

**Entrepreneurial Orientation Effects on Business Performance of Small
and Medium Enterprises in Information Technology Sector in Nairobi**

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DECLARATION

This Thesis is my original work and has not been presented for a degree in any other University

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DEDICATION

This Thesis is dedicated to, first and foremost, my Parents Dad Benson and the late Mama Rebecca and my wife Elizabeth whose love, strength, perseverance and patience enabled me to face and overcome the many challenges and confrontations throughout my doctoral studies; and second, to my employer, The Kenya Power Company Limited who facilitated financial support and time for the course of study.

ACKNOWLEDGEMENT

Conducting research can be viewed as entrepreneurial behavior. In the process of producing a thesis you are the founder-owner-manager and have the freedom to create and innovate, but you must also take responsibility for the choices you make and for completing your work on time. In this thesis I have had the opportunity to choose what I wish to work on, where, when, with whom, and how. This freedom has given me joyous moments in encountering new issues, learning in the process, and forging connections with numerous other entrepreneurs.

Experience and knowledge of the field are the basic prerequisite driving any innovative and successful entrepreneur. In the conduct of this academic inquiry, my supervisors, Dr. Elegwa Mukulu and Dr Maurice Sakwa provided me with invaluable guidance and facilitation throughout the entire thesis process. I express my gratitude for their time, comments, suggestions and effort in evaluating and enhancing my work. Cooperation with peers has been considered a source of innovation by many entrepreneurs. Accordingly, my discussions with colleagues and other scholars have benefited me greatly, in my efforts to develop and accomplish my thesis research. I give special thanks to them all. In addition to human resources, financing is central to successful enterprising. I wish to thank my employer, The Kenya Power Company Limited for supporting me financially throughout the research process and finally I would like to thank my dear wife Elizabeth and our sons Dick, Edwin Brian and Cliff who were there to give moral support, encouragement and prayers. I am grateful to have you on my side.

ABSTRACT

Entrepreneurial Orientation has significant influence on firm performance more so for small and medium firms operating under globalization and internationalization and regional integration regimes. Globalization results in expanded markets, characterized by increased number of competition, and shrinking market size. This global competition, increasing interdependence, rapid technology development, unstable environments, and many other factors exerts greater pressure on small and medium firms accustomed to operating under a domestic market set-up. To overcome the challenges associated with globalization, eminent scholars in other parts of the world have recommended that firms adopt entrepreneurial orientation as a solution to the challenges brought about by globalization. It is on this basis that this study sought to determine the influence of entrepreneurial orientation on the performance of small and medium enterprises in the information and communications technology sector. The study sought to answer the question of what shaped entrepreneurial orientation in SMEs in a developing country context and to answer the question of what contributed to performance for SMEs.

This study utilized data from 160 randomly selected small and medium firms in the information and communications technology sector in Nairobi. To test the firm performance effects of entrepreneurial orientation, the scales for the dimensions of EO and firm performance were adopted from the existing literature. A series of reliability and validity tests are conducted for the measurement of the scales. Factor analysis, correlation and multiple regression analysis were conducted in testing the hypotheses.

The study findings revealed that contextual factors did potentially shape entrepreneurial orientation and that certain entrepreneurial orientation dimensions and contextual factors were associated with entrepreneurial performance. These findings suggest that an increase in potential performance is possible through individual behaviour associated with an entrepreneurial orientation. The findings support the conclusion that an increase in earnings potential is possible through individual behaviour associated with an entrepreneurial orientation and learning related factors.

This research demonstrated a potential positive return on human and financial capital in SMEs and recommends that assistance with regard to finance, or initial investment for these enterprises will enable higher earnings for SMEs. The provision of assistance to entrepreneurial enterprises needs a strong understanding of processes of growth and change in these enterprises to avoid potential mismatches between policy measures and the needs of these enterprises. The specific alignment of policy maker assistance with the entrepreneurial orientation and SMEs might be enabled through further research into the more detailed mechanisms of how entrepreneurial performance can be enabled.

The study recommends that SME owner-managers implement strategies that enhance their enterprises' level of entrepreneurial orientation, i.e. the firm's propensity to possess a strong organizational commitment to engage in and support new ideas, novelty, experimentation, and creative processes that result in new products, services or technological processes. The study recommends that the Government develops policies and training programs to enhance the level of innovation in Kenyan SMEs.

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ABBREVIATIONS AND ACRONYMS

BDS	-	Business Development Services
CBS	-	Central Bureau of Statistics
CCK	-	Communications Commission of Kenya
DWPW	-	Days Worked Per Week
EO	-	Entrepreneurial Orientation
GOK	-	Government of Kenya
HWPD	-	Hours Worked Per Day
ICT	-	Information Communications Technology
ILO	-	International Labour Organization
MSE	-	Micro and Small Enterprises
NIC	-	Newly Industrialized Country
NGO	-	Non Governmental Organization
OECD	-	Organization for Economic Cooperation and Development
SME	-	Small and Medium Enterprise
TESPOK	-	Telecommunication Service Providers of Kenya

DEFINITION OF TERMINOLOGIES

For this study, the following definitions for the key terms and concepts are as follows:

Small and Medium Enterprises (SME) The Kenyan definition of SMEs in terms of employment consists of: Micro enterprises – from 0 to 9 employees; Small enterprises – from 10 to 49 employees; Medium enterprises – from 50 to 149 employees; and large enterprises – from 150 and over while the Sessional Paper set a limit of 50 workers for the small-medium enterprises in Kenya (GOK, 1992). This study used firms employing less than 50 workers, referred to as micro and small enterprises.

Entrepreneurship Entrepreneurship is a dynamic process of innovation and new-venture creation, and includes the assumption of the risks and rewards of the new venture (Hisrich & Peters, 1989). Entrepreneurial attitudes and behaviour include: the motivation to achieve and compete; taking ownership and being accountable; being open to new information, people, practices, etc.; being able to tolerate ambiguity and uncertainty; creative and flexible thinking, problem-solving and decision making; the ability to see and capture opportunities; awareness of the risks attached to choices and actions; and the capacity to manage and ultimately reduce risks (Timmons & Spinelli, 2007).

Entrepreneurial Orientation Entrepreneurial Orientation is the propensity of firms to be innovative, be proactive to marketplace opportunities, and be willing to take risks (Lumpkin & Dess, 1996).

Innovation A strong organizational commitment to “engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services or technological processes (Lumpkin & Dess, 1996).

Risk-taking This is the degree to which managers are willing to take bold actions by venturing into the unknown, borrowing heavily and or committing significant resources to ventures in uncertain environments (Rauch *et al.*, 2009).

Proactiveness An “opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment” (Lumpkin & Dess, 2001).

Contextual (Situational) factors Elements of culture, work experience, education, environment created by institutions and government agencies that contribute towards the promotion of entrepreneurship within a national economy

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

The Micro and Small Enterprises (MSE) sector in Kenya has always occupied a pivotal position in the development of the economy. The sector is a primary source of employment and income. It expanded from employing 3.7million people in 1999 to 5.1 million in 2002 according to a Sessional Paper No. 3 of 2004 (GoK, 2005).

Research has shown that the MSE concept has been known in Kenya since 1972 when the International Labour Organization (ILO) introduced it. However, it was not until 1990 that the Kenya Government formulated ways of implementing it in a much publicized nationwide campaign (Baseline survey 1999). The role of MSE in Kenya's development process is significant, particularly in the context of generating employment, wealth creation and income opportunities to thousands of people across the country (Maragia, 2008, KIPPRA, 2007).

The importance of MSEs to the Kenyan economy cannot be over emphasized. Even in developed economies of the UK and U.S.A., micro and small enterprises make a great contribution to employment generation and creation of wealth, invoking great interest in many Governments. A study by David Ferrand argues that MSEs offer a solution to the problem of employment generation and economic imbalances (Aoulou & Fayole, 2005). In Kenya, the information and telecommunication sector is experiencing

growth and given the goals of the industry, it is believed to have potential (KIPPRA, 2006).

An entrepreneur is one who organizes, manages and assumes the risks and reaps the benefits of starting a new entrepreneurial venture, is a role model in a society, who creates something new, something different, always “searching for change, responding to it, and exploiting it” (Baron, 2007). The reputation of entrepreneurs from developed countries in the European Union (EU), rest of Europe and USA is remarkable. In America for instance, entrepreneurs are respected for their role in creating new jobs, providing new competition to existing businesses, improving product quality, reducing prices, introducing new goods and services through innovation and technology advancement. For example, Bill Gates, through Microsoft has contributed immensely towards information technology. Suffice it to say entrepreneurship has formed the basis for advancement in technology through creation of new job-markets (Aoulou & Fayole, 2005; Bwisa & Gacuhi, 1997).

The concept of micro and small enterprises (MSEs) is not new in many developing countries. According to the Kenya 1999 National Baseline Survey report, micro and small enterprises have been defined as businesses employing up to 50 workers. By employment, it does not necessarily refer merely to the payment of wages; it includes those engaged in the activities of the business. It should be noted that the Kenya, micro enterprises are businesses employing up to ten workers including the owner while small enterprises employ more than 10 and up to 50 workers (McCormick,

2001; GoK, 2005). MSEs in Kenya grew from 910,000 in 1993 to about 1.3 million in 1999, accounting for up to 74.2% of the total employment. MSE contribution to GDP increased from 13.85% in 1993 to 18.4% in 2002 according to Sessional Paper No. 3 of 2004 (GoK, 2005). Small enterprises started at family level have grown to contribute to national revenues by way of taxes and in South East Asian countries like Japan, India, Korea and China; they have contributed immensely towards creation of new goods and services (Maragia, 2008).

Market failure has constrained MSE development in Kenya as in many developing countries in areas of access to information, finance, labour skills and business development services (BDS) necessary for competitiveness and productivity. Lack of information and experience in transactions is a common factor that hinders the progress of MSEs towards the willingness to take risks. Nevertheless, Kenya with its long private sector tradition has significant potential to establishing sustainable support services. Demand-driven approaches are likely to bring forth a sustainable supply response (Bwisa, 1998).

However, it is important to mention that many agencies, NGOs, ILO, Government of Kenya (GOK) and the international community have tried and stimulate Kenyan entrepreneurship. Nonetheless, some of the funding and technical assistance given to business people in cooperative societies in the 1980s, for example, brought little or no capacity to attain modern economic discipline and business standards. It proved futile and a waste of money and other development resources. Indeed, it pointed to the

necessity of seeking ways to develop entrepreneurial behaviour among a critical mass of Kenya entrepreneurs. The Kenya government would need to ascertain that if developed, these factors would lead to the desired result. It is anticipated that if measures are put in place to ensure that MSE entrepreneurs have access to finance, the skills required to cope with market demands and market linkages, their access to resources for growth would be facilitated (Njiru & Cheruyoit, 2006). Also required in this regard are a reduction of critical investment climate constraints, helping MSEs to exploit opportunities and overcome bottlenecks by obtaining training, preparing business plans and strategic planning and reducing the cost of compliance with business regulations.

1.1 Overview of Entrepreneurial Orientation

Entrepreneurship has long been viewed as an engine that drives innovation and promotes economic development. In today's intensifying global competition, increasing interdependence, rapid technology development, unstable environments, and many other factors have highlighted the need for organizations to become more entrepreneurial in order to survive and prosper. An organization's survival and success require continuous organizational renewal, innovation, risk-taking, and pro-activeness –the dimensions of entrepreneurial orientation (Lumpkin & Dess, 2001; Rauch *et al.*, 2009).

Entrepreneurial orientation (EO) is the strategy making practices that firms use to identify and launch ventures. It represents a frame of mind and a perspective about entrepreneurship that are reflected in a firm's ongoing processes and corporate culture (Lumpkin, 2001). Knight (1997) cited in Rauch *et al.*(2009), avers that firms which

operate within a dynamic regime, which do not have the right frame of mind and perspective, encounter difficulties in enhancing their performance and competitiveness. Firms are therefore, encouraged to embrace entrepreneurial orientation to excel and overcome the challenges.

According to Esbach (2009) citing Stevenson and Jarillo (1990), conceptions of entrepreneurship are considered to be bounded by three dimensions that relate to three questions: the “why”, the “how” and the “what” of entrepreneurship; these correlate to psychology and sociology, management and economics. Elements of the entrepreneurial orientation construct are considered to be developed according to this how dimension, an entrepreneurial orientation being related to how to succeed entrepreneurially. It is argued that this orientation includes components that could be developed or learned in the same manner envisioned by Stevenson and Jarillo (1990) as relating to the domain of management. Opportunity is a necessary condition for entrepreneurship, yet not a sufficient condition: the individual is important in that the opportunity needs to be taken up and this is related to factors unique to the individual (Shane & Venkataraman, 2000; Madsen, 2007). It is argued that certain contextual factors and entrepreneurial orientation dimensions do contribute performance of MSEs, and that entrepreneurial orientation is shaped by contextual factors.

Entrepreneurial behaviour, as represented by entrepreneurial orientation, is taken to constitute “a potential source of competitive advantage” (Jantunen *et al.*, 2005). Entrepreneurial behaviour contributes to performance differentially along the

dimensions of Proactiveness, Innovativeness and Risk Taking Propensity according to specific context (Lumpkin & Dess, 2001).

1.2 Problem Statement

Entrepreneurship is relevant in promoting innovation leadership in businesses in different countries. Kenyan vision 2030 emphasizes the need for appropriate entrepreneurship strategy for wealth creation as one of the means to make Kenya a globally competitive and prosperous nation. Nevertheless, factors influencing entrepreneurial activities are not clear. Policy makers need to understand the factors in order to come up with viable policies and development programs to promote entrepreneurship in the country. However, social scientist have not yet agreed on the determinant of entrepreneurial behaviour yet policy makers need to know the determinants in order to come up with viable policies that create an enabling environment for innovation and business competitiveness. The establishment of validated determinants of entrepreneurship could be of much help to the government to intervene in the economic development.

According to McGrath and McMillan (2000), it is important to fully understand what constitutes and drives entrepreneurial behaviour if such activities are to be motivated. Whereas studies conducted in other countries have attributed lack of entrepreneurial dynamism to deficiency in factors that influence entrepreneurial behaviour, studies in Kenya mainly concentrate on failures of micro and small

enterprises, also known as informal sector (Maragia, 2008). However, the local studies do not refute the fact that some businesses have fallen victim to failure due to other factors such as poor legal and regulatory frameworks, family business influence, gender and infrastructure. These additional factors make the Kenya context somewhat complex and difficult; different from those of developed countries.

According to Maragia (2008), there is a pronounced lack of information gap about why many Kenyan entrepreneurs do not flourish in their micro and small endeavours. Available literature attributes this to lack of entrepreneurial skills, education and experience amongst entrepreneurs (Maragia, 2008). It is therefore necessary to conduct a study in Kenya to determine the extent to which entrepreneurial behaviour are conditioned by contextual factors, which have been applied and practiced successfully in other countries such as U.S.A, Japan, India and China. This study therefore seeks to bridge this gap by investigating the contextual factors that shape entrepreneurial behaviour and the contribution of entrepreneurial orientation to performance of Kenyan SMEs.

What contextual factors shape entrepreneurial orientation in SMEs and its potential contribution to performance has been little researched. The investigation of contextual factors that shape entrepreneurial orientation and of the contribution of entrepreneurial orientation to performance of SMEs might improve insight into the phenomenon of entrepreneurship.

1.3 Study Objective

The main objective of the study was to investigate the influence of entrepreneurial orientation on the performance of small and medium enterprises (SMEs) in the Information and Communications Technology Sector.

1.3.1 Specific Objectives

This study addressed the following specific objectives:

- 1 To determine which contextual factors shape innovativeness as a dimension of entrepreneurial orientation in managers of SMEs in the ICT Sector in Nairobi
- 2 To determine which contextual factors shape proactiveness as a dimension of entrepreneurial orientation in managers of SMEs in the ICT Sector in Nairobi
- 3 To determine which contextual factors shape risk-taking propensity as a dimension of entrepreneurial orientation in managers of SMEs in the ICT Sector in Nairobi
- 4 To investigate the extent to which Entrepreneurial Orientation dimensions and contextual factors influence performance of SMEs in the ICT sector in Nairobi

1.4 Research Questions

The study was guided by the following research questions, which will be answered as the conclusion emerges:

1. What contextual factors shape Innovativeness as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?
2. What contextual factors shape Proactiveness as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?
3. What contextual factors shape Risk-taking propensity as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?
4. To what extent do contextual factors and entrepreneurial orientation dimensions contribute to increased entrepreneurial performance as measured by increased earnings and satisfaction in SMEs in the ICT Sector in Nairobi?

1.5 Hypotheses

The following three hypotheses were formulated to answer the research questions

- 1 *Null Hypothesis 1 (H_0):* There is no significant association between Entrepreneurial Orientation and ICT SMEs contextual factors.

Alternative Hypothesis 1 (H_1): There is a significant association between Entrepreneurial Orientation and ICT SMEs contextual factors.

- 2 *Null Hypothesis 2 (H_0):* There is no significant association between Entrepreneurial Orientation, Entrepreneurial Orientation dimensions, or ICT SMEs contextual factors, and Gross Earnings.

Alternative Hypothesis 2 (H₁): There is a significant association between Entrepreneurial Orientation, Entrepreneurial Orientation dimensions or ICT SMEs contextual factors and Gross Earnings.

- 3 *Null Hypothesis 3(H₀):* There is no significant association between Entrepreneurial Orientation, Entrepreneurial Orientation dimensions, or ICT SMEs contextual factors, and Continuance Satisfaction.

Alternative Hypothesis 3(H₁): There is a significant association between Entrepreneurial Orientation, Entrepreneurial Orientation dimensions or ICT SMEs contextual factors and Continuance Satisfaction.

1.6 Justification of the Study

Norman and Nieuwenhuizen (2009) model of entrepreneurship development avers that for entrepreneurship to thrive within a National economy, it would take the entire society comprising of governments, academic institutions, fiancé institutions and communities in general to carve an overall social environment that is conducive to entrepreneurship. In view of the above, potential to stakeholders are highlighted:

1.5.1 Researchers and Academia

At universities and other institutions that conduct research, the study findings will contribute to the pool of additional literature. This study will contribute to the entrepreneurship literature by focusing on the type of firms that are the centre of

entrepreneurship research, that is, SMEs. The first contribution is to advance the understanding of how entrepreneurial orientation can be beneficial to firms in improving their performance.

1.5.2 Entrepreneurs

At the SME level, this study will sensitize the entrepreneurs of the sector to understand what factors that shape entrepreneurial behaviour and enhance business performance, which factors the entrepreneurs will embrace to grow their enterprises. Successful completion of the study will contribute towards a better understanding of the sources of competitive advantage for SMEs. The SMEs will thus improve the sources of competitive advantage in to order build a sustainable entrepreneurial orientation and further firm performance.

1.5.3 Policy Makers

The outcome of this research will provide government with information that can be used as inputs for policy development which are focused on entrepreneurship.

1.5.4 Contribution to Theory

This study sought to assess the level to which SMEs are entrepreneurial according to a measurement of entrepreneurial orientation. An investigation was made into which

entrepreneurial dimensions were associated with entrepreneurial performance. It is argued that these are important findings, which significantly extend contemporary entrepreneurial theory into MSE in a Kenyan context. The insight generated would avail a deeper knowledge of entrepreneurship and enterprise. This insight would in turn contribute to an opportunity to understand entrepreneurial theory within a dynamic context that is currently changing.

According to Davidsson (1991), entrepreneurial knowledge should focus on the phenomenon of continued entrepreneurship in order to be able to develop more theory, as the mechanisms that underlie the behaviour of entrepreneurship are not sufficiently understood. The Kenyan context provides insights into continued entrepreneurship. This allows for the extension of and testing of internationally developed theory relating to the behaviour of entrepreneurship within the local environment with regard to local participants.

1.6 Limitations of the Study

Since it was not possible to study all variables influencing adoption of EO by SMEs in ICT sector in Kenya at once, this study was designed to generate understanding of the interaction effects of EO and enterprise performance. The sample population was drawn from a segment of small business firms in the information technology sector in Nairobi.

Included in the limitations are both the sample population and the individual participants. Care should be taken in generalizing the results of this study because the competitive situations and/or growth of small business activity here may be different in

other parts of the country. The study relies on perceptual data provided by one person from each firm, typically the owner, or CEO of the small firm. The simple majority of cases involved the business owner. Individual managers have their perceptual biases and cognitive limitations in viewing their firms and environment. The small business owner often views his business as an extension of his/her personality intricately bound with family needs, relationships, and desires. Though objective data is generally difficult to obtain from small businesses, future research efforts may want to design or use objective data to encourage confidence in the reported analysis.

An additional limitation may be in the measurement of the dependent variable of firm performance. The measures used pertained to the satisfaction with the firm performance areas of sales growth rate, market share, operating profits, profit to sales ratio, market development, and new product development. There may be other measures or dimensions that are better indicators of firm performance.

1.7 Outline of the Dissertation

Chapter one gave an introduction and a justification for the research and outlined the aims and objective of the study. The gap in knowledge relating to the lack of a consideration of entrepreneurial orientation within the SMEs in a developing country context was discussed. The research questions were introduced and the chapter concluded with a consideration of the limitations of the research with regard to generalization. Research hypotheses were outlined and the scope of the study was discussed

Chapter two presents a broad overview of entrepreneurship and entrepreneurial orientation theory focusing on the specific entrepreneurial orientation dimensions of Proactiveness, innovativeness and risk taking propensity. A review of literature relating to entrepreneurial performance and its components: gross earnings and continuance satisfaction follows. The literature is reviewed within the framework offered by the research questions in terms of relevance, and predicted associations as derived from the literature. The chapter further reviews the SMES sector and provides a broad overview of the Kenyan ICT SMEs sector. Contextual factors are explored with regard to the literature in terms of their potential contribution to shape the dimensions of an entrepreneurial orientation and in terms of their contribution to entrepreneurial performance.

The consideration of the methodology of the study is undertaken in chapter three. The chapter begins by placing the research within certain research paradigms. The population from which respondents are drawn is considered in terms of geographic demarcation and an estimation of the size of the population is made. The drawbacks of cross-sectional versus longitudinal research, causality limitations and challenges posed by self-selection are briefly discussed. Data collection processes are considered in terms of ethical considerations, sampling processes, sample size calculation, sampling protocol and the method of interviewing. The instrument is considered in terms of its design, scale construction, piloting, reliability, and validity. The chapter concludes with a consideration of the processes of the data analysis in terms of statistical testing procedures, confidence limits of the statistical testing, Cronbach's alpha, and multiple

linear regression processes.

Chapter four reports the results of the testing process, and the results of the tested hypotheses. Descriptive statistics, the results of the statistical tests and diagnostic processes are reported. Discussions of the results of the empirical research testing theory that related contextual factors to entrepreneurial orientation dimensions are done. The results of the testing relating contextual factors and entrepreneurial orientation dimensions to entrepreneurial performance and the discussion of the results of the hypothesis testing process is undertaken with reference to the research questions.

Chapter five concludes the research process with a summary of the empirical research results. Issues for further research are considered. Conclusions relating to the discussion of the testing of the theory, the implications for the research question, with issues for further research being considered according to new questions raised by the research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter gives an overview of small and medium enterprises in Kenya. The theoretical literature broadly relating to entrepreneurship and literature more specifically relating to entrepreneurial orientation and entrepreneurial performance is reviewed. Entrepreneurship theory is broadly reviewed, particularly conceptions of entrepreneurship in behavioral terms. Various dimensions of entrepreneurial orientation are considered in terms of the understanding offered by Lumpkin and Dess (2001) - innovativeness, pro-activeness and risk taking propensity. This is followed by a consideration of the dimensions of entrepreneurial performance as assessed by earnings and continuance satisfaction.

2.1 Overview of Small and Medium Enterprises in Kenya

The Micro and Small Enterprises sector in Kenya has always occupied a pivotal position in the development of the economy. The sector is a primary source of employment and income. It expanded from employing 3.7million people in 1999 to 5.1 million in 2002 according to a recent report Sessional Paper No. 3 of 2004 (GoK, 2005). Research has shown that the MSE concept has been known in Kenya since 1972 when the Internal Labour Organizational (ILO) introduced it. However, it was not until 1990 that the Kenya Government formulated ways of implementing it in a much publicized

nationwide campaign (CBS, 1999). The role of MSE in Kenya's development process is significant, particularly in the context of generating employment, wealth creation and income opportunities to thousands of people across the country (Makokha, 2006). The importance of MSEs to the Kenyan economy cannot be over emphasized. Even in developed economies of the UK and U.S.A., micro and small enterprises make a great contribution to employment generation and creation of wealth, invoking great interest in many Governments. A study by Baron (2007) avers that MSEs offer solutions to the problem of employment generation and economic imbalances. MSEs are created by and are home to entrepreneurs.

An entrepreneur is a role model in a society, one who creates something new, something different, always searching for change, responding to it, and exploiting it (Maragia, 2008). The reputation of entrepreneurs from developed countries in the European Union (EU), rest of Europe and USA is remarkable. In America for instance, entrepreneurs are respected for their role in creating new jobs, providing new competition to existing businesses, improving product quality, reducing prices, introducing new goods and services through innovation and technology advancement. For example, Bill Gates, through Microsoft has contributed immensely towards information technology. Suffice it to say entrepreneurship has formed the basis for advancement in technology through creation of new job-markets (Baron, 2007).

The concept of micro and small enterprises (MSEs) is not new in many developing countries. According to the Kenya 1999 National Baseline Survey report,

micro and small enterprises have been defined as businesses employing up to 50 workers. By employment, it does not necessarily refer merely to the payment of wages; it includes those engaged in the activities of the business. It should be noted that the Kenya, micro enterprises are businesses employing up to ten workers including the owner while small enterprises employ more than 10 and up to 50 workers (GoK, 2005). Table 1 below gives definitions of micro, small and medium enterprises (MSME) in Kenya.

Table 1 Table Kenya SME Definitions

ENTITY <i>(Trade, service, industry or business activity)</i>	NO. OF EMPLOYEES/ PEOPLE	ANNUAL TURNOVER LIMIT	INVESTMENT IN PLANT AND MACHINERY + REGISTERED CAPITAL	EQUIPMENT INVESTMENT + REGISTERED CAPITAL
Micro enterprise	Less than 10 people	Not exceeding Ksh. 500,000	Not exceeding Ksh. 10M	Not exceeding Ksh. 5M
Small enterprise	More than 10 but less than 50	Between Ksh. 500,000 to Ksh. 5M	More than 10M but less than 50M	More than 5M but less than 20M
Medium Enterprise	More than 50 but less than 100	Between Ksh. 5M to 800M	<i>Not specified in the draft bill</i>	<i>Not specified in the draft bill</i>
Micro, Small and Medium (MSME)	Less than 100			

Source: MSME Bill 2009

MSEs in Kenya have grown from 910,000 in 1993 to about 1.3 million in 1999 and the number is expected to have grown further, accounting for up to 74.2% of the total employment. MSE contribution to GDP increased from 13.85% in 1993 to about 18.4% in 2002 (Sessional Paper No. 3 of 2004). Small enterprises started at family level have grown to contribute to national revenues by way of taxes. Small enterprises in South

East Asian countries like Japan, India, Korea and China have contributed immensely towards creation of new goods and services.

Market failure has constrained MSE development in Kenya as in many developing countries in areas of access to information, finance, labour skills and business development services (BDS) necessary for competitiveness and productivity. Lack of information and experience in transactions is a common factor that hinders the progress of MSEs towards the willingness to take risks. Nevertheless, Kenya with its long private sector tradition has significant potential to establishing sustainable support services. Demand-driven approaches are likely to bring forth a sustainable supply response to market failures (Bwisa, 2001). It is anticipated that if measures are put in place to ensure that MSE entrepreneurs have access to finance, the skills required to cope with market demands and market linkages, their access to resources for growth would be facilitated. Also required in this regard are a reduction of critical investment climate constraints, helping MSEs to exploit opportunities and overcome bottlenecks by obtaining training, preparing business plans and strategic planning and reducing the cost of compliance with business regulations.

Micro and Small entrepreneurs in Kenya, both men and women, have attempted to express their desire to improve and expand, but majority of them have given up; others remain stagnant or collapse. This is most likely due to deficiencies in entrepreneurial skill, education, experience, amongst other factors that determine entrepreneurial behavior (Maragia, 2008). The absence of these factors have been found

to limit the capacity of individuals to comprehend their requirements in the present competitive business environment and the necessity to adopt technology-for example computers, Internet and e-commerce.

In recognition of the importance of MSEs' role in economic development, many agencies, NGOs, ILO, Government of Kenya (GOK) and the international community have tried and stimulate Kenyan entrepreneurship. Nonetheless, some of the funding and technical assistance given to business people in cooperative societies in the 1980s, for example, brought little or no capacity to attain modern economic discipline and business standards. It proved futile and a waste of money and other development resources. Indeed, it pointed to the necessity of seeking ways to develop the factors that shape entrepreneurial behaviour among a critical mass of Kenya entrepreneurs. The Kenya government would need to ascertain that if developed, these factors would lead to the desired result.

Whereas studies conducted in other countries have attributed lack of entrepreneurial dynamism to deficiency in factors that influence entrepreneurial behavior, studies in Kenya mainly concentrate on failures of micro and small enterprises. However, the local studies do not refute the fact that some businesses have fallen victim to failure due to other factors such as poor legal and regulatory frameworks, family business influence, gender and infrastructure. These additional factors make the Kenya context somewhat complex and difficult; different from those of developed countries (Maragia, 2008). It is therefore necessary to conduct a study in

Kenya to find out the extent to which entrepreneurial behaviors are conditioned by the factors, which have been practiced successfully in such countries as U.S.A, Japan, India and China. There is a pronounced lack of information about why many Kenyan entrepreneurs do not flourish in their micro and small endeavors. Available literature merely attributes this to lack of entrepreneurial skills, education and experience amongst entrepreneurs.

2.2 Theoretical Framework

Schumpeter (1934) cited in Aloulou and Fayolle (2005) highlighted that entrepreneurship is about combining resources in new ways (such as the introduction of new products with higher quality, with new methods of production, breakthroughs in new market, conquests of new sources of supply of raw materials and reorganization of a new sector) that disrupts the market equilibrium in economic systems. Other theorists have defined entrepreneurship as the ability to channel creative innovations into ventures that have value as well as ability to create and sell new idea and building new businesses (Wood *et al*, 2004). Complementary to the above definition, Madsen (2007) citing Churchill (1992) and Shane and Venkataraman (2001) presents that entrepreneurship is about searching for opportunities and/or processes that uncover and develop opportunities. Drucker (1999) cited in Esbach (2009) claims that despite the huge interest in the subject of entrepreneurship since its inception, a definition of entrepreneurship is hard to pin down because of the different descriptions used by a

multitude of authors. Whatever the definition of entrepreneurship is adopted by various authors, this author agrees with the essence that entrepreneurship is about wealth creation as advocated by Ireland, Hill, Camp & Sexton (2001) cited in Wang (2008).

According to Baron and Ward (2004), the selection of the “appropriate basis for defining and understanding the entrepreneurial person creates a challenging problem for academic researchers and writers”. Baron and Ward (2004) propose that different schools of entrepreneurial thought can be categorized according to research relating to: personal characteristics; the recognition and pursuit of opportunities; a management perspective; and the adaptation process used by existing ventures such as the process of intrapreneurship.

Entrepreneurial literature is reviewed in this section according to theorists that focus on the individual, the enterprise, enterprise behaviour and the entrepreneurial context. A discussion of broad categorizations of entrepreneurial theory relating to the individual in entrepreneurship ensues before a discussion of entrepreneurship as enterprise or firm behaviour.

2.2.1 The Individual

According to Herron and Sapienza (1992) cited in West *et al* (2008), the individual entrepreneur is the most important unit of analysis in entrepreneurial research since it is these individuals that start new organizations. West *et al* (2008) offer a conceptual model of entrepreneurship with the individual as central to entrepreneurship research,

and that considers personality traits and behaviours that are influenced by contextual factors, including values, skills and the potential for learning. Individual skills are more of a primary factor than personality traits, and the interaction of these factors is important according to West *et al* (2008).

Differences exist with regard to theoretical conceptions of individual factors and entrepreneurship. In terms of the individual dimensions of entrepreneurship, the origins of definitions of entrepreneurship extend to Cantillon's definition of an entrepreneur as "a rational decision maker who assumes the risk and provides management for the firm" (Carland *et al.*, 1988). Mill's focus on risk as a separation factor of entrepreneurs from managers is another early seminal contribution to entrepreneurial theory (Mill, cited in Carland *et al.*, 1988). They stress the creation of a venture as a cornerstone of the definition of an entrepreneur.

2.2.2 The Enterprise

In contrast to the theories of individual-based factors that impact the entrepreneurial process, Covin and Slevin (1991) take a firm-behaviour perspective, reasoning that firm behaviour represents action and measurability, and that a firm's behaviour can be managed. Covin and Slevin (1991) offer a model of entrepreneurship with firm performance as the dependent variable, with clearly defined variables relating to environmental, organizational and individual factors, and including moderator effects as well as direct effects.

Innovation, pro-activeness and risk taking are utilized as measures of

entrepreneurship in a study of the relationship between entrepreneurship and enterprise typologies undertaken by Miller (1983). Theorists offer various different factors as determinants of entrepreneurship, including personality factors; psychodynamic characteristics; socio-cultural background factors; environmental and structural factors; decision making; and structure according to Miller (1983). Miller (1983) cited in Wang (2008) argues that the factors that determine entrepreneurship need to be contextualized according to the type of enterprise that entrepreneurship is explored.

According to Stevenson and Jarillo (1990) entrepreneurship theory can be understood as having certain dimensions: the “why” dimension associated with psychology and other sciences that seek to explain why entrepreneurship occurs and the “how” of entrepreneurship which represents enterprise behaviour. According to Stevenson and Jarillo (1990) enterprise behaviour can therefore be learned. This learned enterprise behaviour, or “how” of entrepreneurship, according to Stevenson and Jarillo (1990), is associated with the field of management. An entrepreneurial orientation represents entrepreneurial behaviour, which can be exhibited by enterprises or by individuals, according to Lumpkin and Dess (1996) cited in Wang (2008). Enterprise behaviour is therefore relevant to entrepreneurship, according to these conceptions.

2.2.3 The Entrepreneurial Context

In terms of the above understandings, research has developed to include three broad areas of entrepreneurship theory: theory relating to the individual, to the enterprise, and

to contextual or environmental factors. Shane (1996) is an example of a theorist that extends research to all three of these areas. Shane's (1996) research includes the following variables influencing levels of entrepreneurship: the traits attributed to the entrepreneurial founders; internal factors of the firm; and external contextual or environmental factors. This dissertation tests theory relating to all three of these areas; it offers an integrated process of testing theory relating to the individual, to entrepreneurial behaviour in terms of entrepreneurial orientation and to context in terms of tested contextual factors. According to Covin and Slevin (1991) the entrepreneurial process can be viewed as an entrepreneurial posture that impacts firm performance, with three groups of factors that have a strong effect on this entrepreneurial posture: external variables, strategic variables and internal variables.

After a study of 3562 enterprises and entrepreneurial orientation comprising proactiveness, innovativeness and risk taking propensity, within the Chinese enterprise context, Chow (2006) makes the point that it "should be noted that the highly significant negative correlation with the environment and entrepreneurial orientation confirms that a favourable environment is effective" in promoting enterprise entrepreneurship. This supports an argument that a consideration of the entrepreneurial environment is important for entrepreneurship research.

In terms of the entrepreneurship literature relating to different conceptions around the individual entrepreneur, enterprise behaviour, and the entrepreneurial environment, the following section extends the review of literature to a more specific consideration of the dimensions of an entrepreneurial orientation.

2.3 Entrepreneurial Orientation

Entrepreneurship is taken to be characterized by certain processes or characteristics related to the pursuit of opportunity, associated with individuals or enterprises: an entrepreneurial orientation (Lumpkin and Dess, 2001). An entrepreneurial orientation is therefore taken to represent the process of pursuing and seizing opportunity along defined dimensions. Entrepreneurial orientation supports “opportunity recognition in new markets” (Jantunen *et al.*, 2005), and according to Lumpkin and Dess (2001), an entrepreneurial orientation “refers to the processes, practices, and decision making activities”, that lead to the essential act of entrepreneurship, involving intentions and actions. Entrepreneurial orientation has five dimensions - innovativeness, autonomy, pro-activeness, competitive aggressiveness and risk taking propensity (Lumpkin and Dess, 1996). However three of these – innovativeness, pro-activeness and risk taking propensity are explored.

According to Stevenson and Jarillo (1990), conceptions of entrepreneurship might be considered to be bounded by three dimensions that relate to three questions: the “why”, the “how” and the “what”, relating to psychology and sociology, management, and economics respectively. It is argued that an entrepreneurial orientation might be developed or learned in the same manner as envisioned in Stevenson and Jarillo (1990) as relating to the domain of management.

Deriving from Lumpkin and Dess (2001) and Stevenson and Jarillo (1990), it is argued that the dimensions of entrepreneurial orientation are behavioural processes that are amenable to development and learning, and are therefore associated with differing

levels of educational or learning related contextual factors. Naldi *et al.* (2007) argue that many EO studies use a one-dimensional summated construct rather than a multidimensional one and that our findings suggest that EO may better be viewed as a multidimensional measure where the impact of the dimensions may vary across different organizational contexts". The relationship between the dimensions of entrepreneurial orientation and the total entrepreneurial orientation construct might therefore have necessitated these being tested separately. Accordingly, in this research, each entrepreneurial orientation dimension is tested separately. The total entrepreneurial orientation construct is also tested. Close attention is paid to context; to the extent that context is expressly tested in terms of its potential to shape entrepreneurial orientation and as to its contribution to entrepreneurial performance.

A consideration of contingency, or taking context into account, is necessary to gauge factors that might have an effect on the entrepreneurial orientation to performance relationship, in that certain environments are less suited to behaviour that might be too entrepreneurial in relation to the environment (Lumpkin & Dess, 1996). According to the perspective of Miller (1983), various different factors as determinants of entrepreneurship need to be contextualized according to the type of enterprise that entrepreneurship is explored in relation to. The specific entrepreneurial orientation dimensions: innovativeness, proactiveness and risk taking propensity are discussed next.

2.3.1 Innovativeness

For Schumpeter (2002), the “purest type of entrepreneur genus” is “the entrepreneur who confines himself most strictly to the characteristic entrepreneurial function, the carrying out of new combinations”, in a word: innovation. According to Lumpkin and Dess (1996) innovativeness reflects a tendency for an enterprise “to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes”. Innovation is an important means of pursuing opportunities and so is an important component of an entrepreneurial orientation (Lumpkin & Dess, 1996).

Lumpkin and Dess (1996) justified the use of innovativeness as a dimension of an entrepreneurial orientation in that it “reflects an important means by which firms pursue new opportunities”. This is congruent with the fundamental perspective taken in this study: that the pursuit of opportunity is a conception at the core of entrepreneurship as argued by Stevenson and Jarillo (1990). An entrepreneurial orientation is therefore considered to represent dimensions associated with learned behaviours reflected in the processes carried out by individuals that are fundamentally important key elements in the pursuit of opportunity.

Innovation can be classified into two types: product market innovation and technological innovation according to Lumpkin and Dess (1996). The most useful classification of innovations is according to the dimensions of product/market innovation and technological innovation, although a certain degree of overlap might exist in reality. Innovation represents a continuum ranging from willingness to try new

innovations to a serious commitment to innovation (Lumpkin & Dess, 1996).

In enterprises various measures of innovation might exist, such as resources allocated to research and development, in addition to measures such as the number of new product or service introductions and how often changes are introduced in this regard (Lumpkin & Dess, 1996). Certain measures have been used to operationalize innovation as a research variable such as the number of new product or service introductions, and changes in offerings (Lumpkin & Dess, 1996). Within the context of the ICT SMEs, this latter conception is utilized to represent a measure of innovativeness in this context. If most innovativeness manifested in this ICT SMEs context is competence enhancing, then a positive and significant association between innovativeness and increased earnings would be expected.

2.3.2 Proactiveness

Proactiveness is related to initiative and first-mover advantages and to “taking initiative by anticipating and pursuing new opportunities” (Lumpkin & Dess, 1996). Akin to a dictionary definition of “acting in anticipation of future problems, needs, or changes”, Lumpkin and Dess argue that proactiveness may be “crucial to an entrepreneurial orientation because it suggests a forward-looking perspective that is accompanied by innovative” and entrepreneurial activity.

In terms of this, proactiveness is considered according to range of conceptions, and the implications of these according to predicted associations are outlined.

Proactiveness is associated with leadership, and not following, as a proactive enterprise “has the will and foresight to seize new opportunities, even if it is not always the first to do so”, according to Lumpkin and Dess (1996). However, being a first entrant into a market is not necessarily a guarantee of a durable competitive pioneer advantage, according to Cahill (1996), but is associated with mixed results. According to the conception of Cahill (1996), increased earnings might not necessarily be predictably associated with higher levels of proactiveness. This would depend on whether this specific context is appropriate to proactiveness as a dimension of entrepreneurial orientation (Lumpkin & Dess, 1996). In terms of a specific conception of proactiveness, Lumpkin and Dess (1996) suggest a conceptualization of proactiveness as a continuum, whereby the opposite extreme of proactiveness is regarded as passiveness rather than reactiveness. According to this, passiveness is the “indifference or an inability to seize opportunities or lead in the marketplace” (Lumpkin & Dess, 1996). Proactiveness, however, is associated with a response to competitors, and is therefore different from passiveness (Lumpkin & Dess, 1996.). Passiveness is therefore expected to be associated with lower gross earnings due to there being less commitment on the part of a less entrepreneurial, less proactive individual to the development of market share. The development of market share is therefore considered to represent proactiveness in this work. Following this line of reasoning, it is predicted that proactiveness will to some degree be positively and significantly associated with increased earnings.

High levels of entrepreneurial orientation support opportunity recognition and opportunity creation according to Jantunen *et al.* (2005). Therefore, the reconfiguration

of an asset base to match the requirements of changing environments should enhance performance; yet being active may not necessarily imply efficiency (Jantunen *et al.*, 2005). An interpretation could be that proactive changes might not necessarily be efficient, or that earnings might not always be improved through proactive reconfiguration of resources if efficiency is not increased. In certain contexts, therefore, proactiveness might not be associated with increased earnings if the specific context does not allow for proactiveness to have an effect on efficiency. According to this, a proactive orientation might not necessarily always be associated with increased earnings or performance

If proactiveness (Lumpkin and Dess, 1996) is associated with “seizing initiative and acting opportunistically in order to shape the environment, that is, to influence trends” and increase demand, then growth willingness is considered to represent the intent of proactiveness. Growth willingness is a measure of the degree to which the intention to increase demand exists, and growth willingness is therefore taken to represent a measure of proactiveness. Growth willingness for an entrepreneur may be influenced by education directly and indirectly: directly because individuals “with higher education are likely to have higher aspirations in general, and indirectly through more self-confidence in managing growth and a better ability to spot growth opportunities” (Davidsson, 1989). A positive and significant association between educational contextual factors and proactiveness is predicted in terms of this

Some optimum level of proactiveness as contributing to performance might be expected to exist in terms of a specific context (Coulthard, 2007; Lumpkin & Dess,

1996). Proactiveness is therefore predicted to be positively associated with education related factors, to the extent that growth willingness is taken to be a measure of proactiveness. Education related factors are expected to shape proactiveness - a positive association between proactiveness and education related factors are expected.

2.3.3 Risk Taking Propensity

Methods or styles of management associated with risk taking are an indication of an entrepreneurial orientation (Lumpkin & Dess, 1996). In terms of the owner-manager being the unit of analysis in terms of the manifestation of entrepreneurial orientation in the ICT SME, cognitive orientation in terms of entrepreneurial behaviour is considered with regard to risk taking propensity. A cognitive orientation that minimizes conceptions of regret and reflection may be displayed by entrepreneurs more so than non-entrepreneurial individuals, according to Baron and Ward (2004). Brockhaus, (1980), cited in Baron (2007) avers that the psychological theories of locus of control and need for achievement both theoretically endow the entrepreneur with a moderate degree of risk tolerance, yet the perceived risk from the vantage point of a confident individual might be lower than the degree of risk perceived by others. The psychological theories of locus of control and need for achievement were associated with a moderate level of risk taking propensity, according to Brockhaus (1980), and an internal locus of control and a high need for achievement have been associated with higher performance by individuals. This might predict that a moderate level of risk taking propensity would be

associated with higher levels of performance. However, in terms of different contexts, the effects of the dimensions of entrepreneurial orientation, including risk taking propensity, were expected to differ in terms of their effect on performance according to the specific context (Lumpkin & Dess, 1996).

Lumpkin and Dess (1996) suggest that future research might demonstrate that “risk taking and autonomy are needed for all types of new entry, but that innovativeness, proactiveness, and competitive aggressiveness are present only under certain conditions”. This would predict that, within the Kenyan ICT SMEs context, some minimum level of effect within any entrepreneurial context would be expected to exist with regard to risk taking.

According to Lumpkin and Dess (1996) cited in Wang (2008) a problem suggested by prior research is that entrepreneurs simply don't “see” the risks that others see, or, alternatively, they see non-entrepreneurial behaviour as “far more risky”. All activities might be understood to entail a degree of risk, ranging from low risk behaviour such as investing in bank deposits to high risk behaviour such as engaging heavy financial leverage (Lumpkin & Dess, 1996). A high level of financial leverage, however, may not be enough in itself to classify an enterprise as entrepreneurial along the dimension of risk taking (Miller, 1983). Risk is also experienced in terms of innovatively expanding into untried technologies or entering new markets with new products; effectively, risk is a fundamental aspect of entrepreneurship (Lumpkin & Dess, 1996). The analysis of how risk is operationalized in research reveals a differing use of terms such as risk propensity, risk perceptions, risk preferences and different

understandings of risk (Lumpkin & Dess, 1996). According to Lumpkin and Dess (1996) risk taking propensity is a behavioural dimension of an entrepreneurial orientation along which opportunity is pursued.

Brockhaus (1980) defined risk taking propensity as “the perceived probability of receiving the rewards associated with success of a proposed situation, which is required by an individual before he will subject himself to the consequences associated with failure, the alternative situation providing less reward as well as less severe consequences than the proposed situation”. Lumpkin and Dess (1996) relate the origins of the conception of the bearing of personal risk to the early entrepreneurial literature that regarded entrepreneurs as individuals that worked for themselves, which is of relevance to ICT SME owner-manager.

Lumpkin and Dess (1996) stress the inability of researchers “to find consistent patterns when investigating risk taking associated with entrepreneurship”, in that “numerous investigators have reported inconsistencies” with regard to risk-taking propensity. Entrepreneurial risk can be divided into components, these including the “general risk taking propensity of a potential entrepreneur” and the perceived probability of failure, with the first accessible to research across individuals due to the differences in individual venture probabilities for success and failure (Brockhaus, 1980). General risk taking propensity can therefore be used for comparisons in research (Brockhaus, 1980). In terms of the complexity inherent in the manifestation of entrepreneurial behaviour, risk taking propensity is taken to represent one of the five dimensions that make up an entrepreneurial orientation (Lumpkin & Dess, 1996).

Forlani and Mullins (2000) argue that certain factors influence entrepreneurial decisions relating to start ups; these factors include risk perceptions, contextual effects and the traits of individual entrepreneurs. According to Forlani and Mullins (2000) risk perception is motivated by funding levels, outcome variability and potential losses. In terms of this it is predicted that risk perception as a component of risk taking propensity might be associated with funding levels, or initial investment. In terms of this conception of Forlani and Mullins (2000) significant association might be predicted between risk taking propensity and initial investment as a predictor of risk taking propensity.

Perceptions of risk and decision making are considered to be cognitive processes that are separate, a view that “is consistent with an abundant body of research into consumer decision-making that judgments about products and services and choices among them involve distinct cognitive operations” (Forlani & Mullins, 2000). Entrepreneurs may be associated with certain cognitive errors such as excessive confidence and control illusions: positive affective states that can affect perceptions and judgment, according to Baron (1999). Forlani and Mullins (2000) argue that entrepreneurs are biased in their risky decision making which could “result in decisions which lengthen the already daunting odds for venture success”. If a higher level of risk taking propensity was associated with a higher level of bias, and if this bias were not appropriate to the context, then a higher level of risk taking propensity would be expected to be associated with lower earnings.

Naldi *et al.* (2007) found risk taking as a dimension of entrepreneurial orientation (consisting of innovativeness, proactiveness and risk taking propensity) to be negatively

associated with family enterprise performance in their study of Swedish enterprises. This might predict that an association between risk taking propensity and earnings might not necessarily be positive, despite the above predicted positive association between a moderate level of risk taking propensity and earnings

The expectation of a change in security is taken to represent the extent to which financial and job security might be threatened. In their study of goals that contributed to sustained entrepreneurship, Kuratko and Hodgetts (2003) found that entrepreneurs seek “some measure of security for their families”. In terms of this, if an entrepreneur would perceive himself or herself to be financially insecure, then they might be expected to be dissatisfied with continuing in business. Therefore higher earnings are expected to be associated with higher levels of continuance satisfaction for some entrepreneurs. This is taken to support the argument that the manifestation of risk taking propensity as a dimension of entrepreneurial orientation is fundamentally shaped by context, and would therefore be predicted to contribute to entrepreneurial performance in different ways.

2.4 Contextual Factors

In this section the literature review of entrepreneurial orientation and entrepreneurship theory within the entrepreneurial context is focused on literature relating to SMEs in the ICT sector. Literature relating to entrepreneurship and the influence of context in terms of social and socioeconomic conditions is reviewed and is concluded by a review of literature relating to SMEs in the ICT sector in consideration of specific SME contextual

factors. Predicted relationships and associations are derived from the literature reviewed.

According to the importance of testing entrepreneurial orientation relationships with regard to specific contingencies (Lumpkin & Dess, 1996), contextual factors are accorded a level of importance in this work. The effects of two categories of contextual factors on shaping entrepreneurial orientation dimensions and upon the dimensions of entrepreneurial performance were investigated: learning related contextual factors and non-learning related contextual factors. If an entrepreneurial orientation is able to be learned, this the conception offered by Stevenson and Jarillo (1990) and a core argument of this work, then certain investments in education are expected to be associated with the shaping of an entrepreneurial orientation and with increased levels of earnings or/and continuance satisfaction. This conception, in so far as it relates educational contextual factors to an entrepreneurial orientation and to entrepreneurial performance, is tested in this work. Within these contexts: the context of the ICT sector and the context of the developing entrepreneur, contextual factors are explored with reference to the literature. Hypotheses are then for testing with regard to entrepreneurial orientation theory and the research questions.

The following relationships tested in terms of certain contextual factors draw from Dasgupta (2003) whereby earnings are tested as a dependent variable and initial investment, educational background, hours of work, experience in current work and age are tested as independent variables. Educational and learning related contextual factors, as derived from the literature are tested as to how they shape an entrepreneurial orientation and how they contribute to earnings and continuance satisfaction. Derived

from the literature review, the following contextual factors are investigated as to how they shape an entrepreneurial orientation and as to how they contribute to earnings and continuance satisfaction, according to the research questions.

In terms of potential discrimination and societal disadvantages, gender is included as a factor over which an individual has no control. It is expected that this factor would pick up differences associated with entrepreneurial orientation and entrepreneurial performance according to gender. Age and hours worked per day are included as factors that represent the interaction of the individual with the entrepreneurial context. Initial investment is included to measure the return on investment in financial terms and to investigate financial associations relating to entrepreneurial orientation and entrepreneurial performance. The level of tertiary education, total schooling, experience and number of training courses attended are factors investigated as to their associations with entrepreneurial orientation and entrepreneurial performance. These factors are considered to be factors associated with human capital or learning. The contribution of these contextual factors to entrepreneurial orientation and to entrepreneurial performance is considered next in terms of related theory.

2.4.1 Gender

Differences between male and female owner-managers might be relevant in terms of a differentiated contribution to entrepreneurial orientation and entrepreneurial

performance. This difference might reflect societal or other relevant factors unique to the differences between the genders. This testing of gender as a factor might also allow for an investigation of the extent to which this context could be potentially discriminatory

Researching three dimensions of entrepreneurial orientation: proactiveness, innovativeness and risk taking propensity, Chow (2006), in a study of enterprises in the Chinese context, found gender to have only a marginal effect on entrepreneurial orientation. In the Mexican context, in a study of small and medium enterprises, De Clerq and Ruis (2007) found males to display higher levels of work commitment. However, it is expected that certain discriminatory effects might have an effect that is captured along certain dimensions of enterprise research. According to this, differences between male and female entrepreneurs in terms of entrepreneurial orientation are expected to be possible, to the extent that attribution might occur in a similar manner to the effect found by Gatewood *et al.* (1995). It is thus expected that some effect of gender on entrepreneurial orientation and entrepreneurial performance cannot be ruled out.

According to Mueller (2008) self-efficacy is “a psychological state generally defined as possessing self-confidence in performing a specific task”, and self-efficacy is a key factor “in explaining why some individuals are motivated to become entrepreneurs and others are not”. Mueller (2008) found no significant difference in entrepreneurial self-efficacy between male and female postgraduate students and argues that this “is important evidence in support of the argument that times are changing”. According to this, the equality between males and females in an entrepreneurial context as relating to entrepreneurial self-efficacy might have been a result of the progressiveness of societal

change.

According to Mueller (2008), not all tasks are instrumental or “masculine” in nature. Some require expressive or “feminine” qualities. Moreover, demands on the entrepreneur change over time. According to Kibas (2006) early in the venture creation process, the searching and planning tasks demand creativity and innovation where a strong mix of masculine and feminine traits improves performance. Later in the same venture creation process, an individual (male or female) with a strong masculine orientation seems better suited for undertaking entrepreneurial tasks associated with persuading and leading others (Ngoze, 2006; Kibas, 2006)). According to this, entrepreneurial orientation might be expected to be associated with some effect relating to gender orientation.

Entrepreneurial orientation contributes to performance differently depending upon the specific contingency or context (Lumpkin & Dess, 1996). In terms of the differences found by certain of the above theorists in terms of gender, it is predicted that some differences will be found in terms of gender and the way entrepreneurial orientation is shaped by gender. Gender might therefore be associated with differences in entrepreneurial performance to the extent that predicted differences in entrepreneurial orientation might transmit an effect to entrepreneurial performance. If such differences were found, this would indicate a possible discriminatory context along the dimension of gender. Further, if this were associated with any potential advantage in terms of the effects of entrepreneurial orientation in this context for a gender group, then this would imply some potential disadvantage for the other gender group.

2.4.2 Age

Another contextual factor that might provide insight into the relationships around entrepreneurial orientation and entrepreneurial performance that is also not within the power of the individual to change is the age of an entrepreneur. Earnings typically increase with age, but at a decreasing rate and age earnings profiles “tend to be steeper among more skilled and educated persons” (Clerq & Ruis, 2007)). De Clerq and Ruis (2007) also found a positive relationship between an individual’s age and their commitment and effort in the Mexican context of small and medium sized enterprises. If commitment and effort were universally positively associated with increased earnings then this would predict that age would be associated with increased earnings, to the extent that other age related factors did not together create a net effect that worked against this positive effect. Various studies have shown a positive relationship between an entrepreneur’s level of human capital as assessed by age, education, work experience and other variables, and new firm performance (Mullei & Bokea, 1999).

According to Minniti and Levesque (2008), as individuals get older, they allocate relatively more time to waged labour and relatively less time to new firm creation “because the discount attached to each dollar of future income increases as the individual gets older and, as a result, activities requiring a time commitment before becoming income producing, such as a new firm, are penalized with respect to activities with immediate payoffs such as waged labour”. According to this, older individuals would be predicted to be less entrepreneurial. According to Minniti and Levesque (2008) conception, age would be expected to shape entrepreneurial orientation. Age would

therefore be expected to be associated with lower levels of entrepreneurial orientation.

2.4.3 Initial Investment

Maragia (2008) found that initial capital constraints significantly reduced performance for entrepreneurs. Maragia (2008) in a study on Kenyan small manufacturing enterprises in Kariobangi Light Industries found that entrepreneurs that had experienced a shortage of capital in terms of their initial business investments experienced up to 63 percent lower profits. Choices relating to entrepreneurship are constrained by access to capital and liquidity (Stevenson & St. Onge, 2005; Gakure, 2003), this also potentially having an exclusionary effect. Financial constraints can be overcome through saving, over the long run and other factors may also affect potential earnings. It is argued that an entrepreneurial orientation has the potential to increase earnings and satisfaction according to the specific context that an individual faces. It is also argued that learning occurs in a context, over time.

It is therefore predicted that initial investment would be found to be related to entrepreneurial performance: to be positively associated with earnings. Initial capital and size of the enterprise are found to influence continuance through their effect on the threshold: the total reward of extrinsic and intrinsic factors needed for the individual to continue in an entrepreneurial venture, according to Gimento *et al.* (1997). Higher initial investment is found to be associated with lower threshold levels and higher levels of size with higher thresholds by Gimento *et al.* (1997). In addition, Robb (2002) found smaller

enterprises more likely to fail than larger enterprises and he suggests that factors such as access to capital and relationships with buyers and suppliers might mitigate the influence of industry factors in terms of their impact on enterprise.

The intentions of the founding entrepreneur “determine the form and direction of an organization at its inception” according to Bird (1988). “Subsequent organizational success, development (including written plans), growth, and change are based on these intentions, which are modified, elaborated, embodied, or transformed” and this has an effect on entrepreneurial success through survival and growth.

In terms of entrepreneurship theory, Churchill and Lewis (1983) offer a framework in which businesses face similar changing sets of challenges as they move through stages of development. According to Churchill and Lewis’ (1983) conception, the first stage of enterprise development is associated with the total involvement of the entrepreneur, a lack of formal systems, and critical challenges crucial to the firm’s survival exist in the form of customer acceptance, product capability, decreasing levels of startup capital, and the pressures on the entrepreneur in terms of time and effort. This stage of development, the lowest of this framework, according to Churchill and Lewis (1983) represents challenges that need to be surmounted if the enterprise is to move to the next stage. The second stage of enterprise development (Churchill and Lewis, 1983), is associated with the challenge of generating cash flow to maintain capital or other operational assets and to sustain enough of a return to compensate the entrepreneur for his/her commitment. Churchill and Lewis (1983) argue that at this point the firm could move in one of two directions: crossing into the next stage of success or staying at the

same level, sometimes permanently. If initial investment is found to be associated with higher earnings, then constrained levels of initial investment might also constrain the potential development of an enterprise. If this is the case, then inequality in terms of unequal access to initial investment might constrain the development and up-liftment of an enterprise. The potential development of the enterprise might therefore be restrained from further stages of development suggested by Churchill and Lewis (1983).

Churchill and Lewis (1983) outline a third stage in the development of an entrepreneurial firm: the successful scenario of a consolidated operation as it is leveraged for growth. Critical challenges faced at this third stage are leverage related cash obligations, the need for management development and the need for intense strategic planning. Functional managers and operational budgeting at this third stage could enable a certain possible disengagement on the part of the entrepreneur as contrasted with the intense levels of commitment associated with the earlier stages of the development of the entrepreneurial firm (Churchill & Lewis, 1983). Localized service firms and certain franchises can often be found in this stage of development. If initial investment is related to increased cash flow in terms of increased earnings, then low levels of initial investment would represent an inherent barrier to advancement into these higher levels of entrepreneurial development.

In terms of the following conceptions: that entrepreneurs might have a different perception of risk than distanced others and, a cognitive orientation that minimizes conceptions of regret and reflection may be displayed by entrepreneurs (Baron, 2007); and that a higher level of risk propensity was associated with riskier decisions (Forlani

and Mullins, 2000), it is predicted that individuals with higher endowments of risk taking propensity would invest more in initial investment, despite this representing a riskier decision than a lower level of initial investment. A positive and significant association between risk taking propensity and initial investment is therefore expected, if an individual with a higher level of risk taking propensity does have the opportunity of investing a larger amount.

In terms of the above conceptions reviewed, it is predicted that a positive return on initial investment would exist in the tested context. It is therefore predicted that a positive and significant association between initial investment and increased earnings would be found in terms of testing these factors within this context.

2.4.4 Human Capital and Total Education

It is an argument of this work that there is a return on human capital and financial capital, and that insight into these returns can be developed through an investigation of the influence of entrepreneurial orientation. It is also argued that entrepreneurial orientation is shaped by context that educational and learning factors shape entrepreneurial orientation, which is associated with entrepreneurial performance, and that entrepreneurial orientation can be learned. Theory relating to human capital and total education is reviewed in terms of predicted associations with entrepreneurial orientation and entrepreneurial performance.

(a) Human Capital

One perspective associated with the consideration of returns on investment in education is human capital theory (Becker, 1993). In this work, human capital and education are defined as synonymous terms in relation to each other. In some cases the term chosen is dependent only upon its source in the literature. Human capital theory stresses the potential of the individual, through the investment in education, to solve the problem of low wages and unemployment through behavioural factors such as the acquisition of skills (Becker, 1993).

For Becker (1993) cited in Kibas (2006), investments in human capital include: schooling, on-the-job training, medical care, migration, and searching for information about prices and outcomes. They differ in their effects on earnings and consumption, in the amounts typically invested, in the size of returns, and in the extent to which the connection between investment and return is perceived. But all these investments improve skills, knowledge, or health, and thereby raise money or psychic incomes. According to this, training and education might contribute to earnings and satisfaction levels: the components of entrepreneurial performance. Measures were included for testing in this work such as schooling and training in order to test the contribution of these contextual factors to an entrepreneurial orientation and to entrepreneurial performance.

In terms of the above conception of Becker (1993), schooling, work related training courses and better access to information would be factors expected to be related to increased earnings and continuance satisfaction. Bates (1990) stressed the importance

of small business exposure within a person's family as a human capital factor contributing to entrepreneurial capabilities. According to Bates (1990) the development of entrepreneurial values in the individual and familiarization with the "small business milieu" contribute to entrepreneurial capabilities.

According to Richard *et al* (2004) endowed abilities, experience, trained skills, attitudes and behaviour are some recurring elements in many definitions of what is understood to be human capital. Various studies have shown a positive relationship between an entrepreneur's levels of human capital as measured along the dimensions of age, education, work experience and other variables, and new firm performance (Richard *et al.*, 2004).

Human capital can be differentiated into general human capital and specific human capital according to Becker (1993). According to Becker (1993) general human capital refers to the human capital that is transferable to other contexts. The human capital investment in training, for example, that can be transferred across from one field of work to another would be general human capital. Training that was specific to one field of work and that would entail no benefit in another field would be an example of specific human capital (Becker, 1993), whereby no return on this capital would be found in a different context. Gimento *et al.* (1997) tested the conception that higher endowments of general human capital in entrepreneurs might be associated with higher requirements, or a higher threshold of continuance that they might have for their enterprise, which if not met might lead to entrepreneurial non continuance. Gimento *et al.* (1997) found this to be "only partially supported" by their results.

Gimento *et al.* (1997) found that general management experience (related to managing managers) was related to an increased entrepreneurial survival threshold and they argue that this suggests at the least a degree of comparability between the value of certain forms of general human capital in entrepreneurship and employment. Increased levels of specific human capital would be expected to be associated with increased levels of earnings, because this increase in specific human capital might be associated with increased productivity specific to the enterprise. Increased levels of general human capital would also be expected to contribute to higher levels of earnings should these enterprises remain within the specific context. A founding firm's levels of financial resources, human or personnel resources, systems resources and business resources can have a significant impact on the firm's survival (Churchill & Lewis, 1983). In terms of human resources in the ICT SMEs, this would apply to the education or human capital of the entrepreneur. The entrepreneur can be considered to have entered the sector with a certain endowment of financial and human capital.

A significant factor in terms of earnings is the transmission mechanism whereby increases in human capital in the form of education and training might be associated with increased productivity, which might then be associated with higher levels of earnings (Mogire, 2003). According to Mogire (2003), human capital increases productivity through different effects. It is an argument of this work, however, that knowledge of the specific effects of entrepreneurial orientation, educational and other contextual factors in ICT SMEs might hold the key to overcoming structural constraints. It is argued that education and learning related factors are associated with

entrepreneurial orientation and increased earnings.

(b) Total Education

For Becker (1993), schools are defined as institutions specializing “in the production of training”, ranging from more specialized training to “a large and diverse set” of skills such as that offered by universities. Total education as a tested factor was comprised of the total formal education of an individual. This also included tertiary education.

Different types of skills are learned more easily, and these are more suited to on-the-job learning, but other skills are more suited to learning over extended periods of prolonged specialization in a university environment, and the development of yet other skills requires both specialization and experience (Becker, 1993). Having role models or a parent that has been an entrepreneur may increase the chances of entrepreneurship being manifested by an individual (Brockhaus, 1980). According to Brockhaus (1980) entrepreneurial orientation can therefore be shaped by factors relating to context, to the extent that having entrepreneurial role models or entrepreneurial parents might represent some form of contextual relationship for the individual.

Growth willingness for an entrepreneur may be influenced by education directly and indirectly: directly because individuals “with higher education are likely to have higher aspirations in general, and indirectly through more self-confidence in managing growth and a better ability to spot growth opportunities” (Davidsson, 1989). To the extent that growth willingness is associated with proactive attempts to gain market share, higher levels of educational contextual factors might be considered to be associated with

higher levels of pro-activeness for the entrepreneur, and higher levels of earnings by means of this theorized effect.

Higher aspirations might be associated with higher or lower continuance satisfaction depending upon whether these higher aspirations are being met or not. Human capital was found by Gimento *et al.* (1997) to be positively related to enterprise performance but not necessarily related to entrepreneurial continuance. This might indicate that human capital may be related to earnings yet not necessarily with satisfaction relating to continuance. It is predicted therefore that if entrepreneurs with higher levels of education have higher aspirations, as argued by Davidsson (1989), then these individuals would not be expected to be satisfied with continuance if these aspirations were not being met. Higher education might even therefore be expected to be negatively associated with continuance satisfaction for these individuals.

A study by Becker (1993) found an “average rate of return on a college education” to males in the USA context to be “between 11 and 13 percent, with higher rates on a high-school education, and still higher rates on an elementary school education”: a range borne out by subsequent studies. This rate of return is also found to decrease “with successive stages of schooling” (Becker, 1993). Becker (1993) states that the “higher earnings of, say, college graduates compared to high-school graduates” are also partly due to the “college graduate’s greater ability, ambition, health, and better educated and more successful parents.” In terms of this, the contextual factors relating to the entrepreneur are considered to be important, and a tertiary education might have been expected to be associated with other factors to a greater extent than that expected of

schooling. This is also confirmed by Gimento *et al.* (1997), who found entrepreneurs with tertiary qualifications to be associated with significantly higher economic performance than the next lower level researched: high school and partially completed tertiary qualifications. Tertiary education is thus predicted to be associated with increased earnings levels.

2.4.5 Experience

According to the conception offered by Gimento *et al.* (1997), completed tertiary qualifications might be associated with some measure of entrepreneurial persistence. In terms of entrepreneurial persistence, this is expected to be reflected in experience. Firm age “is the most commonly used screening criteria in entrepreneurship research” according to Richard *et al* (2004) with most authors explicitly or implicitly suggesting that “young firms are more entrepreneurial than older firms”. In this study, the age of the enterprise is considered to be equivalent to the time spent operating the enterprise, or experience.

For Richard *et al* (2004), endowed abilities, experience, trained skills, attitudes and behaviour are some recurring elements in many definitions of what is understood to be human capital. Human capital in this context includes the contribution of general human capital and specific human capital (Becker, 1993). In terms of this, experience is considered to be a component of human capital. Gimento *et al.* (1997) found that a higher entrepreneurial threshold is associated with entrepreneurs with higher levels of

general human capital. According to this, if more experience were associated with the development of general human capital then entrepreneurs might over time be more enabled to earn more. If experience were associated with specific human capital, then earnings would be expected to rise. Therefore experience is expected to shape entrepreneurial orientation according to this learned effect. The testing of experience as a factor is thus expected to reveal what aspect of entrepreneurial orientation has been most influenced through the learning effect.

According to Bates (1990), entrepreneurs experience a condition of uncertainty when starting ventures regarding their entrepreneurial capabilities. For Bates (1990), entrepreneurs only recognize their abilities through a process of doing and observing both their own performance and the changes in their firm's behaviour over time. It is expected that experience would shape an entrepreneurial orientation as a consequence of the interaction of the enterprise-process experience and the individual. The age of an enterprise is considered to represent the experience of the specific enterprise.

Smaller and younger enterprises were found to be associated with higher levels of entrepreneurial orientation in a study of 3562 enterprises in China using three dimensions of entrepreneurial orientation: pro-activeness, innovativeness and risk taking propensity (Chow, 2006). If the younger nature of these enterprises were taken to represent experience, then experience in this population would have been associated with lower entrepreneurial orientation. However, experience might also be expected to be associated with changes in a sector. The changes in the Chinese context were also therefore expected to be reflected in a measure of experience.

In terms of a core argument of this work, that learning is associated with entrepreneurship and entrepreneurial orientation, it is argued that experience would be associated with entrepreneurial orientation and would be associated with increased earnings in ICT SMEs. Experience is expected to be associated with increased earnings in this context.

2.4.6 Training Courses Attended

According to human capital theory, a return on investment in training should be expected if human capital investment results in increased productivity (Becker, 1975). A stance taken in this study is that the initial human capital endowment should have a positive effect on the earnings of the ICT SME. In the same manner as the initial effect of initial investment can become insignificant over time due to the potential to save, even on a low level over time, levels of human capital might also increase, after entry into the enterprise, through the attendance of training courses (Runyan *et al.*, 2008; Mukulu, 2012). Training courses as a variable is tested as to its effect in shaping an entrepreneurial orientation and its contribution to entrepreneurial performance.

Marketing strategy and feasibility analysis are important components of business planning according to Mbugua (1999). In a study of hundred small and medium sized enterprises, it was found that responsiveness to customers and product/service quality are considered by enterprise managers to be two of the most important factors influencing new firm survival (Mbugua, 1999). These are examples of enterprise knowledge, and relevance may exist if these factors could be taught or learned and are

perhaps examples of certain knowledge sets that might be accessible to entrepreneurs that have access to training courses covering aspects of learning specific to enterprise development.

In this study, a positive and significant association between entrepreneurial orientation and training courses should exist, to the extent that entrepreneurial learning could be facilitated by training courses. Training courses should be associated with increased earnings; entrepreneurial orientation should be shaped by learning related factors and increased levels of educational factors representing human capital should be associated with increased earnings.

2.5 Entrepreneurial Performance:

Entrepreneurial performance was defined in this work as a construct comprised of earnings and satisfaction, this taken from the broader framework of a conceptualization of entrepreneurial performance as offered by Lumpkin and Dess (1996). Certain contextual factors and the consideration of earnings as a dependent variable in this study are drawn from Dasgupta (2003), including initial investment, educational background, hours of work, experience in current work, and the age of the entrepreneur.

2.5.1 Earnings

Human capital theory stresses the potential of the individual to solve the problem of unemployment through behavioural factors such as the acquisition of skills through an

increase in human capital (Becker, 1993). The problem of unemployment could also be addressed through the development of a process orientation that increases earnings and satisfaction: an entrepreneurial orientation (Lumpkin & Dess, 1996) cited in Wang (2008).

It is an argument of this work that skills are fundamentally a reflection of human capital within an individual. The contention is that entrepreneurial orientation dimensions contribute to increased earnings as learned behaviour, and this contribution manifests differently according to different contexts. Therefore it is argued that education or learning related factors such as education and training courses shape an entrepreneurial orientation, and that these factors also contribute to earnings directly. The effect of education or learning related factors is considered to be positively related to earnings notwithstanding the specific influence of the difference of context, according to the conception of Becker (1993).

In terms of education related contextual factors, the relationship between the investment in learning and entrepreneurship is dynamic, with each affecting the other over time (Zahra & Dess, 2001). Indications are that education related factors might shape entrepreneurial orientation, and that entrepreneurial orientation might also influence investment in learning. Becker (1993) argues that human capital theory, in considering investment in human capital, is useful in “explaining actual differences between regions, countries, and time periods”, and can contribute to the explanation of the distribution of earnings and other income. In this context, human capital may also be associated with other additional positive externalities that can increase productivity

(Mogire, 2003).

With particular reference to hostile environments and the relationship between entrepreneurial orientation and competitive advantage, Covin and Slevin (1991) argue that an entrepreneurial strategic posture may be particularly beneficial to small firms in hostile environments. These environments contain fewer opportunities and are more competitive than benign environments. Accordingly, it might be expected that successful firms in hostile environments will gear their competitive efforts to the prevailing conditions by aggressively trying to gain or maintain a competitive advantage. Such an advantage will more likely result from the proactive, innovative, and risk taking efforts of entrepreneurial firms than the passive and reactive efforts of conservative firms.

It might be possible that an entrepreneur associated with a high level of entrepreneurial orientation might be associated with superior economic performance in a hostile environment according to Covin and Slevin (1991)'s conception. According to this, to the extent that ICT SMEs context represents a hostile environment, a positive association is predicted between earnings and the entrepreneurial orientation dimensions of pro-activeness, innovativeness and risk taking propensity.

It is reasonable to accept that different factors might have a different impact on earnings in different contexts. Wanjau (2008) found that, in terms of his research on small manufacturing enterprises in Kenya, poor design, poor quality and a lack of price competitiveness were possibly the most important contributors to the failure of these enterprises. Individuals can also “start and operate their own firms for a variety of reasons other than maximizing economic returns” (Wiklund, Davidsson & Delmar,

2003). An entrepreneurial orientation might be associated with different motivations including the motivating effect of earnings and satisfaction. It is therefore expected that the factors contributing to satisfaction might not be the same as the factors contributing to earnings.

According to the expectancy-value theory, expected consequences of behaviour can be regarded as evaluations of the behaviour's consequences, or beliefs (Wiklund *et al.*, 2003). According to Wiklund *et al.* (2003) positive expectations of an outcome enhance motivation to pursue that outcome and negative expectations associated with the outcome are likely to reduce the outcome motivation. With regard to this, continuance satisfaction might reflect some dimension of this expectation relating to earnings, or the results of continuance in terms of earnings.

According to Becker (1993), productivity is influenced by motivation, or the intensity of an individual's work, which is partly dependent on earnings because of the effect of an increase in earnings on morale and aspirations. In terms of this it might be expected that higher earnings may contribute to higher levels of continuance satisfaction.

Performance and continuance threshold levels differ according to industries according to Gimento *et al.* (1997). The continuance threshold researched by Gimento *et al.* (1997) represents the threshold needed by entrepreneurs to continue with their entrepreneurial ventures, whereby a higher threshold represents a higher level of rewards needed for continuance to be maintained. It is predicted that higher levels of education and learning related factors would be positively associated with higher earnings.

2.5.2 Continuance Satisfaction

Continuance satisfaction is considered a dimension of entrepreneurial performance in that the satisfaction for an entrepreneur is considered an important outcome of the influence of entrepreneurial orientation and context related to performance. An entrepreneurial orientation may contribute to performance through processes and styles of decision making that produce competitive advantage or strategic renewal according to Lumpkin and Dess (2001). This competitive advantage or strategic renewal is not confined to the start-up event, but extends to continuance. In terms of this, continuance satisfaction was taken to represent satisfaction

In terms of continuance satisfaction, this is taken to represent satisfaction with continued entrepreneurship. With regard to this, Kuratko *et al.* (1997) state that while “it is written that entrepreneurs are goal-oriented individuals, the literature generally focuses only on the start-up process”. Kuratko *et al.* (1997) argue that if “entrepreneurship is the process of starting and operating a business, then earlier models focusing on pre-launch or launch of a venture” are incomplete without considering the operating portion of entrepreneurship. The process of operating an enterprise has perhaps not received as much attention in entrepreneurship research as has the startup (Kuratko *et al.*, 1997). The focus on continued entrepreneurship is consistent with the perspective of entrepreneurship as behaviour (Lumpkin & Dess, 2001), or the “how” inherent in entrepreneurship (Stevenson & Jarillo, 1990). Continued entrepreneurship is therefore considered in terms of continuance satisfaction.

Kuratko *et al.* (1997) found their study results to support the conception that

intrinsic and extrinsic rewards are motivators of entrepreneurial behaviour to the degree that these rewards meet expectations. In terms of this, certain factors are also tested in terms of the associations of entrepreneurial orientation and contextual factors with continuance satisfaction. If certain dimensions of entrepreneurial orientation or certain contextual factors are associated with intrinsic satisfaction, then it is expected that the testing could reveal significant associations between these factors.

In terms of enterprise continuance, Gimento *et al.* (1997) argue that their “findings suggest that some dimensions of human capital have important effects on persistence, even when they do not influence performance” such as age, family experience of entrepreneurship, and intrinsic motivation. According to this, learning and education related factors might have an effect on continuance satisfaction. Kuratko *et al.* (1997) conclude that their study supports the belief “that many entrepreneurs are motivated by and sustained through other means than simply making money”. Literature suggests that individuals enter new venture creation motivated by personally relevant goal sets which they believe will be satisfied through self-employment (Kuratko *et al.*, 1997). The results of the current study suggest that practicing entrepreneurs, not just those engaged in start-up, possess personally relevant goals. It is through the achievement of those goals that entrepreneurs are motivated to sustain ownership. This justifies the importance of including a measure of intrinsic satisfaction, to the extent that continuance satisfaction is expected to pick up the effects of both extrinsic and intrinsic satisfaction associated with entrepreneurial orientation and contextual factors.

In terms of their research Morris and Pitt (1995) found a negative relationship

between operational sophistication and willingness to exit on condition of a formal job offer ($p < 0.01$). Significant and positive relationships were revealed between operational sophistication and level of formal education ($p < 0.05$); operational sophistication and formal occupational training ($p < 0.10$); operational sophistication and sales turnover ($p < 0.05$); and also between operational sophistication and future growth plans ($p < 0.05$) (ibid.). In terms of ICT SMEs, a higher level of continuance satisfaction might be possible according to these associations if a sufficient level of operational sophistication, such as providing services or of making products is attained.

2.6 Model of Tested Relationships

The objective of this research is to test the hypothesis that relates entrepreneurial orientation dimensions and contextual factors, and relates these entrepreneurial orientation dimensions and contextual factors to entrepreneurial performance. The model of the tested relationships is illustrated in figure 1. According to this model, the associations of contextual factors with total entrepreneurial orientation and with the individual entrepreneurial orientation dimensions of innovativeness, proactiveness and risk taking propensity are tested. The contributions of contextual factors, total entrepreneurial orientation and the individual dimensions of entrepreneurial orientation to entrepreneurial performance and its two component factors: earnings and continuance satisfaction are also tested in this research.

Entrepreneurial performance in this research is taken from Lumpkin and Dess'

(1996) broader conception of this construct. Two components are derived: earnings and satisfaction. Earnings represent gross earnings and satisfaction is taken to represent continuance satisfaction. Continuance satisfaction is taken to be associated with continuing in business. Lumpkin and Dess (1996) contend that entrepreneurship theory should be tested in terms of its relationship with performance, and also suggest that a contingency approach should be adopted in this regard. This approach was taken in this work. Theory relating to entrepreneurial orientation was extended into and tested in the Kenyan context.

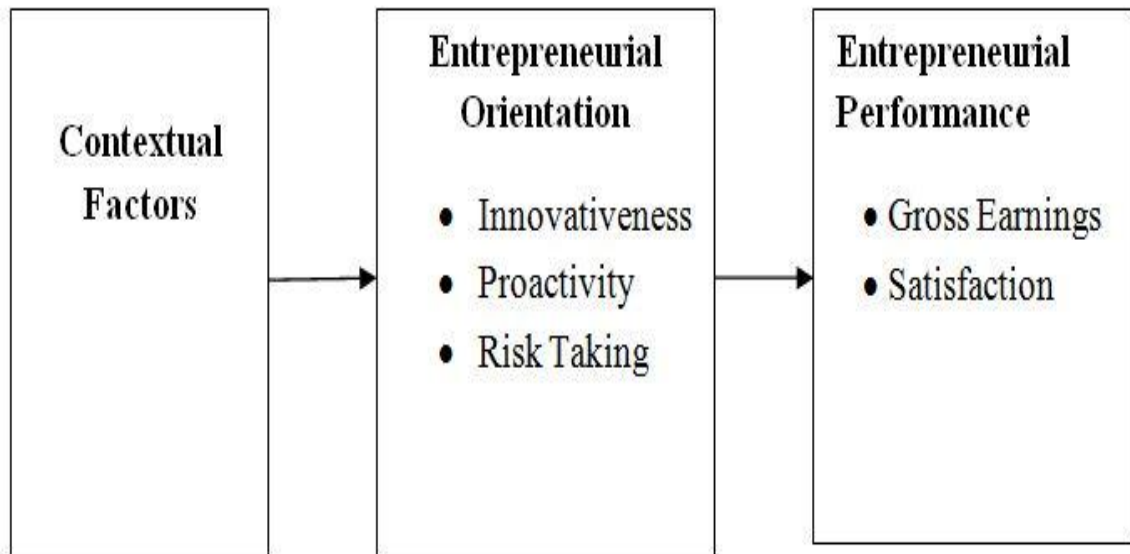


Figure 1 Model of Tested Relationships

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the research design that was used to conduct the study. It describes the type of research, population, sample, instruments, pilot test and sampling techniques and data analysis that will be used in the study.

Worldview assumptions of a research study can be divided into two major types: objectivism and subjectivism. Taking these two assumptions into details will lead to a number of research philosophies which then give a guideline to the overall research process. Generally, the framework of research design consists of three major elements of inquiry: a) philosophical, b) strategy inquiry, and c) methods (Creswell, 2003). The first element is the philosophical assumption, which explains the assumptions on which the research design is based, meaning that it defines what constitutes knowledge claims. The second element is the strategy of inquiry or methodology, which provides the choice, or the use of method or the general research procedures e.g. survey research, ethnography, and case study. The third one is the methods, which are techniques and detailed procedures of data collection, analysis and writing e.g. questionnaire, interview, and focus group. Additionally, other elements such as research approaches, time horizons, and types or method will be added to provide a richer picture of the overall research design (Creswell, 2003).

3.1 Research Design

The study adopted an exploratory approach using a descriptive survey design, which will ensure ease in understanding the insight and ideas about the problem. It aims to answer the 4 formulated research questions and testing of hypotheses.

According to Creswell (2003), descriptive survey designs are used in preliminary and exploratory studies, to allow researchers to gather information, summarize, present data, and interpret it for the purpose of clarification. Also according to Kothari (2003), descriptive survey design involves large numbers of persons, and describes population characteristics by the selection of unbiased sample. It involves using questionnaires and sometimes interview tests, and generalizing the results of the sample to the population from which it is drawn. In this study, descriptive survey design was used to obtain information from a sample of respondents for testing hypotheses on adoption of entrepreneurial orientation by SMEs. Descriptive survey design is flexible enough to provide opportunity for considering different aspects of a problem under study (Kothari, 2003). This design was appropriate for this study since Zikmund (2003) note that descriptive survey research is intended to produce statistical information about the aspects of the research issue (in this case quality) that may interest policy makers and SME entrepreneurs. Exploration serves other purposes as well. The area of investigation is new, a researcher needs to do an exploration just to learn something about the dilemma facing the SME operator (Cooper & Schindler, 2006).

3.2 Study Population

The study focused on SMEs in the information and communications technology sector in Nairobi province. This is because ICT SMEs in Nairobi have formal procedures or processes that are documented and registered with regulatory government bodies (GoK, 2007).

For this research, the need to obtain access and the constraints of time and funding prevent the use of a random sample using SMEs on a national basis. However just as on the national level, more jobs are provided in Nairobi by SMEs than by large by corporations. Therefore the focal location for the field data gathering was Nairobi. Moreover Nairobi is the economic center besides from being the political, social and cultural hub as well.

3.3 Sampling Frame

According to the register of Telecommunication Service providers Association of Kenya (TESPOK), Nairobi has the largest concentration information technology firms. Firms under study are engaged in the business of software development, internet services, software consultancy, hardware assembly and repairs, and back office operations (call centers and business process outsourcing).

The small firms employing 1-50 persons were chosen for the study. Prior to the usage of this data base, we initiated an attempt to secure a list of the target population from four government agencies that may possess such information - Central Bureau of Statistics, the National Statistics Office, SMED in the Ministry of Labour and

Manpower Planning, Ministry of Information and Communication. These are the major government agencies that are repository of information on business. The information gathered was partial. The lack of databases on local businesses presents a serious problem in line with research endeavor.

From this sampling frame, we identified our target population from those firms that belong to small and medium-sized business firms employing less than 50 persons and with business locations found in Nairobi during the time of the survey. This was considered a good method to account for any possible sampling frame error. In this way, the researchers can almost be free from being misled about the actual population being investigated.

A multi-stage sampling was employed whereby the following procedure was followed: First, companies employing less than 50 persons were identified from the sampling frame which numbered a total of 1050; second, those companies located outside Nairobi were removed. After these steps were done, the final tally was 645 companies. The initial working sample was guided by Slovin's formula (Pagoso *et al.*, 1992) found below;

$$n = \{N / (1 + Ne^2)\}$$

Where n = number of samples
 N = total population
 e = 0.05 (margin of error)

This formula gives the degree of accuracy of the sampling technique. It gives an idea as to how many samples have to be studied taking into consideration the error. From the list of 1050 firms the formula yielded a sample size of 290 firms. This number of 290 was used to divide the medium-sized business population of 645 which yielded 2.56 rounded up to 3. This means, every third firm on the list is qualified to be part of the sample respondents. The next step involved identifying a random start from within the first six elements. In this respect, random number tables were used and the fourth element picked to represent the starting point. We randomly started at firm number 4 on the list, and then every other fourth company formed part of the final list for a total of 290 companies as the target population.

This process, referred to as systematic sampling, allow the drawing of a sample from a random starting point and then systematically picking every i^{th} element in succession (Malhotra, 2004). This method increases the representativeness of the population since the respondents will cut across the whole range as the sample is arranged based on employee size.

3.4 Instruments

In terms of the instrument, the following are considered below: the design of the instrument; scale construction; reliability; and validity. The design of the instrument was based upon the cross-sectional survey design. Survey research “comprises a cross-sectional design in relation to which data are collected predominantly by questionnaire

or by structured interview” and “at a single point in time” (Malhotra, 2004). Within the constraints of time and budgets, the cross sectional survey design was deemed appropriate for the instrument.

According to Zikmund (2003) the following implications of context with regard to testing conditions exist: firstly, that standardized procedures are to be followed “to the minutest detail”; secondly, that any unusual testing conditions, however minor, should be recorded, and thirdly, that testing conditions are taken into account when the interpretation of test results is undertaken. The process of designing the instrument also drew from theory relating to the design of psychological tests, to the extent that certain of these principles were appropriate to the design of a survey instrument.

The questionnaire was structured to exhaustively collect information about SME contextual factors, entrepreneurial orientation and entrepreneurial performance among other variables. In addition, secondary data were collected from the library, public and private organizations. This was largely desk review of published literature on entrepreneurial behaviour and SME growth. Identification letters introducing the researcher were obtained from the university to ease the data collection process.

The first few questions were designed to be simple and factual to allow the respondent to be at ease with the process, and to reduce anxiety on the part of the respondent. These questions were used in section A of the questionnaire, through which demographic and other contextual factor data was collected, and section B collected data with regard to entrepreneurial orientation. No differentiation between sections was revealed on the actual instrument, however. The instrument was piloted in the same

context, and the instrument improved and retested prior to the study itself.

3.4.1 Pilot Testing

To ascertain the validity and reliability of questionnaire, a pilot test was conducted. The purpose of pilot testing was to establish the accuracy and appropriateness of the research design and instrumentation and to provide proxy data for selection of a probability sample (Cooper & Schindler, 2006).

This researcher implemented a pilot-test to assess the clarity, complexity and the face validity of the measure. In effect, revisions were made that improved the total look and content of the final questionnaire in terms of readability, wording and arrangement. A total of 10 respondents used in the pre test were drawn from the same population frame that was similar to those who were included in the actual survey in terms of background characteristics and familiarity with the topic. The feedback obtained was instrumental in refining the questionnaire before it was finalized for the study. Background information obtained through the piloting process provided insights into the simplification and strengthening of processes in this regard, and allowed for a greater understanding of the specific context and the respondents as individuals to the extent that process could be tailored to this specific context

3.4.2 Scale Construction

The instrument was shortened after piloting, to attain a balance between data required and the time needed to collect this data, and to reduce the chance of fatigue for the

respondents. The final instrument was fundamentally composed of closed questions that were designed to represent graduated responses and also designed to be a close match with the respondent sample, in that simplicity was of paramount importance, and ambiguity avoided. This simple form of closed questions was uniquely designed with a view to quantitative analysis, and specifically multiple linear regression analysis.

For the questions relating to entrepreneurial orientation, a symmetrical scale of five points was chosen, this allowing for a degree of discrimination, with each level constructed in an attempt to represent a theoretically equal degree of preference, with a view to the testing of these results as continuous variables. A midpoint was used, in that it was theoretically possible that certain respondents genuinely were ambivalent towards two contrasting responses, and the absence of a midpoint might have introduced complexity or an altered preference with regard to the chosen response that might have not reflected the reality of the respondent's intention.

The entrepreneurial orientation dimensions were tested for normality in terms of their underlying distribution. This was undertaken in terms of the following dependent variables: innovativeness, proactiveness and risk taking propensity. A Cronbach Coefficient Alpha was obtained for the scores of the dimensions constituting the overall entrepreneurial orientation construct, comprising innovativeness, proactiveness and risk taking propensity. In accordance with the theoretical prediction of Lumpkin and Dess (1996), these were found to vary independently from each other in this tested context, as a Cronbach's alpha of 0.354 (standardized 0.353) was obtained between all of these dimensions.

3.4.3 Reliability

Reliability refers to the consistency of scores that the same person would obtain if they were to take the test at other times or under different conditions (Kothari, 2003). The entrepreneurial orientation items of the instrument were designed according to certain principles of psychological test design, to the extent that these were applicable to survey research. Stability, internal reliability and inter-observer consistency are prominent factors that should be displayed by a reliable measure, according to Zikmund (2003). A measure would display stability if little variation over time was found when the measure was re-administered and would display internal reliability if the “indicators that make up the scale” are consistent: when “respondent’s scores on any one indicator tend to be related to their scores on the other indicators” (Zikmund, 2003).

The coefficient alpha is an appropriate measure of variance “attributable to subjects and variance attributable to the interaction between subjects and items” (Zikmund, 2003). Accordingly the coefficient alpha or Cronbach’s alpha was used as a measure of internal reliability. In terms of the specific testing of internal reliability, the following scores were obtained in terms of the testing of the Cronbach’s alphas for the dimensions of entrepreneurial orientation: for innovativeness 0.830; for risk taking propensity 0.653; and for proactiveness 0.613. This indicates that the internal reliability of the instrument for the entrepreneurial orientation items was reasonable. A Cronbach’s alpha of 0.60 as a minimum level is acceptable (Zikmund, 2003).

3.4.4 Validity

According to Kothari (2003), validity is “the degree to which the test actually measures what it purports to measure”, a direct check on how well the measure fulfills its function. Kothari (2003) argues that a more accurate way to define validity is “the extent to which we know what the test measures”. A test of validity is therefore whether the measure of a concept really measures that concept. The following conceptions of validity are considered below: content-related validation; internal consistency; construct related validation; and criterion-related validation.

(a) Content Related Validity

This the degree to which the content of the items adequately represents the universe if the relevant items under study. Content validity was built into the scales through the derivation of these scales from theory relating to pro-activeness, innovativeness and risk taking propensity these comprising the entrepreneurial orientation construct

(b) Internal Consistency

According to Kothari (2003), the contribution of “internal consistency data to test validation is limited”, and “in the absence of data external to the test itself, little can be learned about what a test measures”. A test therefore can be reliable, but not valid. In terms of these requirements, internal reliability was measured and ensured to the extent that this supports internal consistency.

(c) Criterion-Related Validity

Criterion-related validation refers to the effectiveness of a measure in terms of being able to predict an individual's "performance in specified activities", whereby performance is checked against a criterion, a "direct and independent measure" of that which it is designed to predict or other information about the individual's behaviour. This was not considered to be an issue with regard to the surveying of these respondents. Attention was paid to the stipulations around issues of reliability and validity with regard to the data collection and testing processes.

(d) Construct Related Validity

Construct-related validity relates to the extent to which the measure "may be said to measure a theoretical construct or trait", deriving from "established relationships among behavioural measures" (Kothari, 2003)). Construct validity was ensured through the derivation of scales tightly developed from theory that was to be directly tested. Construct validity was maintained through the anchoring of these constructs to the theory from which they were derived

3.5 Data Collection

This researcher hired enumerators and trained them to do the fieldwork. The enumerator's tasks were to contact the respondents, request them to answer the survey and retrieve the questionnaires afterwards. The field enumerators that were selected were those within the researcher's network so that the element of trust is satisfied. This

is important in order to ensure that the quality of the information is reliable, accurate and valid. They must be also possess good interpersonal skills as they would be dealing with heads of companies. These enumerators were trained by the researcher on the handling and administration of the survey

3.5.1 Instrument Administration

A drop-off survey data gathering method was chosen instead of mailing. The inadequacy of a reliable postal system in Kenya informed the decision to use a drop-off and pick method. This drop-off self-administered questionnaire though costly, was strategically chosen with reference to the Kenyan context, directly presenting the questionnaire to the respondent is considered socially responsible as respondents prefer face to face contact to avoid suspicion. The social relationship between the researcher and the respondent motivates the respondent to trust the source and to get down straight to answering the questionnaire. This is considered the most effective and efficient way to reach the respondents; it also offers the best sample control to confirm the sampling units to be targeted, whether the questionnaire is answered and who answered it.

3.5.2 Data Retrieval and Response Rate

The returns were checked upon receipt for consistency and validity of respondents' answers. Further, an effort was exerted to control the research process by telephone or if no phone is available then by a visit. The returns were randomly checked to know if indeed a survey was implemented. Double checking for authenticity of the data was

conducted on the field enumerators any fabricated responses were discarded. To improve the non-response rate, follow up or callbacks at different times were done after the initial contact. Sometimes, despite these efforts it was still of no avail. The following are points of difficulties encountered during the field work exercise:

- a. Most companies didn't allow the field people to get inside their premises without prior appointments. However when appointments were requested the guards/personnel in charge refused to do so. This was perhaps due to low level of trust. Field enumerators necessarily applied different persuasive techniques to the point of begging just to be allowed inside and have audience with the president.
- b. Some companies asked that the questionnaire be left and would be ready for pickup the next visit but even after a number of visits, the questionnaires would still not be ready.
- c. Rude people (security guards, secretaries) who tried to block the passage to the respondents were part of the research's level of difficulty.
- d. After nth attempts, you would hear comments like - "It's too confidential, I don't want our company to be part of your study, please try another company." They simply wouldn't cooperate.
- e. Some respondents were unable to respond because they think the questions are sensitive or personal.

Consequently the response rate was low. In spite of almost 425 questionnaires that were distributed, only 228 came back, a response rate of 53.6 percent. However this number is acceptable especially when the topic involves entrepreneurship that deals with top

management. Data was collected from early December 2009 to mid-February 2010, a period of 10 weeks.

The study recognizes that data is normally received in different properties. Cooper and Schindler (2006), suggest two of such formats as textual and numeric data. This study mainly collected numerical data as a means to facilitate data analysis. Malhotra (2004), states that data preparation precedes data analysis. The process of data preparation lends to data accuracy and enforces a conversion from raw to classified form that can benefit analysis and interpretation. The process of data preparation used instrumentally in the study involved coding, editing and tabulation in conformity with the suggestion of Malhotra (2004).

3.6 Data Analysis

After the capturing of the data from completed instruments, the process of testing the data was initiated. Descriptive statistics were derived from the data, these including frequency data, and statistical testing was undertaken. In this section, the statistical testing processes are outlined, with a consideration of the following: the confidence levels applied; the use of Cronbach's alphas; and the multiple linear regression process used in terms of the testing of hypotheses

3.6.1 Confidence Levels for Statistical Testing

In terms of testing the null hypotheses for significance, the significance level of 10 percent, or $\alpha = 0.10$ was decided upon. According to this, the probability that a Type I

error would not be made whereby a true null hypothesis is rejected in accordance with Zikmund (2003) would be equal to:

$$1 - \alpha = 0.90$$

Although a more stringent level of significance such as the 5 percent level could have been used, the 10 percent level was chosen due to the large range of variables tested and the potential for greater insight provided through the interpretation of marginal associations. The 10 percent level is the minimum threshold level appropriate for including variables for quantitative analysis (Zikmund, 2003).

3.6.2 Cronbach's Alphas

As considered in the section relating to reliability, the Cronbach's alpha test was run on items in the questionnaire to ensure reliability. The items in the questionnaire that were found to have Cronbach's alpha scores of less than 0.60 were discarded. The Cronbach's alpha of the entrepreneurial orientation dimensions are illustrated Table 2

Table 2 Cronbach Alpha Coefficients for Entrepreneurial Orientation

Entrepreneurial Orientation dimension	Number of items	Alpha Coefficient
Innovativeness	3	$\alpha = 0.829568$
Risk Taking Propensity	3	$\alpha = 0.652820$
Proactiveness	3	$\alpha = 0.613450$

Source: This Study

3.6.3 Regression Analysis

Regression analysis is utilized to investigate the relationship between a range of variables, these including an error term, whereby a dependent variable is expressed as a combination of independent or explanatory variables, and “the unknown parameters in the model are estimated, using observed values of the dependent and explanatory variables” (Cooper & Schindler, 2006). Multiple linear regression analysis was the technique used to test the hypotheses. The following represents the regression equation, according to the general model used to represent the relationship between the dependent variable (Y) as a linear function of the independent variables (X’s), with ϵ representing the error term (Cooper & Schindler, 2006):

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \epsilon_i, i = 1, 2, \dots, n.$$

The β s in the above equation represent the estimated parameters. Advantages associated with multiple regression analysis are that this process offers a more accurate explanation of the dependent variable in that more variables are included in the analysis, and that the “effect of a particular independent variable is made more certain, for the possibility of distorting influences from other independent variables is removed” (Cooper & Schindler, 2006). According to Coopers and Schindler (2006), the “technique of multiple regression has great range, and its mastery will enable the researcher to analyze virtually any set of quantitative data”. This was taken to be an appropriate technique due to the relatively broad range of associations tested.

The following are assumptions of multiple linear regression analysis that need to be considered: that observations of the error term are not correlated, that errors have the same variance throughout, that no change in regime has occurred, that all variables are included in the equation and that multicollinearity is not a problem (Zikmund, 2003).

The testing of each hypothesis is reported in the results section together with a report on the diagnostic testing process. The process generally followed was to test according to standardized residual criteria, to delete the points that were greater than an absolute value of two, and to retest the model. The model without points removed was then compared to the model with points removed. However, the initially tested model was the model interpreted; the secondary analysis was only provided for further insight into the underlying effects without the influence of outliers and influential points.

The adjusted R squared measure was considered as an indicator of the fit of the model, and the increase associated with dropping variables that did not contribute significantly to the equation was the criterion used to decide which variables were to be dropped from the equation. In terms of the decision regarding variables to include or drop from the regression equation, an analysis of multicollinearity was also undertaken.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

In this chapter, the characteristics of the unit of analysis: the individual ICT SME owner-manager respondents are reported in terms of the summary statistics. The descriptive statistics for each tested variable are reported. The mean, standard deviation (Std. Dev), variance, minimum value, maximum value, range, lower quartile, median and upper quartile are reported for certain tested variable. A pie chart/bar charts illustrate the frequency distributions for each tested variable. The results associated with the testing of the hypotheses are reported according to each hypothesis tested; the process followed is outlined, this including the statistical procedures followed in terms of the testing and reporting on diagnostic statistics and diagnostic procedures.

4.1 Descriptive Statistics – Contextual Factors

4.1.1 Gender

In terms of gender, approximately 43 percent of the tested ICT SMEs were found to be female, and approximately 57 percent were found to be male. Table 2 presents the frequency distribution for gender.

Table 3 Frequency Distribution for Gender

Gender	Frequency	% Value
Male	117	73%
Female	43	27%
Total	160	100%

Source: This Study

4.1.2 Age

The average age of the sampled respondents was found to be about 33 years. Figure 2 illustrates the frequency distribution for age.

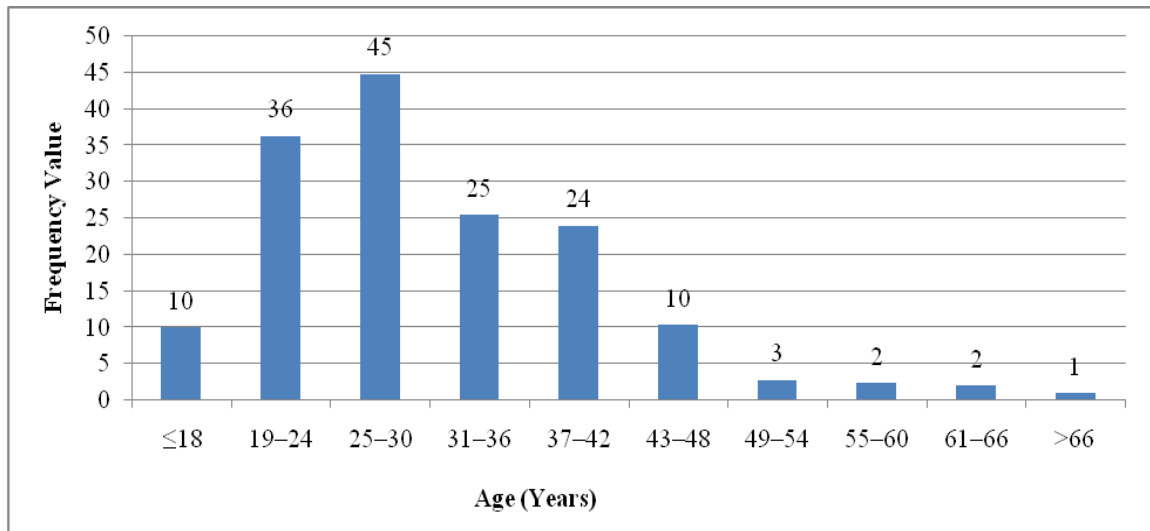


Figure 2 Frequency distribution of Age

4.1.3 Hours Worked Per Day and Days Worked Per Week

The average hours worked per day was found to be just over ten. The summary statistics for hours worked per day and frequency distribution is illustrated in Figure 3.

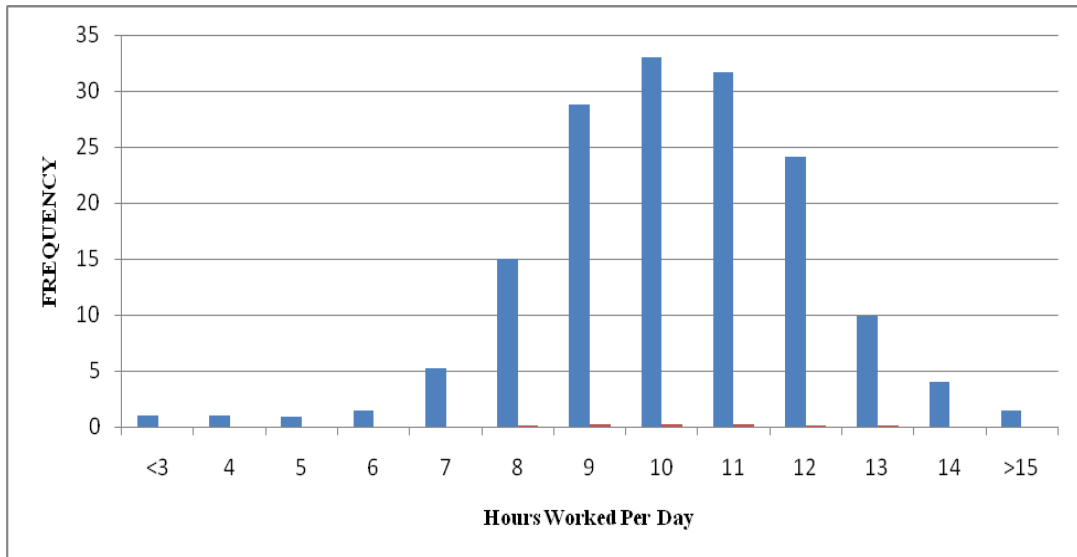


Figure 3 Frequency distribution of Hours Worked per Day

The average number of days worked was found to be about 6.2 days per week. In table 8 the summary statistics are illustrated. Figure 3 illustrates the bar chart of days worked per week. The frequency distribution of days worked per week is shown in table 4.

Table 4 The frequency distribution of Days worked per Week

Hours Worked Per Week	Frequency	Percentage Value
1	1	0.6%
2-3	1	0.6%
4	2	1.3%
5	3	1.9%
6	113	70.6%
7	40	25.0%

Source: This Study

4.1.4 Initial Investment

In table 4 summary statistics relating to initial investment are illustrated.

Table 5 Frequency distribution for Initial Investment

Initial Investment X (Kshs '000)	No. ICT SMEs	Percentage Value
$0 \leq X \leq 25$	16	9.7%
$25 < X \leq 300$	53	33.0%
$300 < X \leq 600$	33	20.4%
$600 < X \leq 900$	11	7.1%
$900 < X \leq 1200$	19	11.8%
$1200 < X \leq 1500$	6	3.5%
$1500 < X \leq 1800$	22	13.8%
$X > 1800$	1	0.6%

Source: This Study

The average initial investment in an enterprise was found to be between 651 and 750 thousand Kenya Shillings. Figure 4 illustrates the bar chart of initial investment.

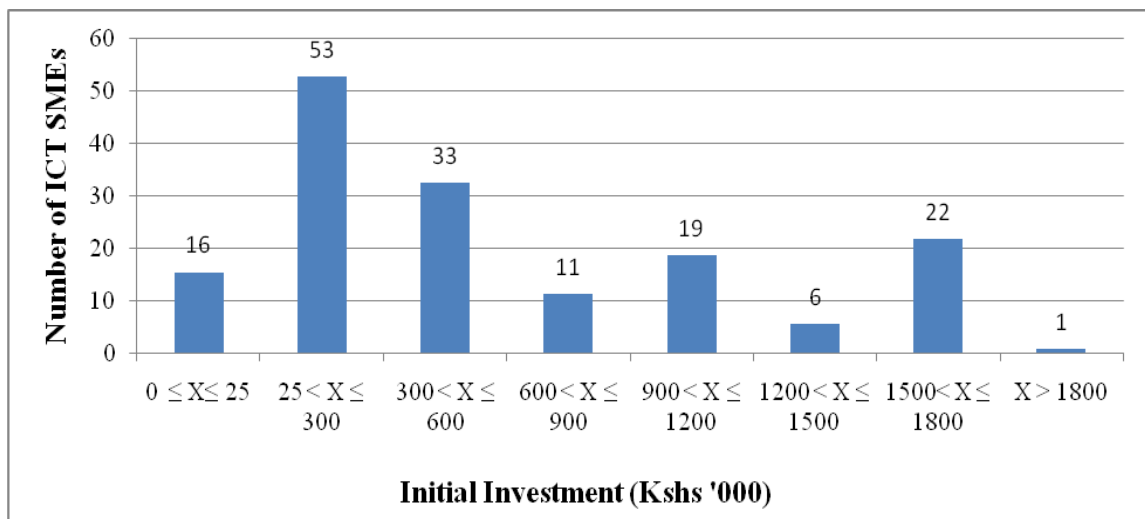


Figure 4 The Bar chart distribution for Initial Investment

4.1.5 Level of Education

The respondents were required to indicate their highest attained academic qualification and the relative frequencies of the statistical findings presented in Table 6. The data findings indicate that 64.4% of the respondents had college certificates/diploma, 23.8% were bachelor degree holders, 10.6% of the respondents had secondary school certificates and 1.2% masters and doctorate degrees. This means that majority of the SMEs entrepreneurs in IT sector were certificate and degree holders while minority had post graduate degrees.

Table 6 Respondent's Highest Formal Academic Qualification

Level of Qualification	Frequency	Percent	Cumulative Percent
Valid			
Secondary school Level	17	10.6	10.6
Some college (Certificate/ Diploma)	102	63.8	74.4
University (Bachelor's degree level)	39	24.4	98.8
Post graduate (Masters/ Doctorate)	2	1.3	100.0
Total	160	100.0	

Source: This Study

4.1.6 Experience

The summary statistics for experience are shown in Table 7. The average experience for the respondents surveyed was found to be about 4.24 years. The respondents were found to have had two years of experience lower quartiles and six years of experience for the upper quartile.

Table 7 Summary Statistics for Experience

Experience (Years)	Frequency Value	Percentage Value
0	1	0.6%
1	25	15.3%
2	33	20.6%
3	36	22.4%
4	15	9.4%
5	6	3.5%
6	6	3.5%
7	7	4.4%
8	4	2.4%
9	3	1.8%
10 and Above	25	15.6%

Source: This Study

The bar chart distribution for experience is illustrated in Figure 5.

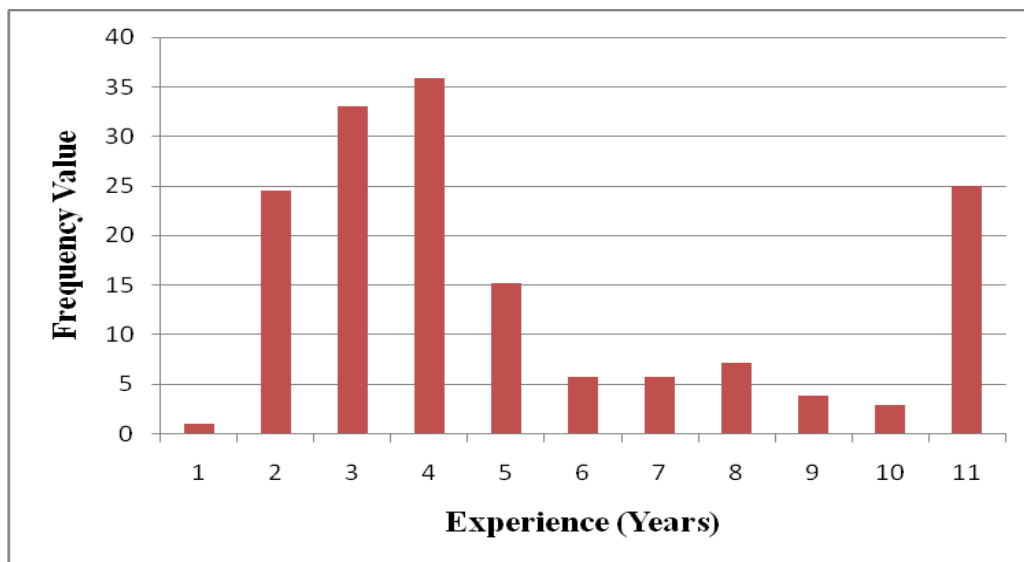


Figure 5 Frequency Distribution of Experience

4.1.7 Training Courses

About 17.5 percent of surveyed ICT SME owner-managers were found to have been exposed to training. A majority 82.5%, however, had not attended any formal training since establishing their SMEs. The summary statistics for the number of training courses variable are shown in table 18. The frequency distribution of the number of training courses returned a mean of 0.1681, a standard deviation of 0.5027 and a variance of 0.27027. The distribution for training courses is illustrated in Figure 6

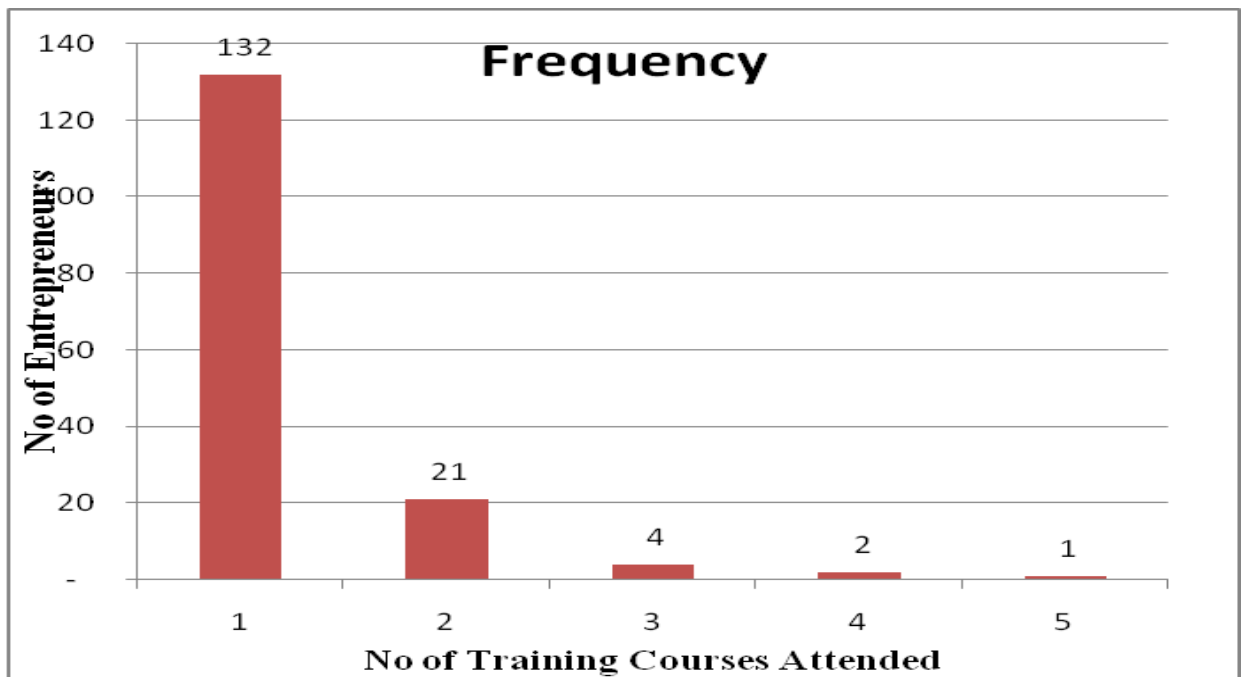


Figure 6 The bar chart distribution for training courses

4.2 Entrepreneurial Orientation

4.2.1 Innovativeness

The frequency distribution for innovativeness is shown in Table 8. Analysis of the variable of Innovativeness resulted in the following statistics: mean 4.044; standard deviation of 4.283.

Table 8 Frequency distribution of Innovativeness

Innovativeness	Frequency Value	Percentage Value
Never	70	43.95%
Rarely	32	20.00%
Sometimes	34	20.94%
Usually	23	14.45%
Always	1	0.63%

Source: This Study

The pie chart distribution for the innovativeness variable is illustrated in Figure 7.

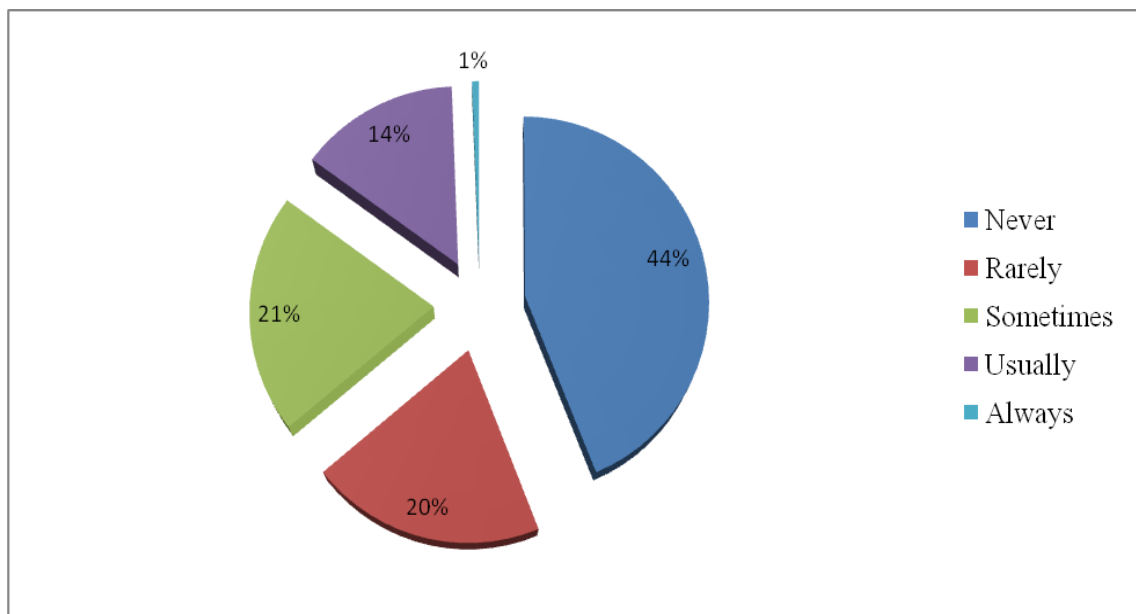


Figure 7 Pie Chart Distribution of Innovativeness

4.2.2 Proactiveness

The summary statistics for proactiveness resulted in the following parameters: mean 7.336 indicating that ICT SMEs sometimes adopts proactive posture when running their enterprises. It returned a standard deviation of 1.597 and a variance of 2.550. The frequency distribution for proactiveness is shown in table 28. The bar chart distribution for the proactiveness variable is illustrated in Figure 8.



Figure 8 Bar chart Distribution for the Pro-activeness Variable

4.2.3 Risk Taking Propensity

The frequency distribution of risk taking propensity is shown in Table 9. In figure 9 the pie chart distribution for risk taking propensity is illustrated.

Table 9 Summary statistics for the Risk Taking Propensity

Proactiveness	Frequency Value	Percentage Value
Never	58	36.28%
Rarely	39	24.19%
Sometimes	27	17.11%
Usually	20	12.39%
Always	16	10.03%

Source: This Study

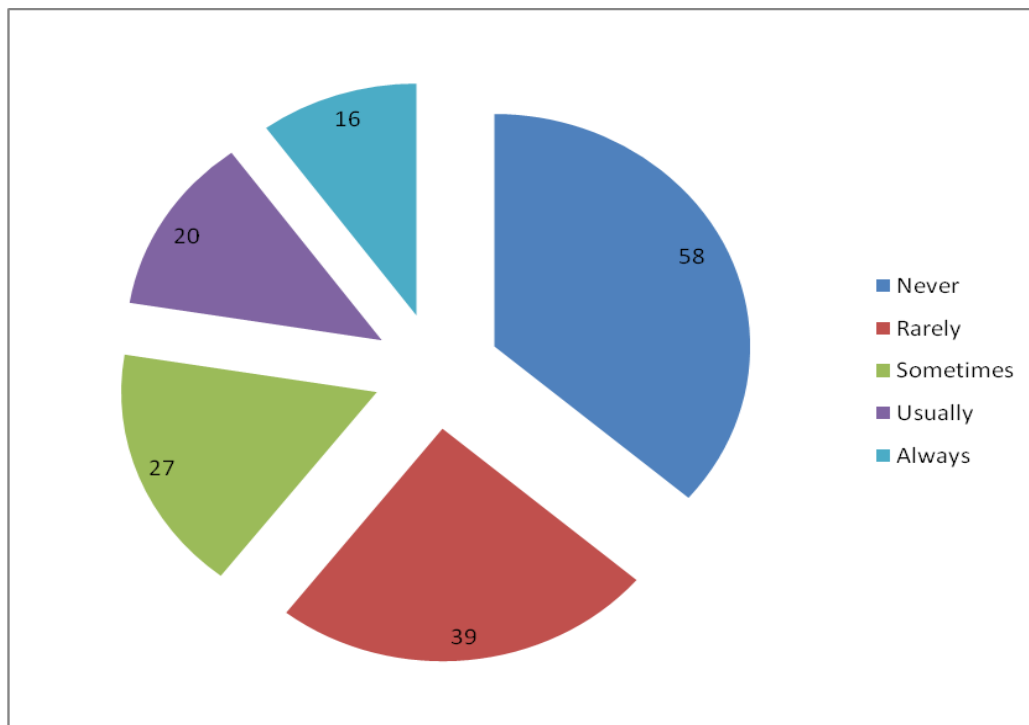


Figure 9 Pie Chart distribution for Risk taking Propensity

4.3 Entrepreneurial Performance

4.3.1 Gross Earnings

The average gross earnings for the surveyed SME owner-managers were found to be just

over a hundred and sixty Thousand shillings a month. The lower quartile of owner-managers was found to earn between about seventy to eighty shillings a month. The upper quartile of surveyed owner-managers was found to have earnings of between about two hundred and two hundred and ten thousand shillings per month. However, in this research no attempt was made to ascertain the net earnings or profit made by the surveyed ICT SMEs. The lowest earnings found in this study were about ten thousand shillings a month. Certain traders were found to have monthly earnings above eleven thousand rand a month. The summary statistics of the earnings variable are shown in Table 10.

Table 10 Summary Statistics of the Earnings Variable

Average Earnings e (Kshs '000)	No. ICT SMEs	Percentage Value
$0 \leq e \leq 60$	4	2.7%
$60 < e \leq 120$	47	29.5%
$120 < e \leq 180$	38	23.9%
$180 < e \leq 240$	26	16.5%
$240 < e \leq 300$	19	11.8%
$300 < e \leq 360$	7	4.4%
$360 < e \leq 420$	6	3.8%
$420 < e \leq 480$	3	1.8%
$e > 480$	9	5.6%

Source: This Study

The pie chart distribution is illustrated in figure 10.

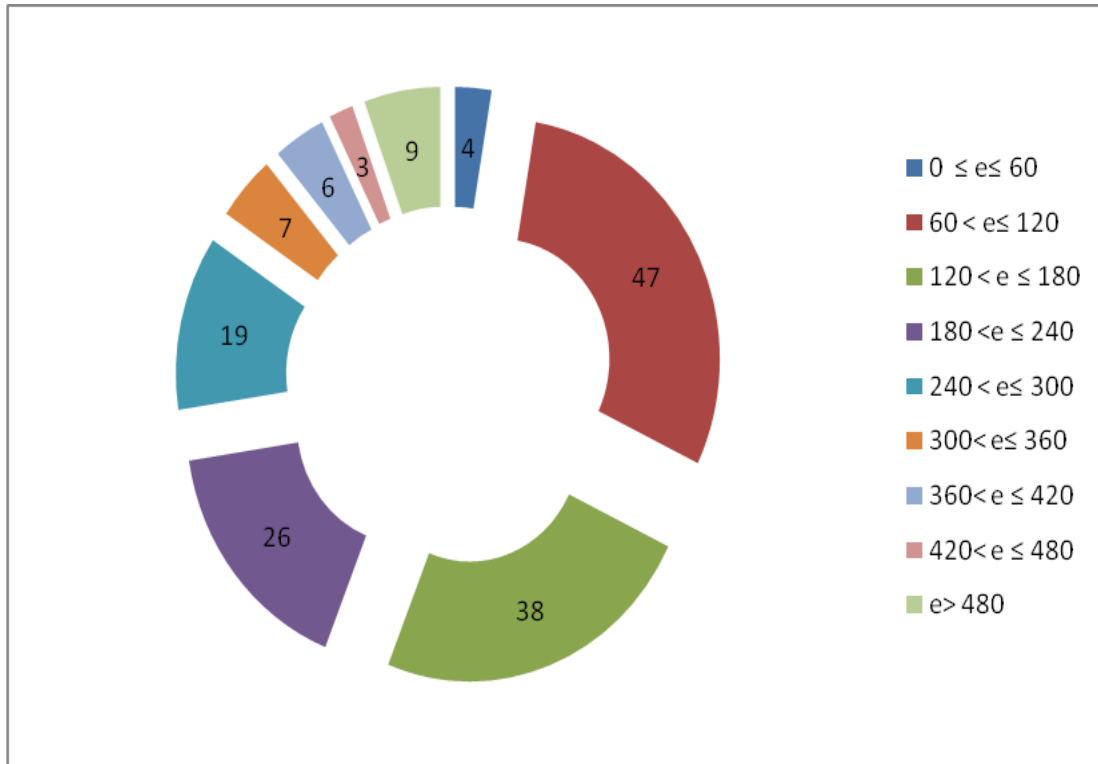


Figure 10 Pie-Chart Distribution of Earnings Variable

4.3.2 Satisfaction

Respondents were asked to indicate their level of satisfaction with continuing with running their own business as compared to taking up salaried employment. The frequency distribution for the satisfaction variable is illustrated in Table 11. The pie chart distribution for satisfaction is shown in Figure 11.

Table 11 Frequency distribution for the satisfaction variable

Level of Satisfaction	Frequency	Percentage Value
Not at all Satisfied	50	31.3%
Slightly Satisfied	14	8.8%
Some What Satisfied	28	17.5%
Moderately Satisfied	22	13.8%
Extremely Satisfied	46	28.8%

Source: This Study

The pie chart distribution for satisfaction is shown in Figure 11.

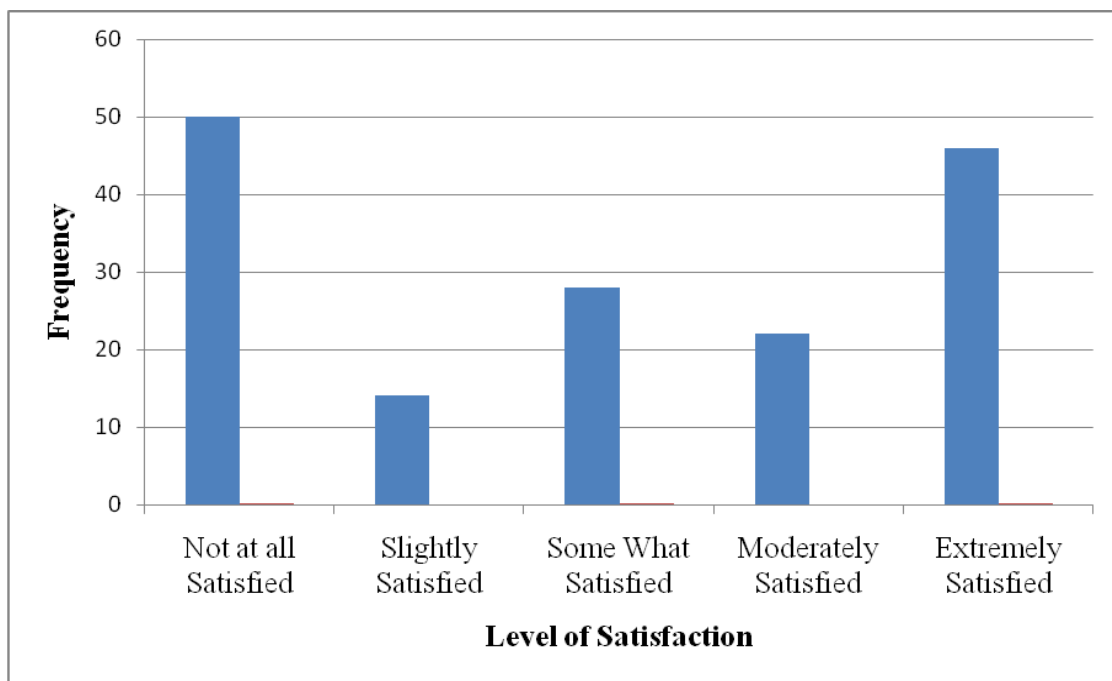


Figure 11 Level of Continuance Satisfaction

4.4 The Results of Testing the Hypotheses

The hypotheses proposed in chapter 2 are reiterated here; they are broken down into null sub-hypotheses in the sections below in order to facilitate the specific testing of these

hypotheses. The results of the testing of the null sub-hypotheses are reported in the following sections.

4.4.1 Results of Hypothesis 1

The testing of this hypothesis relates to the research question: “What SME contextual factors shape EO?” following Null and Alternative Hypothesis were formulated to answer this question.

Null Hypothesis 1 (H1): There is no significant association between EO and SME contextual factors.

Alt. Hypothesis 1 (H1): There is a significant association between EO and SME contextual factors.

The hypothesis was broken down into four null sub-hypotheses in the in order to facilitate the specific testing

Null Sub-hypothesis 1.a: There is no significant association between Innovativeness and SME contextual factors.

Null Sub-hypothesis 1.b: There is no significant association between Proactiveness and SME contextual factors.

Null Sub-hypothesis 1c: There is no significant association between Risk Taking Propensity and SME contextual factors.

(a) Results of Hypothesis 1a

Null Sub-hypothesis 1.a: There is no significant association between EO and SME contextual factors.

Multiple linear regression analysis was run with EO as the dependent variable, and with SME contextual factors as tested predictor variables. SME contextual variables were tested as predictor variables in multiple linear regression analysis. Data from one hundred and sixty respondents were analyzed. The table of results of the multiple linear regression analysis is illustrated in Table 12.

Table 12 Significant Associations between Contextual factors and EO

Variable	Parameter Estimate	Std Error	T-Value	Pr > t	Standardized Estimate
Intercept	3.4408	5.7503	0.6000	0.5500	-
Gender	2.9879	1.1190	2.6700	0.0080	0.1442
Days WPW	3.3097	0.8546	3.8700	0.0001	0.1986
Total Education	1.0320	0.4193	2.4600	0.0144	0.1283
Training Courses	2.1326	1.0265	2.0800	0.0385	0.1055
Satisfaction	1.0618	0.3295	3.2200	0.0014	0.1692
R-Squared	0.1680				
Adjusted R-Sq.	0.1479				

Source: This Study

The model was found to be significant ($p < 0.0001$), with an R squared of 0.1680 and an adjusted R squared of 0.1479. Fourteen point seven-nine percent of the variance was taken to be explained by the regression line. Being male, days worked per week, total

education, training courses and continuance satisfaction were found to be positively and significantly associated with EO. The multiple linear regression equation as obtained utilizing SPSS statistical software for the analysis of EO as the dependent variable (SPSS, 2004), the results of which are illustrated in Table 12:

$$\text{EO} = 3.44077 + 2.98789 \text{ Gender} + 3.30968 \text{ Days Worked per Week} + 1.03202 \\ \text{Total Education} + 2.13255 \text{ Training Courses} + 1.06182 \text{ Satisfaction}$$

In terms of model checking, the diagnostics were considered, with an examination of the plots of the observed variables. The residual points revealed a reasonable scatter around the center line, horizontally. There were no patterns that might have indicated a violation of the assumptions of the model. In this particular tested model, the lack of patterns was interpreted as an indication that no transformations were required. The Durbin–Watson statistic for this model was 1.784. This value was interpreted as close enough to the value of two; this indicating that autocorrelation was not a serious problem in this model.

According to the findings of the reported significant associations between EO and certain SME contextual factors (gender, days worked per week, total education and training courses), the null hypothesis 1.a., that there is no significant association between EO and SME contextual factors, was rejected. The alternative hypothesis was therefore accepted and the null hypothesis rejected.

(b) Results of Hypothesis 1b

Null Sub-Hypothesis 1.b: There is No Significant Association between Innovativeness and SME Contextual Factors.

Innovativeness was tested as the dependent variable in the multiple linear regression analysis model according to the above hypothesis derived from the research question, specifically, “What SME contextual factors shape an EO along the dimension of innovativeness?” The results of the testing of this model and the significant associations are illustrated in Table 13.

Table 13 Significant associations between contextual factors and Innovativeness

Variable	Parameter Estimate	Std Error	T-Value	Pr > t 	Standardized Estimate
Intercept	2.0756	1.3226	1.5700	0.1175	-
Hrs WPD	0.3480	0.1227	2.8400	0.0048	0.1495
R-Squared	0.0660				
Adj. R-Sq.	0.0605				

Source: This Study

The model was found to be significant ($p < 0.0001$), with an R squared of 0.0660 and an adjusted R squared of 0.0605, this indicating that the model explained about 6 percent of the variation with regard to the tested model. Innovativeness, and hours worked per day ($\beta = 0.348$; $p < 0.0048$; $\beta_s = 0.1495$) was found to be positively and significantly associated with innovativeness. The multiple linear regression analysis results shown in table 10 were associated with the following equation for the tested model:

$$\mathbf{Innovation} = 2.07559 + 0.34796 \text{ Hours Worked per Day}$$

According to the testing of null sub-hypothesis 1.b, that there is no significant association between innovativeness and SME contextual factors, this was refuted: such an association was found to exist through hours worked per day. The alternative hypothesis, that there is a significant association between innovativeness and SME contextual factors is therefore accepted.

(c) Results of Hypothesis 1c

Null Sub-Hypothesis 1.c: There is no Significant Association between Proactiveness and SME Contextual Factors.

In terms of the research question tested according to this hypothesis: “What SME contextual factors shape an EO along the dimension of proactiveness?” Proactiveness was tested as the dependent variable, with SME contextual factors tested as predictor variables. The overall multiple linear regression model results with proactiveness as the dependent variable are illustrated below in Table 14.

Table 14 Significant associations between contextual factors and Proactiveness

Variable	Parameter Estimate	Std Error	T-Value	Pr > t 	Standardized Estimate
Intercept	3.9952	0.8985	4.4500	<.0001	-
Days WPW	0.3576	0.1355	2.6400	0.0087	0.1365
Total Education	0.1898	0.0666	2.8500	0.0047	0.1502

R-Squared	0.1200
Adjusted R-Sq	0.1095

Source: This Study

In terms of the observed variable plots, there was no evidence of specific patterns. A best fit was achieved with an R squared of 0.1200, and an adjusted R squared of 0.1095. The model was found to be significant ($p < 0.0001$). The following were found to be positively and significantly associated with proactiveness: days worked per week and total education. The multiple linear regression analysis equation found for the model was the following:

$$\mathbf{Proactiveness} = 3.99516 + 0.35760 \text{ Days Worked per Week} + 0.18979 \text{ Total Education}$$

Investigations of diagnostics for violations of the assumptions of the multiple linear regression models found no serious multicollinearity issues, and the testing for autocorrelation indicated no serious problem for the model.

Due to the significant associations found in terms of the testing this null

hypothesis was found not to be supported. The alternative sub-hypothesis that there is a significant association between proactiveness and SME contextual factors was accepted.

4.4.1.4 Results of Hypothesis 1d

Null Sub-hypothesis 1.d: There is no significant association between Risk Taking Propensity and SME contextual factors.

This hypothesis was derived from the corresponding research question, “What SME contextual factors shape an EO along the dimension of risk taking propensity?” The multiple linear regression model run with risk taking propensity as the dependent variable and contextual factors as predictor variables was found to be significant ($p < 0.0013$). The model had an R squared of 0.0686, with an adjusted R squared of 0.0489. Being male ($\beta = 0.70116$; $p < 0.0947$; $\beta_s = 0.09369$), initial investment ($\beta = 0.07501$; $p < 0.0357$; $\beta_s = 0.12205$), total education ($\beta = 0.41685$; $p < 0.0113$; $\beta_s = 0.14350$) and, experience ($\beta = 0.14903$; $p < 0.0473$; $\beta_s = 0.12512$) were positively and significantly associated with risk taking propensity. Age ($\beta = -0.03931$; $p < 0.0990$; $\beta_s = -0.10275$) was negatively and significantly associated with risk taking propensity. The overall model statistics are illustrated in Table 15.

Table 15 Significant associations between contextual factors with Risk-taking

Variable	Parameter Estimate	Std Error	T-Value	Pr > t	Standardized Estimate
Intercept	2.08318	1.03256	2.02	0.0445	0
Gender	0.70116	0.04184	1.68	0.0947	0.09369
Age	-0.03931	0.02376	-1.65	0.0990	-0.10275
Initial Invest	0.07501	0.03556	2.11	0.0357	0.12205
T/Education	0.41685	0.16372	2.55	0.0113	0.14350
Experience	0.14903	0.07486	1.99	0.0473	0.12512
R-Squared	0.0686				
Adj. R-Sq	0.0489				

Source: This Study

The equation found for the model was the following:

$$\text{Risk Taking} = 2.08318 + 0.70116 \text{ Gender} - 0.03931 \text{ Age} + 0.07501 \text{ Initial Investment} + 0.41685 \text{ Total Education} + 0.14903 \text{ Experience}$$

A plot of standardized residuals by predicted risk taking propensity revealed points that were outside. The identified points were removed and the multiple regression analysis was run again without these points. With these points removed, the significance of the new model increased to $p < 0.0001$ from 0.0013. The R squared increased from 0.0686 to 0.1083 and the adjusted R squared increased from 0.0489 to 0.0917. Age and experience were no longer found to be significant at the 10 percent level of significance. Continuance satisfaction was found to have become positively and significantly

associated with risk taking propensity. The models tested without these points are included here to provide a more comprehensive insight; they represent a majority of the sample tested, without outliers and influential points. However, the model tested with all the points is the model that represents the entire sample.

Due to the significant associations found in terms of testing of the null sub-hypothesis 1.d, that there is no significant association between risk taking propensity and SME contextual factors, is rejected, and the alternative hypothesis, that there is a significant association between risk taking propensity and SME contextual factors is accepted.

4.4.2 Results of Hypothesis 2

This hypothesis was derived from the research question: “To what extent do SME contextual factors and EO contribute to entrepreneurial performance?”

Null Hypothesis 2: There is no significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings.

Alt. Hypothesis 2: There is a significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings

The hypothesis was broken up into two sub-hypotheses in order to facilitate the specific testing of this hypothesis.

(a) **Results of Hypothesis 2a**

Null Sub-hypothesis 2a There is no significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings

A multiple linear regression was run with gross earnings (earnings) as the dependent variable and EO as the independent or predictor variable. The model was found to be significant ($p < 0.0003$), with an R squared of 0.0470 and an adjusted R squared of 0.0413. EO ($\beta = 0.00896$; $p < 0.0285$; $\beta_s = 0.11827$) was found to be positively and significantly associated with earnings. The overall model statistics are shown in table 16.

Table 16 The overall model statistics of the multiple linear regression run with Total EO as independent variable and Earnings as the dependent variable

Variable	Parameter Estimate	Std Error	T-Value	Pr > t 	Standardized Estimate
Intercept	2.47460	0.1520	16.2800	<0.0001	-
Total EO	0.00896	0.0041	2.2000	0.0285	0.0118
R-Squared	0.0470				
Adj. R-Sq	0.0413				

Source: This Study

The equation found for the regression was the following:

$$\mathbf{Earnings} = 2.47460 + 0.00896 \mathit{Total EO}$$

The plot of the standardized residuals of earnings by predicted earnings and of the residuals of earnings by total entrepreneurial orientation revealed that certain of these

residual points were outside the range limit of plus or minus two ($|x| = 2$). The identified influential points and outlier points were removed and the linear regression analysis was run again. With these points removed the variables total entrepreneurial orientation and earnings were no longer found to be significantly associated with each other.

In terms of the significant associations found between EO and gross earnings with regard to the entire tested sample, null sub- hypothesis 2.a, that there is no significant association between EO and gross earnings is rejected, and the alternative sub-hypothesis 2.a, that there is a significant association between EO and gross earnings is accepted.

4.4.2.2 Results of Hypothesis 2b

Null Sub-Hypothesis 2b: There is no significant association between EO dimensions, or SME contextual factors, and Gross Earnings.

This hypothesis was derived from the research question, “To what extent do SME contextual factors and EO dimensions contribute to entrepreneurial performance?” A multiple linear regression analysis was run with gross earnings as the dependent variable and SME contextual factors and EO dimensions as independent variables. The observed and the residual plots were examined for trends and diagnostic features. A pattern was clearly evident with regard to the plot of the residuals of earnings by predicted earnings. According to this pattern, it was judged necessary to undertake a transformation of the dependent variable: earnings. Table 17 illustrates the overall model statistics before the

transformation process.

Table 17 Overall Statistics of the untransformed model with Earnings as dependent variable

Variable	Parameter Estimate	Std Error	T- Value	Pr > t 	Standardized Estimate
Intercept	3.7387	3.65634	1.02	0.3073	0
Hrs WPD	0.68901	0.33049	2.08	0.0378	0.10526
Initial Investment	0.49886	0.10227	4.88	<0.0001	0.24725
Satisfaction	1.57066	0.38789	4.05	<0.0001	0.21111
R-Squared	0.1685				
Adj. R-Sq.	0.1560				

Source: This Study

A transformation of the dependent variable was undertaken and the square root of gross earnings was initially used. The statistics of the overall model tested with the square root of earnings as the dependent variable are illustrated in Table 18. The plot of the residuals improved slightly. The R squared for this model was found to be 0.1807 with an adjusted R squared of 0.1684.

Table 18 Overall statistics for the multiple linear regression model with the square root of Earnings as the dependent variable

Variable	Parameter Estimate	Std Error	T- Value	Pr > t 	Standardized Estimate
Intercept	1.94505	0.46869	4.15	<0.0001	0
Hrs WPD	0.10799	0.03822	2.83	0.005	0.1417
Initial Investment	0.05321	0.01225	4.34	<0.0001	0.22653
Total Education	0.11205	0.05814	1.93	0.0548	0.10093
Satisfaction	0.19458	0.04527	4.3	<0.0001	0.22464
<hr/>					
R-Square	0.1807				
Adj. R-Sq	0.1684				

Source: This Study

However, since a transformation had been effective in improving the residual plot appearance, the other potential transformation of such a “wedge shape” apparent in the residuals was also considered: a natural log transformation. Earnings had been captured as a count of shilling values, with increments treated as a continuous variable. The distribution of the errors underlying the model might therefore have been violating the assumption of normality of these errors.

The distribution of this data, therefore, might have been skewed, and comparing values against their ratios rather than their differences was not considered a problem in terms of testing the contribution of predictor variables to the dependent variable. This transformation might have been considered appropriate if the standard deviation had been found to be increasing in direct proportion to the mean. A natural log transformation was undertaken in order to test if the fit of this model would improve.

The overall statistics of the multiple linear regression model after the dependent variable underwent a natural log transformation are shown in table 19.

Table 19 Overall statistics of the multiple linear regression model run with the natural log of Earnings as the dependent variable

Variable	Parameter Estimate	Std Error	T-Value	Pr > t 	Standardized Estimate
Intercept	1.33036	0.26067	5.10	<0.0001	0
Hrs WPD	0.06618	0.02075	3.19	0.0016	0.15822
Initial Investment	0.02451	0.0067	3.66	0.0003	0.19006
Total Education	0.06889	0.03229	2.13	0.0336	0.11305
Experience	0.02884	0.01444	2.00	0.0467	0.11543
Training Courses	0.12612	0.0758	1.66	0.0971	0.08234
Satisfaction	0.10326	0.02492	4.14	<0.0001	0.21716
Risk Taking	0.01805	0.01054	1.71	0.0878	0.08603
<hr/>					
R-Squared	0.2136				
Adj. R-Sq	0.1921				

Source: This Study

The R squared was found to have improved to 0.2136 and the adjusted R squared to have improved to 0.1921. This was the best fit obtained, and the natural log transformation model was the model chosen for interpretation. Hours worked per day, initial investment, total education, experience, training courses, continuance satisfaction and risk taking propensity were found to be positively and significantly associated with earnings. The equation found for the multiple linear regression results shown in Table 19 was the following:

$$\text{Earning} = 1.33036 + 0.06618 \text{ Hours Worked per Day} + 0.02451 \text{ Initial Investment} + 0.06889 \text{ Total Education} + 0.02884 \text{ Experience} + 0.12612 \text{ Training Courses} + 0.10326 \text{ Satisfaction} + 0.01805 \text{ Risk-Taking Propensity}$$

In terms of the results reported in this section, and the significant associations identified between the EO dimension: risk taking propensity and earnings, and between certain contextual factors and earnings, the null sub- hypothesis 2b, that there is no significant association between EO dimensions, or SME contextual factors, and gross earnings was rejected. The alternative sub-hypothesis, that there is a significant association between EO, EO dimensions or SME contextual factors and gross earnings, was therefore accepted.

4.4.3 Results of Hypothesis 3

This hypothesis analyses the contribution of EO dimensions and SME contextual factors to continuance satisfaction as a dimension of entrepreneurial performance. The sub-hypotheses are used to specifically test the following hypothesis relating to continuance satisfaction.

- a. **Null Hypothesis 3:** There is no significant association between EO, EO dimensions, or SME contextual factors, and Continuance Satisfaction
- b. **Alt. Hypothesis 3:** There is a significant association between EO, EO dimensions, or SME contextual factors, and Continuance Satisfaction

This hypothesis was derived from the research question: “To what extent do SME

contextual factors and EO dimensions contribute to entrepreneurial performance?” The hypothesis was broken up into two sub-hypotheses in order to facilitate the specific testing of this hypothesis.

(a) Results of Hypothesis 3a

Null Sub-hypothesis 3.a: There is no significant association between EO and Continuance Satisfaction.

A multiple linear regression was run with continuance satisfaction, referred to as satisfaction, as the dependent variable and EO orientation as an independent or predictor variable, together with contextual variables as independent variables. The overall statistics of the multiple linear regression model run with continuance satisfaction as the dependent variable are illustrated in table 20.

Table 20 Overall statistics of the multiple linear regression model run with continuance satisfaction as the dependent variable

Variable	Parameter Estimate	Std Error	T-Value	Pr > t 	Standardized Estimate
Intercept	2.7281	0.87953	3.10	0.0021	0
Days WPW	-0.40794	0.13532	-3.01	0.0028	-0.15359
Total Education	-0.17076	0.06602	-2.59	0.0101	-0.1323
Experience	0.05113	0.03063	1.67	0.096	0.0973
Earnings	0.03157	0.00683	4.64	<.0001	0.23565
Total EO	0.02355	0.00826	2.85	0.0046	0.14776
<hr/>					
R-Square	0.1957				
Adj. R-Sq.	0.1787				

Source: This Study

The overall model was significant ($p < 0.0001$), with an R squared of 0.1957 and an adjusted R squared of 0.1787. The equation found for the model was the following

$$\text{Satisfaction} = 2.72810 - 0.40794 \text{ Days Worked per Week} - 0.17076 \text{ Total Education} + 0.05113 \text{ Experience} + 0.03167 \text{ Earnings} + 0.02355 \text{ EO}$$

An examination of the observed plots and residual plots was undertaken and a natural log transformation of the dependent variable was tested in order to ascertain if any clearly measurable improvement was evident. No clear improvement was evident indicating that transformation was not necessary. In order to facilitate a more precise interpretation, the standardized residuals were tested and points greater than or less than the threshold of two were identified and removed. The table of tested relationships is shown for the model with points removed is illustrated in Table 21.

Table 21 Overall statistics of the multiple linear regression model run with continuance satisfaction as the dependent variable with points removed

Variable	Parameter Estimate	Std Error	T-Value	Pr > t	Standardized Estimate
Intercept	2.57027	0.86176	2.98	0.0031	0
Days WPW	-0.40319	0.13228	-3.05	0.0025	-0.15272
Total Education	-0.18692	0.0648	-2.88	0.0042	-0.14564
Experience	0.06214	0.03008	2.07	0.0396	0.11724
Earnings	0.03337	0.00675	4.95	<0.0001	0.24666
Total EO	0.02447	0.00807	3.03	0.0026	0.15439
R-Squared	0.2299				
Adj. R-Sq.	0.2134				

Source: This Study

The model with points removed was found to be significant ($p < 0.0001$), with an R squared of 0.2299 and an adjusted R squared of 0.2134. In terms of the other diagnostic processes, no serious problems were identified that were judged to potentially disqualify an interpretation of the reported results.

According to the significant association found between EO and continuance satisfaction, the null sub-hypothesis that no significant association exists between continuance satisfaction and EO was rejected. The alternative hypothesis was therefore found to be supported: that there is a significant association between EO and continuance satisfaction.

4.4.3.2 Results of Hypothesis 3b

Null Sub-hypothesis 3.b: There is no significant association between EO dimensions, or SME contextual factors, and Continuance Satisfaction.

This hypothesis was tested, as a sub-hypothesis of null hypothesis 3, that there is no significant association between EO or contextual factors; and continuance satisfaction. A multiple linear regression was run with continuance satisfaction as the dependent variable, and with EO dimensions and contextual variables as independent or predictor variables. The overall statistics of the multiple linear regression model with continuance satisfaction as the dependent variable, run with the total sample of respondents, is shown in table 22.

Table 22 The overall statistics of the testing of the multiple linear regression of Continuance Satisfaction as the dependent variable without points removed

Variable	Parameter Estimate	Std Error	T-Value	Pr > t	Standardized Estimate
Intercept	2.2114	0.83544	2.65	0.0085	0
Days WPW	-0.35113	0.12521	-2.8	0.0053	-0.1322
Total Education	-0.18115	0.06094	-2.97	0.0032	-0.14134
Earnings	0.02954	0.00643	4.59	<0.0001	0.21979
<hr/>					
R-Squared	0.2782				
Adj. R-Sq	0.2652				

Source: This Study

The model was found to be significant ($p < 0.0001$), with an R squared of 0.2782 and an adjusted R squared of 0.2652. In terms of diagnostics, no problems were identified that were judged to reasonably potentially disqualify an interpretation of the reported results. The equation for the tested model without points removed was found to be the following:

$$\text{Satisfaction} = 2.21140 - 0.35113 \text{ Days Worked per Week} - 0.18115 \text{ T/Education} + 0.02954 \text{ Earnings} + 0.14235 \text{ Experience}$$

In terms of the significant associations found between EO (experience) and continuance satisfaction, and between contextual factors and continuance satisfaction, null hypothesis 3b was rejected. The alternative hypothesis, that there was a significant association between SME contextual factors or EO dimensions and continuance satisfaction was found to be supported.

4.5 Discussion of Results

The purpose of this section is to discuss the findings of this research in view of the literature review and the results presented and the research hypotheses. In terms of the testing of the derived hypotheses, Table 23 summarizes the results of the null hypotheses tested and alternative hypotheses accepted.

Table 23 Summary of Results of the Null Hypotheses and Alternative Hypotheses Tested

	Null Hypothesis	Result
1	There is no significant association between EO and SME contextual factors.	Null Hypothesis Rejected Alternative Hypothesis Accepted
2	There is no significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings.	Null Hypothesis Rejected Alternative Hypothesis Accepted
3	There is no significant association between EO, EO dimensions, or SME contextual factors, and Satisfaction	Null Hypothesis Rejected Alternative Hypothesis Accepted

Source: This Study

4.5.1 Research Question 1

What contextual factors shape entrepreneurial orientation in owner-managers of small and medium enterprises in information and communications technology sector in Nairobi?

In terms of this research question, and the testing of the derived hypothesis, the following positive associations with EO were found to be significant: gender (being

male), days worked per week, total education, training courses and continuance satisfaction. Table 24 below gives a summary of significant predictors of earnings as a dimension of entrepreneurial performance

Table 24 Significant predictors of Total Entrepreneurial Orientation

Variables with positive association	Significance
Gender (Male)	p<0.0080
Days Worked per Week	p<0.0001
Total Education	p<0.0144
Training Courses	p<0.0385

Source: This Study

A significant and positive association was found between gender (p<0.0080) and EO. Being male was associated with having a higher endowment of EO. In terms of ICT SMEs, differences between male and female traders might be relevant in terms of a differentiated contribution to entrepreneurial performance that might reflect societal or other relevant factors unique to the differences between the genders. Gatewood *et al.* (1995) found differences between male and female entrepreneurs in terms of reasons for entrepreneurial persistence.

A negative relationship was found between age and entrepreneurship by Minniti and Levesque (2008). As individuals age, the opportunity cost of entrepreneurial activity increases, and the relative return decreases as individuals grow older. According to this a negative relationship would be expected to be found between age and entrepreneurship.

This was not confirmed in this context with regard to EO, to the extent that EO represented entrepreneurship, as no significant association between age and EO was found.

A positive and significant association ($p < 0.0144$) was found with total education as a predictor of EO, this potentially supporting the conception of entrepreneurship as a potentially learned orientation, the how perspective of entrepreneurship (Stevenson and Jarillo, 1990). This was a key argument of this work: that an EO, and entrepreneurial performance, is associated with entrepreneurial behaviour that can be learned.

A positive association was found between EO and training courses. This finding was taken to support the contention of Stevenson and Jarillo (1990) that the “how” of entrepreneurship can be learned, to the extent that EO could be regarded as the how of entrepreneurship and that the association with training courses represented the net results of a learning effect.

Training courses attended by participants since entry into the business were found to have a positive and significant ($p < 0.0385$) association as a predictor of total EO. This might indicate that the postulated potential positive effects of a higher EO might be accessible through access to training courses. If this were the case, then this would be a factor that could contribute to the shaping of an individual’s EO. Training courses were therefore found to potentially enable entrepreneurial behaviour, or potentially enable an individual’s EO.

(b) Sub Questions 1(a) – 1(c)

The research question “What contextual factors shape entrepreneurial orientation in owner-managers of small and medium enterprises in information and communications technology sector in Nairobi?” was further broken down into three sub-questions pertaining to the dimensions of EO – innovativeness, proactiveness and risk taking.

- a) What contextual factors shape the innovativeness dimension of an entrepreneurial orientation of SMEs in the ICT Sector in Nairobi?
- b) What contextual factors shape an innovativeness dimension of an entrepreneurial orientation of SMEs in the ICT Sector in Nairobi?
- c) What contextual factors shape risk taking propensity dimension of an entrepreneurial orientation of SMEs in the ICT Sector in Nairobi?

To answer this question, one hypothesis and three sub-hypotheses were formulated. EO dimensions are considered in turn in this section. The results of the hypothesis testing process and the significant associations found relating to innovativeness, proactiveness and risk taking propensity are analyzed.

(c) Null Sub-hypothesis 1.a: There is no significant association between Innovativeness and SME contextual factors.

In terms of the related research question being tested, specifically, “What SME contextual factors shape the innovativeness dimension of an EO?” innovativeness was tested as the dependent variable in a multiple linear regression model. Hours worked per day was found to be a positive and significant predictor of innovativeness

($p < 0.0084$). It might be possible that hours worked per day shape innovativeness in that individuals that work more hours per day might become more innovative. Innovativeness, in this context, might therefore be shaped by some element of work ethic, to the extent that work ethic might be reflected in the hours worked per day measure. Therefore, the finding of a positive association between innovativeness and hours worked per day might indicate that some higher level of engagement, or commitment of entrepreneurs to their work, is associated with more innovative individuals, and that this higher level of engagement or commitment is captured through the dimension of longer hours worked. Hours worked per day as a tested factor was also found to be a predictor of higher earnings. An explanation of this might be that higher earning entrepreneurs might choose to substitute leisure time for working time.

According to McCormick and Maalu (2011) higher levels of human capital may be associated with higher levels of innovation. This was not found to be supported. An insignificant association was found between innovativeness and education or any of the learning-related contextual factors. Innovativeness was therefore not found to be shaped by education or human capital in this context. Higher education or human capital endowments were found to be associated with higher earnings (total education, $p < 0.0336$; experience, $p < 0.0467$; training courses, $p < 0.0971$). These endowments perhaps enable entrepreneurs to realize that innovativeness was not rewarded in this context.

(d) *Null Sub-hypothesis 1.b:* There is no significant association between

Proactiveness and SME contextual factors.

A positive and significant association was found for days worked per week as a predictor of proactiveness ($p < 0.0087$). This might be an example of seizing opportunity and acting opportunistically. A more proactive individual might seize the opportunity to maximize income in a specific situation, and might be expected to work more days per week in this regard. Days worked per week and total education were found to potentially shape proactiveness. These factors were found to be significant predictors of an EO along the dimension of proactiveness. It is possible that education might shape proactiveness as a dimension of EO, and it is possible that proactiveness might shape education as an endowment of human capital within the individual.

If education indeed shapes proactiveness, and the positive and significant result indicates that this is possible, this would support the theoretical contribution of Stevenson and Jarillo (1990) of entrepreneurship as relating to a “how” dimension, which is able to be learned to the extent that education might enable the “how” of proactive entrepreneurial behaviour.

(e) *Null Sub-hypothesis 1.c:* There is no significant association between Risk Taking propensity and SME contextual factors.

In terms of the research question: “What SME factors shape risk taking propensity?” and the findings of the testing process, gender, age, initial investment, total education and experience were found to be significantly associated with risk taking propensity. Gender ($p < 0.0947$) was found to be positively and significantly associated

with risk taking propensity; being male was associated with higher levels of risk taking propensity. This indicates that risk taking propensity may be shaped by gender and this may be further interpreted as a discriminatory relationship in that individuals have no control over their gender.

A negative association was found between age and risk taking propensity ($p < 0.0990$) in this study. This confirms that risk taking as a component of EO is expected to be negatively associated with age as postulated by Minniti and Levesque (2008). If lower returns are more acceptable to older entrepreneurs, and if acceptance of lower returns is associated with lower risk taking propensity, then this might predict that age is negatively associated with risk taking propensity. The older entrepreneurs become, therefore, the less likely they are to take risks. This effect might work against the effect of experience, however, in that if experience is associated with the learning of risk taking propensity (in a specific context) as a dimension of EO, age might have an effect in the opposite direction.

In terms of testing the relationship between risk taking propensity and initial investment, a positive and significant ($p < 0.0357$) association was found. Risk taking propensity might be shaped by initial investment, as the higher the initial investment of an SME, the higher the level of risk taking propensity found in terms of the testing procedure. The positive association between risk taking propensity and earnings indicated that risk taking was rewarded in this context. Risk taking propensity was found to be a significant and positive predictor of initial investment, together with gender (being male), age, total education and earnings. Risk taking propensity was found to be a

positive and significant predictor of education, and total education ($p < 0.0113$) was found to be a positive and significant predictor of risk taking propensity. The potential contribution of this dimension of EO to earnings and the potential effect of education in shaping this orientation might support the argument that education has an effect in shaping EO along a dimension that might increase earnings.

Experience in this study was represented by the length of time the ICT SME had been in operation. Experience ($p < 0.0473$) was found to be positively and significantly associated, as a predictor, of risk taking propensity. The association found between risk taking propensity and experience might reflect an adaptive or learned response as a result of the continued exposure of the individual to the context over time.

According to the association found between experience and risk taking propensity, this finding indicated that experience potentially shapes risk taking propensity. It is possible that experience shapes risk taking propensity through some kind of learning effect inherent in experience.

Risk taking propensity, tested as to the factors that might contribute to the shaping of this dimension of an EO, revealed significant and positive associations with: gender, initial investment, total education and experience. A factor potentially having a negative effect in terms of shaping the risk taking propensity dimension was found to be increased age. With regard to risk taking propensity, factors such as being male, initial investment, and total education in terms of their potentiality to shape a risk taking propensity, are not considered to be within the power of the individual to control or improve.

4.5.2 Research Question 2

To what extent do Entrepreneurial Orientation dimensions and contextual factors influence performance of SMEs in the ICT sector in Nairobi?

The dimensions of entrepreneurial performance: earnings and continuance satisfaction are considered in this section in terms of the analysis of the results of the hypothesis testing process. Two hypotheses were derived from this research question:

Null Hypothesis 2: There is no significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings.

Null Hypothesis 3: There is no significant association between EO, EO dimensions, or SME contextual factors, and Continuance Satisfaction

(a) *Null Hypothesis 2:* There is no significant association between EO, EO dimensions, or SME contextual factors, and Gross Earnings.

As a component of entrepreneurial performance for the purposes of this work, earnings is considered to be an important dimension in terms of the contention that certain factors might be associated with the improved performance of SMEs. Also considered is the possibility that certain of these factors might represent variables that are under the control of the individual in terms of the potential facilitation of improved performance. As a universal measure of improvement, earnings is considered to represent an objective measure, as opposed to continuance satisfaction, which is

considered to be a subjective measure that accrues to individuals selectively, according to the effect of perception and other internal factors within the individual. Table 25 gives a summary of significant predictors of earnings as a dimension of entrepreneurial performance.

Table 25 Significant predictors of Earnings

Variables with positive association	Significance
Hours Worked per Day	p<0.0016
Initial Investment	p<0.0003
Total Education	p<0.0336
Experience	p<0.0467
Training Courses	p<0.0971
Continuance Satisfaction	p<0.0001
Risk Taking Propensity	p<0.0878

Source: This Study

In terms of the multiple linear regression model run with EO as the predictor variable and earnings as the dependent variable, EO was found to be positively and significantly (p<0.0285) associated with earnings. It is argued that EO is shaped by learning factors and contextual factors, and that an EO contributes to entrepreneurial performance in that opportunity is pursued optimally according to a specific context. The finding of a significant association between EO and earnings was found to support this conception.

In terms of gender distribution, 57 percent of respondents were found to be male. In terms of the testing of contextual factors with regard to their effect on earnings, gender was not found to be significantly associated with earnings. The finding of no

significant difference between earnings for males or females might indicate that the context is not inherently discriminatory along the dimension of gender in terms of earnings potential.

Minniti and Levesque (2008) found support for a model showing that after a certain threshold age is reached, “individual willingness to invest time in starting new firms declines.” According to this conception, a lower level of EO might be expected to be associated with older individuals. However, no significant association was found between age and earnings. In terms of this, the effect of there being a return on age, as offered by Becker (1993), was not found to be supported in ICT SMEs.

Entrepreneurs are associated with the working of long hours (Bird & Jelinek, 1988). An element of work ethic is thus perceived to exist in terms of entrepreneurial individuals. Theory predicting a positive association between hours worked per day and earnings was supported. Hours worked per day ($p < 0.0016$) was found to be positively and significantly associated, as a predictor, of earnings. An EO can have a positive effect on the internal practices of an enterprise, as individuals in more entrepreneurial enterprises “may experiment more freely and thereby be more willing to devote substantial energy” to their enterprises according to De Clerq and Ruis (2007). A higher level of EO might be associated with longer hours worked. An association was found between more hours worked per day and innovativeness, and a positive association with earnings was found for increased hours worked per day.

Initial investment ($p < 0.0003$), was found to be positively and significantly associated with earnings. This would indicate that the more an entrepreneur invests in

their enterprise on entry into the sector, the more return is achieved, or that there is a return on capital.

No significant association was found between earnings and the level of tertiary education. About 8.26 percent of the ICT SMEs respondents were found to have at least some tertiary education. Twenty-eight were found to have had some tertiary education. Nine were found to have completed a tertiary qualification. Two were found to have some postgraduate education, and one was found to have a completed postgraduate qualification. A return on tertiary education was not found to exist in this sector.

A positive and significant ($p < 0.0467$) association was found between experience and earnings. There might therefore be evidence of a learning effect of some nature existing in this regard. This effect, if confirmed as a learning effect, would confirm conceptions of elements of entrepreneurship as being able to be learned (Stevenson and Jarillo, 1990). The positive association between experience and earnings might indicate that learning does occur as a result of experience. Experience might, over time, contribute to an increasingly optimal fit between the context and the EO of the enterprise through the effect of context in shaping EO through experience.

A positive association between training courses and earnings was expected to be found in terms of the testing, and this expectation was confirmed. Training courses ($p < 0.0971$) were found to be positively and significantly associated with increased earnings. ICT SME entrepreneurs that had received training, or had attended training courses, were found to be associated with higher earnings. This indicated that some increase in productivity or some effect associated with this training might have increased

earnings potential in this context.

Continuance Satisfaction ($p < 0.0001$) was found to be positively and significantly associated with earnings for the entire tested sample of respondents. Continuance satisfaction was found to be a significant predictor of earnings and earnings was also found to be a significant predictor of continuance satisfaction. Higher levels of continuance satisfaction might possibly be associated with a higher degree of engagement with the ICT SMEs which might enable higher earnings.

Risk taking propensity ($p < 0.0878$) was found to be positively and significantly associated with earnings. Any intervention or any factor that might increase an endowment of risk taking propensity for an entrepreneur in this context might increase earnings for these individuals. Covin and Slevin (1989) argue that in an environment that is not hostile, an entrepreneurial posture might “not be essential for superior performance, and could possibly represent an unwarranted risk” for smaller enterprises. Risk taking propensity was the only EO dimension found to be positively associated with earnings.

(b) Null Hypothesis 3: There is no significant association between EO, EO dimensions, or SME contextual factors, and Continuance Satisfaction

With reference to the research question of “To what extent do SME contextual factors and EO dimensions contribute to entrepreneurial performance?” specifically along the dimension of continuance satisfaction, EO and earnings were found to be positive and significant predictors of continuance satisfaction. Days worked per week

and total education were found to be significant and negative predictors of continuance satisfaction. Table 26 gives a summary of significant predictors of continuance satisfaction as a dimension of entrepreneurial performance.

Table 26 Significant predictors of Continuance Satisfaction

Variables with positive association	Significance	Variables with negative association	Significance
Earnings	p<0.0001	Days Worked per Week	p<0.0053
		Total Education	p<0.0032

Source: This Study

In terms of the testing of the entire sample of respondents, higher levels of initial investment were found not to be positively and significantly associated with increased continuance satisfaction. This might indicate that there is no direct return on financial capital in terms of continuance satisfaction in this context.

Higher levels of total education were found to be negatively and significantly (p<0.0032) associated with increased continuance satisfaction. This might indicate that there might be a negative return on human capital in this context, along the dimension of continuance satisfaction. Human capital was found by Gimento *et al.* (1997) to be positively related to enterprise performance in terms of earnings but not necessarily related to survival. Individuals might therefore earn more due to higher levels of human capital yet not necessarily continue in an entrepreneurial activity. Human capital, as represented by total education was found to be positively associated with earnings, but negatively associated with continuance satisfaction in this context. More educated

individuals might be aware of different potential opportunities that may be available for more highly educated individuals.

4.6 Conclusion

In this section the results of the testing of the hypotheses were discussed in terms of the answering of the research questions. The testing of theory relating the dimensions of EO to contextual factors and relating EO dimensions and contextual factors to entrepreneurial performance was discussed. The results were analyzed and discussed.

The following chapter concludes the dissertation, as conclusions based upon the tested results are presented and the implications and issues for further research are derived from the analysis.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This research was based on the small business environment in the information and Technology sector in Nairobi. It investigated the contextual factors that shape the sub-dimensions of entrepreneurial orientation namely, innovativeness pro-activeness and risk-taking, and their impact on a firm's performance. This chapter presents the summary of the study, the findings, conclusions, interpretation of the results and recommendations for action and directions for future research in

5.2 Summary of Research Objectives

A quantitative research study was undertaken of ICT SMEs in Nairobi. The objectives of this research were to investigate:

- i. Factors which contribute to the shaping of an entrepreneurial orientation in ICT SMEs context; and
- ii. The potential contribution of SME contextual factors and entrepreneurial orientation dimensions to entrepreneurial performance.

In terms of these objectives, research questions were formulated along with hypotheses to answer the research questions. The core null-hypotheses and alternative hypotheses developed to answer the research questions were broken down into null sub-hypotheses and these were tested. Based upon the results of the testing of the null sub-hypotheses,

the three null hypotheses were rejected. Without seeking to reiterate the analyses undertaken in chapter 4, the specific findings relating to the answering of the research questions are summarized.

5.2.1 Research Question 1

What contextual factors shape innovativeness as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?

Hours worked per day were found to potentially shape innovativeness. Hours worked per day were also found to be a predictor of higher earnings. The conception that higher levels of human capital may be associated with higher levels of innovation (Aldrich, 1990) was not found to be supported, according to the research findings; this was surprising and unexpected.

5.2.2 Research Question 2

What contextual factors shape proactiveness as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?

Proactiveness was found to potentially be shaped positively by total education. Proactiveness was measured as growth willingness, and its association with education as a research finding supported theory by Davidsson (1989) that increased levels of education would be associated with proactiveness. The contention of Stevenson and Jarillo (1990) that entrepreneurship behaviour, that the “how” of entrepreneurship, is able to be learned, is considered to be supported to the extent that total education was

found to potentially shape proactiveness, and to the extent that this relationship could be explained as a learned association.

5.2.3 Research Question 3

What contextual factors shape risk-taking propensity as an entrepreneurial orientation dimension in SMEs in the ICT Sector in Nairobi?

The results revealed that risk taking propensity was found to be shaped by gender in that being male was associated with higher risk taking propensity. Risk taking propensity was also found to potentially be positively shaped by initial investment, by total education and experience. Entrepreneurs might have a different perception of risk than distanced others that take a rational perspective on scenarios (Baron & Ward, 2004), and this conception was found to be supported in that individuals with higher levels of risk taking propensity were found to have risked more in terms of initial investment when entering the sector.

The negative relationship found between age and entrepreneurship by theorists such as Minniti and Levesque (2008) was found to be supported, to the extent that age was found to be negatively associated with risk taking propensity as a dimension of entrepreneurial orientation. This finding suggests that as entrepreneurs grow older, they become less risk taking or become risk averse. Age therefore is taken to shape risk taking propensity negatively.

5.2.4 Research Question 4

To what extent do contextual factors and entrepreneurial orientation dimensions contribute to increased entrepreneurial performance as measured by increased earnings and satisfaction in SMEs in the ICT Sector in Nairobi?

Total entrepreneurial orientation; hours worked per day; initial investment; total education; experience; training courses; risk taking propensity and continuance satisfaction were potentially found to positively contribute to increased earnings. Lumpkin and Dess (2001) avers that a contingency framework is needed to gauge factors that might have an effect on the entrepreneurial orientation to performance relationship, in that certain environments are less suited to risk taking or other behaviours that might be too entrepreneurial in relation to a specific environment. The association of total education with earnings supported the theory offered by human capital theory that stresses the potential of the individual, through the investment in education, to solve the problem of low wages and unemployment through behavioural factors such as the acquisition of skills (Becker, 1993). Therefore Becker's (1993) conception that greater endowments of human capital, as measured by level of education, would result in a measurable return on human capital was found to be supported in this context.

The positive and significant association found between experience and earnings suggested that an adaptive learning effect of some nature might exist in this sector, which would perhaps support conceptions that regard elements of entrepreneurship as being able to be learned (Stevenson and Jarillo, 1990). The positive association found

between training courses and increased earnings was taken to support the argument that entrepreneurial behaviour that is related to higher earnings can be learned.

Continuance Satisfaction was found to be positively and significantly associated with earnings for the entire tested sample of respondents. This finding suggested that the more satisfied entrepreneurs were with continuing in business, the more earnings they were found to make. Lumpkin and Dess (2001) contend that “the idea that the dimensions of EO may vary independently is consistent with the work of prior entrepreneurship scholars, who have proposed different typologies to characterize entrepreneurship”. This was found to be partially supported in that risk taking propensity was found to be positively associated with earnings.

The research findings suggest that the optimal typology for an entrepreneur in this context in terms of higher earnings is an individual who has a high tolerance for long hours worked per day; that invests more in his or her enterprise; is more educated; has more experience; has undertaken training courses; has a higher level of risk taking propensity and has a higher level of continuance satisfaction.

5.2.5 Research Question 5

To what extent do contextual factors and entrepreneurial orientation dimensions contribute to increased entrepreneurial performance as measured by continuance satisfaction in SMEs in the ICT Sector in Nairobi?

It was discovered in this study that earnings potentially contributed positively to continuance satisfaction. Total education was found to potentially contribute negatively

to continuance satisfaction. The finding that higher levels of total education were found to be negatively associated with increased continuance satisfaction was taken to indicate that there might be a negative return on human capital in this context, along the dimension of continuance satisfaction. The more educated an entrepreneur was found to be; the more dissatisfied that entrepreneur was found to be with continuing in being in personal employment.

5.3 Conclusions

This study sought to answer the question of what shaped entrepreneurial orientation in the SMEs in a developing country context. This research also sought to answer the question of what contributed to entrepreneurial performance for SMEs. It was shown that contextual factors did potentially shape entrepreneurial orientation and that certain entrepreneurial orientation dimensions and contextual factors were associated with entrepreneurial performance. The study provided evidence that certain learning related factors did potentially contribute to shaping entrepreneurial orientation and contribute to increased earnings.

This study has provided evidence that factors associated with learning such as total education, experience and training courses were found to be associated with increased earnings. These findings suggest, therefore, that an increase in potential performance is possible through individual behaviour associated with an entrepreneurial orientation (Lumpkin and Dess, 2001), and in terms of this, a core argument of this work

was supported.

This study addressed a deficiency in the literature, in that entrepreneurial orientation theory was extended into and was investigated in a developing country context. This research has shown that entrepreneurial orientation plays a significant role, in that it was found to be associated with increased earnings for SMEs. Learning related factors were shown to increase earnings. The study found that entrepreneurial orientation was not necessarily homogenous in this tested context. The research findings support the conclusion that an increase in earnings potential is possible through individual behaviour associated with an entrepreneurial orientation and learning related factors

5.4 Recommendations

In recognition of Bwisa and Gacuhi (1997) who concluded that together the combination of management and technology provide an ideal underpinning for technology innovation and entrepreneurship, it is recommended that schools incorporate entrepreneurial modules within the core curriculum. This supports Drucker (1985) cited in McCormick and Maalu (2011) who stated that systematic innovation is an entrepreneurs' tool and the innovation process should be taught and learnt in a pedagogic and didactic way.

The government agencies and financial institutions are to review the effectiveness of their schemes for motivating entrepreneurship as the results indicate that these two stakeholders are perceived not to be contributing to an environment that is

conducive for entrepreneurship. Financial assistance remains the greatest need. It is recommended entrepreneurs consider other ways of raising seed capital for their new entrepreneurial ventures as the results indicated that financial institutions may not provide the necessary finance.

An implication of the findings is that practitioners in government, and stakeholders that have an interest in SME growth might be able to enhance performance through increased provision of training courses and educational opportunities. This research demonstrated a potential positive return on human and financial capital in SMEs. The findings suggest that assistance with regard to finance, or initial investment for these enterprises might enable higher earnings for SMEs. Actions aimed at stimulating SME performance, contribute to employment creation and are a direct attack on poverty.

The provision of assistance to entrepreneurial enterprises needs a strong understanding of processes of growth and change in these enterprises to avoid potential mismatches between policy measures and the needs of these enterprises (Maragia, 2008). The specific alignment of policy maker assistance with the entrepreneurial orientation and SMEs might be enabled through further research into the more detailed mechanisms of how entrepreneurial behaviour can be enhanced.

5.5 Areas for Further Research

Entrepreneurship scholars support the view that although entrepreneurial behaviour may be an inherent quality, it can also be acquired through receiving knowledge via formal education and experience (Rukunga, 2003; Namusonge, 2006), and as a result most universities have already introduced entrepreneurial education. In view of the above, the following is proposed as potential area of future research: A study research should be conducted to assess entrepreneurial activity of individuals who have graduated from universities that have already introduced entrepreneurial studies. This would entail assessing the significant difference in entrepreneurial activity of those who graduated prior to and after that specific university introduced entrepreneurship studies.

This research investigated the relationships of entrepreneurial orientation with firm performance at a particular point in time, i.e. it cross sectional research. This limits the study. For example, if programs were implemented in a firm to increase the level of entrepreneurial orientation, a longitudinal study, perhaps taken in five-year increments, would indicate whether or not corresponding improvements in firm performance were the result.

Further this study relied on perceptual data provided by a single person from the SMEs. Future research efforts may want to design or use objective measures to compare with the perceptual data gathered in order to encourage confidence in the reported analysis.

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APPENDICES

APPENDIX 1 LETTER OF INTRODUCTION

Dear Sir/Madam

I am a post graduate student studying for a Doctor of Philosophy (PhD) Degree in Entrepreneurship at the School of Human Resource Development, Jomo Kenyatta University of Agriculture and Technology. I am currently conducting a research in the area of Entrepreneurship. The topic is:

Entrepreneurial Orientation Effects on a Firms' Business Performance in Small and Medium Information Technology Enterprises in Nairobi

The purpose of this letter is to request you to respond to the attached questionnaire. The information you give will be treated in strict confidence and at no time will your name or that of your enterprise be referred to directly. The information will be used for academic purposes only.

Thank you in advance for your time and cooperation.

Wilson Osoro Nyambariga
PhD Student

Supervisors: **E Mukulu; PhD**
M Sakwa; PhD

APPENDIX 2 RESEARCH INSTRUMENT

1. Demographics

Please read each question carefully and follow the instructions. Please answer all questions by circling the number in the box that best describes your answer. All individual answers will be kept confidential.

Q1.1 Please circle the number in the box best describes the range in which your age falls

Range In Years	Please Circle One
Below 20 Years	1
Between 20 to 30 Years	2
Between 30 and 40 Years	3
Between 40 and 50 Years	4
Over 50 Years	5

Q1.2 Please indicate your gender (Please circle an appropriate Box)

Male

Female

Q1.3 To date, what has been your highest formal qualification? (Please circle one box only)

Level of Education	Please Circle One
Secondary School Level	1
Some College (Certificate/ Diploma)	2
University (Bachelor Degree-Level)	3
Post graduate level (Masters/Doctorate Degree)	4

Q1.4 Please indicate the number of years this firm has been operating ----- years

Q1.5 How many years of experience do you have in this firm?

Years of Experience	Please Circle One
Below 1 Years	1
Between 1to 2 Years	2
Between 2 and 3 Years	3
Between 4 to 5 Years	2
Between 6 and 7 Years	3
Between 8 to 9 Years	2
Between 9and 10 Years	3
Over 10 Years	5

Q1.6 What is the legal structure of this firm?

Business Structure	Please Circle
Sole Trader / Single Owner	1
Partnership/ Jointly Owned	2
Private Limited Company	3
Other	4

If your answer is “Other” please specify -----

Q1.7 How many training courses have you been on since beginning in this business?
(Please tick in the appropriate box)

Number of Training Courses	Please Tick
None	
1 – 2	
2 - 3	
3 - 4	
More than 4	

Q1.8 Including those engaged in day-to-day activities, how many persons are employed in this business? (Please indicate the number/s in the appropriate box)

No of Employees	Please Circle
1 – 10	1
11 – 20	2
21 – 30	3
31 – 40	4
41 – 50	5

Q1.9 Where do generally classify your industry to belong?

Classification	Please Circle One
Service (e.g. Software, Repairs)	1
Manufacturing (e.g. assembling)	2

Q1.10 How much did it cost you to set up your business?

Initial Investment (Kshs)	Please tick one
Below 100,000	1
100,000 – 500,000	2
500,001 – 1,000,000	3
1,000,001 – 2,000,000	4
Over 2,000,000	5

Q1.11 What range best describes your annual Sales

Annual Sales (Kshs)	Please tick one
Below 1,000,000	1
1,000,001 – 3,000,000	2
3,000,001 – 5,000,000	3
5,000,001 – 10,000,000	4
Over 10,000,000	5

Q1.12 Which one of the status below best describes your Industry in the last three (3) years?

Status	Please Circle One
Growing	1
Stable	2
Declining	3

Q1.13 Which one of the status below best describes your Firm in the last three (3) years?

Status	Please Circle One
Growing	1
Stable	2
Declining	3

2 Entrepreneurial Orientation

From the following statements please indicate which response **most clearly matches** the management style of your business by circling the closest number that best represents your views. Selecting a 1 indicates a complete **disagreement** with the statement, selecting a five indicates complete **agreement**.

	Management Style	Never	Rarely	Sometimes	Usually	Always
2.1	My firm has marketed many new products or services in the last five years	1	2	3	4	5
2.2	In my firm changes in product or services have been quite dramatic in the last five years	1	2	3	4	5
2.3	In general, in my firm we favour a strong emphasis in Research and Development, technological leadership and innovations	1	2	3	4	5
2.4	In dealing with competitors, my firm initiates actions rather than	1	2	3	4	5

	responding to its major competitors					
2.5	In dealing with competitors, my firm is very often the first business to introduce new products or services, administrative techniques, operating technologies etc	1	2	3	4	5
2.6	Our firm actively seeks out in exploiting opportunities to introduce new products or services in anticipation of future demand	1	2	3	4	5
2.7	In general, supervisors at my firm believe that, depending on the nature of the environment, bold wide-ranging acts are necessary to achieve the firm's objectives	1	2	3	4	5
2.8	In general, the supervisors in my firm have a strong tendency for high-risk projects (with chances of very high failure returns)	1	2	3	4	5
2.9	When confronted with decision making situations involving uncertainty, my firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities	1	2	3	4	5

3 The External Environment Scale

The following statements pertain to the external environment affecting your firm. Please review each of the following statements and circle the item that approximates your response. *Selecting a 1 indicates that you strongly disagree with the statement, selecting*

a five indicates that you strongly agree with the statement, and selecting a 4 indicates neutrality – neither nor disagree.

	Statement	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
3.1	Products, services and processes in the Information industry change very quickly.	1	2	3	4	5
3.2	Products, services and processes in the Information industry become obsolete very quickly.	1	2	3	4	5
3.3	In the IT Industry consumer demands and tastes change very frequently	1	2	3	4	5
3.4	Firms in the IT Industry must frequently change their business strategy to keep in pace with the market	1	2	3	4	5
3.5	Customers in the IT industry are quite diverse in their demands and buying habits	1	2	3	4	5
3.6	The IT industry, products and lines are considerably diverse	1	2	3	4	5
3.7	In the IT industry, changes in customer preferences for product features are not easy to predict	1	2	3	4	5
3.8	Technologically, the IT sector is a sophisticated industry	1	2	3	4	5
3.9	The IT sector is an extremely research and development oriented industry	1	2	3	4	5

4.1 Performance Scale Importance - Importance Scale

The following pertain to the important performance areas of your firm. Please review each of the following and select a number between 1 and 5 that best represents your views. Selecting a 1 indicates the performance area is of no importance, selecting a 5 indicates the performance area is extremely important; and a selection of 3 indicate neutrality. Identify your rating of importance with:

	Performance Indicator	Not at all Important	Slightly Important	Some What Important	Moderately Important	Extremely Important
4.1.1	Sales Growth Rate	1	2	3	4	5
4.1.2	Market Share	1	2	3	4	5
4.1.3	Operating Profits	1	2	3	4	5
4.1.4	Profit to Sales Ratio	1	2	3	4	5
4.1.5	Market Development	1	2	3	4	5
4.1.6	New Product Development	1	2	3	4	5

4.2 Performance Scale Importance - Satisfaction

The following pertain to the satisfaction with performance areas of your firm. Please review each of the following and select a number between 1 and 5 that best represents your views. Selecting a 1 indicates that you are highly dissatisfied with the performance of your firm, selecting a 5 indicates that you are highly satisfied with the performance of your firm, and a selection of 3 indicates neutrality. Identify your rating of satisfaction with:

#	Performance Indicator	Not at all Satisfied	Slightly Satisfied	Some What Satisfied	Moderately Satisfied	Extremely Satisfied
4.2.1	Sales Growth Rate	1	2	3	4	5
4.2.2	Market Share	1	2	3	4	5

4.2.3	Operating Profits	1	2	3	4	5
4.2.4	Profit to Sales Ratio	1	2	3	4	5
4.2.5	Market Development	1	2	3	4	5
4.2.6	New Product Development	1	2	3	4	5

Thank you for taking your time to complete this survey. I appreciate that your time is valuable. So has been your contribution!