

Ostgaard, A. and Birley. S. (1996). "New Venture Growth and Personal Networks." Journal of Business Research 36: 37–50.

Oliveria, E. (2003). Promoting small and medium sized enterprises in ACP countries in the context of industrial development. *the Courier*. January – February, pg 42-43. ACP Secretariat, Brussels.

Örtqvist, D., Masli, E.K., Rahman, S.F. and Selvarajah, C. (2006). Determinants of Capital Structure in New Ventures: Evidence from Swedish Longitudinal Data. *Journal of Developmental Entrepreneurship*, 11(4):277-296.

Pearce, J., and Robinson, R. (2002). *Strategic management*. McGraw- Hill, Boston.

Pissarides, F. (1999). Is lack of funds the main obstacle to growth? EBRD's experience with small- and medium-sized businesses in central and eastern Europe. *Journal of Business Venturing* 14 (5-6):519-539

Quince, T and Whittaker, H. (2003). Entrepreneurial orientation and entrepreneurs' intentions and objectives. *Working Paper No. 271*. ESRC

Republic of Kenya. (1986). Sessional *Paper No 1 on Economic management for renewed growth*. Government Printer, Nairobi.

Republic of Kenya. (1992). *Sessional Paper No 2 on Small enterprises and Jua Kali development in Kenya*. Government Printer, Nairobi.

Republic of Kenya. (1996). *Sessional Paper No 2 on Industrial Transformation to the year 2020*. Government Printer, Nairobi.

Republic of Kenya. (2005a). *Sessional Paper No 3 on Development of micro and small enterprises for wealth creation, employment generation and poverty reduction.* Government Printer, Nairobi.

Republic of Kenya. (2005b.) *Economic Survey*. Government Printer, Nairobi.

Republic of Kenya. (2009). Economic *Survey*. Government Printer, Nairobi.

Republic of Kenya. (2007). *Kenya Vision 2030*. Government Printer, Nairobi.

Republic of Kenya. (2003a). *Economic recovery strategy for wealth and employment creation 2003-2007*. Government Printer, Nairobi.

Republic of Kenya. (2003b). *Budget Speech 2004/5*. Government Printer, Nairobi.

Rogoff, E.G., and Lee, M. (1979). Does Firm Origin Matter? An empirical investigation of small business owners and entrepreneurs. *Academy of Entrepreneurship Journal.* 1:2, 1-17.

Ronge, E. and Kimuyu, P. (1997) Private investment in Kenya: Trends, composition and determinants. *IPAR Discussion* Paper No. 9. IPAR, Nairobi.

Rosenberg, M.J. (1968). *The Logic of Survey Analysis*. Basic Books, New York, NY.

Saunders, M., Lewis P., and Thornhill, A. (2003). *Research Methods for Business* Students (3rd edn.), Prentice Hall, London.

Scherr, F.C and Hulburt, H.M., (2001). The debt maturity structure of small firms. *Financial Management*. Spring, 89-111.

Schiantarelli, F and Scrivastava, V. (1997). Debt Maturity and Firm Performance: A panel study of Indian Companies. *Policy Research Working* Paper No 1724. World Bank, Washington.

Schiantarelli, F and Sembenelli, A. (1997). The Maturity Structure of Debt: Evidence from the United Kingdom and Italy. *Policy Research Working Paper* No 1699. World Bank, Washington.

Schumpeter, J.A. (1934). *The theory of economic development*. Harvard University Press, Cambridge, MA.

Sogorb- Mira, F. (2005). "How SMEs Uniqueness Affects Capital Structure: Evidence From A 1994-1998 Spanish Data Panel," *Small Business Economics*, 25:447-57.

Sharma, P., Chrisman, J.J., Pablo, A and Cliva, J.H. (2001). Determinants of initial satisfaction with the succession process in family firms: A conceptual model. *Entrepreneurship Theory and Practice* 25: 1-19.

Stetz, P.E., Howell, R., Stewart, A., Blair, J.D. and Fottler, M.D. (2000). Multidimensionality of entrepreneurial firm-level processes: Do the dimensions covary? In P.D. Reynolds, E. Autio, C.G. Brush, W.D. Bygrave, S. Manigart, H.J. Sapienza and D.L. Sexton (Eds), *Frontiers of Entrepreneurship Research* 2000.: Babson College, Wellesley, MA.

Storey, D. J. (1994). Understanding the Small Business Sector. Routledge, London.

Tabachnick, B. G. and Fidell, L. S. (2001). *Using Multivariate Statistics*, 4th edn. Allyn and Baker, Sydney.

Timmons, J.A. and Spinelli, S. (2003). *New Venture creation: Entrepreneurship for the 21st Century.* International edition. McGraw-Hill, New York.

Titman, S. and R. Wessels. (1988).The determinants of capital structure choice. *Journal of Finance* 43(1): 1-19.

Venkatraman, N. (1989). The concept of fit in strategy research: Toward verbal and statistical correspondence. *Academy of Management Review* 14(3):423-44.

Wagenvoort, R., (2003). Are finance constraints hindering the growth of SMEs in Europe? *EIB Papers* 8, 22-50.

Wagner, J., (2005). Nascent necessity and opportunity entrepreneurs in Germany: Evidence from regional entrepreneurship monitor (REM). *Discussion paper* No 1608. University of Lueneburg: Bonn, Germany.

Wald, J.K (1999). How firm characteristics affect capital structure: An international comparison. *Journal of financial research.* 22 (2): 161-187.

Wiklund, J. (1999). Entrepreneurial orientation as a predictor of performance and entrepreneurial behavior in small firms- Longitudinal evidence. *Jonkooping International Business School,* Jonkoping, Sweden

Wiklund, J. and Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configuration approach. *Journal of Business Venturing* 20:1, 71-91

Wilken, J. (1979). *Entrepreneurship: A comparative and historical study*. Abblex Norwood, New Jersey.

Winborg, J., Landstrom, H. (2000). Financial bootstrapping in small businesses: examining small business managers' resources acquisition behaviors. *Journal of Business Venturing*. 15 (4): 323-346.

World Bank (2004). *Kenya Investment Climate Assessment: Enhancing the Competitiveness of Kenya's manufacturing sector. The Role of the Investment Climate* (November). World Bank, Washington.

World Bank (2008). Kenya: Accelerating and sustaining growth. World Bank, Washington.

World Bank. (2002). Review of small business activities. World Bank, Washington.

World Bank. (1987). *Kenya: Industrial sector policies for investment and export growth. Volume II.* World Bank, Washington.

World Bank. (2003). *Kenya: A policy agenda to restore growth. Country report No.25840-KE*, World Bank, Washington.

Zahra, S. A., Pearce II, J. A., (1990). "Research evidence on the Miles-Snow typology", *Journal of Management*, 16:4, 751-768.

Zahra, S., and Covin, J. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: a longitudinal analysis. *Journal of Business Venturing* 10: 43-58.

Zahra, S.A. (1991). Predictor and financial outcomes of corporate entrepreneurship; An exploratory study. *Journal of Business Venturing* 6: 259-285

Zahra, S.A. (1993). Environment, corporate entrepreneurship and financial performance: taxonomic approach. *Journal of Business Venturing*, 8: 319-340.

Zahra, S.A. (1995). Corporate entrepreneurship and financial performance: The case of management leveraged buyouts. *Journal Business Venturing*, 10:3, 225-247.

Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship. The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39:6, 1713-1735.

Zahra, S.A. and Bogner, J.G. (2000). Technology strategy and software new ventures' *Journal of Business Venturing*, 15: 135-173.

APPENDIX A:

European Investment Bank– Global Loan Scheme in Kenya

Under the Lome IV Convention (1990-2003), the European Union through its development bank, the European Investment Bank (EIB) provided private sector long term loans to African Caribbean Pacific (ACP) states to support recipient's private sector development. Over the past decades, GLs has also been an important instrument for the provision of EIB financing to SMEs in the European Union.

The European Union defines a medium-sized enterprise as one with a headcount of 250, a small enterprise as one with a headcount of less than 50 and a micro enterprise as one with a maximum of 10 employees. To qualify as an SME in the European Union, an enterprise must have an annual turnover of Euro 40 million or less and/or a balance sheet valuation not exceeding Euro 27 million, while the annual turnover of a micro-enterprise must not exceed Euro 2 million. The GLs were channeled through selected financial intermediaries (commercial banks and development financial institutions) to small investment projects, primarily to private sector SMEs in the industrial, agro-industrial and services sectors. The loans are for financing start-ups, expansion, modernization, restructuring or diversification of existing activities.

During the period 1990-2003, Kenya received a total of Euro 100 million or approximately Kshs 9.2 billion (at the current exchange rate) from EIB as GLs to promote economic development by encouraging and facilitating new investments and growth of private enterprises in key sectors of Kenya's economy. The loans were made available in four phases a shown in Table 1 below.

Table 1: EIB Global Loans to Kenya

	Year commenced	Amount in Euro in millions
Phase 1	1991	20
Phase 2	1995	35
Phase 3	1997	45
Phase 4	1999	55
Total		155

Source: CBK (2003)

Under Kenya's EIB-Global Loans scheme, individual SMEs application for loans are submitted to selected commercial banks and DFIs accompanied with a detailed project proposal or feasibility study that shows that the project is technically and financially viable and have appropriately qualified management, clear market potential and environmentally acceptable (CBK 2003). The project proposal is appraised by financial intermediary and submitted to Central Bank of Kenya (EIB appointed agent) for appraisal and recommendation before submission to EIB for approval. This rigorous evaluation of business plan ensures that only 'high quality' projects are selected for funding by the scheme.

EIB-Global Loans are long term loans with a grace periods of 1 to 4 years and repayable over a period between 6 – 12 years. Interest rates are competitive and are either fixed or variable. Loans are to be fully secured by tangible asset. The maximum amount a single entity can borrow is Euro 1.5 million (approximately KSh 120 million) while the minimum is Euro 5,000 (approximately KSh 400,000).

The loans are available in foreign currency (Euro or US dollars) or Kenya shilling, or a combination of both. Kenya shilling loans are targeted at projects that mainly whose products are for the domestic market while foreign currency denominated loans are extended to enterprises involved in export/foreign exchange-earning businesses. SMEs must operate from any of the following

sectors to qualify for the funding: agro-industry, manufacturing, horticulture/flower growing, fishing/fish processing, mining/quarrying, and tourism, education, health and service industry (CBK 2003).

EIB-Global Loans funds may be used for capital investments i.e. for purchase of land, buildings, construction works, plant equipment, furnishings, motor vehicles and for the initial working capital. Funds from the EIB – Global loans will finance up to 50 percent of the total project cost for the foreign currency loans. Project promoters should be able to demonstrate that they are backing the investment with a reasonable commitment of their own funds. Application for the long term loans are submitted to the European Investment Bank, Luxemburg through participating selected commercial banks in Kenya who have to evaluate the project viability before recommending funding (CBK 2003).

Source: Central Bank of Kenya. 2003. *European Investment Bank Global Private Enterprise Loan Scheme*. Nairobi: Central Bank of Kenya.

APPENDIX B: List of 81 Borrowers by Economic Sector Category

	Sector	Loan Amount Kenya Shillings	Date approved	Repayment period Years
1	Agro-industry	241,288,597	23-Nov-04	6
2	Agro-industry	88,630,000	11-May-01	6
3	Agro-industry	1,500,000	22-Nov-01	6
4	Agro-industry	2,500,000	5-Mar-02	6
5	Agro-industry	50,405,370	2-Nov-99	6
6	Agro-industry	7,800,000	29-Sep-99	6
7	Agro-industry	50,443,072	12-Jul-01	6
8	Agro-industry	11,796,043	16-Mar-00	6
9	Education	34,532,400	4-May-01	6
10	Education	50,000,000	16-Oct-00	6
11	Education	34,532,400	4-May-01	8
12	Education	51,500,703	23-May-03	8
13	Education	19,077,183	1-Aug-03	8
14	Fishing	7,642,882	9-Dec-03	6
15	Fishing	33,168,771	24-Mar-04	6
16	Floriculture	8,136,157	30-Jul-04	6
17	Floriculture	3,309,000	6-Oct-00	6
18	Floriculture	13,100,000	12-Mar-01	6
19	Floriculture	10,000,000	2-Apr-01	6
20	Floriculture	42,000,000	28-Jul-03	6
21	Floriculture	1,200,000	10-Jul-01	6
22	Floriculture	97,270,000	17-Sep-01	6
23	Floriculture	28,300,000	22-Nov-01	6
24	Floriculture	56,600,000	21-Jan-02	6
25	Floriculture	60,000,000	11-Mar-02	6
26	Health	71,516,500	12-Jul-02	6
27	Health	36,122,000	3-Oct-02	6
28	Health	4,378,000	8-Nov-02	6
29	Health	15,000,000	17-Feb-03	6
30	Health	12,554,350	4-Aug-04	6
31	Health	6,000,000	24-Mar-04	6
32	Horticulture	66,543,027	23-Nov-04	6
33	Horticulture	27,547,709	18-Jul-01	6
34	Horticulture	11,000,000	24-Dec-02	6
35	Horticulture	11,000,000	6-Jun-01	6
36	Horticulture	6,600,000	18-Jan-00	6
37	Horticulture	22,500,000	24-Jul-02	6
38	Horticulture	23,212,157	21-Jul-01	6
39	Horticulture	42,438,000	21-Dec-03	6
40	Manufacturing	12,549,259	9-Oct-01	6
41	Manufacturing	101,996,400	22-Feb-02	8
42	Manufacturing	6,965,672	23-May-03	6
43	Manufacturing	11,371,303	25-Sep-03	6
44	Manufacturing	11,183,183	6-Feb-04	6
45	Manufacturing	5,617,643	6-Feb-04	6
46	Manufacturing	10,279,815	30-Jul-04	6
47	Manufacturing	70,678,013	14-Oct-04	8
48	Manufacturing	25,300,000	19-Dec-02	6
49	Manufacturing	26,875,362	24-Dec-99	6

APPENDIX B: (cont..)

50	Manufacturing	30,000,000	30-Jun-99	6
51	Manufacturing	30,000,000	28-Jan-99	6
52	Manufacturing	9,645,000	21-Dec-99	6
53	Manufacturing	3,533,499	8-Aug-99	6
54	Manufacturing	39,773,450	21-Dec-99	6
55	Manufacturing	30,000,000	15-Feb-01	6
56	Manufacturing	8,000,000	29-Sep-02	6
57	Manufacturing	5,000,000	29-Sep-02	6
58	Manufacturing	4,557,000	21-Jan-03	6
59	Manufacturing	51,753,175	16-Mar-99	6
60	Manufacturing	106,095,000	21-Dec-99	8
61	Manufacturing	23,000,000	18-May-99	6
62	Manufacturing	27,000,000	29-Sep-02	6
63	Manufacturing	17,613,100	24-Dec-03	6
64	Manufacturing	58,000,000	16-Mar-04	6
65	Manufacturing	42,750,000	24-Dec-02	6
66	Manufacturing	15,000,000	9-Oct-02	6
67	Manufacturing	30,000,000	18-Jan-01	6
68	Quarrying	30,000,000	18-Jan-01	6
69	Services	45,000,000	12-Apr-01	6
70	Services	7,103,315	17-Feb-01	6
71	Services	18,000,000	18-Jan-03	6
72	Services	11,500,000	16-Mar-04	6
73	Tourism	17,431,286	20-Apr-01	6
74	Tourism	94,904,754	14-Oct-04	8
75	Tourism	65,331,546	3-Nov-04	8
76	Tourism	34,890,000	5-Oct-01	6
77	Tourism	55,249,500	1-Mar-02	6
78	Tourism	95,220,000	6-May-03	6
79	Tourism	32,000,000	20-Aug-02	6
80	Tourism	49,198,100	14-Apr-00	6
81	Tourism	19,000,000	18-Jan-01	6

APPENDIX C: COVER LETTER AND QUESTIONNAIRE

Mr. Haron Sirima
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P.O. Box 28747-00100, Nairobi, KENYA
Office direct line # 254 –2- 6570567; Cell phone: 0722 772855;
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Date **COVER LETTER**

The proprietor

EIB-Global Loan Scheme: Confidential Questionnaire

I am a PhD candidate doing my thesis in Entrepreneurship at School of Business, Kenyatta University, Nairobi. The name and address of your business has been randomly selected from a database of enterprises that borrowed European Investment Bank – Global Loans scheme to take part in a groundbreaking survey of business owners facilitated under the EIB Global Loan scheme.

Results from the survey will provide the basis of a doctoral thesis that proposes to link long-term credit, entrepreneurial behavior and enterprise performance. Your practical experience will improve understanding on the impact of long term credit and be able to better prepare future business owners for challenges in entrepreneurship.

I have attached a short questionnaire for you to fill and will be pleased to pick it at your offices by 31st May 2008. Rest assured that your response will be treated in strict confidence and will not be released except in an anonymous collated form. I will be glad to share the findings of the research with you.

In the meantime, I have enclosed a copy of the research authorization from the Ministry of Science & Technology for your retention.

Thank you for your time, your contribution is very important to the success of this research.

Yours Sincerely,

Haron Sirima

Questionnaire

1. Questions about you and your family

	Questions	Answers
Q1	Please indicate your age bracket?	Under 30 years☐ 30 – 39 years☐ 40 – 49 years☐ 50 – 59 years☐ 0ver 60 years ☐
Q2	Please indicate your gender?	Male☐ or Female☐
Q3	What is your nationality?	----------
Q4	Have your parents ever owned and operated a business? (Please tick only one box)	Yes☐ No☐
Q5	Have any of your immediate relatives ever owned and operated a business before you started this business?	Yes☐ No☐
Q6	To date what has been your highest formal educational qualifications?	Primary school☐ Secondary School☐ Certificate/Diploma☐ Bachelor's degree or equivalent☐ Masters degree☐ Doctorate☐ Other (please specify☐ ----------
Q7	(a) Did you have prior business training before start of this business? (b) Are you a member of a business or professional association?	Yes☐ No☐ Yes☐ No☐

2. Questions about you and this business

	Questions	Answers
Q8	In which district is your business located?	
Q9	How old is this enterprise?	
Q10	When did you first become the owner of this enterprise?	
Q11	How did you become the owner?	I purchased all/part of it☐ I founded it☐ I inherited it☐ Other (please specify)☐ ----------
Q12	In which economic sector is this business?	Agro-industry☐ Horticulture/floriculture☐ Tourism☐ Quarrying/mining☐ Manufacturing☐ Fish/fish processing☐ Education☐ Health care☐ Service industry☐
Q13	For how many years have you, as an individual, been engaged in this economic sector?	----------
Q14	Apart from this business, how many other businesses have you owned and operated?	
Q15	How many employees are employed by this business?	
Q16	Including you, how many major decision makers are there in this business?	
Q17	Including you, how many of those decision makers are members of your family?	
Q18	Including all non-cash benefits you received how has the personal income you derived from this business increased or decreased when compared with 3 year ago?	Increased by 20% or more☐ Increased by less than 20%☐ About the same☐ Decreased by less than 20%☐ Decreased by 20% or more☐

3. Questions about EIB-Global Loan

Q19. (a) Was this your first borrowing from the EIB-Global Loan scheme?

Yes☐
No☐

(b) If No, when was your first borrowing under the EIB-Global Loan scheme?
.....

(c) At the time of setting up or expanding this business, indicate the proportion of total project cost financed through EIB Global Loan.

☐percent

Q20. What was the currency of the loan?

Kenya Shilling☐
Foreign currency☐

Q21. What was type of interest rate on the loan?

Fixed rate☐
Floating rate☐

Q22. By circling the number that corresponds to the level of **IMPORTANCE** on the scale below, show the extent to which EIB Global loan was important to the establishment or expansion of your business.

Not important	**Slightly important**	**Moderately important**	**Very important**	**Extremely important**
1	2	3	4	5

4. Questions about business performance from the time you received EIB loan

Q23. By circling the number that corresponds to the level of **IMPORTANCE** you give to each item on the scale below, show the extent to which you consider each item listed to be important in your enterprise performance upon receiving EIB Global loan.

Enterprise objectives	**Not important**	**Slightly important**	**Moderately important**	**Very important**	**Extremely important**
High productivity	1	2	3	4	5
Industry leadership	1	2	3	4	5
Creating job opportunities	1	2	3	4	5
Business stability	1	2	3	4	5
High profit rates	1	2	3	4	5
Lowers costs of production	1	2	3	4	5
Contribution to community development	1	2	3	4	5
Business growth	1	2	3	4	5

Q24. By circling the number that corresponds to the level of SATISFACTION you feel, indicate on each of the following items the extent to which you are satisfied overall with your enterprise's performance upon receiving EIB Global loan.

Enterprise objectives	**Not satisfied**	**Slightly satisfied**	**Moderately satisfied**	**Very satisfied**	**Extremely satisfied**
High productivity	1	2	3	4	5
Industry leadership	1	2	3	4	5
Creating job opportunities	1	2	3	4	5
Business stability	1	2	3	4	5
High profit rates	1	2	3	4	5
Lowers costs of production	1	2	3	4	5
Contribution to community development	1	2	3	4	5
Business growth	1	2	3	4	5

5. Questions about strategic actions.

Q25 (a). Circle the number that corresponds to the extent to which each of the following management practices and strategies was used in your enterprise .Scale 1 – 7: 1=strongly disagree, 2= moderately agree, 3= agree, 4 = Neutral, 5 = Agree, 6 = Moderately agree 7= Strongly agree.

P1. I have been ahead of competitors to enter new markets. [1] [2] [3] [4] [5] [6] [7]
P2. I introduced new products or services ahead of competitors [1] [2] [3] [4] [5] [6] [7]
P3. I improved quality or the number of features of the products or services before the competitors did. [1] [2] [3] [4] [5] [6] [7]
P4. I improved value to the customers through non-product means such as through distribution, advertising, or other communications ahead of competitors. [1] [2] [3] [4] [5] [6] [7]
C1 I re-engineered my enterprise's processes to make them more efficient and less costly than my competitors [1] [2] [3] [4] [5] [6] [7]
C2 I created partnerships with the best partners in the industry before competitors enlist them [1] [2] [3] [4] [5] [6] [7]
C3. I priced products or services proactively so that competitors have to react to my prices [1] [2] [3] [4] [5] [6] [7]
R1. My enterprise always takes actions to avoid failure [1] [2] [3] [4] [5] [6] [7]
R2. When confronted with decisions involving uncertainty, my enterprise accepted at least moderate risk level of failure in order to maximize the probability of exploiting an opportunity. [1] [2] [3] [4] [5] [6] [7]
R3. When my managers take risk and fail, they have not been punished. [1] [2] [3] [4] [5] [6] [7]
I1 The enterprise has a strong emphasis on R&D, technological leadership, and innovations. [1] [2] [3] [4] [5] [6] [7]
I2. Changes in production or service lines have been quite dramatic. [1] [2] [3] [4] [5] [6] [7]
I3. Many new lines of product or services have been marketed [1] [2] [3] [4] [5] [6] [7]

(b). Apart from this enterprise that you partly financed through EIB-Global loan, have you established or expanded any other business line thereafter?

Yes□ No□

6. Questions about business environment

Q26. Circle the number that corresponds to the level of **industry performance** that your enterprise is operating.

	Very low	**Low**	**Moderate**	**High**	**Very High**
The *current profitability* of the industry	1	2	3	4	5
The *projected long-term profitability* of the industry (five years or more)	1	2	3	4	5
The *market growth rate in the industry* over the last three years	1	2	3	4	5
The projected long-term market growth rate (five years or more) for the industry	1	2	3	4	5

Q27. Circle the number that corresponds to the extent to which each of the following factors affected your enterprise's operation.

	Not at all	Barely	Moderately	Extensively	Very extensively
The rate of product obsolescence	1	2	3	4	5
The un-predictability of competitor's actions	1	2	3	4	5
The un-predictability of demand and consumer tastes	1	2	3	4	5
The rate of technological change within the industry	1	2	3	4	5
The change in marketing practices	1	2	3	4	5

Q28. Do you have any comments you would like to add on long term credit received under the EIB-Global loan scheme? Your thoughts will be valued.

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Thank you for taking the time to complete this survey.

I appreciate that your time is valuable. So has been your contribution.

APPENDIX D ORIGINAL ENTREPRENEURSHIP SCALE

How many new lines of products or services has your firm marketed in the past 5 years?		
a. No new lines of products or services	1 2 3 4 5 6 7	Very many new lines of products or services
b. Changes in products or service lines have been mostly of a minor nature	1 2 3 4 5 6 7	Changes in products or service lines have usually been quite dramatic
In general, the top managers of my firm favor ……..		
A strong emphasis on the marketing of tried and true products or services	1 2 3 4 5 6 7	A strong emphasis on R & D, technological leadership, and innovations
In dealing with its competitors, my firm ……		
Typically responds to actions which competitors initiate	1 2 3 4 5 6 7	Typically initiates actions which competitors then respond to
Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1 2 3 4 5 6 7	Is very often the first business to introduce new products/services administrative techniques, operating technologies etc.
Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture	1 2 3 4 5 6 7	Typically adopts a very competitive "undo-the-competitors" posture
In general, the top managers of my firm ……		
Have a strong proclivity for low-risk projects (with normal and certain rates of return)	1 2 3 4 5 6 7	Have a strong proclivity for high-risk projects (with chances of very high returns)
In general, the top managers of my firm …….		
Believe that, owing to the nature of the environment, it is best to explore it gradually via careful, incremental behavior	1 2 3 4 5 6 7	Believe that, owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives
When confronted with decision-making situations involving uncertainty, my firm……		
Typically adopts a cautious, "wait-and-see" posture in order to minimize the probability or making costly decisions.	1 2 3 4 5 6 7	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.

APPENDIX E: Descriptive Statistics of Key Variables

	WAPI	LC	Comp	InnoV	Risk	Proc	EB	Host	Dyn	Age	SC
Mean	3.306	0.403	0.622	0.665	0.733	0.787	0.701	2.813	3.218	12.87	0.723
Standard Error	0.106	0.011	0.032	0.028	0.032	0.028	0.023	0.146	0.068	0.81	0.066
Median	3.400	0.420	0.643	0.661	0.786	0.857	0.728	3.000	3.250	13.00	1.000
Mode	3.506	0.480	0.571	0.625	0.857	1.000	0.728	3.800	3.500	18.00	1.000
Standard Deviation	0.727	0.074	0.217	0.195	0.219	0.193	0.155	1.001	0.465	5.53	0.452
Sample Variance	0.528	0.006	0.047	0.038	0.048	0.037	0.024	1.002	0.216	30.59	0.204
Kurtosis	0.255	-0.718	-0.149	-0.294	0.221	-0.566	-0.225	-1.009	0.084	-0.82	-0.978
Skewness	0.264	-0.685	-0.395	-0.588	-1.063	-0.523	-0.681	-0.504	-0.779	0.12	-1.032
Range	3.200	0.240	0.857	0.732	0.786	0.714	0.554	3.200	1.750	23.00	1.000
Minimum	1.800	0.240	0.143	0.232	0.214	0.286	0.379	1.000	2.000	4.00	0.000
Maximum	5.000	0.480	1.000	0.964	1.000	1.000	0.933	4.200	3.750	27.00	1.000
Sum	155.384	18.930	29.214	31.232	34.429	37	32.969	132.200	151.250	605.00	34.000
Count	47	47	47	47	47	47	47	47	47	47	47

APPENDIX F: Correlation Matrix (N=47)

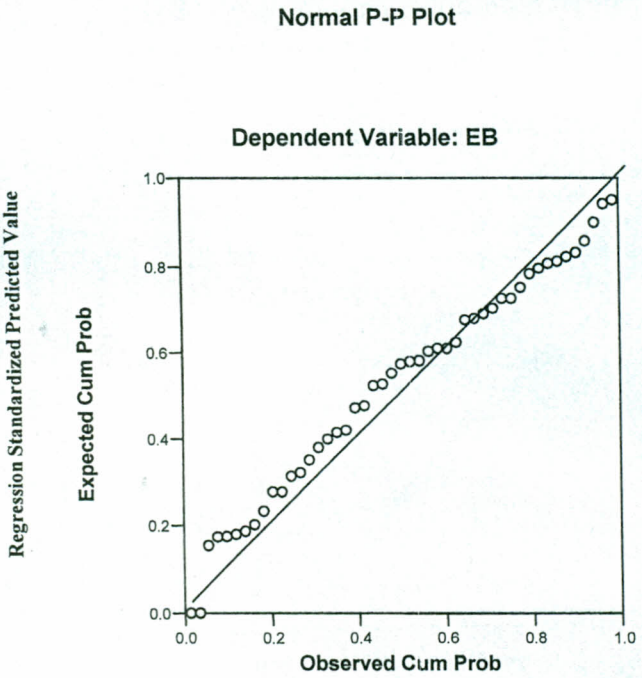
	PF	LC	Com	Innov	Risk	Proc	EB	SC	Host	Dyn	Age
PF	1										
LC	.351(*)	1									
Com	.404(**)	.676(**)	1								
Innov	0.228	.575(**)	.540(**)	1							
Risk	.405(**)	.595(**)	.493(**)	.525(**)	1						
Proc	.326(*)	.523(**)	.398(**)	.407(**)	0.146	1					
EB	.458(**)	.791(**)	.818(**)	.816(**)	.737(**)	.630(**)	1				
SC	0.248	.340(*)	.381(**)	.373(**)	0.177	.343(*)	.421(**)	1			
Host	-.605(**)	-0.116	-.428(**)	-0.111	-.295(*)	0.067	-0.268	-0.201	1		
Dyn	.506(**)	.369(*)	0.162	0.182	0.192	.373(**)	.298(*)	-0.043	-0.033	1	
Age	.400(**)	.298(*)	.328(*)	0.133	.324(*)	0.196	.333(*)	0.179	-.332(*)	.406(**)	1

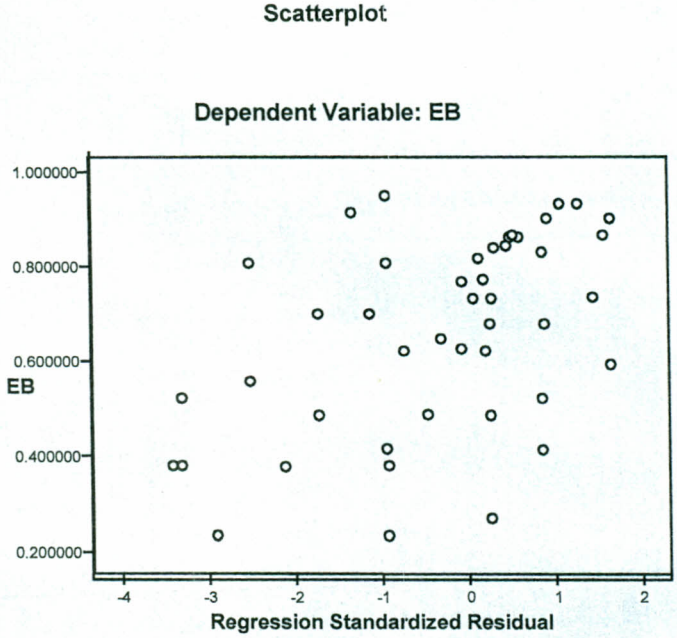
* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

APPENDIX G NORMAL P-P PLOT AND SCATTER PLOT

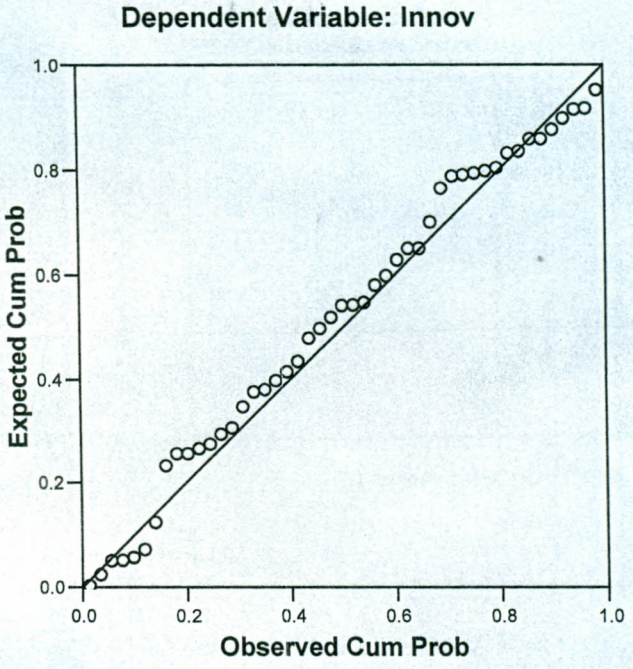
Equation 3.1 $EB = \alpha_0 + \alpha_1 LC + \alpha_2 Host + \alpha_3 Dyn + \alpha_4 SC + \pi$



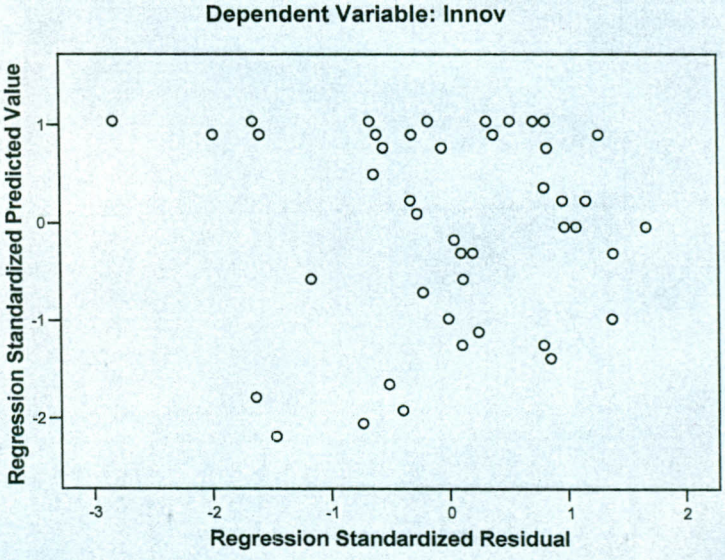


Equation 3.2 $\quad InoV = \beta_0 + \beta_1 LC + \beta_2 Host + \beta_3 Dyn + \beta_4 SC + \theta$

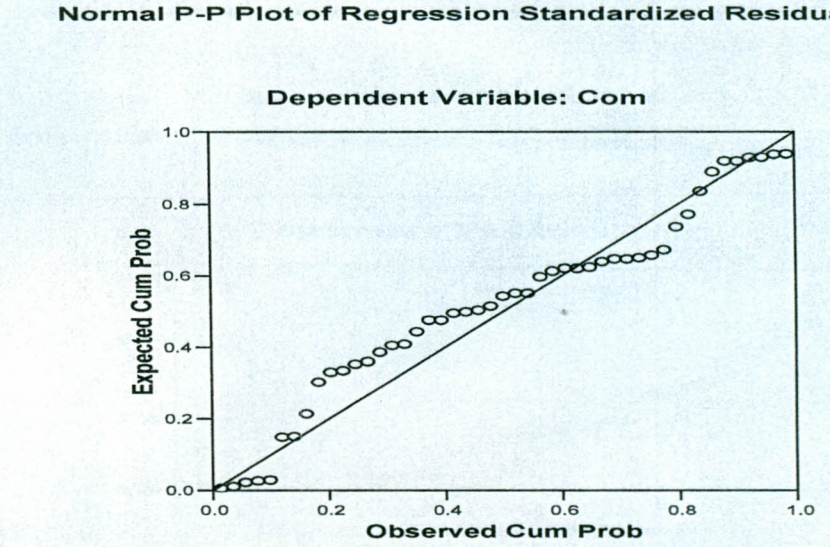
Normal P-P Plot of Regression Standardized Residual

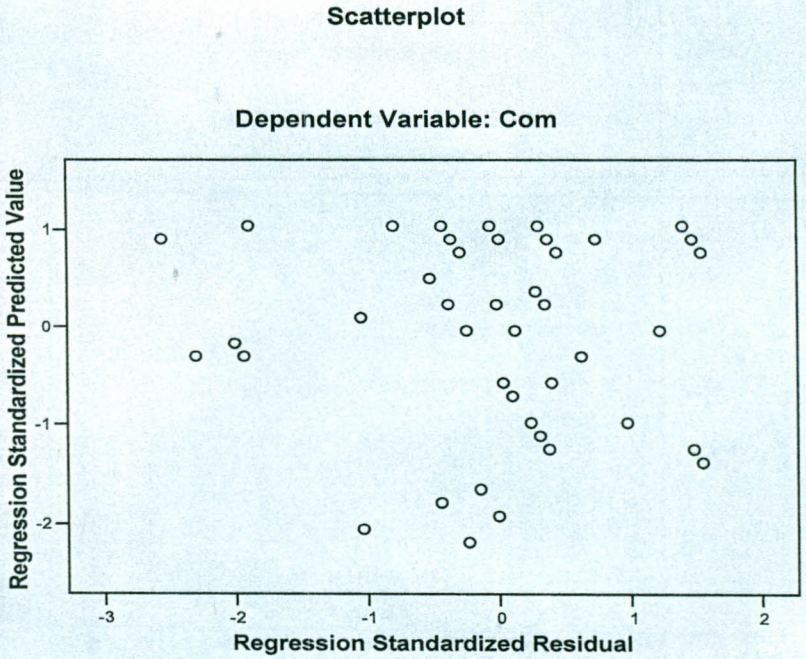


Scatterplot

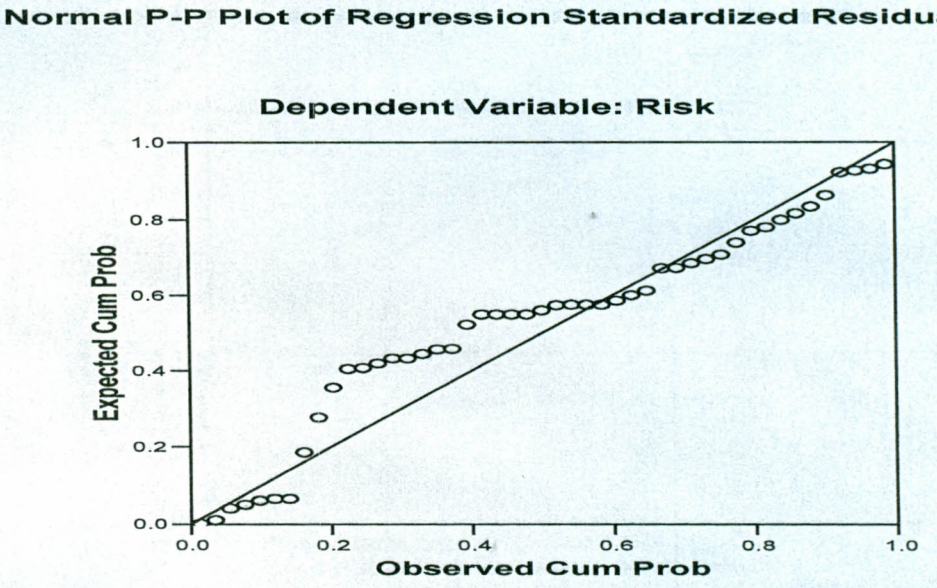


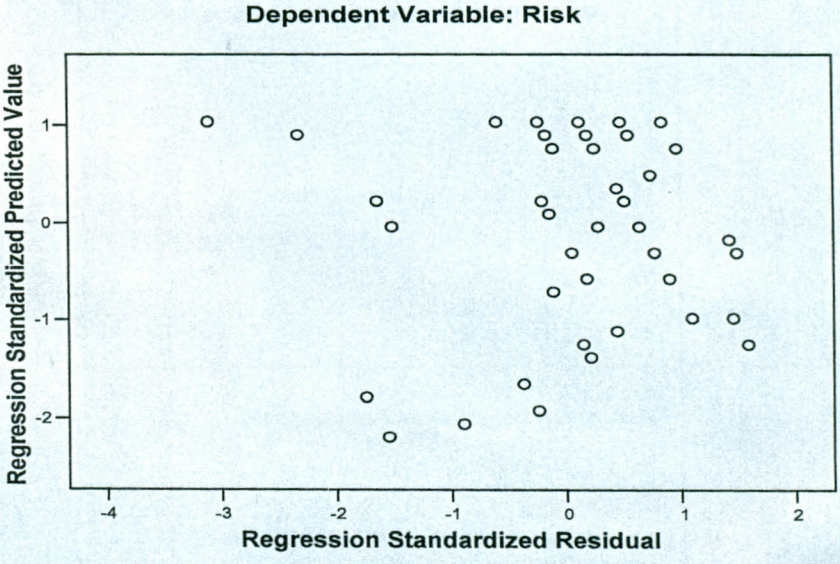
Equation 3.3 $\text{Comp} = \eta_0 + \eta_1 LC + \eta_2 Host + \eta_3 Dyn + \eta_4 SC + \mu$





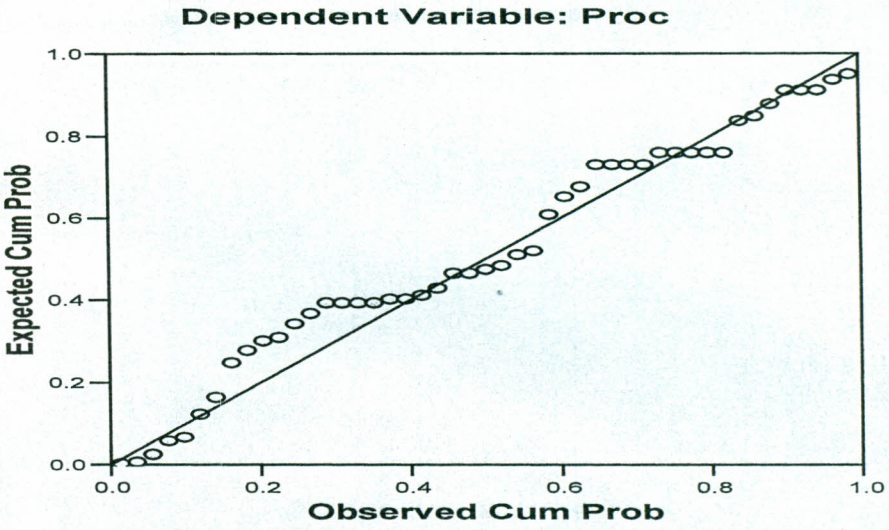
Equation 3.4 $\quad$ Risk = $\quad \Omega_0 + \Omega_1 LC + \Omega_2 Host + \Omega_3 Dyn + \Omega_4 SC + \sigma$



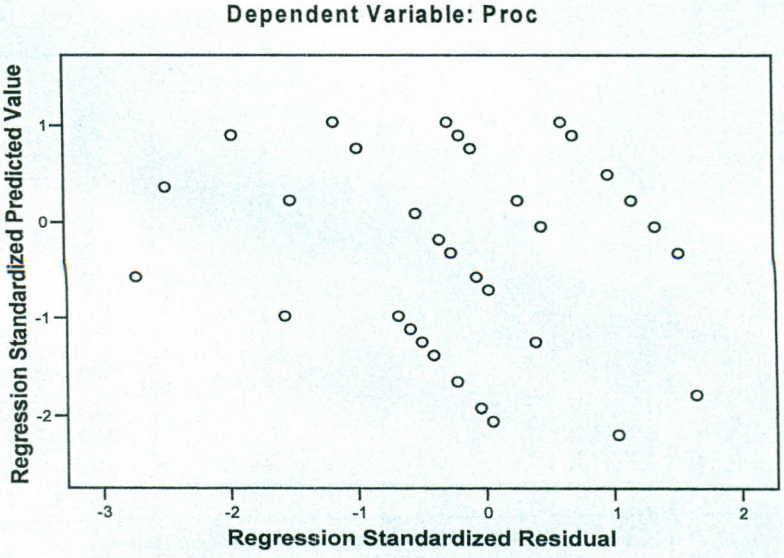


Equation 3.5 $\quad Proc = \omega_0 + \omega_1 LC + \omega_2 Host + \omega_3 Dyn + \omega_4 SC + \tau$

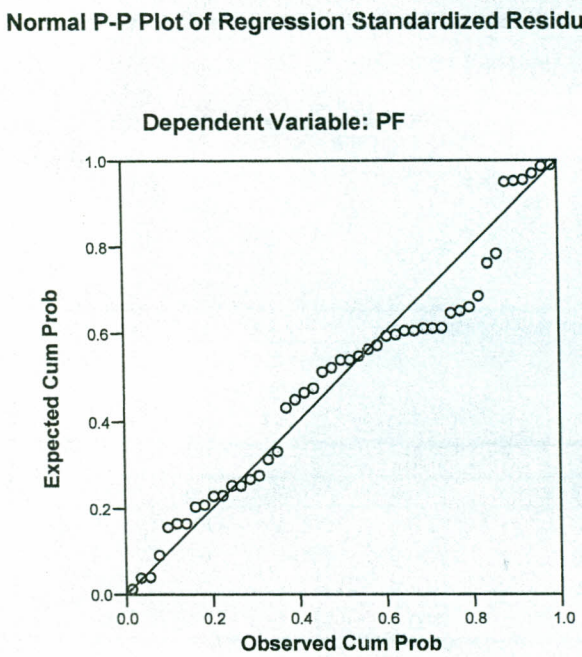
Normal P-P Plot of Regression Standardized Residual

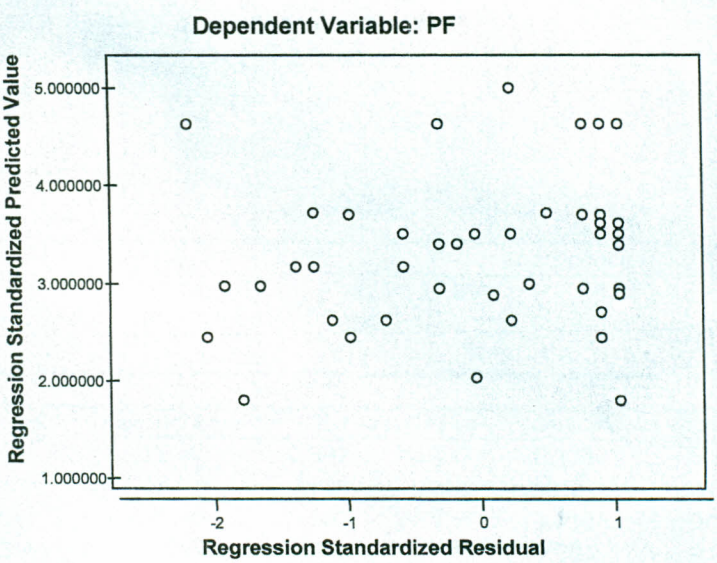


Scatterplot



Equation 3.6 $PF = \delta_0 + \delta_1 LC + \delta_2 Age + \delta_3 Host + \delta_4 Dyn + \psi$





Insert appendix H results of regression analysis

ENDIX H: RESULTS OF HIERARCHICAL REGRESSION ANALYSIS

tion 3.1 $EB = \alpha_0 + \alpha_1 LC + \alpha_2 Host + \alpha_3 Dyn + \alpha_4 SC + \pi$

MARY OUTPUT

egression Statistics	
ple R	0.55
quare	0.31
sted R Sq	0.26
dard Erro	0.13
ervations	47

Step 1: Regess EB on Control Variables (SC, Host, Dyn)

0.69 1.444056

VA

	df	SS	MS	F	Significance F
ression	3	0.340	0.113	6.365	0.001
dual	43	0.765	0.018		
l	46	1.105			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
cept	0.349	0.158	2.206	0.033	0.030	0.669	0.030	0.669
	0.136	0.044	3.068	0.004	0.047	0.226	0.047	0.226
ility	-0.028	0.020	-1.375	0.176	-0.069	0.013	-0.069	0.013
amism	0.103	0.042	2.434	0.019	0.018	0.188	0.018	0.188

MARY OUTPUT

egression Statistics	
ple R	0.82
quare	0.68
sted R Sq	0.64
dard Erro	0.09
ervations	47

Step 2: Enter LC in the regression equation

0.32 3.08486

VA

	df	SS	MS	F	Significance F
ession	4	0.747	0.187	21.891	0.000
dual	42	0.358	0.009		
l	46	1.105			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
cept	0.097	0.116	0.837	0.407	-0.136	0.330	-0.136	0.330
	0.015	0.002	6.908	0.000	0.010	0.019	0.010	0.019
	0.052	0.033	1.560	0.126	-0.015	0.119	-0.015	0.119
ility	-0.024	0.014	-1.720	0.093	-0.053	0.004	-0.053	0.004
amism	0.013	0.032	0.404	0.689	-0.052	0.078	-0.052	0.078

uation 3.2 $\mathbf{InoV = \beta_0 + \beta_1 LC + \beta_2 Host + \beta_3 Dyn + \beta_4 SC + \theta}$

MMARY OUTPUT

Regression Statistics	
iple R	0.42
quare	0.18
sted R Squ	0.12
dard Error	0.18
ervations	47

Step 1: Regess InoV on Control Variables (SC, Host, Dyn)

OVA

	df	SS	MS	F	Significance F
gression	3	0.314	0.105	3.139	0.035
idual	43	1.433	0.033		
al	46	1.747			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
rcept	0.297	0.217	1.369	0.178	-0.140	0.734	-0.140	0.734
	0.162	0.061	2.665	0.011	0.039	0.285	0.039	0.285
tility	-0.006	0.028	-0.202	0.841	-0.062	0.050	-0.062	0.050
namism	0.083	0.058	1.427	0.161	-0.034	0.200	-0.034	0.200

MMARY OUTPUT

Regression Statistics	
ltiple R	0.606
Square	0.367
justed R Squ	0.307
andard Error	0.162
bservations	47

Step 2: Enter LC in the regression equation

0.63 1.57954

NOVA

	df	SS	MS	F	Significance F
egression	4	0.641	0.160	6.085	0.001
esidual	42	1.106	0.026		
otal	46	1.747			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
tercept	0.070	0.203	0.346	0.731	-0.339	0.480	-0.339	0.480
C	0.013	0.004	3.524	0.001	0.006	0.021	0.006	0.021
C	0.086	0.058	1.480	0.146	-0.031	0.204	-0.031	0.204
ostility	-0.002	0.025	-0.093	0.927	-0.052	0.048	-0.052	0.048
ynamism	0.002	0.056	0.034	0.973	-0.112	0.116	-0.112	0.116

ıation 3.3 $\text{Comp} = \eta_0 + \eta_1 LC + \eta_2 Host + \eta_3 Dyn + \eta_4 SC + \mu$

MARY OUTPUT

gression Statistics	
ple R	0.548
uare	0.301
sted R !	0.252
dard Er	0.188
ervation	47

Step 1: Regess Comp on Control Variables (SC, Host, Dyn)

OVA

	df	SS	MS	F	Significance F
ression	3	0.653	0.218	6.164	0.001
idual	43	1.519	0.035		
l	46	2.173			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
rcept	0.486	0.223	2.178	0.035	0.036	0.936	0.036	0.936
	0.152	0.063	2.425	0.020	0.026	0.278	0.026	0.278
tility	-0.079	0.029	-2.755	0.009	-0.136	-0.021	-0.136	-0.021
namism	0.077	0.060	1.283	0.206	-0.044	0.197	-0.044	0.197

MMARY OUTPUT

Regression Statistics			
ltiple R	0.772		
Square	0.596	0.40	2.4764
djusted R !	0.558		
andard Er	0.145		
bservation	47		

Step 2: Enter LC in the regression equation

NOVA

	df	SS	MS	F	Significance F
egression	4	1.295	0.324	15.502	0.000
esidual	42	0.877	0.021		
otal	46	2.173			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
tercept	0.169	0.181	0.934	0.356	-0.196	0.534	-0.196	0.534
C	0.019	0.003	5.544	0.000	0.012	0.025	0.012	0.025
C	0.045	0.052	0.877	0.385	-0.059	0.150	-0.059	0.150
ostility	-0.074	0.022	-3.368	0.002	-0.118	-0.030	-0.118	-0.030
ynamism	-0.037	0.050	-0.729	0.470	-0.138	0.065	-0.138	0.065

ıation 3.4 **Risk =** $\Omega_0 + \Omega_1 LC + \Omega_2 Host + \Omega_3 Dyn + \Omega_4 SC + \sigma$

MARY OUTPUT

egression Statistics	
ple R	0.371
uare	0.137
sted R Sq	0.077
dard Erroı	0.211
ervations	47

Step 1: Regess Comp on Control Variables (SC, Host, Dyn)

risk

VA

	df	SS	MS	F	ignificance F
ression	3	0.303	0.101	2.283	0.093
idual	43	1.905	0.044		
l	46	2.209			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
ercept	0.561	0.250	2.246	0.030	0.057	1.065	0.057	1.065
	0.064	0.070	0.917	0.364	-0.077	0.206	-0.077	0.206
stility	-0.058	0.032	-1.811	0.077	-0.123	0.007	-0.123	0.007
namism	0.089	0.067	1.336	0.189	-0.045	0.224	-0.045	0.224

MMARY OUTPUT

Regression Statistics			
ltiple R	0.642		
Square	0.412	0.59	1.70024
djusted R Sq	0.356		
andard Erroı	0.176		
bservations	47		

Step 2: Enter LC in the regression equation

risk

NOVA

	df	SS	MS	F	ignificance F
egression	4	0.910	0.227	7.353	0.000
esidual	42	1.299	0.031		
otal	46	2.209			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
ntercept	0.253	0.220	1.149	0.257	-0.191	0.697	-0.191	0.697
C	0.018	0.004	4.427	0.000	0.010	0.026	0.010	0.026
C	-0.039	0.063	-0.619	0.539	-0.166	0.088	-0.166	0.088
lostility	-0.053	0.027	-1.997	0.052	-0.107	0.001	-0.107	0.001
)ynamism	-0.021	0.061	-0.339	0.736	-0.144	0.103	-0.144	0.103

Equation 3.5 **Proc =** $\omega_0 + \omega_1 LC + \omega_2 Host + \omega_3 Dyn + \omega_4 SC + \tau$

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.541
R Square	0.293
Adjusted R !	0.243
Standard Er	0.168
Observation	47

Step 1: Regess proc on Control Variables (SC, Host, Dyn)

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.500	0.167	5.927	0.002
Residual	43	1.209	0.028		
Total	46	1.709			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.053	0.199	0.267	0.791	-0.348	0.455	-0.348	0.455
SC	0.167	0.056	2.992	0.005	0.054	0.280	0.054	0.280
Hostility	0.031	0.025	1.209	0.233	-0.021	0.082	-0.021	0.082
Dynamism	0.164	0.053	3.073	0.004	0.056	0.271	0.056	0.271

SUMMARY OUTPUT

Regression Statistics			
Multiple R	0.621		
R Square	0.386	0.61	1.6286577
Adjusted R !	0.328		
Standard Er	0.158		
Observation	47		

Step 2: Enter LC in the regression equation

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	0.660	0.165	6.601	0.000
Residual	42	1.049	0.025		
Total	46	1.709			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.105	0.198	-0.531	0.598	-0.504	0.294	-0.504	0.294
LC	0.009	0.004	2.528	0.015	0.002	0.017	0.002	0.017
SC	0.114	0.057	2.012	0.051	0.000	0.229	0.000	0.229
Hostility	0.033	0.024	1.378	0.175	-0.015	0.082	-0.015	0.082
Dynamism	0.107	0.055	1.951	0.058	-0.004	0.218	-0.004	0.218

Equation 3.6 $PF = \delta_0 + \delta_1 LC + \delta_2 Age + \delta_3 Host + \delta_4 Dyn + \psi$

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.79
R Square	0.63
Adjusted R !	0.59
Standard Er	0.46
Observation	47

Step 1: Regess PF on Control Variables (Age, SC, Host, Dyn)

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	15.237	3.809	17.659	0.000
Residual	42	9.060	0.216		
Total	46	24.297			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
ntercept	1.781	0.551	3.230	0.002	0.668	2.894	0.668	2.894
Age	-0.003	0.014	-0.177	0.860	-0.032	0.027	-0.032	0.027
SC	0.258	0.157	1.647	0.107	-0.058	0.575	-0.058	0.575
Hostility	-0.413	0.075	-5.538	0.000	-0.563	-0.262	-0.563	-0.262
Dynamism	0.786	0.163	4.813	0.000	0.456	1.115	0.456	1.115

Regression Statistics			
Multiple R	0.79		
R Square	0.63	0.37	2.70925
Adjusted R !	0.59		
Standard Er	0.47		
Observation	47		

Step 2: Enter LC in the regression equation

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	15.329	3.066	14.016	0.000
Residual	41	8.968	0.219		
Total	46	24.297			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.661	0.585	2.838	0.007	0.479	2.843	0.479	2.843
Age	-0.003	0.015	-0.237	0.814	-0.033	0.026	-0.033	0.026
SC	0.219	0.169	1.299	0.201	-0.122	0.560	-0.122	0.560
LC	0.007	0.011	0.647	0.521	-0.015	0.029	-0.015	0.029
Hostility	-0.412	0.075	-5.496	0.000	-0.564	-0.261	-0.564	-0.261