ENTREPRENEUR CHARACTERISTICS, COMPETITIVE STRATEGY, FIRM LEVEL INSTITUTIONS AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES OF NON-TIMBER FOREST PRODUCTS IN KENYA

BY

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DECLARATION

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

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DEDICATION

This thesis is dedicated to my son Joe Karanja, daughters Glory Tenderloyn Wekesa and Joylinda Naomi, and my dear wife Enid Gatumu who have always demonstrated unconditional love and support. May you all share the joy of hard work and aim to achieve excellence and honour in your endeavours.

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ABSTRACT

Evidence is emerging that the dominant link between entrepreneur characteristics and firm performance is influenced by several other factors. There are indications of a link between entrepreneur characteristics, competitive strategy and firm level institutions to create and enhance competitive advantage and overall firm performance. However, available empirical evidence supporting such multi-dimensional interaction is minimal and inconclusive since most studies have concentrated on the individual and isolated effects of various factors on firm performance. Based on the gaps and unresolved issues in previous studies, this study addressed the main question: what is the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and performance? Hinged on the institutional theory, resource based view and theories relating to entrepreneur characteristics, the study addressed the key question by targeting firms in the non-timber forest products sub-sector that have often received less focus by studies aimed at establishing performance determinants. The study was conducted as a cross-sectional survey covering 314 small and medium enterprises in nine counties, Kenya. The Pearson correlation coefficients, coefficient of determination, F statistic, and the t-value and their significance levels were used in presenting the fit of the models and the relationships between variables. It was observed that firm performance was significantly affected by entrepreneur characteristics of age, managerial skills, industry experience and social skills. In addition, there was significant link of entrepreneur characteristics of age, gender, education, managerial skills, and social skills with competitive strategy. On the other hand, the three competitive strategy drivers of uniqueness, focus and cost exhibited significant relationship with firm performance. There was a significant moderating effect of firm level institutions in the relationship between competitive strategy and firm performance. Equally, there was partial mediating effect by competitive strategy of the relationship between entrepreneur characteristics and performance. All the null hypotheses were rejected and the objectives achieved. It was thus concluded that a multi-dimensional link existed with entrepreneur characteristics, competitive strategy, firm level institutions and firm performance as the linkages. The relationship between entrepreneur characteristics and firm performance depended on competitive strategy and firm level institutions indicating that firms require resources, appropriate strategy choices and firm level institutional framework, and owners/managers with appropriate personal characteristics to enhance their competitiveness and performance. This study conceptualized with mediating and moderating effects on the relationship between entrepreneur characteristics and performance shade light on the theoretical argument that entrepreneurial dynamics are shaped by resources as well as institutional systems and structures put in place at firm level. It was necessary, therefore, that firms match their strategic decisions with characteristics of owners/managers, and the internal institutional framework to enhance their competitiveness and performance. The observation that firms run by relatively young and skilled entrepreneurs had high levels of application of competitive strategy and better performance calls for policy measures to encourage the many well trained but unemployed young people to engage in businesses. Equally, training programmes including incubation to equip the practitioners with necessary theoretical and practical capacities to enhance application of competitive strategy, and manifestation of firm level institutions were necessary.

ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
BPO	Business Process Outsourcing
CATI	Computer Assisted Telephone Interviewing
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GOK	Government of Kenya
ICT	Information and Communication Technology
ILO	International Labour Organization
KEBS	Kenya Bureau of Standards
KEFRI	Kenya Forestry Research Institute
KFS	Kenya Forest Service
NTFPs	Non-Timber Forest Products
RBV	Resource Based View
R&D	Research and Development
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
UNDP	United Nations Development Programme
US $	United States of America Dollar

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The debate on factors influencing performance of Small and Medium Enterprises (SMEs) is inconclusive. Past studies (Kristiansen et al., 2003; Gaebler, 2007; Westerberg & Wincent, 2008; Islam et al., 2011) have demonstrated entrepreneur characteristics to be dominant determinants of firm performance. The characteristics of an entrepreneur which are often grouped as demographic factors, individual background, personal traits, and entrepreneur orientation and readiness play an important role in performance of SMEs. However, there is emerging evidence that the strength of the relationship between entrepreneur characteristics and firm performance depends on other factors.

Some studies (Gómez, 2006; Rauf, 2007; Yuan-Yao et al., 2009; Bruton et al., 2010) indicate a link between entrepreneur characteristics, strategy and institutions to enhance firm performance. There is evidence that entrepreneur characteristics determine strategy choice as an intermediate output in enhancing performance (Phan & Butler, 2003; Yuan-Yao et al., 2009). Sandberg and Hofer (1987) observed that firm performance is a function of the entrepreneur characteristics, structure of the industry being entered, and the strategy applied. There are claims that the possible relationships in the entrepreneur – strategy - performance nexus are re-enforced by the effect of institutions. At the internal organizational level, firm level institutions often categorized as resource based and administrative based institutions come into play to influence the relationship (Peng et al.,

2008; Machuki et al., 2012). However, the variables playing significant roles between the entrepreneur characteristics and firm performance are not clear (Sidik, 2012).

Although various theories of entrepreneurship exist, the arguments that a business is a social activity (Byers, 1997), and that its performance is dependent on internal capacities (Yuan-Yao et al., 2009) and operational framework (Bruton et al., 2010) anchor this study on institutional theory and Resource Based View (RBV). The institutional theory inquires into how institutional elements are created, adopted, and adapted to shape social behaviour and enhance performance. The RBV, on the other hand bases on availability of resources and capabilities for securing competitive advantage. The impact of resources and capabilities on performance is governed by unique bundle of resources which are crucial in generating sustained competitive advantage (Yuan-Yao et al., 2009). The integration of the two theories enhances the understanding of the processes of resource identification and combination making their theoretical underpinnings together with theories elucidating entrepreneur characteristics provide a strong platform for anchoring this study.

The Non-timber Forest Products (NTFPs) derived from forests and trees outside forests for example fruits, aloe, herbs, essential oils, resins and honey are increasingly being commercialized in Kenya. They are broadly referred to as a sub-sector under the agribusiness sector that encompasses products with origin from agricultural resources. The NTFPs are labelled green businesses because they play an important dual purpose of income generation and environmental conservation. The NTFPs have a significant global market share generating US $115.5 to US$117 billion annually (Shanley et al., 2008).

Despite the role played by the NTFPs sub-sector in income generation and environmental conservation, level of entrepreneurship development within the sub-sector in Kenya is in nascent stages. Most of the formed firms are poorly organized and are characterized with high failure rates. Aragón-Sánchez and Sánchez-Marín (2005) observed that such SMEs are faced with challenges of frequent and uncertain changes, and low levels of competitiveness calling for the need to find strategies that allow them to achieve better performance. Studies drawing on the theoretical underpinnings of the institutional theory, RBV and theories elucidating entrepreneurial characteristics show that internal resources and organizational infrastructure influence business competitiveness and performance (Hall, 1993). Modelling the relationship of entrepreneurship to performance requires fit of environment, structure and strategy (Lumpkin & Dess, 1996; Muthuvelayutham & Jeyakodeeswari, 2014). Therefore, this study explored the interaction of entrepreneur characteristics, competitive strategy and firm level institutions in creating and enhancing competitiveness and performance of firms in the NTFPs sub-sector.

1.1.1 Entrepreneur Characteristics

The entrepreneur characteristics describe the personality traits of an entrepreneur who logically plays a founding and dominant role in development of a business (Gómez, 2006). The initiation of a business requires certain aspects to be in place. These aspects which are interdependent include an opportunity focus, a business plan, resource acquisition and deployment, an appropriate structure and a motivated team, and a founder or lead entrepreneur (Rwigema & Venter, 2004). All these aspects are dependent on a founder or lead entrepreneur (Rwigema & Venter, 2004). The business, therefore, rests on the shoulders of an entrepreneur who orchestrates three interdependent variables

namely opportunity, resources and a team. The entrepreneur acquires and combines both tangible and intangible resources into a business organization and drives it into fruition (Gómez, 2006). Consequently, the formed business reflects character and behaviour of the entrepreneur whose vision and actions are central to its success and/or failure.

Different professions view the entrepreneur from a slightly different perspective; some studies consider entrepreneur and manager as one and the same, while others make a distinction between the two based on the motive, status, risk bearing, rewards, innovations and qualifications (Hisrich et al., 2008; Širec & Močnik, 2010). The entrepreneur is business owner and plays strategic role of developing a vision, mission and strategies but a manager is a servant playing both strategic and tactical role turning the vision into action (Hisrich et al., 2008). Despite theoretical difference between the two, studies suggest that owners do not differ significantly from managers in the above distinguishing elements (Low & Macmillan, 1988; Shane et al., 2003); neither Babb and Babb (1992) nor Palich and Bagby (1995) found significant differences between the two in terms of risk-taking propensity. Thus, this study considered the owner and manager equally as the entrepreneur; in cases whereby it was not possible to have the owner, then the manager was considered.

Characteristics of an entrepreneur which play an important role in determining firm performance may be categorized as demographic factors, individual background/ characteristics, personal traits, and entrepreneur orientation and readiness (Islam et al., 2011). Demographic factors include age, gender, income level, marital status and religion. Individual characteristics influencing SME performance include experience,

education, managerial know-how and social skills of the owner/manager (Islam et al., 2011). Personality traits influencing firm performance include self-confidence, perseverance, desire to be boss and will to succeed (Gaebler, 2007; Islam et al., 2011). Entrepreneurial orientation consists of autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness while entrepreneurial readiness refers to belief in own self to perform a given task (Kristiansen et al., 2003; Islam et al., 2011).

The research on entrepreneur characteristics determining firm performance commenced as early as the 1950s (Byers, 1997). Successive research on the entrepreneur characteristics conducted in the 1980s and 1990s identified individual demographic, individual background and personal traits that affect the chances that a person will become an entrepreneur and be successful at the task (Timmons, 1994; Islam et al., 2011). Although studies have been overwhelming over the effect of entrepreneur characteristics on firm performance, some studies have found little evidence of the effect of demographic and social background of the founder on firm performance (Byers, 1997). Equally, observation that implementation of strategies reflect characters of entrepreneurs raises debate whether the relationship between entrepreneur characteristics and firm performance is indeed direct (Analoui & Karami, 2003; Shigang, 2010).

1.1.2 Competitive Strategy

Various studies have defined strategy differently; strategy, however, may be described as a deliberate set of actions to achieve competitive advantage (O'Regan & Ghobadian, 2005). It is the determination of long-term objectives, adoption of courses of action and allocation of resources required for achieving the objectives (Chandler & Hanks, 1994).

The kinds of strategies include corporate strategy and competitive strategy. Whereas corporate strategy defines markets and businesses in which a company will operate, competitive or business strategy defines the basis on which a business will compete. Competitive strategy which is of interest in this study hinges on the firm's capabilities, strengths, and weaknesses in relation to market characteristics and the corresponding capabilities, strengths, and weaknesses of its competitors. It is often referred to as the firm's competitive "game plan" or a pattern of decisions that are selected and implemented to achieve a sustainable competitive advantage (Grant, 1991).

Several types of strategies emanating from different types of strategy theories commonly referred to as strategy typologies exist. However, the two extensively applied typologies are those described by Miles and Snow (1978) and Porter (1980). The Miles and Snow's typology developed and introduced four strategic types of organizations: defenders, analyzers, prospectors, and reactors. The Porter's generic strategies on the other hand advanced three generic strategies that a business can adopt; differentiation, focus and cost leadership.

The Miles and Snow's typology does not make a clear distinction between strategic and organizational choices making its use of little relevance in studies involving strategic choices. However, the Porter generic strategy framework has strong theoretical underpinnings and provides a simple business strategy concept that incorporates a few critical dimensions; efficiency, differentiation and scale/scope (Hambrick, 1983; White 1986). In addition, studies have found that Porter's typology is a generic competitive strategy

model that can be used by smaller firms (Chaganti et al., 1989). Shigang (2010) observed Porter's framework to be the dominant tool in analyzing strategies of firms. Therefore, Porter's three generic strategies are better suited for application in the analysis of competitiveness and performance of the targeted SMEs by this study.

The business environment is rapidly changing posing great challenges to firms as they struggle to survive and prosper. Dynamic environments are characterized by unpredictable and rapid change, which increases uncertainty for individuals and firms operating within them (Dess & Beard, 1984; Ensley et al., 2006). In such state, firms have to consistently use strategies of various types and levels to become more competitive and profitable (Tsai & Yen, 2008). Consequently research has focused on strategies to help determine its effect on firm performance. Shigang (2010) observed that the entrepreneur's personal goals and traits have a significant impact on the enterprise's strategy. An entrepreneur is the firm's main strategist and decision maker who develops the vision, mission and strategies, and implements them (Analoui & Karami, 2003). Strategic decisions reflect entrepreneur's subjective orientations and attitudes (Shigang, 2010). These developments inform an emerging line of thinking to be investigated that strategy plays a mediating role in the entrepreneurship to performance relationship.

1.1.3 Firm Level Institutions

Although defined differently by various studies, North (1990) refers to institutions as rules of the game in a society or humanly devised formal (rules) and informal (codes of behaviour) constraints that shape human interaction. Institutions are defined as durable

social structures, made up of symbolic elements, social activities, and material resources with rules, norms, and beliefs as central ingredients (Scott, 2004; Aguilera, 2006).

Institutions have far reaching effects on productive entrepreneurship, that is institutions largely determine how and where entrepreneurial talent and effort is channeled and the extent to which it is supplied (Henrekson, 2007). The institutional forces influencing the entrepreneurial process are characterized into two; firm level institutions and external institutions (Bruton et al., 2010). The firm level institutions are the firm-specific attributes in a firm's internal environment and define the context in which strategic decisions are made and implemented (Fuduric, 2008; Bruton et al., 2010). The firm level institutions may be categorized into two dimensions as administrative based firm level institutions, and resource based firm level institutions. The administrative based firm level institutions include structure, management style, internal controls, systems, and procedures, while resource based ones include financial resources, skills and competencies, knowledge base, culture, and human resources (Powell & DiMaggio, 1991; Bruton et al., 2010; Machuki et al., 2012).

Firm level institutions are considered as determinants of performance through their contribution to the firm competitive advantage. The importance of institutions derives from the fact that economic actions are embedded in social contexts (Granovetter, 1985; Atieno, 2009). Institutional environment creates conditions that entrepreneurs must navigate and that policy makers can address (North, 1990; Meyer & Rowan, 1991). Thus, this study investigated whether institutional environment at the firm level has a bearing on the competitiveness and performance of the SMEs in the NTFPs.

1.1.4 Firm Performance

A variety of definitions and variables are used to define and measure firm performance (Murphy et al., 1996). However, firm performance may be defined as the company's ability to achieve its objectives in terms of customer satisfaction, market share, revenues and profits (Guimaraes & Armstrong, 1998; Laitinen, 2002). Specifically, it is the firm's capability to produce the targeted output satisfying the needs of the interest groups and is often referred to as its success or failure (Guimaraes & Armstrong, 1998). Penrose (1959) defines performance as a measure of how well a firm achieves its goals.

Firm performance is measured in terms of either financial or non-financial metrics (Venkatraman & Ramanujam, 1986; Pushpakumari & Watanabe, 2009). Financial metrics also known as objective measures use outcome based financial indicators that reflect fulfillment of firm's economic goals and include sales growth, profitability, and earning per share. On the other hand, non-financial metrics also known as subjective measures assess broader, non-financial dimensions of performance and include market share, new product introduction and product quality (Venkatraman & Ramanujam, 1986).

Gupta and Govindarajan (1984) validated various performance metrics including sales growth, market share, operating profits, return on investments and new product development; sales growth, market share and product development were observed as the best measures. However, many studies prefer subjective metrics due to difficulties in obtaining objective financial data (Zulkiffli & Perera, 2011). Quite often especially with SMEs, the availed objective data to the researcher fails to fully represent firms' actual performance as managers are tempted to manipulate it to avoid taxes (Dess & Robinson,

1984; Sapienza et al., 1988). Although subjective metrics are effective with SMEs and show high positive correlations with objective measures, the equivalence assumptions between the two are debated (Song et al., 2005; Zulkiffli & Perera, 2011). Consequently, this study adopted both objective metrics including profitability and sales growth, and subjective including market share, efficiency and customer satisfaction to measure firm performance. These measures were then applied in computing a performance index; performance index is a management tool that allows multiple sets of information to be compiled into an overall measure and provides a comprehensive view of the business to guide measurement of performance (Tan & Smyrnios, 2011).

Achievement of better performance requires efficient and effective use of organizational resources to gain sustainable competitive advantage (Rauf, 2007). Essentially, enhanced performance requires an entrepreneur to make strategic choices and ensure that the chosen strategy is effectively implemented. Such implementation requires that the strategy is operationalized and appropriately institutionalized (Machuki et al., 2012). Logically, individual, organizational and environmental dimensions combine to provide a prediction of strategy and firm performance (Peng et al., 2008; Islam et al., 2011). This logical thinking supports existence of a link between entrepreneur characteristics, competitive strategy, institutions and firm performance that needs further investigation.

1.1.5 Small and Medium Enterprises in Kenya

The SMEs are a heterogeneous group and no agreed definition exists. While some have applied number of employees, others have applied business type and paid up capital to define SMEs. The small business administration of the US government defines a small

business as one with less than 500 employees. The European Union (EU) defines SME as an enterprise which employs fewer than 250 persons with an annual turnover not exceeding 50 million euros, and/or an annual balance sheet total not exceeding 43 million euros. The World Bank, United Nations Development Programme (UNDP) and African Development Bank (AfDB) peg employees at an upper limit of 300, 200 and 50, respectively (Gibson et. al., 2008). Definitions used to describe SMEs in Kenya are both qualitative and quantitative (International Labour Organization [ILO], 2008). McCormick (2001) described very small enterprises as having six or fewer workers and small enterprises as those having 7 to 10 workers. However, the definition by Government of Kenya (GoK) which is adopted by this study depicts SMEs as having less than 100 employees with very small enterprises having less than 10 employees, small enterprises having between 10 and 49 employees, and medium between 50 and 99 employees (GoK, 2008; Bowen et al., 2009).

The SMEs which operate in all sectors of the economy make up a significant part of the Kenyan economy (GoK, 2008). In 2011, the SMEs employed close to 80 percent of Kenya's total workforce estimated at seven million persons and contributed 20 percent to Gross Domestic Product ([GDP] [African Economic Outlook, 2012]). The SMEs are in trade (64 percent), services (15 percent), manufacturing (13.4 percent) and others (8 percent) that include the SMEs in agribusiness sector dealing with products derived from agricultural practices including NTFPs.

The challenge faced by the GoK and most governments in the developing world is the high rate of unemployment, closure of big companies which results in job losses and

decreasing standards of living. The rate of poverty in such economies is high and people do not have enough disposable income to purchase the basic necessities. The answer to all these challenges is the promotion and development of SMEs (Steinhoff & Burgess, 1993; Rwigema & Venter, 2004). The SMEs have been identified by the Western economies as a significant strategy of job and wealth creation (Namusonge, 2014). New firm formation and the activities of SMEs help drive job creation and economic growth through accelerating innovation and promoting the full use of human, financial and other resources. The types of SMEs that exist in developing countries include newly established, established but not growing, established but growing slowly, and graduands to a larger size (Liedholm & Mead, 1999). Of great interest to this study, are the reasons for the varied states of the SMEs in Kenya with particular focus to the performance determinants associated with the entrepreneurial activity of NTFPs ventures. The SMEs dealing with NTFPs in Kenya have not received much research focus. Essentially, more investigations for creating an understanding of the dynamics of these firms are necessary not only for the development of support policies and programmes for SMEs, but also for the growth of the economy as a whole.

1.1.6 Non-Timber Forest Products in Kenya

The NTFPs are described as biological resources of plant and animal origin other than wood derived from forests, other wooded lands and trees outside forests and are used as either food, fibres, medicinal, cosmetic, income generation and/or cultural purposes (Food and Agriculture Organization [FAO], 1995; Marshall et al., 2006; Ahenkan & Boon, 2011). The synonyms for the NTFPs applied by studies include Alternative Forest Products (AFPs), Minor Forest Products (MFPs), Non-Wood Forest Benefits (NWFBs),

Non-Wood Goods and Benefits (NWGBs), Non-Wood Goods and Services (NWGSs), Special Forest Products (SFPs), and Secondary Forest Products (SFPs) (Dlamini, 2013).

The recent past has witnessed increased focus on the NTFPs for poverty reduction and bio-diversity conservation (FAO, 1995; Neumann & Hirsch, 2000; Marshall et al., 2006). Such products contribute significantly to the livelihoods (Marshall et al., 2006); generate additional employment and income (Ahenkan & Boon, 2011); offer opportunities for enterprises (Subedi, 2003); and are more beneficial to forests than logging (Marshall et al., 2006). The NTFPs support various businesses that are currently diversifying the economy and enhancing conservation. The tradable NTFPs targeted by SMEs include fruits, nuts, herbs, flowers, plant dyes, essential oils, woodcrafts, resins, honey, seeds, basketry from reeds, medicinal products and carbon stocks.

The SMEs utilizing the NTFPs have the potential to achieve dual conservation and development goals by increasing the value of forest resources to local communities thus qualifying them as green businesses. The contribution of the SMEs in NTFPs sub-sector is more significant to resource poor people and particularly women and youth by acting as outlets for their products. In Kenya, three quarters of the poor live in rural areas, where a nearby forest is the only available source of livelihood (Mbuvi & Boon, 2008). This presents potential for commercial development by such rural populace. In this view, NTFP development becomes a 'stepping-stone' to broader socio-economic development for the rural poor. The other positive element for commercialization of NTFPs lies in its conservation potential. If NTFP-based development is successful, people may choose to diversify, and conserve the resource.

Despite the potential of NTFPs, their contribution has often not been properly quantified and reflected well in the national accounts for Kenya. Few studies have examined use of NTFPs from a livelihoods perspective or computed their contribution to total household income (Shackleton et al., 2007). In addition, level of entrepreneurship with NTFPs is still in nascent stages with most firms being informal and uncompetitive. However, on a larger scale it has been estimated that over two-thirds of Africa's 600 million people rely on forest products, either for subsistence or for cash income (CIFOR, 2005; Kaimowitz, 2003; Sunderlin et al., 2005). At global level, NFTPs generate US $115.5 to US$117 billion annually (Shanley et al., 2008). There is, therefore, need for increased focus by studies on firms dealing with NTFPs to enhance their visibility as green businesses.

1.2 Research Problem

The relationship between entrepreneur characteristics and firm performance as indicated in the literature is still outstanding. A study by Sandberg and Hofer (1987) rejected the argument that firm performance is based solely on characteristics of the entrepreneur; and supported instead the claim that it depends not only on characteristics of the entrepreneur, but also on structure of industry entered and the strategy of the venture involved. Lumpkin and Dess (1996) suggest that finding a direct relationship between variables in the entrepreneur characteristics and firm performance relationship would not provide wholesome understanding without introduction of a mediator or a moderator variable or both. Based on the foregoing, there is increasing appreciation that at the firm level, the strength of the relationship between entrepreneur characteristics and firm performance depends on organizational dimensions including strategy and firm level institutions. This points towards an interactive process of entrepreneur characteristics, strategy and firm

level institutions in creating and enhancing venture competitiveness and performance. However, available literature concentrate on the individual and isolated effects of various factors on firm performance (Baum et al., 2001). Thus, there is inadequate evidence supporting a multi-dimensional relationship that integrates strategy and institutions in the entrepreneur characteristics to firm performance relationship and present it as an interactive process of internal organizational dimensions in the recognition and exploitation of business opportunities.

Among the various businesses in the country, SMEs in NTFPs sub-sector are emerging as green businesses with dual potential in development and conservation. Such firms are possible mediators of economic to environmental relations by helping diversify the economy, and hedge communities and economy against negative impacts of climate change (Shanley et al., 2008). They support most rural communities especially in dry areas where livelihood options are limiting by acting as market outlets for the NFTPs collected (FAO, 1995; Mbuvi and Boon 2008). Despite vast potential of such firms, they are poorly organized with most of them remaining informal and uncompetitive. Distinctly less focus has been placed by studies on firms dealing with NTFPs resulting in most of them operating without the benefit of homegrown solutions for improved competitiveness and performance. Studies conducted on such firms elsewhere (Schreckenberg et al., 2006; Dubey, 2008) show that strengthening of internal capacities would enhance their competitiveness and performance. Such internal capacities include resources, and knowledge, skills and experience of the entrepreneur who is key in firm performance (Zoysa and Herath 2007; Islam *et al.* 2011). However, studies done have not clearly demonstrated how to integrate these internal factors including entrepreneur

characteristics, strategy and institutions to enhance competitiveness and firm performance of firms dealing with NTFPs.

The research on firm performance conducted in Kenya (Kibas & K'Aol, 2004; Atieno, 2009; Bowen et al., 2009; Oroko, 2009; Litondo, 2010; Mbogo, 2010; Namusonge, 2014) have concentrated on exploring factors of business success and growth in the clothing and textile, manufacturing, services, trading, Business Process Outsourcing (BPO), and Information and Communication Technology (ICT) sectors. Equally, studies by Wanjohi and Mugure (2008), Waema et al. (2009) and Bowen et al. (2009) looked at the effect of business environment especially institutions on firm performance. The studies focused on performance of SMEs by applying correlations and regression analysis hence enhancing their relevance to this study. However, most of these studies looked at various determinants as individual and isolated causes of firm performance thus, inadequately informing the relationship between entrepreneur characteristics and firm performance. Studies elsewhere (Peng et al., 2008; Širec & Močnik, 2010) show that key distinguishing feature of successful SMEs is a balanced alignment of entrepreneurs' personalities and behaviour with their business decisions, and environment.

From the foregoing, interactions of internal factors including entrepreneurial characteristics, strategy and firm level institutions in enhancing competitiveness and performance of SMEs in NTFPs sub-sector are not well understood. It is not clear how personality of the entrepreneur interacts with strategic decisions made, existing resources and administrative infrastructure put in place by the firm in enhancing competitiveness and performance. Based on the gaps and unresolved issues in the past studies, this study

examined the interactive process of internal resources and infrastructure on performance of SMEs in the NTFPs sub-sector by addressing the main question: what is the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and performance of SMEs in the NTFPs sub-sector?

1.3 Research Objectives

The general objective of this study was to determine the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and performance of SMEs in the NTFPs sub-sector in Kenya. The specific objectives were to:

i. Determine the relationship between entrepreneur characteristics and performance of SMEs in NTFPs sub-sector
ii. Establish the relationship between entrepreneur characteristics and competitive strategy of SMEs in NTFPs sub-sector
iii. Determine the relationship between competitive strategy and performance of SMEs in NTFPs sub-sector
iv. Establish the effect of firm level institutions on the relationship between competitive strategy and performance of SMEs in NTFPs sub-sector
v. Determine the joint effect of entrepreneur characteristics and competitive strategy on performance of SMEs in NTFPs sub-sector

1.4 Value of the Study

The findings of the study make a significant contribution to theory, practice and policy. By reviewing the influence of strategy and institutions on the relationship between entrepreneur characteristics and performance of SMEs, the findings significantly

contribute to existing theory by either supporting or disapproving the assumptions advanced on entrepreneurship that entrepreneurial dynamics are shaped by the internal resources and capacities as well as the institutional dimensions. Empirical evidence generated to approve or disapprove the assumptions would act as a pool of knowledge for academia interested with entrepreneurial phenomena.

In practice, the study findings would inform the private and public institutions in their decision making while identifying and exploiting business opportunities in the NTFPs sub-sector. The NTFPs have high potential for income generation and environmental conservation and thus, the findings of the study demonstrating how to enhance competitiveness and firm performance would motivate public and private institutions to invest in the sub-sector. Equally, the findings and recommendations isolate out areas for support by public institutions interested in entrepreneurship development. Additionally, the study presents areas for further research to be targeted by institutions doing research.

Lastly, the information generated would be useful to policy makers initiating policies and legislation aimed at helping revamp SMEs. The findings would assist policy makers to understand entrepreneurial dynamics within the NTFPs sub-sector in order to come up with viable policies and development programs. The concomitant outcome of the efforts would be invigorated SMEs which act as market outlets for non-timber forest resources collected by rural communities especially the disadvantaged groups and help diversify the economy sustainably. Such SMEs would be a key source of employment, food, medicine, income and conservation efforts. This would ultimately contribute to achieving the country's Vision 2030 and hedge communities against vulgarities of climate change.

1.5 Summary

The first chapter of this study presents the introduction elucidating a concise background of the research area. It details the conceptual arguments as well as the contextual issues of the study. A brief on the theoretical underpinnings of the study is also highlighted. A statement of the problem, research objectives and value of the study are also discussed.

As a basis, the conceptual arguments elucidate the variables and relationships in the entrepreneurship to performance nexus. Emerging evidence show that strength of relationship between entrepreneur characteristics and performance depends on other factors including internal organizational attributes. Studies done point to an integrated interactive link between a multiplicity of factors to create and increase competitive advantage and overall performance goals. From the conceptual arguments advanced, it was clear that the strength of relationship between entrepreneur characteristics and performance depends on other factors. Unfortunately, available studies concentrated on individual and isolated effects of various factors of firm performance thus failing to present a comprehensive interactive process of internal organizational dimensions in recognition and exploitation of business opportunities. Therefore, the chapter presents the conceptual arguments by reviewing the factors impacting on the relationship including competitive strategy and firm level institutions. Definitions of the variables by various studies and their interactions in the entrepreneurship to firm performance relationships were presented and discussed. Equally, the contextual issues elucidating the nature and importance of firms dealing with NTFPs were presented.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review starting from theoretical foundation of entrepreneurship including institutional theory, RBV and theories elucidating entrepreneur characteristics. How this study is anchored on these theories is presented. Empirical studies for the relationships in the entrepreneurship to performance nexus are also presented. Existing conceptual arguments of how entrepreneur characteristics, competitive strategy and institutions impact on performance of SMEs are presented and possible issues for addressing by this study and corresponding hypotheses stated. A summary of research gaps as well as a conceptual framework depicting the influence of strategy and institutions in the entrepreneur characteristics and firm performance interaction are presented. Finally, the hypotheses for testing by this study are presented and clearly linked to specific variables.

2.2 Theoretical Foundations of the Study

Entrepreneurship has attracted attention of persons in varied disciplines, including economics, management, psychology, sociology, and anthropology (Gladwin et al., 1989). This has resulted in different theories of entrepreneurship; economic theory, RBV, institutional theory, opportunity-based theory, sociological, psychological, entrepreneurship innovation theory, motivation theory/acquired needs theory, and the Kakinada experiment on motivating factors for entrepreneur.

This study was based on the argument that a business is a social activity and that its performance depends on the internal capacities and the environment. The internal capacities include the resources and capabilities that are critical in influencing competitiveness and performance. On the other hand, the internal environment include structures and systems put in place by the firm. The internal environment of a firm is crucial to its performance (Chew et al., 2004; Chadamoyo & Dumbu, 2012). Based on this premise, this study was anchored on institutional theory, RBV and theories relating to the entrepreneur characteristics as basis for theoretical reasoning behind competitiveness and performance of the SMEs in NTFPs sub-sector. The target theories play complementary and synergistic roles in guiding entrepreneurial decisions.

2.2.1 Institutional Theory

Institutional theory provides a theoretical lens used to study the adoption and diffusion of organizational forms and practices (Peng, 2006; Bruton et al., 2010). It explains how organizational structures and individual behaviour are influenced by cultural, political and social forces surrounding them (Fogarty, 1996). Zucker (1987) points out that organizations are affected by normative pressures arising from external sources and the organization itself. Thus, an organizational structure is seen as a reflection of rationalized institutional rules (Meyer & Rowan, 1991) or shared knowledge of belief systems (Scott, 2007). It attends to social structure considering the processes by which structures, including schemas, rules, norms, and routines become established as authoritative guidelines for social behavior (Scott, 2004). The theory inquires into how these elements are created, diffused, adopted, and adapted over space and time and how they fall into decline and disuse. The focus is attainment of stability and order in social life.

Institutional theory helps in understanding determinants of human resource management policies and practices with impact on performance of the individual or organization (Wright & McMahan, 1992). The theory indicates that an organization that develops relations with institutions and follow institutional prescriptions can survive easily, have a greater stability, allowing a better access to resources (Oliver, 1995). This is based on an understanding that institutional environment is socially constructed, that is institutional environment can shape individual behaviour and can also be shaped by individuals acting within the environment (Berger & Luckmann, 1967).

Institutional theory has undergone metamorphosis resulting in two schools of thought; old and new institutional theories. The old institutional theory is concerned with the understanding of what constitutes values, how organizations adapt or change their culture and structure to socially accepted values, and how such values become weak and de-institutionalized (Selznick, 1957). The old theory suggests that to institutionalize norms and values in organizations, those who hold power, such as entrepreneurs or managers, must be able to motivate and drive members of an organization to follow their behaviour. This old theory has often been advanced as sociology/organizational branch. On the other hand, the new institutional theory advanced as economic/political branch is based on the reasoning that organizational practices are influenced by institutional environments and internal institutions, that is structure, conduct and performance of an organization depend on the characteristics of the environment in which the organization's activities take place and internal institutions (Zucker 1987; DiMaggio & Powell, 1983; Meyer & Scott, 1983). Institutional environments include social, political and economic environments, while internal institutions include the objectives, structure and culture of the organization.

This study was thus, anchored on the new institutional theory with the presumption that internal institutions including the resource based and administrative based ones affect firm performance. This study advanced that manifestation of the resource based institutions including financial resources, skills and competencies, knowledge base, culture, and human resources, and the administrative based institutions including structure, management style, internal controls, systems, and procedures influence competitiveness and performance of the firm. Studies (Hwang & Powell, 2005; Bruton et al., 2010) show that institutional environment affects rate and size of new firm creation by defining and limiting entrepreneurial opportunities. Inadequate institutional development complicates new venture development while a more developed institutional environment with overly restrictive regulation hampers firm creation and performance (de Soto, 2000; Baumol et al., 2009). Entrepreneurs may be discouraged from starting firms if there are no formal institutional structures, or if they are forced to comply with too many rules and procedural requirements that are costly to fulfil (de Soto, 2000).

2.2.2 Resource Based View

The resource based view (RBV) argues that sustained competitive advantage is generated by the unique bundle of resources at the core of the firm (Barney, 1991; Conner & Prahalad, 1996). The theory describes how entrepreneurs build businesses from the resources and capabilities available (Dollinger, 1999). Implicit in the RBV is the centrality of the venture's capabilities in explaining the firm's performance. Resources are important antecedents to products and ultimately to performance (Wernerfelt, 1984). Firms can achieve sustainable competitive advantage from resources such as strategic planning (Michalisin et al., 1997), management skills (Castanias & Helft, 1991), tacit

knowledge (Polanyi, 1966), capital, and employment of skilled personnel (Wernerfelt, 1984). The assets and resource owned by firms may explain the differences in their performance (Barney, 1991; Peteraf, 1993). Resources may be tangible or intangible and are harnessed into strengths and weaknesses by companies and in so doing lead to competitive advantage. The RBV continues to be refined and empirically tested (Bharadwaj, 2000; Hadjimanolis, 2000; Medcof, 2000).

The RBV holds that the coordination of human effort and ability to obtain, effectively employ and efficiently maintain valuable tangible and intangible resources serves as the foundation of the company's strategy and hence, its basis for achieving a competitive advantage (Echols, 2000). Its objective is identifying how to sustain a competitive advantage (Barney, 1989, 1991). The basic tenets of the RBV state that a firm can obtain a sustainable competitive advantage by having strategically relevant resources and capabilities that are specific (Helfat, 1994), durable (Mahoney & Pandian, 1992), intangible, valuable, rare, and unable to be either imitated or substituted (Barney, 1991), and/or are untradable and immobile (Dierickx & Cool, 1989).

The key to the RBV is its ability to explain sustainable competitive advantage at the firm level (Echols, 2000). Conner (1991) argued that each firm is a unique combination of inputs under the RBV. So, when strategically relevant factors exist in such a way that they are imperfectly tradable and enable heterogeneity to exist across firms, and ex post limits to competition are present along with ex ante limits, the firm can enjoy sustained above-normal returns (Peteraf, 1993). The economic rents resulting from these socially complex and "costly-to-copy attributes of the firm" serve as fundamental drivers of

performance (Conner, 1991). Given that RBV addresses resources and capabilities of a firm as key to its performance, it was found to be a suitable theory to be used in this study. This study advanced that sustainable competitive advantage could be achieved by availability of strategically relevant resources and capabilities embedded in entrepreneurs and employees inform of knowledge, skills and experience, and strategic planning.

2.2.3 Theories Relating to Entrepreneur Characteristics

A number of theories that advance entrepreneurship and explicate entrepreneur characteristics fall in different categories and include economic, psychological, opportunity-based and sociological/anthropological. These theories add to the understanding of traits and behaviour of an entrepreneur who plays a dominant role in firm performance. Thus, the study drew on such understanding of the entrepreneur while reviewing the entrepreneur characteristics as a factor under consideration.

Economic theory postulates that entrepreneurs are motivated by profit in their commercial activities (Kirzner, 1982). The theory sees entrepreneurs as individuals in the economy who are alert to discover and exploit profit opportunities in any given environment (Kirzner, 1982). Economic view indicates that entrepreneurs are motivated by profit in their commercial activities. They are out for monetary gain in whatever strategy they undertake. Cantillon developed one of the earliest theories of entrepreneurship that viewed an entrepreneur as a risk taker who buys at a certain price to sell at an uncertain price and in the process he/she either makes a profit or a loss (Hisrich et al., 2008). This was widened by Marshall (1949) and Say (1971) to include bearing of risks, planning, supervising, organizing, and factors of production ownership.

Schumpeter (1942) looks at an entrepreneur as a prime mover of economic development and initiates the development by being innovative by carrying out new combinations in the factors of production. Knight (1971) notes that the entrepreneur is the one who bears the responsibility and consequences of making decisions under conditions of uncertainty. Drucker (1985), on the other hand defines an entrepreneur as an individual who searches for change, responds to it, and exploits it when an opportunity is available.

Psychological theory strives to understand the mindset of entrepreneurs from either internal or external viewpoints of an individual (Kapp, 2003). It advances that psychological factors like attitude, perception and value system play a very important role in mindset of an entrepreneur. Various psychological theories have been applied to explain entrepreneurship and the most important psychological theory on entrepreneurship is the David McClelland's theory on need for achievement (Alam & Hossan, 2003). The McClelland theory pays attention to personal traits, motives and incentives of an individual and concludes that entrepreneurs have a strong need for achievement (McLelland & Winter, 1971). Equally, the locus of control theories conclude that an entrepreneur will probably have strong internal locus of control, that is an entrepreneur believes in his or her capabilities to commence and complete jobs through his or her own actions (Amit & Schoemaker, 1993). Risk taking theory advanced by Cantillon and Stuart advocates for entrepreneurship as a mentality to take moderate or calculated risk (Alam & Hossan, 2003). Other psychological theories include creativity or innovation theory that highlights creativity or innovativeness, and power motivation theory that emphasizes on personal power or self-interest as determinants of entrepreneurship.

The socio-cultural theory attempts to explain whether some cultures or some social groups are more conducive to entrepreneurial behaviour than others (Kubeczko & Rametseinerm, 2002). The concept of culture of entrepreneurship is anchored on observations by social scientists that an entrepreneur is a product of the socio–cultural milieu (Shivani et al., 2006). According to socio-cultural theory, factors that contribute to the supply of entrepreneurs are an inheritance of entrepreneurial tradition, family position, social status, education background and level of education (Kubeczko & Rametseinerm, 2002). Social networks are also important in entrepreneurial action and behaviour (Dubini & Aldrich, 1991; Greve & Salaff, 2003).

2.3 Empirical Evidence of the Inter-relationships Between Entrepreneur Characteristics, Strategy, Institutions and Performance

Much scientific inquiry has been carried out on the subject of performance of SMEs with mixed results. Both internal and external factors have been found to impact on firm performance. The factors that have received much scientific focus include, inter alia, entrepreneur characteristics, competitive strategy and firm level institutions.

Studies demonstrate different relationships between various factors and firm performance. Emerging evidence indicate that individual capacities and organizational dimensions including competitive strategy and firm level institutions combine to provide firm competitiveness and performance. However, much scientific focus has been of narrow perspective concentrating on individual relationships rather than their interactions in a multi-dimensional way in the entrepreneurship to performance relationships.

2.3.1 Characteristics of Entrepreneur and Firm Performance

The link between entrepreneur characteristics and firm performance has received a lot of focus by studies. Studies (Kristiansen et al., 2003; Westerberg & Wincent, 2008; Islam et al., 2011; Moorthy et al., 2012; Sarwoko et al., 2013) show that characteristics of an entrepreneur which include demographic factors, individual background, personal traits, entrepreneur orientation, and entrepreneur readiness play an important role in performance of SMEs. Research by Kristiansen et al. (2003) show that demographic factors such as age and gender, and individual background including education and previous work experience, have an impact on firm performance. Westerberg and Wincent (2008) observed that the entrepreneur characteristics of external experience and self-efficacy strongly influence firm performance. Islam et al. (2011) observed that demographic and individual characteristics of the owner/manager influence firm performance. Moorthy et al. (2012) found out that an effective entrepreneurship with skills and experiences will lead to a higher innovation as well as competitiveness in business performance. Sarwoko et al. (2013) observed that entrepreneurial characteristics have a significant influence on business performance.

Studies conducted in Kenya and in other developing countries on the entrepreneur characteristics and firm performance interaction compare positively with other topologies in the developed world. Kibas and K'Aol (2004) examined entrepreneurial characteristics, factors that influence growth, and the problems and challenges facing entrepreneurs. Kibas and K'Aol used case study approach in collecting data using observations and face-to-face interviews. The population of the study comprised of all successful indigenous entrepreneurs who had operated their business for over five years

and had shown tremendous growth, innovation and creativity. Snowballing was the main sampling technique coupled with purposive approach. It was observed by Kibas and K'Aol that most Kenyan entrepreneurs exhibit typical characteristics of other entrepreneurs elsewhere and were rated strong on drive and energy levels, setting challenging but realistic goals, commitment, risk taking, and persistent problem solving. However, Kibas and K'Aol were narrow in focus concentrating on psychological characteristics and did not systematically investigate the effect of entrepreneur characteristics on business growth, thus failing to sufficiently inform on the relationship.

Bowen et al. (2009) in their study on management of business challenges among SMEs in Nairobi assessed factors for business success. Bowen et al. employed stratified random sampling to collect data from 198 businesses using interviews and questionnaires. The data was analyzed descriptively and presented in figures, tables and percentages. Bowen et al. found out that relevant training or education is positively related to business success. However, the study did not provide conclusive results on the effect of education on performance. The sample size and analytical procedures applied were limiting hence making the findings by Bowen et al. to be inconclusive.

The relationship between entrepreneur personality attributes and growth was examined by Oroko (2009) using a sample of artisans involved in manufacturing metallic products in Nairobi, Kenya. Applying factor analysis and descriptive analysis, Oroko observed that personality attribute influence growth. The seven personality attributes measured included desire to be boss, risk taking, service to commercial customers, level of optimism, desire to succeed, innovativeness, and opportunity recognition. Oroko further

observed that desire to be boss, risk taking, service to customers, desire to succeed, and innovativeness had high influence on growth. The study was limited to personality traits and failed to investigate influence of other entrepreneur characteristics on growth.

Other studies done elsewhere in developing economies including Gaebler (2007), Urban et al. (2008), Islam et al. (2011), Moorthy et al. (2012), and Sarwoko et al. (2013) related various entrepreneur characteristics with firm performance. A study by Temtine and Pansiri (2004) observed critical success factors affecting development of SMEs in Botswana to include human resources development, organizational development, managerial background, managerial leadership and competitive strategy. Urban et al. (2008) in a study in South Africa attempted to understand the effects of business knowledge and work experience on entrepreneurial success. Urban et al. observed that business knowledge and work experience are positively associated with entrepreneurial success. Islam et al. (2011) examined effect of characteristics of entrepreneur on the business success of SMEs in Bangladesh. Islam et al. administered a questionnaire on the owners and employees of small firms and analyzed data using Statistical Package for Social Sciences (SPSS). Islam et al. observed that characteristics of entrepreneur significantly influenced business success of SMEs.

Despite overwhelming empirical evidence for the link between entrepreneur characteristics and performance, there is neglect of the agro-based SMEs resulting in inadequate concepts and theories to support such proposition (GoK, 2008; Dlamini, 2013). Distinctly less focus is placed on the SMEs dealing with timber and non-timber forest products. Limited literature is available on the relationship between entrepreneur

characteristics and performance in the NTFPs sub-sector. Available information include studies in Mexico and Bolivia by Center for International Forestry Research (CIFOR) on commercialization of NTFPs (Marshall et al. (eds), 2006; Schreckenberg et al., 2006). Schreckenberg et al. identified provision of grants or subsidies, conducive legislative and policy environment, access to better communications infrastructure and higher education levels as some of the factors that would enhance entrepreneurship in NTFPs sub-sector. Unfortunately, the studies failed to put focus on the individual relationship of entrepreneur characteristics to firm performance. Questions, therefore, abound whether a theoretical framework for entrepreneurship decision in the NTFPs sub-sector outlined with an emphasis on role of key entrepreneur characteristics in influencing firm performance is sustainable, calling for more investigations on key characteristics including age, education, experience and skills. Hence, the following hypothesis was formulated for testing:

H_1: There is no significant relationship between entrepreneur characteristics and performance of SMEs

2.3.2 Entrepreneur Characteristics and Competitive Strategy

The entrepreneur characteristics by virtue of their impact on the organization, determine strategic choice, which is revealed in the realized strategy, with a resultant impact on firm performance (Phan & Butler, 2003). The business start-up process requires an opportunity focus, plan, resources, appropriate institutional framework, motivated team, and a lead entrepreneur (Rwigema & Venter, 2004; Gómez, 2006). All these aspects are dependent on characteristics of the lead entrepreneur who orchestrates opportunity, resources and an appropriate team. Opportunity exploitation is crucial and requires a

strategy that communicates the manner in which resources, opportunity, and entrepreneurial team will be harnessed.

Empirical evidence demonstrates the effect of the entrepreneur characteristics on strategy. Initial studies (Wells, 1974) have shown that the entrepreneur abilities and those of the entrepreneurial team that include their background, previous experience and level of commitment are decisive in the strategic decision making process. Tyebjee and Bruno (1984) affirmed the size of the investment, the cash out potential, the geographic location and the product differentiation as most influential for the strategic choice. Recent studies have refined and created greater understanding of the linkage between entrepreneur characteristics and competitive strategy. Phan and Butler (2003) focused on how attitudes affect entrepreneur's strategy selection at the organizational level using a sample of 60 wineries, still operated by their founding entrepreneurs. Phan and Butler observed that the relationship between entrepreneur characteristics and competitive strategy is direct in SMEs because such firms have not developed bureaucratic blockage that managerial personalities from organizational processes experience. Shrader and Siegel (2007) assessed the role of human capital in the growth and development of new technology-based ventures, based on longitudinal data from 198 high-tech ventures. Shrader and Siegel observed that characteristics such as job tenure, age, education, or functional expertise are conjectured to be determinants of strategy and performance because they influence decision making.

Despite pointing to a direct link between characteristics of the entrepreneur and strategy, the studies failed to systematically analyze the relationship. Equally, some observations

indicate otherwise. Mintzberg (1978) observed the relationship between managerial characteristics and strategic action as indirect and hidden. Pelham (2000) and Kemp and Verhoeven (2002) did not find a clear relationship between entrepreneurial orientation and strategy. Of concern is that the extent of scholarly investigation of the relationship between entrepreneur characteristics and competitive strategy is limited, especially in Kenya. Hence, the following hypothesis was formulated and tested by this study:

H_2: There is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs

2.3.3 Competitive Strategy and Firm Performance

There is evidence among some studies that strategy impacts on firm performance. Studies (Gibcus & Kemp, 2003; Peng et al., 2008) established that strategies pursued by firms have a direct and strong influence on their performance. It is argued out that firms with a clear and consistent strategy out-perform firms without such strategy (Gibcus & Kemp, 2003). Generally, strategy is claimed to be positively related with the performance or success of a firm.

To be able to establish a link between competitive strategy and performance, Porter (1991) defined three sets of conditions that would result in a consistent strategy and eventually good firm performance to include development and implementation of an internally consistent set of goals and functional policies that collectively define a firm's position in the market; aligning firm's strengths and weakness with the external (industry) opportunities and threats; and creation and exploitation of the firm's distinctive competences. Porter (1980) observed that entrepreneurial type activities are linked much

more closely with differentiation strategies than with low-cost leadership strategies. Such observation was strengthened by other studies (Pelham, 1999; Gibcus & Kemp, 2003). Pelham (1999) argued that an emphasis on a differentiation strategy would have greater impact on the performance rather than an emphasis on a low-cost strategy for SMEs.

Observations have demonstrated that the type of strategy applied makes a difference to performance. Bowen et al. (2009) in their study on management of business challenges among SMEs in Nairobi, assessed strategies they employed to overcome the challenges. Bowen et al. employed stratified random sampling to collect data from 198 firms using a questionnaire and the data obtained was analyzed descriptively. The findings indicated that SMEs had the following strategies to overcome challenges: fair pricing, discounts and special offers, offering a variety of services and products, superior customer service and continuously improving quality of service delivery. Based on the findings, Bowen et al. concluded that business success is a consequence of embracing a mix of strategies.

Oyedijo and Akewusola (2012) investigated the relationship between organizational strategy and firm performance in Nigeria. Data was obtained from 34 paint manufacturing SMEs and was analyzed using regression and correlation analyses. The study observed that SMEs compete in different ways, thus allowing for their classification as prospectors, analyzers, defenders and reactors. These results brought additional fresh evidence to dismiss the speculation that Miles and Snows typology is a sequential stage of strategy development in which defender strategies are linked to small firms and prospector strategies to larger firms. The overall evidence by Oyedijo and Akewusola was that organizational strategy plays an important role in explaining relative

success or failure of firms and that entrepreneurs can make a significant difference to the performance of their organizations through the type of strategies that they employ.

Despite most studies demonstrating a link between strategy and firm performance, other studies (Campbell-Hunt, 2000; Pelham, 2000; Spanous & Lioukas, 2001; Kemp & Verhoeven, 2002) did not find a clear relationship between the two. Campbell-Hunt (2000) analyzed several studies on strategy and performance and observed that consistent generic strategy does not out-perform a mixed (or stuck-in-the-middle) strategy. Pelham (1999) observed that an emphasis on a low-cost strategy has lower impact on the performance than an emphasis on a growth/differentiation strategy. Spanous and Lioukas (2001), Pelham (2000) and Kemp and Verhoeven (2002) did not find a clear relationship between strategy and performance. Kemp and Verhoeven (2002) studied the relationship between the growth of a fast growing firm, the consistency of the selected generic strategy, the consistency of the resource bundles and the fit between the selected strategy and resources. The findings by Kemp and Verhoeven showed that strategy did not seem to influence growth.

Some studies have found weak relationships between strategy and performance. Teach and Schwartz (2000) state that strategy and performance are at best weakly related. Similarly, studies (Kemp & Verhoeven, 2002) suggest no relationship between strategy and performance. From the foregoing, it is still not clear how strategy impacts on performance. However, managers of the firms have to ensure that they have the right strategy in order to be competitive and perform. Thus, this study formulated the following hypothesis for testing:

H_3: There is no significant relationship between competitive strategy and performance of SMEs

2.3.4 Firm Level Institutions and Firm Performance

Evidence on how institutions affect firm performance is divided. However the propositions by North (1990) that institutions are crucial determinants of the efficiency of markets and by Baumol (1990) that institutional setup influence supply of entrepreneurial effort, have increasingly received empirical support. There is wide acknowledgement that entrepreneurs are both constrained and enabled by the institutions in their environment (Bruton & Ahlstrom, 2003; Scott, 2007). The institutional environment defines and limits entrepreneurial opportunities consequently affecting the rate and size of new venture creation (Hwang & Powell, 2005; Bruton et al., 2010). Henrekson (2007) advanced that institutions have far reaching effects on productive entrepreneurship, that is institutions largely determine how and where entrepreneurial talent and effort is channeled and the extent to which it is supplied. Indeed, there is increasing appreciation that institutions play an important role in affecting firm performance than just playing a role of background conditions (Peng et al., 2008). Ingram and Silverman (2002) summed up this idiomatically that institutions directly determine what arrows a firm has in its quiver as it struggles to formulate and implement strategy and to create competitive advantage. Formal and informal institutions significantly shape the strategy and performance of firms in emerging economies (Filatotchev et al., 2005; Peng et al., 2008).

Institutions exert a powerful influence not only on entrepreneurial entry rates, but also on the resulting trajectories of entrepreneurial initiatives (Bruton et al., 2010). The potent

impact of institutions is unlocking entrepreneurship in a country (Aldrich & Waldinger, 1990). Ahlstrom et al. (2003) added that institutions can promulgate unproductive behavior in the form of detrimental institutional entrepreneurship. Institutions help to determine the process of gaining cognitive and moral legitimacy, which is critical for entrepreneurial organizations to overcome the liabilities of newness (Stinchcombe, 1965) and to increase their survival prospects (Ahlstrom & Bruton, 2001; Freeman et al., 1983). Entrepreneurial organizations and their members need to behave in a desirable or appropriate manner within a socially constructed system or face sanctions for deviating from the accepted norms (Schein, 2009; Suchman, 1995).

This study is anchored on the new institutional theory and focuses on firm-level institutions as the context in which decisions are made and implemented at the business organization level. These firm-level institutions that include resource based and administrative based institutions have been demonstrated by studies to impact on firm performance. The support for the influence of resource based firm level institutions on the relationship between competitive strategy and firm performance is offered by various studies (Peng, 2006; Peng et al., 2008; Machuki et al., 2012). Peng (2006) observed that strategic choices were the outcome of dynamic interaction between institutions and organizations. Peng et al. (2008) noted that strategic choices were not only driven by industry conditions and firm capabilities, but were also a reflection of the formal and informal constraints of a particular institutional framework that managers confront. Mahler (2009) and Machuki et al. (2012) observed internal or firm level institutions to influence the relationship between competitive strategy and performance. Administrative based firm level institutions have been demonstrated by studies (Certified Practising

Accountants Australia [CPA], 2007; Machuki et al., 2012) to influence the relationship between competitive strategy and performance. The CPA (2007) lists the types of controls used to ensure accurate and reliable financial controls within an organization. These include internal control structures and procedures. Machuki et al. (2012) observed that the identified strategy would require alignment with the internal factors of the organization which defines the context in which decisions are made and implemented.

Although there is emerging consensus on the importance of institutions in influencing firm performance its literature is ambiguous (Sachs, 2003). Empirical evidence on impact of institutions in determining performance of SMEs is inconclusive. Equally, some findings have been either not significant or concentrated on large corporations. The results by Machuki et al. (2012) were statistically not significant and the observations made were on large corporations instead of SMEs. Thus, the argument for the influence of firm level institutions especially the moderating effect in the entrepreneurship to performance relationships of SMEs needs empirical support. Therefore, this study formulated the following hypothesis for testing:

H_4: There is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs

2.3.5 Joint Effect of Entrepreneur Characteristics and Competitive Strategy on Firm Performance

Studies have proposed existence of a joint effect of entrepreneur characteristics and competitive strategy on firm performance. Phan and Butler (2003) and Yuan-Yao et al. (2009) indicated a joint effect with entrepreneur characteristics determining strategy

choice as an intermediate output in enhancing performance. Sidik (2012) revealed that although a positive relationship existed between entrepreneur traits and firm performance there were intervening/mediation variables between the two constructs.

Edelman et al. (2002) established the mediating effect of firm strategies in the relationship between human and organizational resources, and firm performance using structural equation analysis. Edelman et al. observed that strategy played a mediating role suggesting that neither resources alone, nor strategies alone determine performance. The findings by Edelman et al. supported the suggestion by Venkataraman and Camillus (1984) that an internal fit between resources and strategies would lead to improved performance. Nooteboom (1994) observed that the success or failure of the business is not adequately determined by personal characteristics of the entrepreneurs but by these characteristics while interacting with contingency factors from the context in which the business operates with the strategies.

Despite existence of evidence for joint effect and support for the mediating effect of competitive strategy in the entrepreneur characteristics and firm performance relationship, some studies have indicated otherwise. Other studies have indicated the relationship either as not clear or inconclusive (Pelham, 2000; Kemp & Verhoeven, 2002; Sidik, 2012). Mintzberg (1978) in the study on patterns in strategy formulation noted that the relationship between characteristics of owners/managers and strategic action was indirect and hidden. These varying observations create doubt whether entrepreneur characteristics and competitive strategy jointly affect firm performance. Therefore, the study formulated and tested the following hypothesis:

H_5: The combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not significantly different from their individual effects

2.4 Summary of Empirical Studies and Knowledge Gaps in the Entrepreneurship to Performance Relationships

Firm performance has received much focus by studies exploring entrepreneurship development. A direct relationship between entrepreneur characteristics and performance has been confirmed by various studies. However, debatable issues have emerged whether the relationship between entrepreneur characteristics and performance is direct. Some studies have suggested congruence or fit of environment, structure, and strategy in order to effectively model the entrepreneurship to performance relationship (Miller, 1988; Lumpkin & Dess, 1996; Muthuvelayutham & Jeyakodeeswari, 2014). Lumpkin and Dess (1996) state that direct modeling without introduction of other variables fails to provide wholesome understanding of the relationship of entrepreneurship to performance.

Reviews of available studies indicate existence of knowledge gaps in the understanding of relationship of entrepreneurship to performance. The empirical evidence presented in most studies was pegged on individual relationships rather than their interactions in a multi-dimensional way as suggested by Lumpkin and Dess (1996). Studies explored individual interactions of performance with various factors but little evidence was presented on their multi-dimensional integration with performance pointing to clear knowledge gaps that require to be addressed as presented in Table 2.1.

Table 2.1: Summary of Empirical Studies and Knowledge Gaps

Researcher	Objectives/Focus	Methodology	Findings	Knowledge Gap	Current Study Focus
Namusonge (2014)	Linking competencies with strategies	Performed descriptive statistics and analysis of variance (ANOVA)	A firm's competencies important in achieving competitive strategies	Did not link other characteristics with strategies	Aims to link demographic and individual traits with strategies
Gupta and Muita (2013)	Study interactions between operations strategy and entrepreneurial traits, performance and job satisfaction	Performed regression analysis on data collected from 1200 SMEs through non-experimental design	Strategy significantly moderated relationship between entrepreneurial personality and performance	Did not consider effect of other internal factors like firm level institutions on performance	Study will test influence of firm level institutions on entrepreneurial to performance relationship
Sarwoko et al. (2013)	Test influence of entrepreneurial characteristics and competencies on performance	Performed Structural Equation Modelling on data collected from 147 entrepreneurs	Entrepreneurial characteristics have a significant influence on business performance	Did not consider the demographic factors of the owners of SMEs	Test entrepreneurial characteristics based on age and gender differences
Moorthy et al. (2012)	Factors affecting performance of SMEs	Performed descriptive statistic, correlation and multiple linear regression analysis on 209 datasets	Skills and experiences will lead to higher innovation and competitiveness in business performance	Did not cover demographic and individual background traits on performance	Study effect of demographic and individual background characteristics
Islam et al. (2011)	Entrepreneur characteristics effect on success	Performed multiple regression analysis on data from 89 SMEs	Entrepreneur characteristics have significant effect on Success of SMEs	Did not explore into NTFPs firms	Will cover firms in NTFPs sub-sector
Maalu (2010)	Determine nature of business succession strategies and their influence on performance	Performed descriptive and inferential statistics	Mixed findings on moderating effect of family and firm institutions on relationship between succession and firm performance	Did not distill firm institutions into different categories to explore their moderating effect	Distills firm level institutions into resource-based and administrative-based to study moderating effect

Table 2.1 Cont...

Commander and Nikolosk (2010)	Analyze the impact of institutions on performance	Performed both correlations and regression analyzes	Little evidence of a robust link between widely used measures of institutions and performance	Failed to study effect of individual institution attributes on performance	Will distill institutions and analyze influence on performance
Oroko (2009)	Examine personality attributes on growth	Performed descriptive statistics and correlations on data collected from 354 firms	Personality attributes highly influencing growth	Limited to personality attributes	Key entrepreneur characteristics studied
Bowen et al. (2009)	Understand how SMEs manage challenges	Performed descriptive statistics on data collected from 194 businesses	Business success is a consequence of embracing a mix of strategies	Did not study impact of strategy on performance	Study effect of strategy on performance
Atieno (2009)	Explore effect of networks/linkages on performance	Performed descriptive statistics and correlations on data collected from 322 firms	MSEs have different forms of networks and linkages which impact on firm performance	Did not cover effect of all institutional factors on performance	Study role of institutions on firm performance
Peng et al. (2008)	Shed light on the institutional theory	Prescriptive literature review on institutional theory	Institutional theory and RBV shed significant light on ‘‘what drives strategy and performance”	Review did not cover issues related to SMEs in NTFPs	Study anchored on RBV and institutional theory
Klaus et al. (2008)	Investigate impact of institutions on business strategies	Performed correlations and regression on data collected from 336 firms	Institutions directly influence strategies with moderation of different types of resources	Institutional factors explaining variations in strategies uncaptured	Study effect of institutions on strategy and performance

Source: Researcher, 2014

From Table 2.1, it was clear that most of the studies had concentrated on the individual relationships of the various factors with performance. Equally, focus on the SMEs in the NTFPs was low. Thus, this study targeted the knowledge gaps including limited information or inconsistent evidence on the entrepreneurship to performance relationship.

From the evidence presented by studies (Oroko, 2009; Islam et al., 2011; Moorthy et al., 2012) it was clear that the entrepreneur plays a critical role in firm performance. The entrepreneur is the firm's main strategist as well as the decision maker; the entrepreneur develops and implements the strategies. Thus, firm performance reflects traits of the entrepreneur as well as strategies and the environment providing a basis for a linkage between entrepreneur traits, competitive strategy, firm institutions and firm performance.

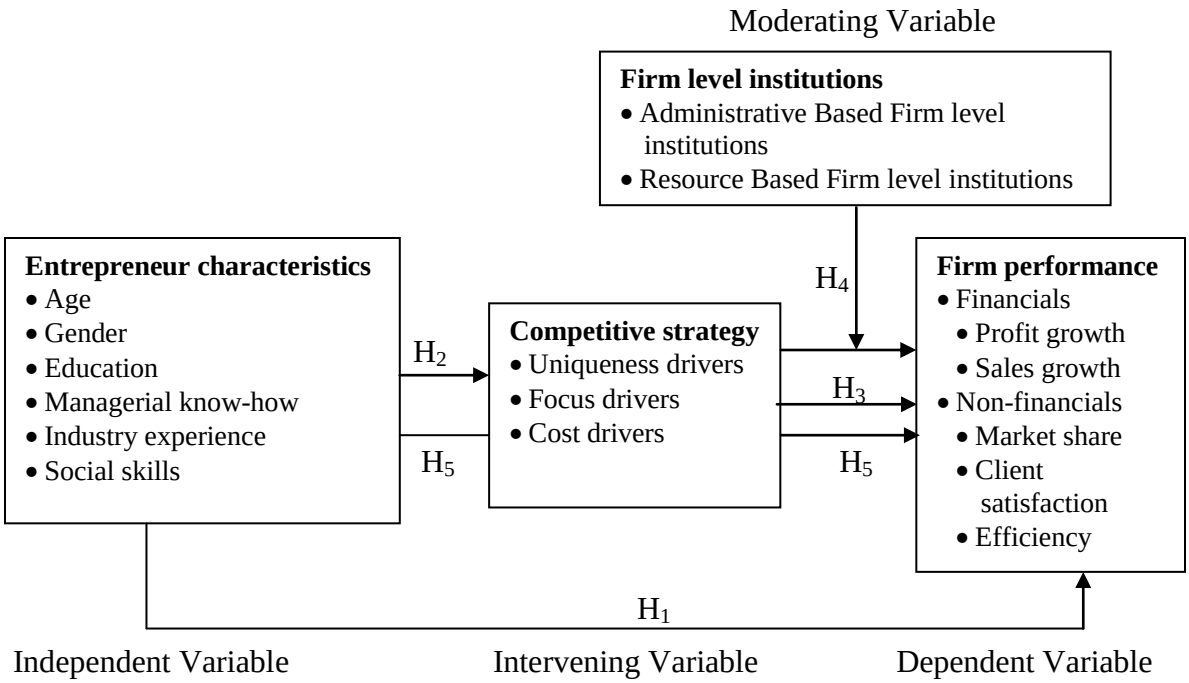
2.5 Conceptual Framework

From the theoretical perspectives and conceptual arguments, it could be deduced that once a business opportunity is visualized, the entrepreneur uses available resources and competencies including finance, and skills to develop and implement the strategy. Equally, the entrepreneur may be influenced by the internal institutional dimensions in strategy development and implementation (Peng et al., 2008; Machuki et al., 2012). This logical thinking envisages a process whereby the entrepreneur and institutional dimensions provide a prediction of competitive strategy and firm performance.

Based on the foregoing, this study aimed at examining empirically the relationships and impacts between entrepreneur characteristics, competitive strategy, firm level institutions and firm performance. It was conceptualized that entrepreneur characteristics could affect

firm performance directly or through mediation effects of competitive strategy. Equally, competitive strategy could affect firm performance directly or was influenced by the moderating effect of firm level institutions. Figure 2.1 presents this conceptual model, which formed the road map for this study.

Figure 2.1: Conceptual Model



Source: Researcher, 2014

Figure 2.1 highlights the influence of competitive strategy and firm level institutions on the entrepreneur characteristics and performance relationship of the SMEs. In the conceptual model, competitive strategy provided a causal link as an intervening or mediating variable between entrepreneur characteristics and firm performance. The causal effect of competitive strategy on performance was moderated by firm level institutions. In this study, the six traits which demonstrate the dynamism and competence of an entrepreneur as the lead person in meeting the tasks and challenges of initiating and running a business were used; age, gender, education, managerial know-how, industry experience and social

skills. It was postulated that the entrepreneur pursues Porter's generic strategies including differentiation, focus and cost leadership while mobilizing resources, and manifests internal institutions to drive the firm to fruition. Studies (Namusonge, 2014) show that Porter's generic strategies are appropriate for SMEs.

The realized outcome of implementation process was captured by multi item measures including market share, client satisfaction, sales growth, efficiency and profit growth. The SMEs are complex and their entrepreneurs may be more interested in survival rather than growth and expansion. Some studies on SMEs show a preference for non-financial measures due to difficulties in obtaining objective financial data as managers may manipulate data to avoid personal or corporate taxes (Zulkiffli & Perera, 2011). Given complexity of SMEs with diverse goals, this study used both financials and non-financials which were then applied in computing performance index for use in analysis. The use of various measures helped capture complexity of the target SMEs and offer better prediction of their performance.

2.6 Hypotheses for Testing

This study sought to address the effects of competitive strategy and firm level institutions on entrepreneur characteristics to firm performance relationship. Five research objectives were formulated, namely; to determine relationship between entrepreneur characteristics and firm performance; establish relationship between entrepreneur characteristics and competitive strategy; determine relationship between competitive strategy and firm performance; establish effect of firm level institutions on relationship between competitive strategy and firm performance; and determine joint effect of entrepreneur

characteristics and competitive strategy on firm performance. Based on these research objectives, five hypotheses corresponding to each research objective were formulated and stated as follows:

H_1: There is no significant relationship between entrepreneur characteristics and performance of SMEs

H_2: There is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs

H_3: There is no significant relationship between competitive strategy and performance of SMEs

H_4: There is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs

H_5: The combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not significantly different from their individual effects

This study conceptualized that; entrepreneur characteristics influence firm performance; entrepreneur characteristics affect competitive strategy; competitive strategy affects firm performance; firm level institutions moderate the relationship between competitive strategy and firm performance; and competitive strategy mediate the relationship between entrepreneur characteristics and firm performance. Thus the hypotheses were stated in negative or null state to be against these expected relationships between the variables.

This study tested the null hypotheses (H_0) against alternative hypotheses (H_A); King'oriah, (2004) states that the alternative hypothesis is the alternative set of facts that are accepted (or proven to be true) if the null hypothesis is rejected (proven not to be

true). Based on the foregoing, null hypotheses (H_0) and alternative hypotheses (H_A) tested by this study were stated as:

Objective one: Determine the relationship between entrepreneur characteristics and performance of SMEs in NTFPs sub-sector

(H_0): There is no significant relationship between entrepreneur characteristics and performance of SMEs

(H_A): There is significant relationship between entrepreneur characteristics and performance of SMEs

Objective two: Establish the relationship between entrepreneur characteristics and competitive strategy of SMEs in NTFPs sub-sector

(H_0): There is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs

(H_A): There is significant relationship between entrepreneur characteristics and competitive strategy of SMEs

Objective three: Determine relationship between competitive strategy and performance of SMEs in NTFPs sub-sector

(H_0): There is no significant relationship between competitive strategy and performance of SMEs

(H_A): There is significant relationship between competitive strategy and performance of SMEs

Objective four: Establish effect of firm level institutions on the relationship between competitive strategy and performance of SMEs in NTFPs sub-sector

(H_0): There is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs

(H_A): There is significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs

Objective five: Determine joint effect of entrepreneur characteristics and competitive strategy on performance of SMEs in NTFPs sub-sector

(H_0): Combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs not different from individual effects

(H_A): Combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs different from individual effects

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents methodology that was applied during the research study. It presents the logical positivism which was adopted as the philosophy for the study. In addition, the survey research design and a merged list of SMEs in NTFPs sub-sector from Kenya Bureau of Standards (KEBS), KEFRI, Kenya Forest Service (KFS) and counties as population for investigation is presented. The selection of study sample units using appropriate sampling techniques is given. The chapter also elucidates how descriptive and inferential statistics were applied as well as operationalization of variables and how study objectives were achieved. Test of key assumptions to ensure appropriateness of the data for analysis is also presented.

3.2 Philosophical Foundation of the Study

Positivism and phenomenology exist as the two philosophical approaches forming the foundation of knowledge upon which assumptions and predispositions of a study are based. Whereas positivism takes quantitative approach, phenomenological approach is mainly qualitative (Cooper & Schindler, 2003). Positivistic approach presupposes that knowledge naturally exist based on real facts, objectivity, neutrality, measurement and validity of results. Positivism is predicated on observations and experiments based on existing theory that can be expressed numerically. Positivism, thus derives a quantitative perspective which holds that there is an objective reality that can be expressed numerically, with explanatory and predictive power (Furrer et al., 2007). Positivism

argues for use of the most logical, dominant, or relevant framework (Pfeffer, 1994). Phenomenology, on the other hand argues that knowledge is based on experience from an individual's perspective and is subjective to focusing on immediate experience, personal knowledge and individual interpretations (Saunders et al., 2007). It starts from basis of coexistence and compatibility of alternative frameworks (Grandori, 2001).

This study was guided by the positivistic paradigm. It involved an investigation of theoretical bases in the configuration of firm performance and its determinants. It aimed to objectively and in unbiased manner collect data for testing empirical re-affirmations of theory. Performance was explained as an outcome of configurations of firm resources and institutions as defined in the conceptual framework. Enough representative samples were selected for generalizing results and it was only positivism that could guide this investigation.

3.3 Research Design

The study was conducted as a cross-sectional survey of SMEs in NTFPs sub-sector in Kenya. Such surveys if properly conducted provide quick and accurate means of assessing information (Zikmund, 2000). Surveys help quantify social phenomena and offer opportunities to establish whether significant associations among variables exist at one point in time.

Applying this research design, the study had the opportunity to establish the relationships between entrepreneur characteristics, competitive strategy, firm level institutions and firm performance of SMEs in the sub-sector. Since a cross-sectional survey affords

opportunity to capture a population's characteristics and test hypothesis quantitatively and qualitatively, the control of the variables to sort out the existence and magnitude of their causal effects was not necessary. Analytical models were used to establish relationship between variables.

3.4 Population of the Study

The target population of study was all the SMEs dealing with NTFPs in Kenya and included processors, transporters and traders. However, a comprehensive list of such SMEs was non-existent making it difficult to accurately state their numbers and spread. References were made to the databases maintained by KEBS, KEFRI, KFS and counties. Apart from databases kept by KEBS, listings of businesses by the other three were inadequate in numbers and categorization. Most of the NTFPs are used either as food, medicine or cosmetic requiring certification and standardization by KEBS, thus making its database a reliable source of SME data categorized using number of employees.

To enhance completeness of list of SMEs, databases from KEBS, KEFRI, KFS and counties as per April 2013 were merged to form the population of 1,712 (Appendix IV). The listings showed that most of the SMEs in the sub-sector were based in the counties of Nairobi (27 percent), Mombasa (12 percent) and drylands counties (average 3 percent). Target SMEs in the rest of the counties were below 3 percent of the total population.

3.5 Sampling Design

The number of SMEs in NTFPs sub-sector in the country was finite. Equally, the SMEs were specialized along various products they dealt with. Therefore, appropriate sample

size calculation technique was applied in establishing the sample size while stratified random sampling procedure was used to select the desired sample population in each stratum. The study used the number of employees to determine the size of the firm.

3.5.1 Sample Size Determination

A representative sample for the study was selected from a finite population of SMEs in the sub-sector. The sample size was computed in two stages using equations 3.1 and 3.2. The first stage involved computing sample size without considering finite population correction factor using equation 3.1.

$$n_0 = \frac{Z^2 p (1- p)}{d^2} \qquad (3.1)$$

$$n_0 = \frac{(1.96)^2 (0.50) (0.50)}{(0.050)^2} = 384$$

where:

n_0 = sample size without considering finite population correction factor

Z = degree of confidence at 95 percent confidence level

p = proportion in population having measured characteristics chosen at 50 percent (Israel, 1992).

d = level of statistical significance at 5 percent.

The second stage involved computation of the desired sample size (n) considering the correction factor for finite population (N) by using equation 3.2; this resulted to a study sample size of 314 SMEs.

$$n = \frac{n_0 N}{n_0 + (N - 1)} \qquad (3.2)$$

$$n = \frac{384 \times 1{,}712}{384 + (1{,}712 - 1)} = 314$$

The sample size of 314 was formed, which was 18 percent of the target population in the country. Studies demonstrate that a sample size of between 300 (good size) and 500 (very good size) is reasonable for a study of this nature (Tabachnick & Fidell, 2007). The sample size of 314 fell between the limits of 300 and 500.

3.5.2 Sampling Technique

Stratified random sampling was applied to establish homogenous sampling units. Among the various counties, Nairobi, Mombasa, Kilifi, Kwale, Kajiado, Garissa, Kitui, Machakos and Makueni represented 64 percent of the target SMEs population and were, thus selected as study sites. These counties were spread in most parts of the country and represented its diversity (Appendix V). Equally, these counties were either of urban set-up or located within the drylands where the NTFPs and their SMEs were highly concentrated. The SMEs in the nine counties were segregated into three mutually exclusive strata/categories based on similarities in sources and use of key products they deal with as shown in Table 3.1.

Table 3.1: Study Population and Sampling Units

County	Type	Stratum/Category			
		Fruit Products	Medicinal Products	Bee Products	Total
Nairobi	Population	220	101	149	470
	Sample	63	29	43	135
Kajiado	Population		30	14	44
	Sample	0	9	4	13
Garissa	Population		25	22	47
	Sample	0	7	6	13
Kitui	Population	28	31	29	88
	Sample	8	9	8	25
Machakos	Population	17	13	15	45
	Sample	5	4	4	13
Makueni	Population	11	15	30	56
	Sample	3	4	9	16
Mombasa	Population	73	99	39	211
	Sample	21	28	11	61
Kilifi	Population	23	36	19	78
	Sample	7	10	5	22
Kwale	Population	12	29	15	56
	Sample	3	8	4	16

Source: Researcher, 2014

The three strata were the fruit products, medicinal and bee products; fruit products were fruit related products and included edible fruits, seed oils, seeds and nuts; medicinal were those with medicinal and cosmetic values and included herbs, aloe, resins and essential oils and finally, bee products included honey, wax, royal jelly and propolis. Sample units were established proportionately by multiplying the sample size with a fraction of SMEs in each stratum as their number to the total population in sampled counties. The SMEs in each stratum were numbered sequentially and random numbers used to select SMEs to

interview owners/managers. However, in cases where an oversized firm with over 100 employees or a wrongly categorized one was selected, then it was replaced with the next SME on the list.

3.6 Data Collection

A questionnaire with open and closed format questions was used in data collection (Appendix III). Most questions developed were multiple choice requiring ticking the appropriate answer. The questionnaire as a tool for collecting data offers opportunities for vast coverage, speed, cost-effectiveness and versatility (Pushpakumari & Watanabe, 2009). Target respondents were SME owners/entrepreneurs, however in cases where it was not possible to interview the owner/entrepreneur either due to unavailability or literacy concerns, managers as custodians of information were interviewed.

Data collection commenced after a pilot study was conducted in Taita Taveta County to refine the questionnaire which had five major parts. The unit for data collection was the business firm dealing with the NTFPs. The first part dealt with bio-data for profiling the respondent business firms. The second part included questions related to the entrepreneur characteristics. The third part contained listed questions on business strategies with 29 operational strategic activities and respondents were asked to rate undertaking levels using a five-point Likert scale. The fourth part dealt with firm level institutions and had 17 questions with respondents required to rate extent to which each institutional issue was applicable using a five-point Likert scale. Finally, firm performance measured in terms of various performance metrics required respondents to rate their trends over last five years (2009 to 2013) on a five-point Likert scale.

The study targeted to interview 314 SMEs in the NTFPs sub-sector in Kenya. The exercise was carried out by a team of enumerators who made prior appointments mostly through telephone calls requesting the owners or senior managers of the respondent SMEs for the interview that lasted for about a half an hour. The questions were straight forward and close ended making it easier for respondents in making choices that appropriately reflected their perceptions.

Questionnaires from 283 SMEs out of the 314 SMEs in the NTFPs sub-sector had satisfactory answers indicating 90 percent response rate. Following data cleaning process, 277 questionnaires, that is 88 percent were found usable and adopted in this study for further analysis. At county level, the response rate was the highest (100 percent) in Garissa, Kilifi, Kitui, Kwale and Makueni Counties and least in Nairobi (81 percent). Respondents in Nairobi were skeptical and not willing to participate in the interviews. The busy schedule and fears that disclosures on performance of business would elicit tax payment penalties could have been some of the reasons for unwillingness of some target SMEs to be interviewed.

From similar studies in the developing economies, Adegbite et al. (2006) administered 100 questionnaires and found 76 percent usable. Hsiu-Jung (2008) used online surveys and door-to-door interviews and had a response rate of 30 percent. Širec and Močnik (2010) carried out interviews through the Computer Assisted Telephone Interviewing (CATI) method and had a response rate of 11.4 percent. This meant that the response rate attained in this study was adequate and satisfied the criterions of validity requirements.

3.7 Validity and Reliability Tests

The nature of data collection that involved respondent SMEs indicating their performance meant that many variables of interest could have been rated poorly leading to measurement errors. Such unreliable measurements may cause relationships to be under-estimated increasing the risk of committing type II error during data analysis stage. Over-estimation of variables would occur if the covariates are not reliably measured when performing multiple linear regression analysis. Therefore, to minimize occurrence of measurement errors, the study exercised prudence to ensure that the measurement items and interviews yielded accurate and adequate data.

The questionnaire which was the main data collection instrument was tested for validity and reliability. Validity concerns with whether data is precise, inclusive, or met particular criteria. Reliability, on the other hand was established through computation of Chronbach alpha coefficient for each construct.

3.7.1 Validity Test

The validity of the questionnaire was achieved at four levels including review of literature, consultations with subject matter specialists, specification of scales of measurements and analysis, and piloting to validate data with real research content. Extensive review of available conceptual and empirical literature was conducted to establish concepts, constructs and interlinkages in the framework of firm performance. The information was applied in the grouping of measurement items under specific variables applied in the analyses. Opinions and guidance was sort from professors and researchers in agribusiness field over the conceptual, contextual and analytical

procedures to apply. A pilot survey covering 10 SMEs within the NTFPs sub-sector in Taita Taveta County was thereafter undertaken and responses analyzed using descriptive statistics and multiple linear regression resulting in statistics and relationships as conceptualized at proposal development stage.

The questionnaires were administered by trained enumerators recruited from fresh university graduates and KEFRI technicians versed with administration of questionnaires. After recruitment, the enumerators were taken through a one-day training to enable them familiarize and understand the content of the questionnaires. The training also involved taking them through the basic interviewing skills. The enumerators then offered guidance to respondents during the rating process and this ensured that data was measured validly.

3.7.2 Reliability Test

Reliability was established through computation of Chronbach alpha coefficient for each construct. Cronbach's alpha indicates extent to which a set of items can be treated as measuring a single latent variable. The coefficient ranges from 0 to 1; the higher the coefficient the more reliable the scale. This study used a cut-off point coefficient of 0.7 and items with higher values were used in analysis. The results are shown in Table 3.2.

Table 3.2: Reliability of Study Instruments

Category	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Measured Items
Entrepreneur characteristics	0.761	0.836	6
Competitive strategy	0.900	0.899	11
Firm level institutions	0.945	0.946	17
Firm performance	0.822	0.837	24

Source: Field Data, 2014

The Cronbach's alpha values ranged from 0.761 (entrepreneur characteristics category) to 0.945 (firm level institutions category). These Cronbach's alpha values were above the cut-off coefficient of 0.7 defined for the study. This indicated that the items were accurately measured and had adequate levels of internal consistency.

3.8 Operationalization of Variables

This study had four types of variables independent, intervening, moderating and dependent. The study variables were operationalized as depicted in the conceptual framework to facilitate reduction of abstract notions of constructs into observable characteristics that are measurable. This involved definition of constructs or variables so that they could be measured or expressed quantitatively. In order to obtain reliable and valid measures included in the questionnaire, validated indicators from previous studies and multi item measures were used to cover multidimensionality of variables.

Entrepreneur characteristics construct were operationalized with application of various demographic and background factors which were captured as either binary data measured with nominal scale, ordinal measured by ordinal scale or real-valued data measured by a ratio scale. Competitive strategy, on the other hand, was operationalized through rating the degree of extent to which each strategic activity was undertaken on a Likert scale and was captured using an interval measure. Equally, indicators for operationalizing institutions were Likert type data and were measured using an interval scale. Indicators for operationalizing performance construct were captured as trends in performance indicator over the years and were measured using interval scale. The summary of operationalization of study variables is presented in Table 3.3.

Table 3.3: Summary of Operationalization of Study Variables

Variable	Nature of Variable	Indicators/Measures	Rating Measure	Measurement at Scale	Measurement at Analysis	Questionnaire Item
SME organizational data and general information	Background information	Mixed	Mixed	Ordinal	Descriptive	Part I: Q1 to Q6
Entrepreneur characteristics	Independent	Age (AGE) Gender (GE) Education (EE) Managerial know-how (MK) Industry experience (IE) Social skills (SK) Entrepreneur characteristics index (EC)	Mixed	Ratio Nominal Ordinal Ordinal Ordinal Nominal Ratio	Inferential analysis	Part II: Q7 to Q12
Competitive strategy	Mediating/ Intervening	Differentiation (DD) Focus (FF) Cost leadership (CL) Competitive strategy index (CS)	Five point Likert type scale	Interval Interval Interval Ratio	Inferential analysis	Part III: Q13

Variable	Nature of Variable	Indicators/Measures	Rating Measure	Measurement at Scale	Measurement at Analysis	Questionnaire Item
Firm level institutions	Moderating	Financial resources (FR)	Five point Likert type scale	Interval	Inferential analysis	Part IV: Q14 to Q15
		Skills and competencies (SC)		Interval		
		Knowledge base (KB)		Interval		
		Culture (CC)		Interval		
		Human resources (HR)		Interval		
		Organizational Structure (OS)		Interval		
		Management style (MSS)		Interval		
		Internal controls (IC)		Interval		
		Systems (SS)		Interval		
		Procedures (PR)		Interval		
		Firm level institutions index (FLI)		Interval		
		Interaction term (ITT)		Interval		
Firm performance	Dependent	Market share (MS)	Mixed	Interval	Inferential analysis	Part V: Q16 to Q21
		Client satisfaction (CS)		Interval		
		Efficiency (EF)		Interval		
		Profit growth (PG)		Ratio		
		Sales growth (SG)		Ratio		
		Performance index (FP_i)		Ratio		

Source: Researcher, 2014

3.9 Test for Linearity, Normality, Multicollinearity and Homoscedasticity

The study performed tests of various assumptions to ensure appropriateness of the data collected for analysis. Correlations and multiple linear regression were used to test the relationships between variables. Such analytical techniques require the collected data to meet specific characteristics in order to reduce biasness, and enhance accuracy in the interpretation of results and making conclusions of the research study. Pedhazur and Schmelkin (1991) noted that violations of assumptions lead to serious biases in the results and conclusions.

The data collected was, therefore, subjected to tests for linearity, normality of the distribution, multicollinearity and homoscedasticity using SPSS, to check if it met the conditions of the assumptions. The study applied the graphical and numerical methods in testing the assumptions, and the test results helped to indicate the suitability of the data.

3.9.1 Test for Linearity

The study tested for the assumption of linear relationship between the dependent and independent variables. Multiple linear regression analysis which requires an assumption of linearity of data, that is, the data was sampled from a population that relates the independent and dependent variables in a linear fashion was performed. Osborne and Waters (2002) observed that the chance of non-linear relationships is high in the social sciences, thus it is essential to test for linearity. Linearity directly relates to the bias of the results of the whole analysis (Keith, 2006). It defines the dependent variable as a linear function of the independent variables (Darlington, 1968). Multiple regression can,

therefore, accurately estimate the relationship between dependent and independent variables when the relationship is linear in nature (Osborne & Waters, 2002).

Scatterplots were derived using SPSS to test linearity between dependent and independent variables (Appendix VII). The scatterplots for firm performance (dependent) and entrepreneur characteristics, competitive strategy and firm institutions (independent) had pattern of dots and fitted lines that sloped diagonally from lower left to upper right suggesting positive linear relationship between the variables. The observation of existence of linearity with the data of this study implied that statistical methods like linear regression requiring an assumption of linearity of data could be applied in data analysis.

3.9.2 Test for Normality

Tests were conducted to establish normality and this was crucial to ensure normality assumption was not violated at analysis stage. The observation of non-normality of data is common in studies of this nature. Micceri (1989) indicates that normality is rare in social studies prompting the usage of non-parametric tests. However, Zimmerman (1998) points out that non-parametric tests can suffer as much, or more, than parametric tests when normality assumptions are violated, confirming the importance of normality in all statistical analyses, not just for parametric analyses. Additionally, the statistical power of non-parametric tests are lower than those of parametric except on a few occasions (Hodges & Lehmann, 1956; Tanizaki, 1997; Freidlin & Gastwirth, 2000).

Normality of data could be established using graphical or numerical methods. Park (2008) observes that neither the numericals nor graphics individually provide conclusive

information about normality. Thus, the study established normality of the data for each dependent variable both numerically and graphically. Descriptive statistics were performed to derive the means, median, standard deviations, skewness and kurtosis for describing normality of the data. A normally distributed random variable should have skewness and kurtosis near zero, with mean closer to median (Park, 2008). The descriptive statistics for establishing normality of the data are shown in Table 3.4.

Table 3.4: Test of Normality

Variable	Test	Mean	Median	Standard Deviation	Skewness	Kurtosis
Unique drivers	Statistic	0.5568	0.5643	0.14536	-0.318	-1.058
	Std. Error	0.01005			0.168	0.335
Focus drivers	Statistic	0.4950	0.5119	0.11481	-0.122	-0.792
	Std. Error	0.00794			0.168	0.335
Cost drivers	Statistic	0.5248	0.5441	0.10935	-0.250	-0.518
	Std. Error	0.00756			0.168	0.335
Performance	Statistic	2.4545	2.3688	0.8363	0.447	-0.153
	Std. Error	0.05588			0.163	0.324

Source: Field Data, 2014

The data obtained for the variables was normal (see Table 3.4); the mean and median values were close to each other with low levels of standard errors. The skewness values (between -0.318 and 0.447) and the kurtosis (between -1.058 and 0.335) for the variables were closer to the ideal 0.00.

The Shapiro-Wilk W which is the ratio of the best estimator of the variance to the usual corrected sum of squares estimator of the variance was applied to supplement the descriptive statistics by testing the null hypothesis that the data is normally distributed against the alternative hypothesis that the data is not normally distributed. When the p-

value is more than 0.05, the null hypothesis is not rejected and thus the assumption holds that the data is normally distributed (Osborne & Walters, 2002; Park, 2008). The positive and less than or equal to one W statistic as well as their insignificance indicate normality (Park, 2008).

The Shapiro-Wilk W statistics were computed using SPSS to test the hypothesis that the data was normally distributed. The results are shown in Table 3.5.

Table 3.5: Shapiro-Wilk Statistics

Item	Shapiro-Wilk		
	Statistic	df	Sig.
Unique drivers	0.929	19	0.273
Focus drivers	0.928	19	0.308
Cost drivers	0.921	19	0.288
Performance	0.907	21	0.177

Source: Field Data, 2014

From Table 3.5, the p-values were over 0.05 and thus the null hypothesis was not rejected. It was, thus concluded that the data came from a normally distributed sample population. Graphically, the distribution of the dependent variables did not largely deviate from normal distribution and the line of best fit displayed a normal distribution curve (Appendix VIII). The histograms showed that the data followed normal distribution with little departure from normality. The corresponding Q-Q plots displayed values varying less from the straight line suggesting that data was normal. Thus, application of parametric tests like the t-test analysis in this study would result in reliable and valid interpretations and inferences.

3.9.3 Test for Multicollinearity

Multicollinearity is the unacceptable high level of correlation among the independent variables making it hard to separate the effects of the individual independent variables. Under this condition, assessment of the relative strength of the independent variables and their joint effect are unreliable. Thus, analysis was conducted for test of multicollinearity.

The test for multicollinearity was performed using Condition Index (CI), Variance Inflation Factors (VIF) and tolerance. Small values for tolerance and large VIF values show the presence of multicollinearity (Keith, 2006). The acceptance range of CI < 30, VIF < 5, and tolerance > 0.2 was applied in the test for multicollinearity. Table 3.6 shows the collinearity statistics derived by performing regression analysis of performance (dependent) and the independent variables.

Table 3.6: Collinearity Statistics

Model	Collinearity Statistics		Condition Index
	Tolerance	VIF	
(Constant)			1.000
Age	.749	1.336	3.744
Gender	.971	1.030	4.575
Education	.583	1.715	5.476
Managerial skills	.644	1.552	7.244
Industry experience	.771	1.297	7.948
Social skills	.774	1.293	12.089
Uniqueness drivers	.458	2.183	13.048
Focus drivers	.611	1.637	13.314
Cost drivers	.477	2.094	15.568
Resource based institutions	.374	2.672	20.188
Administrative based institutions	.387	2.583	25.639

Source: Field Data, 2014

The results showed high tolerance, and low VIF and CI values. The CI, VIF and tolerance fell within the acceptance range (CI < 30, VIF < 5 and tolerance > 0.2) pointing to lack of multicollinearity problem, that is independent variables were not correlated with each other. This implied that this study could apply linear or generalized linear models with a substantial degree of accuracy.

3.9.4 Test for Homoscedasticity

The assumption of homoscedasticity assumes that the variance around the regression line is the same for all values of the independent variables, that is the dependent variable exhibits similar amounts of variance across the range of values for an independent variable. The violation of homoscedasticity (heteroscedasticity) is present when the size of the error term differs across values of an independent variable. Slight heteroscedasticity has little effect on significance tests but marked heteroscedasticity weakens and distorts the analysis thus increasing possibility of committing Type I error (Tabachnick & Fidell, 2007). Thus, the study tested homoscedasticity by use of Levene's t test of homogeneity of variance. If the Levene statistic is significant at $p<0.05$ level of significance, the null hypothesis that the levels have equal variances is rejected. Table 3.7 shows the results.

Table 3.7: Test of Homogeneity of Variables

Variable	Levene Statistic	df1	df2	Sig.
Unique drivers	2.112	5	266	.064
Focus drivers	1.809	5	267	.111
Cost drivers	1.536	5	267	.179
Performance	1.372	5	262	.235

Source: Field Data, 2014

The findings showed that the Levene's statistics for all variables were not significant leading to not rejecting the null hypothesis that there was no significant variations between the levels (see Table 3.7). Thus, it was possible to apply multiple linear regression analysis without fear of committing type I error.

3.10 Data Analysis

Data analysis by this study was mostly quantitative in nature. However, qualitative analysis was undertaken to organize raw data collected to address the research objectives. Qualitative analysis consisted of cleaning, summarizing and organizing the data into meaningful patterns and themes. Mugenda and Mugenda (2003) opine that data obtained from the field in raw form is difficult to interpret unless it is cleaned, coded and analyzed.

The quantitative analysis consisted of both descriptive and inferential statistical procedures. The descriptive statistics and inferential analyses were applied in analyzing the data collected in order to meet the study objectives. Analysis of the data was performed using SPSS.

3.10.1 Descriptive Statistics

The descriptive statistics were performed to provide useful insights to the data collected. Harper et al. (1977) indicated that descriptive statistics are used to describe the basic features of data into simple summaries in a study. Thus, the descriptive statistics provide concise profiles of the respondent firms, and the four variables used in the analyses to achieve objectives.

The descriptive statistics generated including the frequency counts and percentages were used in profiling the respondent SMEs as well as the patterns of distribution of each study variable. To determine normality and suitability of the data for regression analysis the skewness and kurtosis were computed.

3.10.2 Inferential Statistical Procedures

The inferential statistical analyzes were performed to provide useful insights to the data that could not be captured by the descriptive statistics. According to Harper et al. (1977), inferential statistics are used to make inferences about the population. Therefore, this study performed inferential statistical tests to understand the relationships between various variables and to test the null hypotheses. Inferential analysis involved performing correlation and regression analyzes. Prior to undertaking the inferential analysis, tests were performed on the data collected to establish its suitability for the inferential statistical procedures.

Inferential statistical analysis involved analysis of the quantitative data obtained from the survey in relation to the research objectives and hypotheses. Correlation analysis was performed to indicate association between entrepreneur characteristics and competitive strategy while multiple linear regression analyzes were performed to establish the relationships and effects between independent and dependent variables as per the stated hypotheses. The entrepreneur characteristics and competitive strategy were regressed as independent variables with firm performance as dependent variable.

Multiple linear regressions were performed to explore the mediation and moderation effects of competitive strategies and firm level institutions, respectively on the relation between entrepreneur characteristics and firm performance. Three regression models were applied to establish existence of mediation relationship; regressing entrepreneur characteristics with firm performance (model 1); regressing competitive strategy with firm performance (model 2); and regressing entrepreneur characteristics and competitive strategy with firm performance (model 3). The relationship was deemed to exist if the regression coefficient of competitive strategy was significant while the coefficients of entrepreneur characteristics differed when competitive strategy was included in the regression and when not. Competitive strategy was deemed to completely mediate the relationship if entrepreneur characteristics no longer predicted performance when both the two variables were used in the model. Equally, competitive strategy was deemed to partially mediate the relationship if entrepreneur characteristics had a smaller coefficient when used together with competitive strategy to predict performance. Finally, competitive strategy was deemed not to mediate the relationship if the coefficient of entrepreneur characteristics remained same before and after competitive strategy was used to predict performance.

The moderation effect was established by regressing performance (dependent) against competitive strategy, firm level institutions and the interaction term (derived as product of competitive strategy and firm level institutions) as independent variables (Frazier et al., 2004). The analytical technique, type of data/information required and what questions in the questionnaire applied for each objective and corresponding hypothesis are presented in Table 3.8.

Table 3.8: Summary of Data Required, Questions and Analysis Technique

Objective	Hypothesis	Data/Information Required	Questions	Analysis Technique
Determine effect of entrepreneur characteristics on performance of SMEs	H_1: There is no significant relationship between entrepreneur characteristics and performance of SMEs	Entrepreneur's age, gender, education, managerial know-how, experience, skills, motivation, market share, profits, annual sales, products developed, number of employees, and performance indicators	7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 21	Descriptive statistics Correlation analysis Regression analysis
Establish effect of entrepreneur characteristics on competitive strategy of SMEs	H_2: There is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs	Entrepreneur's age, gender, education, managerial know-how, experience, skills, motivation, product differentiation, focus and cost recovery/limiting	7, 8, 9, 10, 11, 12, 13	Descriptive statistics Correlation analysis
Determine the influence of competitive strategy on performance of SMEs	H_3: There is no significant relationship between competitive strategy and performance of SMEs	Product differentiation, focus, cost recovery, market share, profits, annual sales, products developed, number of employees	13, 16, 17, 18, 19, 20, 21	Descriptive statistics Correlation analysis Regression analysis

Table 3.8 Cont...

Establish the effect of firm level institutions on the relationship between competitive strategy and performance of SMEs	H_4: There is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs	Level of emphasis on financial resources, skills, knowledge base, motivated and loyal staff, firm structure, management style, internal controls, systems, procedures, product differentiation, focus, cost recovery, market share, profits, sales, and efficiency	14, 15, 16, 17, 18, 19, 20, 21	Descriptive statistics Correlation analysis Regression analysis
Determine joint effect of entrepreneur characteristics and competitive strategy on performance of SMEs	H_5: Combined effect of entrepreneur characteristics and strategy on performance of SMEs is not significantly different from their individual effects	Entrepreneur's age, gender, education, managerial know-how, experience, skills, product differentiation, focus, cost recovery, market share, profits, annual sales, products developed, number of employees, and performance indicators	7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21	Correlation analysis Regression analysis

Source: Researcher, 2014

In testing hypothesis H_1 and achieving objective one, regression analysis was performed with firm performance (dependent) and entrepreneur characteristics (independent) using the following model (equation 3.3) as abbreviated in Table 3.3 and ε_1 as error term:

$$FP_1 = \beta_{01} + \beta_{11} AGE + \beta_{12} GE + \beta_{13} EE + \beta_{14} MK + \beta_5 IE + \beta_{16} SK + \varepsilon_1 \quad (3.3)$$

Testing hypothesis H_2 and achieving objective two was by performing correlation analysis. In testing hypothesis H_3 and achieving objective three, regression analysis using following model (equation 3.4) as abbreviated in Table 3.3 and ε_3 as error term was done:

$$FP_3 = \beta_{03} + \beta_{31} DD + \beta_{32} FF + \beta_{33} CL + \varepsilon_3 \quad (3.4)$$

In testing hypothesis H_4 and achieving objective four, regression analysis was performed with performance (dependent), and competitive strategy, firm level institutions and interaction term as independent variables using the following model (equation 3.5) as abbreviated in Table 3.3 and ε_4 as error term:

$$FP_4 = \beta_{04} + \beta_{41} CS + \beta_{42} FLI + \beta_{43} ITT + \varepsilon_4 \quad (3.5)$$

Testing H_5 and achieving objective five was by performing regression analysis using the following model (equation 3.6) as abbreviated in Table 3.3 and ε_5 as error term:

$$FP_5 = \beta_{05} + \beta_{51} EC + \beta_{52} CS + \varepsilon_5 \quad (3.6)$$

The hypotheses, objectives and research analytical models are summarized in Table 3.9.

Table 3.9: Analytical Models for Hypotheses Testing

Hypothesis	Statement	Analytical Model	Expected Results	
			Test Condition	Significance level
H_1:	There is no relationship between entrepreneur characteristics and performance of SMEs	$FP_1 = \beta_{01} + \beta_{11} AGE + \beta_{12} GE + \beta_{13} EE + \beta_{14} MK + \beta_5 IE + \beta_{16} SK + \varepsilon_1$	$\beta_{11-16} \neq 0$	$p \leq 0.05$
H_2:	There is no relationship between entrepreneur characteristics and competitive strategy of SMEs	C= corr (DD, FF, CL and AGE, GE, EE, MK, IE, SK)	$r \neq 0$	$p \leq 0.05$
H_3:	There is no relationship between competitive strategy and performance of SMEs	$FP_3 = \beta_{03} + \beta_{31} DD + \beta_{32} FF + \beta_{33} CL + \varepsilon_3$	$\beta_{31-33} \neq 0$	$p \leq 0.05$
H_4:	There is no influence of firm level institutions on relationship between competitive strategy and performance of SMEs	$FP_4 = \beta_{04} + \beta_{41} CS + \beta_{42} FLI + \beta_{43} ITT + \varepsilon_4$	$B_{41-43} \neq 0$	$p \leq 0.05$
H_5:	Combined effect of entrepreneur characteristics and strategy on performance of SMEs is not different from their individual effects	$FP_5 = \beta_{05} + \beta_{51} EC + \beta_{52} CS + \varepsilon_5$	$\beta_{51-52} \neq 0$	$p \leq 0.05$

Source: Researcher, 2014

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the analysis with descriptive and inferential statistics and the interpretation of the findings. The descriptive statistics provide profiles of firms in the NTFPs sub-sector which formed population of this study including their years of operation, type of products they dealt with, and their size and legal status. Descriptive statistics of the four variables including the distribution of the respondent firms by these variables are also presented. This chapter further presents inferential statistics; inferential statistical tests involving correlation and regression analyzes were performed to establish the relationships between various variables and to test the null hypotheses.

4.2 Descriptive Statistics

This section presents descriptive statistics providing concise profiles of 277 firms (88 percent of the total sample size) that satisfactorily filled the questionnaire. The profiling using frequency distribution of the scores covered the years of operation, nature of products handled, size, and legal status of the respondent firms. This study used frequency distribution to be able to display the data sets in a fairly concise manner and offer an at-a-glance reference into their distribution.

Profiling of the respondent firms was aimed at providing an understanding of their unique features as units for studying the causal relationships among the variables in the entrepreneurship to firm performance nexus. Theoretical perspectives and conceptual arguments presented in this study show that firm performance is influenced by a number

of variables including individual, organizational, and environmental factors. Therefore, the profiling provided an understanding of firms in the NTFPs sub-sector as units of this study, that is units of data collection and analysis.

4.2.1 Years in Operation

In this section, firms were profiled based on their years in operation. Studies demonstrate that years of operation influence the firm value. Years in operation indicate experience possessed by the firm. Older well developed firms have better experience and out-perform newer firms. Years in operation indicate firm experience and have a positive impact on performance (Kipesha, 2013). Equally, years in operation are a significant determinant of capital structure of a firm as it enhances creditworthiness (Shehu, 2011).

The researcher thus, performed descriptive statistics to derive frequency counts and percentages for profiling the firms in relation to their years of operation. The years in operation were captured as the age category reflecting period of time in running the business. Table 4.1 shows the profile of respondent firms by years in operation.

Table 4.1: Years in Operation

Operation by the Firm (Years)	Frequency	Percent
0 to 10	163	58.9
11 to 20	77	27.8
Over 20	37	13.4
Total	277	100.00

Source: Field Data, 2014

Majority of firms (58.9 percent) were in operation for 10 years and below. The least (13.4 percent) were the firms that had been in operation for over 20 years. This implied that, on average firms in the NTFPs sub-sector were relatively new in operation with majority

being in existence for not more than five years; shorter durations resulted in lower levels of experience, operation capacity and creditworthiness negatively affecting performance.

4.2.2 Nature of Products Handled

The NTFPs are wide and diverse ranging from food products to non-food products including medicinal and essential oils. Nature of the NTFPs has an impact on performance of the business. Studies have demonstrated that firms handling food related products tend to out-perform those dealing with non-food items. Studies (Nils & von der Fehr, 1995; Adegbite et al., 2006) have shown that food processing and distribution businesses are the majority and contribute significantly to satisfying the basic needs in most African countries. Equally, highly diversified firms have higher resilience levels and post better performance unlike those that are not. Bowen et al. (2009) observed that selling a variety of differentiated products and services helps business perform well.

The researcher, thus performed descriptive statistics to profile the firms based on nature of products dealt with. Table 4.2 shows the frequencies of NTFPs handled by the firms.

Table 4.2: Nature of Products Handled

Type of Product	Frequency Counts	Percent
Fruit products	142	51.3
Medicinal	64	23.1
Bee products	62	22.4
Others	9	3.2
Total	277	100.0

Source: Field Data, 2014

Most of firms handled fruit products (51.3 percent). The firms (3.2 percent) also indicated handling other NTFPs including butterflies, basketry and plant dyes. The fruit products

form part of the food products and it was not surprising that most of the firms handled such products. Thus, the firms in the NTFPs sub-sector on average dealt with food related products; food related products tended to have higher demand enabling firms to achieve better performance.

The number of NTFPs handled by the firms was varied. The number of products handled impacts on firm performance as handling many products helps hedge a firm against uncertainties in market demand and pricing (Bowen et al., 2009). Thus, in this section respondent firms were profiled based on number of products handled. Table 4.3 shows the descriptive statistics of the number of NTFPs handled by the firms.

Table 4.3: Number of Products Handled

Number of Products	Frequency	Percent
One	101	36.5
Two	60	21.7
Three	42	15.2
More than three	74	26.7
Total	277	100.10

Source: Field Data, 2014

The firms handling only one product formed 36.5 percent of the sample size (see Table 4.3). However, the firms handling more than one product formed over 60 percent. This implied that, on average firms in NTFPs sub-sector were highly diversified; diversification cushions firms against uncertainties in demand for products and pricing.

4.2.3 Size of the Firms

The size of the firm is one of the key determinants of firm performance; the firm size has shown to have an impact on performance due to the advantages and disadvantages faced

by the firms with a particular level of performance. According to Chandler (1962), large firms can operate at low costs due to scale and scope of economies advantages. In addition, due to their size of operations, large firms have the advantage of getting access to credit finance for investment, possess a larger pool of qualified human capital and have a greater chance for strategic diversification compared to small firms (Yang & Chen, 2009). Large firms also have superior capabilities in product development and marketing making them have better perform (Teece, 1986). Size of enterprise reflects how large it is in employment terms (Islam et al., 2011). McMahon (2001) found that firm size is significantly linked to better performance. According to Ramsay et al. (2005), firm size allows for incremental advantages by enabling a firm to raise barriers of entry to potential entrants as well as gain leverage on economies of scale to attain productivity. Thus, in this section firm size was evaluated to elucidate how they exploited advantages of size.

Descriptive statistics were performed to establish size distribution of the firms. Firm size was measured by the number of employees as applied by the GoK to categorize firms. Table 4.4 shows the size distribution of respondent firms.

Table 4.4: Size of the Firms

Size (Employees)	Categorization	Frequency	Percent
Less than 10	Very small	177	64
10 to 49	Small	81	29
50 to 99	Medium	19	7
Total		277	100

Source: Field Data, 2014

There was an inverse relationship between the number and size of the firms. The highest percentage (64 percent) of the firms had less than 10 employees. On the other hand, the

least percentage (6.9 percent) of the firms had 50 to 99 employees. This implied that, on average firms in the NTFPs sub-sector were very small according to the categorization by the GoK depicting firms with less than 10 employees as very small enterprises.

4.2.4 Legal Status

Legal status of a firm has an impact on its performance. Stiglitz and Weiss (1981) stated that limited liability businesses have a greater incentive to pursue risky projects and, therefore, expect higher profits and growth rates than other firms. Harhoff et al. (1998) in their study of German firms found that firms with limited liability have above average growth rates. Freedman and Godwin (1994) in their study of small businesses in the United Kingdom found that the prime benefit of corporate status was limited liability.

Based on the foregoing, descriptive statistics were performed to establish legal status of the firms. The legal status was measured as categorical data with respondents selecting appropriate choices to depict their legal status. Table 4.5 shows the distribution of the firms based on their legal status.

Table 4.5: Legal Status

Legal Status	Frequency	Percent
Sole proprietorship	143	51.6
Partnership	53	19.1
Limited company	45	16.2
Cooperative society/self-help group	36	13.0
Total	277	100.0

Source: Field Data, 2014

Most of the respondent firms (51.6 percent) were operated as sole proprietorship ventures (see Table 4.5). The least number of firms (13 percent) were operated as cooperatives.

This demonstrated that, on average firms in the NTFPs sub-sector were operated as sole proprietorships. The process of incorporating partnerships and limited companies is lengthy and costly process in Kenya hence the highest percentages of the firms in the NTFPs sub-sector were operated as sole proprietorships.

4.3 Entrepreneur Characteristics

Studies sometime consider entrepreneur and manager to be one and the same; however, a distinction has been made between the two based on the motive, status, risk bearing, rewards, innovations and qualifications. An entrepreneur is business owner and plays strategic role involving focusing on the future and developing a vision, but a manager is a servant playing both strategic and tactical role turning the vision into action. Thus, this study drew a distinction between the two and aimed to interview owners as entrepreneurs. However, in cases whereby it was not possible to have the owner, then the manager operating the business was interviewed. Of the 277 entrepreneurs interviewed, 68 percent were owners operating their firms both as chairmen (13 percent) or directors (55 percent), 29 percent were managers and a paltry three percent listed others were senior supervisory staff well-versed with the firm and directly involved in decision-making (Appendix VI).

The characteristics of entrepreneur are many and diverse but this study considered age, gender, education, managerial skills, industry experience and social skills; they depict knowledge, talents, skills, abilities, experience, intelligence, and training advanced under RBV as some of the resources and capabilities necessary for achieving competitive advantage. In this section, therefore, frequency tables were used to show patterns of distribution of the firms by these six entrepreneur characteristics.

4.3.1 Age of the Entrepreneur

The age was conceptualized as one of the entrepreneur characteristics affecting firm performance. Observations showed that age of the entrepreneurs was varied among the firms. In this section, therefore, descriptive statistics were performed to profile the firms by age of entrepreneurs. Age was measured as the entrepreneur's number of years from date of birth. Table 4.6 shows the profile of the firms by age of the entrepreneur.

Table 4.6: Age of Entrepreneurs

Age	Frequency	Percent
Below 30	36	13.0
30 to 49	175	63.2
50 and above	66	23.8
Total	277	100.0

Source: Field Data, 2014

The majority of the firms (63.2 percent) had entrepreneurs in the age bracket of 30 to 49 years. The least percent of the firms had entrepreneurs in the age bracket of below 30 years (13 percent). Therefore, the findings show that on average, majority of entrepreneurs owning/operating firms in the NTFPs sub-sector were young adults as per the classification in Erickson (1956) that a young adult is in the age range of 20 to 40 years, whereas a person in middle adulthood stage is in the age range of 40 to 64 years.

4.3.2 Gender of the Entrepreneur

The gender was conceptualized as one of the entrepreneur characteristics affecting firm performance. Observations showed that gender of the entrepreneurs was varied among the firms. In this section, therefore, descriptive statistics were performed to profile the

respondent firms by gender of the entrepreneurs. Table 4.7 shows the descriptive statistics depicting profile of the firms by gender of the entrepreneur.

Table 4.7: Gender of Entrepreneurs

Gender	Frequency	Percent
Male	176	63.5
Female	101	36.5
Total	277	100.0

Source: Field Data, 2014

The majority (63.5 percent) of the firms were operated by male entrepreneurs. This demonstrated that firms in the NTFP sub-sector were dominated by male entrepreneurs.

4.3.3 Education of the Entrepreneur

The level of education was conceptualized as one of the entrepreneur characteristics affecting firm performance. Observations showed that the level of education of the entrepreneurs was varied among the firms. In this section, therefore, descriptive statistics were performed to profile the firms by education of entrepreneurs. During data collection, respondent firms indicated highest levels of education of their entrepreneurs from the four choices: primary, secondary, tertiary (college, vocational school or post-secondary career training) and others (no formal education at all). Table 4.8 presents the descriptive statistics elucidating profile of the firms by education of entrepreneurs.

Table 4.8: Education of Entrepreneurs

Education	Frequency	Percent
Primary school	47	17.0
Secondary school	115	41.5
Tertiary level	111	40.1
Others	4	1.4
Total	277	100.0

Source: Field Data, 2014

Majority of the firms had entrepreneurs with secondary (41.5 percent) and tertiary (40.1 percent) levels of education. The firms that indicated others (four percent) had entrepreneurs who were mostly uneducated. This implied that, on average firms in the NTFPs sub-sector were owned/operated by entrepreneurs with high levels of education.

4.3.4 Managerial Skills of the Entrepreneur

The managerial skills variable was conceptualized as one of the entrepreneur characteristics affecting firm performance. However, managerial skills of the entrepreneur were varied among the firms. In this section, therefore, the respondent firms were profiled by the managerial skills of their entrepreneurs. Respondent firms indicated whether their owners/operators had attended managerial training. Managerial skills unlike experience require specialized training to equip one with necessary theoretical and practical managerial capacity; entrepreneurs with managerial skills were those that had attended managerial courses. Table 4.9 shows profile of the firms by managerial skills of their entrepreneurs.

Table 4.9: Managerial Skills of Entrepreneurs

Managerial Skills	Frequency	Percent
Attended managerial training	122	44.0
Not attended any managerial training	155	56.0
Total	277	100.0

Source: Field Data, 2014

The majority of the firms (56 percent) had entrepreneurs who had not attended any training to enhance their managerial know-how. This implied that, on average firms in the NTFPs sub-sector were owned/operated by entrepreneurs with no requisite

managerial skills, that is majority of entrepreneurs had not attended necessary trainings for enhancing their managerial skills in running businesses.

4.3.5 Industry Experience of the Entrepreneur

Industry experience was conceptualized as one of the entrepreneur characteristics affecting firm performance. However, industry experience of the entrepreneurs was varied among the firms. In this section, therefore, the firms were profiled by the industry experience of the entrepreneurs using descriptive statistics. Respondent firms indicated industry experience of their entrepreneurs as the years involved in managerial position or in running the business. Table 4.10 shows the frequencies elucidating profile of respondent firms by industry experience possessed by their entrepreneurs.

Table 4.10: Industry Experience of Entrepreneurs

Industry Experience	Frequency	Percent
0 to10 years	202	72.9
11 to 20 years	46	16.6
Over 20 years	29	10.5
Total	277	100.0

Source: Field Data, 2014

The majority of the respondent SMEs (72.9 percent) had upto 10 years of experience in running businesses. This implied that, on average firms in the NTFPs sub-sector were owned/operated by entrepreneurs with relatively lower levels of industry experience.

4.3.6 Social Skills of the Entrepreneur

This study conceptualized social skills as one of the entrepreneur characteristics affecting firm performance. However, observations showed that social skills of the entrepreneurs

were varied among the firms. In this section, therefore the firms were profiled by the social skills of the entrepreneurs using descriptive statistics. Respondent firms indicated whether their entrepreneurs subscribed to social groups/clubs. Social skills unlike managerial skills demonstrate social capital acquired through interactions in collective action; entrepreneurs with social skills were those that were subscribed to groups/clubs. Table 4.11 shows profile of the firms by entrepreneurs' social skills.

Table 4.11: Social Skills of Entrepreneurs

Social Skills	Frequency	Percent
Belonging to social groups	113	40.8
Not subscribed to any group	164	59.2
Total	277	100.0

Source: Field Data, 2014

Majority of the firms (59.2 percent) had entrepreneurs who had not subscribed to any group. This implied that, on average firms in the NTFPs sub-sector were owned/operated by entrepreneurs without necessary social skills.

4.4 Competitive Strategy Drivers

Competitive strategy is described as a pattern of decisions that are selected and implemented to achieve sustainable competitive advantage. Studies have made varying observations over the effect of competitive strategy on performance. While some studies have advanced a mediation role, others have discounted this observation. Thus, this study conceptualized competitive strategy as one of the variables that impacts on the entrepreneurship to firm performance relationship. Since this study was looking at the competitive strategy applied by the SMEs, it was felt that Porter's generic strategy matrix was appropriate. Studies have observed that Porter's generic competitive strategy model

is appropriate for smaller firms (Chaganti et al., 1989; Namusonge, 2014). Porter's generic strategy matrix have also been studied, validated, and applied in many studies on the small firms (Aaker, 1998; Chaganti et al., 1989; Dess & Davis, 1984).

Porter (1980) proposed differentiation, cost leadership and focus or niche strategy as the three basic competitive strategy choices. The various activities implemented to achieve competitive strategy are termed drivers; uniqueness drivers for differentiation, cost drivers for cost leadership and focus drivers for focus or niche strategy. Namusonge (2014) points out that during the last several years, definitions of Porter's generic strategies have been refined to identify combinations of strategy types and subtypes within the three areas. In most cases, the focus strategy is treated as not stand-alone but is combined with the other two strategies; Porter (1980) subdivided the focus strategy into two parts: "differentiation focus"" and cost focus" since companies that follow a focus strategy should provide either a differentiated product or service to the segment or a low cost product or service for the chosen segment. However, focus is appropriate strategy for small-sized firms especially for those aiming to avoid competition with big ones ((Dess & Davis, 1982, 1984; Covin et al., 1990; Robinson & Pearce, 1991). Based on the foregoing, focus was considered as a stand-alone strategy in this study.

In this section, therefore, descriptive statistics were performed to profile respondent firms by competitive strategy drivers implemented using frequency tables. Respondent firms were requested to indicate their extent of implementation of the three competitive strategy drivers in enhancing their competitiveness and performance using a five point Likert scale: to a great extent, high extent, moderately, small extent and not at all.

4.4.1 Uniqueness Drivers

The uniqueness drivers are a deliberate choice of activities implemented for achieving differentiation, that is deliver unique mix of value to counter competitor's actual or predicted moves (Ologunde & Agboola, 2012). Firms often implement various uniqueness drivers to achieve competitive advantage. In this section, therefore descriptive statistics were applied to show the extent of implementation of uniqueness drivers by respondent firms to enhance their competitiveness. The firms indicated the extent of implementation of the uniqueness drivers in enhancing their competitiveness using a five point Likert scale. The descriptive statistics derived are shown in Table 4.12.

Table 4.12: Implementation of Uniqueness Drivers

Response	Frequency	Percent
To a great extent	56	20.2
High extent	73	26.4
Moderately	66	23.8
Small extent	56	20.2
Not at all	26	9.4
Total	277	100.0

Source: Field Data, 2014

Majority of SMEs (26.4 percent) indicated implementing uniqueness drivers to a high extent. Few SMEs (9.4 percent) indicated not implementing uniqueness drivers at all. This implied that, on average firms in the NTFPs sub-sector to a high extent implemented uniqueness drivers to counter competition by packaging and branding their products, and applying pricing strategy.

4.4.2 Focus Drivers

The focus drivers are some of the strategies implemented by firms to enhance their competitiveness. Focus drivers reflect decisions to offer particular products or services in particular markets (Ologunde & Agboola, 2012). Firms often implement various focus drivers to achieve competitive advantage. Thus, in this section descriptive statistics were used to show the extent of implementation of different focus drivers by the firms to enhance their competitiveness. The firms indicated extent of implementation of focus drivers using a five point Likert scale. The descriptive statistics derived are shown in Table 4.13.

Table 4.13: Implementation of Focus Drivers

Response	Frequency	Percent
To a great extent	47	17.0
High extent	115	41.5
Moderately	94	33.9
Small extent	19	6.9
Not at all	2	0.7
Total	277	100.0

Source: Field Data, 2014

The majority of the firms (41.5 percent) indicated implementing focus drivers to a high extent. A few firms (0.7 percent) indicated not implementing at all. The findings, therefore, show that on average the firms in the NTFPs sub-sector implemented focus drivers to high extent by learning and adhering to customer needs, trying out new ways of service delivery, quickly responding to market changes and being consistent in their market strategy selection.

4.4.3 Cost Drivers

The cost drivers are some of the business strategies that firms implement to enhance their competitiveness. The cost drivers are those activities that minimize the cost of doing business and create a cost advantage in the industry. Thus, in this section descriptive statistics were used to show the level of implementation of different cost drivers by respondent firms to enhance their competitiveness. Respondent firms indicated their extent of implementation of various cost drivers using a five point Likert scale. The descriptive statistics derived for the cost driver items are shown in Table 4.14.

Table 4.14: Implementation of Cost Drivers

Response	Frequency	Percent
To a great extent	37	13.4
High extent	97	35.0
Moderately	103	37.2
Small extent	36	13.0
Not at all	4	1.4
Total	277	100.0

Source: Field Data, 2014

Majority of the firms implemented cost drivers moderately (37.2 percent) and to a high extent (35 percent). A paltry number of firms (1.4 percent) indicated not implementing cost drivers. The findings, therefore, showed that on average the firms in the NTFPs sub-sector moderately to high extent implemented cost drivers by concentrating on process improvements, adopting newer technologies in products, observing and maintaining cost cutting measures, and aiming to gain the highest leverage per shilling spent.

4.5 Firm Level Institutions

Firm level institutions are the firm-specific attributes in a firm's internal environment that define and limit recognition and exploitation of entrepreneurial opportunity. Economic actions take place in a social context (Grannovetter, 1985); institutions manifested within a firm will determine how and where entrepreneurial talent and effort is channeled. However, it is not clear how institutional components hold in the small business sector (Kimuyu, 1999). The literature on the importance of institutions in influencing firm performance is either ambiguous (Sachs, 2003) or emanates from analysis of large corporations (Machuki et al., 2012). This study, therefore, conceptualized firm level institutions as one of the variables in testing the entrepreneurship to performance relationships.

Various studies including Bruton et al. (2010) and Machuki et al. (2012) have classified firm level institutions into two; resource based and administrative based firm level institutions. Manifestation of these firm level institutions varies among firms. Thus, in this section, frequency tables were used to show the manifestation levels of firm level institutions in the respondent firms.

4.5.1 Resource Based Firm Level Institutions

The resource based firm level institutions are those that pertain to resource base of the firm and include financial resources, skills and competencies, knowledge base, culture, and human resources. Firms often manifest various resource based firm level institutions to achieve competitive advantage and performance. Thus, in this section descriptive statistics were used to show the level of manifestation of various resource based firm

level institutions by respondent firms. Respondent firms were asked to indicate using a five point Likert scale extent to which they availed for use/manifested the following resources based firm level institutions: financial resources, skills and competencies, knowledge base, culture, and human resources. The descriptive statistics derived are shown in Table 4.15.

Table 4.15: Resource Based Firm Level Institutions

Response	Frequency	Percent
To a great extent	32	11
High extent	72	26
Moderately	124	45
Small extent	50	18
Not at all	-	-
Total	277	100

Source: Field Data, 2014

The results in Table 4.15 showed that the majority of the firms indicated they had moderately (45 percent) and to a high extent (26 percent) manifested the resource based firm level institutions. This implied that, on average the firms in the NTFPs sub-sector moderately to a high level manifested resource based firm level institutions including the financial resources, skills and competencies, knowledge base, culture, and human resources to enhance their competitiveness and performance.

4.5.2 Administrative Based Firm Level Institutions

The administrative based firm level institutions relate to management of the firm and include structure, management style, internal controls, systems, and procedures. Firms often manifest various administrative based firm level institutions to achieve competitive advantage and performance. Thus, in this section descriptive statistics were used to show

the level of manifestation of various administrative based firm level institutions by respondent firms. Respondent firms indicated using a five point Likert scale extent to which they availed for use/manifested the following administrative based firm level institutions: structure, management style, internal controls, systems, and procedures. The descriptive statistics derived are shown in Table 4.16.

Table 4.16: Administrative Based Firm Level Institutions

Response	Frequency	Percent
To a great extent	21	8
High extent	100	36
Moderately	113	41
Small extent	40	15
Not at all	2	1
Total	277	100

Source: Field Data, 2014

The results in Table 4.16 showed that the majority of the firms indicated they had moderately (41 percent) and to a high extent (36 percent) manifested the administrative based firm level institutions. This implied that, on average the firms in the NTFPs sub-sector moderately to a high level manifested administrative based firm level institutions including structure, management style, internal controls, systems, and procedures to enhance their competitiveness and performance.

4.6 Firm Performance

Firm performance is the venture's capability to achieve its objectives. This study conceptualized firm performance as a dependent variable in the entrepreneurship to performance relationships. Studies (Islam et al., 2011; Zulkiffli & Perera, 2011) have opined that performance is complex and is captured well by a combination of both

financial and non-financial measures. Thus, this study used profit and sales growth as financial metrics, and market share, client satisfaction and efficiency as non-financial measures.

This section, therefore, presents descriptive statistics of the various performance metrics elucidating the distribution patterns of the respondent firms. Frequencies were computed using descriptive analysis to summarize performance against competition rating by respondent firms. All the metrics were then collapsed into a performance index applied when testing the relationships.

4.6.1 Profit Growth

Profit growth is applied by studies as one of the objective metric for firm performance. The annual profit growth rates were used by this study; average annual profit growth rate refers to the average increase in profits for a firm over a year's period. Respondent firms indicated their annual net profits over a five year period from 2009 to 2013 and the average annual profit growth rates were computed in this study using the following formula:

$$\text{Annual profit growth rate} = (\Pi \text{ in } 2013/\Pi \text{ in } 2009)^{1/n} - 1 \qquad (4.1)$$

Where Π is the annual net profit and n is the number of years. The derived annual profit growth rates were then computed as percentages, categorized and coded as: more than 50% (1), 1% to 50% (2), no growth or 0 (3), -1% to -50% (4) and less than -50% (5). Descriptive statistics were then derived to show how the firms rated their performance

using annual profit growth rates. The descriptive statistics derived are shown in Table 4.17.

Table 4.17: Profit Growth

Annual Profit Growth Rate	Frequency	Percent
More than 50%	28	10.1
1% to 50%	133	48.0
0	52	18.8
-1% to -50%	50	18.1
Less than -50%	14	5.1
Total	277	100.0

Source: Field Data, 2014

The results in Table 4.17 showed that the majority of the firms (48 percent) indicated achieving annual profit growth rates between one and 50 percent. A sizeable number of firms (18.8 percent) had zero annual profit growth rates. On the other hand, 23.2 percent of the total respondent firms had negative annual profit growth rates. This implied that, on average firms in NTFPs sub-sector achieved positive annual profit growth rates of upto 50 percent.

4.6.2 Sales Growth

Sales growth is one of the objective metric applied by studies as measure of firm performance. The annual sales growth rates were used by the study; average annual sales growth rate refers to the average increase in sales for a firm over a year's period. Respondent firms indicated their annual sales over a five year period (n) from 2009 to 2013 and the average annual sales growth rates were computed in this study using the following formula:

$$\text{Annual sales growth rate} = (\text{Annual sales in 2013}/\text{Annual sales in 2009})^{1/n} - 1 \qquad (4.2)$$

The derived annual sales growth rates were then computed as percentages, categorized and coded as: more than 50% (1), 1% to 50% (2), no growth or 0 (3), -1% to -50% (4) and less than -50% (5). Descriptive statistics were derived to show how the firms rated their performance using annual sales growth rates. The descriptive statistics derived are shown in Table 4.18.

Table 4.18: Sales Growth

Annual Sales Growth Rate	Frequency	Percent
More than 50%	31	11.2
1% to 50%	126	45.5
0	65	23.5
-1% to -50%	46	16.6
Less than -50%	9	3.2
Total	277	100.0

Source: Field Data, 2014

The results in Table 4.18 showed that the majority of the firms (45.5 percent) achieved annual sales growth rates between one and 50 percent. This was followed by those firms (23.5 percent) that achieved zero annual sales growth rates. In total, 19.8 percent of the respondent firms had negative annual sales growth rates. This implied that, on average firms in NTFPs sub-sector achieved positive annual sales growth rates of upto 50 percent.

4.6.3 Market Share

Market share has often been applied by studies as one of the non-financial metric for firm performance. Market share concern the size of the market that is under control of a business organization. Respondent firms were requested to indicate the average

percentage market share they command for their products over a five year period (n) from 2009 to 2013. Computations were then undertaken to derive the annual market share growth rates over the last five years using the following formula:

Market share growth rate = (Market share in 2013/Market share in 2009)$^{1/n}$ – 1 (4.3)

The derived annual market share growth rates were then computed as percentages, categorized and coded as: more than 50% (1), 1% to 50% (2), no growth or 0 (3), -1% to -50% (4) and less than -50% (5). Descriptive statistics were derived to show how the firms rated their performance using annual market share growth rates. The descriptive statistics derived are shown in Table 4.18.

Table 4.19: Market Share Growth

Annual Market Share Growth Rate	Frequency	Percent
More than 50%	52	18.8
1% to 50%	108	39.0
0	47	17.0
-1% to -50%	53	19.1
Less than -50%	17	6.1
Total	277	100.0

Source: Field Data, 2014

The results in Table 4.19 showed that majority of the firms (39 percent) indicated having annual market share growth rates between one and 50 percent. A sizeable number of firms (18.8 percent) had annual market share growth rates of more than 50 percent. In total, 25.2 percent of respondent firms had negative annual market share growth rates. This implied that, on average firms in NTFPs sub-sector achieved positive annual market share growth rates of upto 50 percent.

4.6.4 Client Satisfaction

Client satisfaction is one of the non-financial metric for firm performance. Client satisfaction concerns how well customer needs are met, so that clients can recommend the business to others. Thus, the respondent SMEs were asked to indicate whether their clients were satisfied with goods/services they offered using a five point Likert scale. The descriptive statistics were then used to show the level of client satisfaction by goods/services offered by the respondent firms. The descriptive statistics derived for the client satisfaction are shown in Table 4.20.

Table 4.20: Client Satisfaction

Response	Frequency	Percent
Strongly agree	89	32.1
Agree	153	55.2
Indifferent	22	7.9
Disagree	9	3.2
Strongly disagree	4	1.4
Total	277	100.0

Source: Field Data, 2014

From Table 4.20, majority of the firms (55.2 percent) agreed that their clients were satisfied with the goods/services offered. A paltry four firms (1.4 percent) strongly disagreed that their clients were satisfied with the goods/services offered. This implied that, on average firms in the NTFPs sub-sector had clients who felt satisfied with goods/services offered.

4.6.5 Efficiency of the Firm

Efficiency is one of the non-financial metric for firm performance. Efficiency concerns cost saving mechanisms effected by the firm. Thus, the respondent SMEs were asked to indicate whether the processes of service delivery were efficient using a five point Likert scale. The descriptive statistics were then used to show the level of efficiency by the respondent firms. The descriptive statistics derived for efficiency are shown in Table 4.21.

Table 4.21: Efficiency of the Firm

Response	Frequency	Percent
Strongly agree	58	20.9
Agree	120	43.3
Indifferent	77	27.8
Disagree	19	6.9
Strongly disagree	3	1.1
Total	277	100.0

Source: Field Data, 2014

From Table 4.21, the majority of the firms (43.3 percent) agreed that their processes of service delivery were efficient. A paltry three firms (1.1 percent) strongly disagreed that their processes of service delivery were efficient. This implied that, on average firms in NTFPs sub-sector were efficient in their processes of service delivery.

4.6.6 Performance Index

A performance index was computed by this study as the dependent variable in testing entrepreneurship to performance relationships. Firm performance was initially measured as annual sales growth, annual profit growth, annual market share growth, client satisfaction and efficiency. The computed annual sales growth rate, annual profit growth

rate and annual market share growth rates were then coded as: 1 (more than 50%), 2 (1% to 50%), 3 (0), 4 (-1% to -50%) and 5 (less than -50%) and applied together with performance metrics of client satisfaction and efficiency in the computation of performance index following factor analysis which showed that they were correlated (Appendix IX). Performance index was computed as the mean value of the sales growth, profit growth, market share growth, client satisfaction and efficiency. Studies (Hashim, 2000; Chelliah et al., 2010) show that the index is a better way to measure performance. Descriptive statistics were then applied to rate on a five point Likert scale whether firm performance computed as an index was better than competition. The descriptive statistics derived for performance index are shown in Table 4.22.

Table 4.22: Performance Index

Rating	Frequency	Percent
Strongly agree	37	13.4
Agree	138	49.8
Indifferent	73	26.4
Disagree	26	9.4
Strongly disagree	3	1.1
Total	277	100.0

Source: Field Data, 2014

From Table 4.22, majority of the firms (49.8 percent) rated their performance as better than competition. A paltry 29 firms (10.5 percent) either disagreed (9.4 percent) or strongly disagreed (1.1 percent) that their performance was better than competition. This implied that, on average firms in the NTFPs sub-sector rated their performance as better than competition.

4.7 Test of Hypotheses

This section presents the results of hypothesis testing using inferential statistical analyzes, and the interpretations of relationships in the entrepreneurship to performance nexus as per the research objectives. How entrepreneur characteristics, competitive strategy and firm level institutions interact to affect firm performance of the respondent firms was tested using correlation and multiple linear regression; the results summarized in tabular form were interpreted. All the statistical tests were done at 95 percent confidence level, that is at five percent significance level ($p \leq 0.05$). All the five hypotheses (H_1 to H_5) for testing were stated negatively indicating absence of a relationship; the theoretical perspectives and conceptual arguments presented in this study pointed to existence of relationships between variables of study justifying negative state of the null hypotheses.

4.7.1 Relationship Between Entrepreneur Characteristics and Firm Performance

Hypothesis, H_1

The first objective of this study was to determine the relationship between entrepreneur characteristics and firm performance. It involved establishing the relationship between the six entrepreneur characteristics of age, gender, education, managerial know-how, industry experience and social skills as independent variables and firm performance as dependent variable. To achieve this objective, the following hypothesis was tested:

Hypothesis H_1: There is no significant relationship between entrepreneur characteristics and performance of SMEs

The scatterplot (see Appendix VII) of firm performance with entrepreneur characteristics derived by this study suggested linear relationship between the variables. Thus, multiple

linear regression analysis was performed to establish and test the hypothesis for the existence of relationships between the six entrepreneur characteristics and firm performance using the following model as abbreviated in Table 3.3 and ε_1 as error term:

$$FP_1 = \beta_{01} + \beta_{11} AGE + \beta_{12} GE + \beta_{13} EE + \beta_{14} MK + \beta_{15} IE + \beta_{16} SK + \varepsilon_1 \quad (4.4)$$

Firm performance was inputted in the model as performance index. The index was computed as the mean value of the performance metrics applied during data collection: sales growth, profit growth, market share growth, client satisfaction and efficiency. Performance of SMEs is often complex and is well captured by an index that combines both financial and non-financial metrics (Chelliah et al., 2010; Zulkiffli & Perera, 2011). The six entrepreneur characteristics of age, gender, education, managerial know-how, industry experience and social skills were fitted in the model as individual variables. The firms indicated entrepreneur's age as number of years from date of birth. Equally, gender, education, managerial skills, industry experience and social skills were indicated as sex category, highest level of education attained, managerial skills course attendance, years running a business and subscription to social clubs or groups, respectively.

This study tested the null hypothesis, that there is no significant relationship between entrepreneur characteristics and performance against the alternative hypothesis, that there is a significant relationship between entrepreneur characteristics and performance. Since it was not possible from conceptual issues to state whether effect of entrepreneur characteristics on firm performance is a positive one or negative one, then null hypothesis was tested against two-tailed alternative hypothesis at 95 percent confidence level (α = 0.05). The results of multiple regression analysis are shown in Table 4.23.

Table 4.23: Entrepreneur Characteristics and Firm Performance

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
	.469	.220	.202	.78280	
ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.226	5	7.445	12.150	.000
Residual	131.746	272	.613		
Total	168.972	277			
Coefficients					
Model	B	Std. Error	Beta	t-value	p-value
(Constant)	1.799	.266		6.755	.000
Age	-.094	.047	-.130	-1.991	.048
Education	.064	.069	.057	.931	.353
Managerial skills	.395	.111	.224	3.551	.000
Industry experience	.133	.059	.150	2.274	.024
Social skills	.549	.112	.307	4.893	.000

Analysis (N=277) Note: $p \leq 0.05$

Source: Field Data, 2014

From Table 4.23 and table in Appendix X, the coefficient of determination (R^2) of the five entrepreneur characteristics (independent) on the firm performance as dependent variable was 0.220. The adjusted R^2 value was 0.202 and closer to R^2 value implying that 20.2 percent of variance in firm performance in the population was explained by the model. The analysis used age, education, managerial skills, industry experience and social skills leaving out gender whose inclusion resulted in reduced adjusted R^2 value indicating overfitting of the model (see Appendix X).

The F statistic (12.150) for the model was statistically significant at five percent significance level ($p \leq 0.05$) and, therefore, the overall model was significant. Thus, the null hypothesis that there is no significant relationship between entrepreneur

characteristics and firm performance was rejected in favour of alternative hypothesis, that there is a significant relationship between entrepreneur characteristics and performance.

The calculated t-values for the estimated coefficients of age (1.991), managerial skills (3.551), industry experience (2.274) and social skills (4.893) were significant at five percent significance level ($p \leq 0.05$). Thus, firm performance was significantly affected by entrepreneur characteristics of age, managerial skills, industry experience and social skills. Based on these regression analysis results, the model fitted with performance as dependent and entrepreneur characteristics as independent was specified as:

$$\underset{(0.000)}{FP = 1.799} - \underset{(0.048)}{0.094\ AGE} + \underset{(0.000)}{0.395\ MK} + \underset{(0.024)}{0.133\ IE} + \underset{(0.000)}{0.549\ SK} \qquad (4.5)$$

Based on the regression equation 4.5, the intercept was 1.799, implying that firm performance would be 1.799 when all the independent variables were zero. Also, a unit increase in age (that is, increasing age of the entrepreneur) would bring about a decrease of 0.094 in firm performance, ceteris paribus. Similarly, an increase in managerial and social skills, and industry experience by one unit each, that is changing to entrepreneurs with managerial and social skills, and industry experience would result in an increase in firm performance by 0.395, 0.549 and 0.133, respectively, ceteris paribus.

The results showed a significant effect of entrepreneur characteristics on firm performance resulting in the rejection of the null hypothesis, that there is no relationship between entrepreneur characteristics and firm performance. Thus these results achieved the first objective of this study that was aimed at determining the relationship between entrepreneur characteristics and firm performance.

4.7.2 Relationship Between Entrepreneur Characteristics and Competitive Strategy

Hypothesis, H_2

The second objective of this study involved establishing the relationship between entrepreneur characteristics and competitive strategy of SMEs in NTFPs sub-sector. This involved establishing a link between the six entrepreneur characteristics of age, gender, education, managerial know-how, industry experience and social skills, and the three competitive strategy drivers of uniqueness, focus and cost. To achieve this objective, the following hypothesis was tested:

Hypothesis H_2: There is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs

Correlation analysis was performed to compute the Pearson correlation coefficients to determine and test the hypothesis for the existence of a link between individual entrepreneur characteristics (age, gender, education, managerial skills, industry experience and social skills) and competitive strategy drivers (uniqueness, focus and cost). Competitive strategy drivers applied in the analysis were computed as mean values of the items used to establish extent to which strategy was implemented to enhance competitiveness using a five point Likert scale: 1 = to a great extent, 2 = high extent, 3 = moderately, 4 = small extent and 5 = not at all. On the other hand, the six entrepreneur characteristics of age, gender, education, managerial know-how, industry experience and social skills applied in the correlation analysis were inputted as individual variables.

The level of significance of each variable was presented to enable hypothesis testing. The null hypothesis was stated to capture theorized relationship between variables, that there

is no significant relationship between entrepreneur characteristics and competitive strategy. The null hypothesis was then tested against the alternative hypothesis, that there is a significant relationship between entrepreneur characteristics and competitive strategy. It was not possible from conceptual issues to state whether link between entrepreneur characteristics and competitive strategy is positive or negative, thus the null hypothesis was tested against two-tailed alternative hypothesis at 95 percent confidence level (α = 0.05). The correlations results are shown in Table 4.24.

Table 4.24: Entrepreneur Characteristics and Competitive Strategy

Entrepreneur Characteristics \ Competitive Strategy		Uniqueness Drivers	Focus Drivers	Cost Drivers
Age	Pearson Correlation	-.289**	-.060	-.103
	Sig. (2-tailed)	.000	.321	.087
	N	277	277	277
Gender	Pearson Correlation	.168**	.123*	.060
	Sig. (2-tailed)	.005	.041	.316
	N	277	277	277
Education	Pearson Correlation	.121*	.033	.018
	Sig. (2-tailed)	.044	.590	.760
	N	277	277	277
Managerial skills	Pearson Correlation	.313**	.204**	.273**
	Sig. (2-tailed)	.000	.001	.000
	N	277	277	277
Industry experience	Pearson Correlation	.143*	.015	.024
	Sig. (2-tailed)	.017	.807	.695
	N	277	277	277
Social skills	Pearson Correlation	.287**	.280**	.197**
	Sig. (2-tailed)	.000	.000	.001
	N	277	277	277

* Significant at 0.05 level (2-tailed); ** Significant at 0.01 level (2-tailed)
Source: Field Data, 2014

The results in Table 4.24 show that the coefficients of all the parameters ranged from very weak to average (0.018 to 0.313). All the six entrepreneur characteristics with uniqueness drivers had coefficients that were statistically significant at 0.01 and 0.05 levels of significance. However, managerial and social skills were the only traits that had

coefficients that were statistically significant across the three drivers. Focus driver was statistically significant with gender ($p = 0.05$), managerial skills ($p = 0.01$) and social skills ($p = 0.01$). On the other hand, cost driver was statistically significant with managerial skills ($p = 0.01$) and social skills ($p = 0.01$). Based on this outcome, the null hypothesis was rejected in favour of the alternative hypothesis, that there is a significant relationship between entrepreneur characteristics and competitive strategy.

The negative coefficients of age with the three competitive strategy drivers indicated a negative relationship whereas a positive correlation between gender, education, managerial skills, industry experience and social skills with the three competitive strategy drivers indicated a positive relationship. This implied that firms run by relatively young, well-educated, experienced and skilled male entrepreneurs had high levels of application of uniqueness drivers. One explanation for this state may be that application of uniqueness drivers requires higher degree of risk-taking behaviors, which in turn need skills and experience. The youth are generally fearless, positive and have ability to rebound, explaining the significant negative relationship between age and uniqueness drivers. Equally, significance of skills with focus and cost drivers affirms the critical role played by competencies in the formulation and implementation of competitive strategies.

The results showed a significant link between entrepreneur characteristics and competitive strategy drivers resulting in the rejection of the null hypothesis, that there is no significant relationship between entrepreneur characteristics and competitive strategy. Thus these results achieved the second objective of this study aimed at establishing the relationship between entrepreneur characteristics and competitive strategy of SMEs.

4.7.3 Relationship Between Competitive Strategy and Firm Performance

Hypothesis, H_3

The third objective of this study involved determining the relationship between competitive strategy and performance of SMEs in NTFPs sub-sector. This involved establishing a relationship between the three competitive strategy drivers of uniqueness, focus and cost as independent variables, and firm performance as dependent variable. To achieve this objective, the following hypothesis was tested:

Hypothesis H_3: There is no significant relationship between competitive strategy and performance of SMEs

The scatterplot (see Appendix VII) of firm performance with competitive strategy drivers derived by this study suggested positive linear relationship between the variables. Thus, multiple linear regression analysis was performed to establish and test the hypothesis for the existence of relationships between competitive strategy drivers of uniqueness, focus and cost as independent variables, and firm performance as dependent variable using the following model as abbreviated in Table 3.3 and ε_3 as error term:

$$FP_3 = \beta_{03} + \beta_{31} DD + \beta_{32} FF + \beta_{33} CL + \varepsilon_3 \quad (4.6)$$

Firm performance was inputted in the model as an index computed as mean value of sales growth rate, profit growth rate, market share growth rate, client satisfaction and efficiency. On the other hand, competitive strategy drivers of uniqueness, focus and cost were inputted as mean values of the items used to measure their application using a five point Likert scale: 1= to a great extent, 2 = high extent, 3 = moderately, 4 = small extent and 5 = not at all.

This study tested the null hypothesis that there is no significant relationship between competitive strategy and performance against alternative hypothesis that there is significant relationship between competitive strategy and performance. It was not possible from conceptual issues to state whether competitive strategy to firm performance relationship is positive or negative, thus null hypothesis was tested against two-tailed alternative hypothesis at 95 percent confidence level ($\alpha = 0.05$). The results of multiple regression analysis are shown in Table 4.25 and Appendix XI.

Table 4.25: Competitive Strategy and Firm Performance

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
	.560	.313	.306	.65680	
ANOVA					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	51.776	3	17.259	40.008	.000
Residual	113.454	274	.431		
Total	165.231	277			
Coefficients					
Model	B	Std. Error	Beta	t-value	p-value
(Constant)	.626	.129		4.831	.000
uniqueness drivers	.104	.042	.166	2.457	.015
focus drivers	.288	.059	.319	4.885	.000
cost drivers	.145	.057	.172	2.540	.012

Analysis (N=277) Note: $p \leq 0.05$

Source: Field Data, 2014

The coefficient of determination (R^2) value for the three competitive strategy drivers (independent variables) on firm performance (dependent variable) was 0.313 (see Table 4.25). The adjusted R^2 value was 0.306 and closer to closer to R^2 value implying that 30.6 percent of variance in firm performance in the population was explained by the model. The analysis involved use of uniqueness, focus and cost drivers whose inclusion in the

model resulted in improved adjusted R^2 value indicating well-fitting of the model for the number of data points.

The F statistic (40.008) for the model was statistically significant at five percent significance level. The F statistic was significant at p-value = 0.000, demonstrating that the overall model was significant. Thus, the null hypothesis was rejected in favour of the alternative hypothesis that there was a significant relationship between competitive strategy and firm performance. It was, thus observed that competitive strategy had significant effect on the firm performance.

The calculated t-ratios for the estimated coefficients of uniqueness drivers (2.457), focus drivers (4.885) and cost drivers (2.540) were significant at five percent significance level. Based on the foregoing results of regression analysis, the model fitted with performance as dependent and competitive strategy drivers as independent variables was specified as:

$$\begin{matrix} FP = 0.626 + 0.104\,DD + 0.288\,FF + 0.145\,CL \\ \quad\quad (0.000) \quad\quad (0.015) \quad\quad (0.000) \quad (0.012) \end{matrix} \qquad (4.7)$$

From the foregoing regression equation, the intercept and coefficients for the three competitive strategies were positive and statistically significant. Firm performance would be 0.626 when all the independent variables were zero. Also, a unit increase in the factor of uniqueness drivers, that is, increasing application of uniqueness drivers by a unit would result in increased performance by 0.104, ceteris paribus. Similarly, increasing the factor of focus drivers by one unit, that is, increasing the level of application of focus drivers by a unit would increase performance by 0.288, ceteris paribus, and an increase of

the factor of cost drivers by one unit, that is, raising level of cost drivers would increase performance of SMEs by 0.145, ceteris paribus.

The results showed a significant relationship between competitive strategy and firm performance resulting in the rejection of the null hypothesis formulated to test the relationship, that there is no significant relationship between competitive strategy and performance of SMEs. Thus these results achieved the third objective of this study aimed at establishing the relationship between competitive strategy and firm performance.

4.7.4 Firm Level Institutions on Relationship Between Competitive Strategy and Firm Performance

Hypothesis, H_4

The fourth objective of this study involved establishing the influence of firm level institutions on the relationship between competitive strategy and performance of SMEs in NTFPs sub-sector. This involved establishing whether firm level institutions moderated the relationship between competitive strategy and firm performance. To achieve this objective, the following hypothesis was tested:

HypothesisH_4: There is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs

Regression analysis was performed to test existence of moderating effect that required meeting three conditions, that; there exists a significant relationship between the predictor and the dependent variable before testing for moderating effect; strength between the predictor and dependent variable reduces/alters after introducing the moderating variable;

and the interaction term (product of predictor and moderator) has a significant relationship with dependent variable (Baron & Kenny, 1986; Edwards & Lambert, 2007).

The scatterplots (see Appendix VII) of firm performance with competitive strategy drivers and firm level institutions derived by this study suggested linear relationships between the variables. Thus to meet the three conditions demonstrating existence of moderating effect, this study performed multiple linear regression using three models with linear relationships of firm performance (dependent), competitive strategy (predictor), firm level institutions (moderator) and the interaction term. Model 4.8 was aimed at showing existence of a relationship between the predictor (competitive strategy) and dependent (performance). Model 4.9 was aimed at showing how the moderator (firm level institutions) reduced/altered strength between predictor (competitive strategy) and dependent (performance). Model 4.10 was aimed at showing effect of the interaction term. The three models as abbreviated in Table 3.3 and $\mathcal{E}_1$ as error term are elucidated hereunder.

$$FP_{41} = \beta_{041} + \beta_{411} CS + \varepsilon_{41} \quad (4.8)$$

$$FP_{42} = \beta_{042} + \beta_{412} CS + \beta_{422} FLI + \varepsilon_{42} \quad (4.9)$$

$$FP_{43} = \beta_{043} + \beta_{413} CS + \beta_{423} FLI + \beta_{433} ITT + \varepsilon_{43} \quad (4.10)$$

The firm performance was inputted as performance index (mean value of sales growth rate, profit growth rate, market share growth rate, client satisfaction and efficiency) while the competitive strategy was inputted as mean value of the uniqueness, focus and cost drivers. The firm level institutions was inputted as mean value of the various items used to measure the level of manifestation of resource based and administrative based firm level institutions using a five point Likert scale: 1 = to a great extent 2 = high extent 3 =

moderately 4 = small extent 5 = not at all. The interaction term was computed as a product of competitive strategy and firm level institutions.

The results were summarized in a tabular form depicting coefficients, t-ratios and significance levels. In addition, the correlation coefficients, F statistic and collinearity statistics were presented. The level of significance of each measured parameter was presented to enable testing of hypothesis. The null hypothesis, that there is no significant moderating effect of firm level institutions on relationship between competitive strategy and performance was tested against the alternative hypothesis, that there is significant moderating effect of firm level institutions on relationship between competitive strategy and performance. It was not possible from conceptual issues to state whether the effect of firm level institutions on the relationship is positive one negative, thus null hypothesis was tested against two-tailed alternative hypothesis at 95 percent confidence level (α = 0.05). The regression results are shown in Table 4.26 and Appendix XII.

Table 4.26: Firm Level Institutions and Relationship Between Competitive Strategy and Firm Performance

Item	Model 4.8		Model 4.9		Model 4.10	
	B	t-ratio	B	t-ratio	B	t-ratio
Constant	1.235	13.034**	.953	6.521**	1.281	6.624**
Competitive strategy	.127	8.424**	.072	3.794**	.044	2.062*
Firm level institutions	-		.202	2.967*	.075	.893
Interaction term	-		-		.001	2.552*
R^2	0.211		0.211		0.233	
Adjusted R^2	0.208		0.204		0.222	
F	70.956**		30.549**		23.027**	
N	277		277		277	

Asterisks of ** and * indicate significance at 1 and 5 significance levels, respectively

Source: Field Data, 2014

The three regression models had varied R^2 and adjusted R^2 values (see Table 4.26). Model 4.8 involving regression of firm performance with competitive strategy had R^2 and adjusted R^2 values of 0.211 and 0.208, respectively. Model 4.9 involving regression of firm performance with competitive strategy and firm level institutions had R^2 and adjusted R^2 values of 0.211 and 0.204, respectively. Model 4.10 involving regression of firm performance with competitive strategy, firm level institutions and interaction term had R^2 of 0.233 and adjusted R^2 of 0.222.

Essentially, the adjusted R^2 reduced with introduction of firm level institutions and increased with inclusion of interaction term in the regression model. The reduction in the adjusted R^2 value with the introduction of firm level institutions in the model of firm performance with competitive strategy indicated overfitting of the model for the number of data points. However, increased adjusted R^2 value with inclusion of interaction term in the model indicated well-fitting of the model for the number of data points. The adjusted R^2 value in model 4.10 was 0.222 and closer to R^2 value implying that 22.2 percent of variance in firm performance in the population was explained by the model.

The F statistics for the three models were statistically significant at five percent significance level. The F statistics were significant at p-value = 0.000 and 0.05, demonstrating that the models were highly significant. From model 4.8, the calculated t-ratio for the estimated coefficients of competitive strategy (8.424) was significant at one percent significance level. The coefficient of competitive strategy was 0.127. However, the introduction of firm level institutions (moderating variable) in model 4.9 resulted in reduction of calculated t-ratio (3.794) and coefficient (0. 072) of competitive strategy

although it was still significant at one percent significance level. The introduction of interaction term in model 4.10 resulted in further reduction of calculated t-ratio (2.062) and coefficient (0.044) of competitive strategy which was significant at five percent significance level. The calculated t-ratio for estimated coefficient of interaction term (2.552) was significant at five percent significance level whereas the t-ratio for estimated coefficient of firm level institutions (0.893) was not significant at five percent significance level (p = 0. 373).

Based on the foregoing results of regression analysis, the three conditions demonstrating existence of moderating effect were met, that; a significant relationship existed between competitive strategy (predictor) and performance (dependent) before testing for a moderating effect; strength between competitive strategy (predictor) and performance (dependent) reduced with inclusion of firm level institutions (moderator) in the model; and the interaction term had a significant relationship with dependent variable. Thus, the null hypothesis was rejected in favour of the alternative hypothesis that there was a significant moderating effect of firm level institutions on relationship between competitive strategy and firm performance. It was, therefore, observed that firm level institutions including resource based and administrative based firm level institutions significantly influenced as moderators the relationship between competitive strategy and performance of firms in the NTFPs sub-sector. The implication was that although the relationship between competitive strategy and firm performance was true generally, it was nevertheless contingent that improved performance was visible with only firms that had manifested firm level institutions to implement competitive strategy.

From the regression results, the following regression equation was specified.

$$FP = 1.281 + 0.044\,CS + 0.001\,ITT \quad (4.11)$$
$$(0.000)\quad (0.005)\quad (0.005)$$

The intercept was 1.281, implying that performance would be 1.281 when all the independent variables were zero. Increase in interaction term (product of strategy and firm level institutions) by one unit, that is, raising level of the moderation of institutions by one unit would increase firm performance by 0.001, ceteris paribus.

The results showed a significant moderating effect of firm level institutions on the relationship between competitive strategy and firm performance resulting in the rejection of the null hypothesis, that that there is no significant moderating effect of firm level institutions on relationship between competitive strategy and performance. Thus these results achieved the fourth objective of this study aimed at establishing the effect of firm level institutions on the relationship between competitive strategy and firm performance.

4.7.5 Joint Effect of Entrepreneur Characteristics and Competitive Strategy on Firm Performance

Hypothesis, H_5

The fifth objective of this study involved determining the joint effect of entrepreneur characteristics and competitive strategy on performance of SMEs in NTFPs sub-sector. This concerned determining whether the joint effect and individual effects of entrepreneur characteristics and competitive strategy on performance were different. This was aimed at establishing whether an intervening/mediating influence of competitive

strategy existed in the relationship between entrepreneur characteristics and firm performance. To achieve this objective, the following hypothesis was tested:

Hypothesis H_5: Combined effect of entrepreneur characteristics and competitive strategy on performance is not significantly different from their individual effects

In this sub-section, regression analysis was performed to test the individual and joint effects of entrepreneur characteristics and competitive strategy on firm performance. The scatterplots (see Appendix VII) of firm performance with entrepreneur characteristics and competitive strategy derived by this study suggested linear relationships between the variables. Thus, multiple linear regression analysis was performed to test the individual and joint effects using the following three models with linear relationships of the variables as abbreviated in Table 3.3 and ε_i as error term: model 4.12, model 4.13 and model 4.14.

$$FP_5 = \beta_{05} + \beta_{51} EC + \varepsilon_5 \quad (4.12)$$

$$FP_6 = \beta_{06} + \beta_{52} CS + \varepsilon_6 \quad (4.13)$$

$$FP_7 = \beta_{07} + \beta_{53} EC + \beta_{54} CS + \varepsilon_7 \quad (4.14)$$

The firm performance, entrepreneur characteristics and competitive strategy were applied in the analysis as mean values of their individual sub-variables. The null hypothesis, that the combined effect of entrepreneur characteristics and competitive strategy on firm performance is not significantly different from their individual effects was tested against the alternative hypothesis, that the combined effect of entrepreneur characteristics and competitive strategy on firm performance is significantly different from their individual effects. It was not possible from theoretical and conceptual issues to state whether the relationships between entrepreneur characteristics, competitive strategy and firm

performance were positive ones or negative ones, thus null hypothesis was tested against two-tailed alternative hypothesis at 95 percent confidence level ($\alpha = 0.05$). The results for multiple regression analysis using the three models are shown in Table 4.27 and Appendix XIII.

Table 4.27: Joint Effect of Entrepreneur Characteristics and Competitive Strategy on Firm Performance

Item	Model 4.12		Model 4.13		Model 4.14	
	B	t-ratio	β	t-ratio	β	t-ratio
Constant	1.894	9.025**	1.193	7.773**	1.168	5.750**
Entrepreneur characteristics	.371	2.665*			-.054	-.414
Competitive strategy			.168	8.552**	.180	8.442**
R^2	.131		.242		.267	
Adjusted R^2	.127		.239		.261	
F	7.100*		73.142**		39.981**	
N	277		277		277	

Asterisks of ** and * indicate significance at 1 and 5 significance levels, respectively

Source: Field Data, 2014

The regression analysis results in Table 4.27 show that the R^2 and adjusted R^2 values for the three models were different. The R^2 values (0.131 for model 4.12 and 0.242 for model 4.13) for the individual effects were lower than the R^2 value (0.267) for the joint effect of entrepreneur characteristics and competitive strategy on firm performance. The adjusted R^2 values were closer to the R^2 values and increased with subsequent fitting of variables indicating well-fitting of the models for the number of data points.

The F statistic for the three models were significant at five (model 4.12) and one percent significance (models 4.13 and 4.14) levels demonstrating that the models were significant. The F values (7.100 for model 4.12 and 73.142 for model 4.13) for the individual effects were different from those for the joint effect of entrepreneur

characteristics and competitive strategy on firm performance (F = 39.981). The significance of the calculated t-ratios of the variables was varied; in model 4.12, the calculated t-ratio for entrepreneur characteristics (2.665) was significant at $\alpha = 0.05$. In model 4.13, the calculated t-ratio for competitive strategy (8.552) was significant at $\alpha = 0.01$. However, in model 4.14, calculated t-ratio for entrepreneur characteristics (0.414) was not significant while that for competitive strategy (8.442) was significant at $\alpha = 0.01$.

From model 4.14 bearing joint effect, the intercept and coefficient for competitive strategy were statistically significant; the coefficient for entrepreneurship characteristics was insignificant. The effect of entrepreneur characteristics on firm performance was insignificant and not directly affecting firm performance jointly with competitive strategy, that is competitive strategy mediated the entrepreneur characteristics to performance relationship. Thus, the following regression equation was specified.

$$FP = 1.168 + 0.180\ CS \qquad (4.15)$$
$$(.000)\quad (.000)$$

Based on the regression results, the intercept was 1.168 implying that firm performance would be 1.168 when all the independent variables were zero. Similarly, when competitive strategy increases by one unit, that is, increasing application of competitive strategy by one unit, firm performance would increase by 0.180, ceteris paribus.

The results showed that the joint effect of entrepreneur characteristics and competitive strategy on firm performance was statistically different from their individual effects resulting in the rejection of the null hypothesis, that the combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not significantly

different from their individual effects. Thus these results achieved the fifth objective of this study aimed at determining the joint effect of entrepreneur characteristics and competitive strategy on performance of SMEs in NTFPs sub-sector, and ultimately the mediating effect of competitive strategy on the relationship between entrepreneur characteristics and firm performance.

4.8 Summary of Findings

This chapter presented the analysis of the firm characteristics and the four study variables using descriptive statistics. Equally, the chapter presented the results of inferential statistical analysis in testing of hypotheses and presenting relationships in the entrepreneurship to performance nexus.

The firm characterization showed that, on average firms in the NTFPs sub-sector were relatively new in operation with the majority being in existence for not more than five years. Equally, firms in the NTFPs sub-sector were highly diversified dealing mostly with varied food related products as processors and/or distributors. The NTFPs sub-sector was characterized by very small firms with less than 10 employees and operated as sole proprietorships.

The descriptive statistics of the study variables demonstrated that most of the firms were operated by entrepreneurs who were young male adults of upto 40 years with secondary to tertiary levels of education. However, the majority of the firms were operated by entrepreneurs with low levels of requisite skills and industry experience. It was also observed that the firms implemented the competitive strategy drivers of uniqueness, focus

and cost to high extent. In addition, most of the firms moderately to a high level manifested the firm level institutions to enhance their competitiveness and performance. Performance was measured in terms of the annual sales growth, annual profit growth, annual market share growth, client satisfaction and efficiency which were applied to compute the performance index as their mean value for hypothesis testing and the relationships between variables. Although the annual sales growth, annual profit growth, annual market share growth, client satisfaction and efficiency yielded varying levels of performance, factor analysis demonstrated that the outcomes were correlated allowing computation of the index.

The entrepreneur characteristics exhibited strong relationship with firm performance. Firm performance was significantly affected by entrepreneur characteristics of age, managerial skills, industry experience and social skills. In addition, the entrepreneur characteristics of age, gender, education, managerial skills, industry experience and social skills significantly affected competitive strategy. The competitive strategy driver of uniqueness exhibited significant relationship with age, gender, education, managerial skills, industry experience and social skills. However, the focus and cost drivers exhibited significant relationship with only managerial skills and social skills.

Firm performance was significantly affected by competitive strategy drivers of uniqueness, focus and cost. There was a significant moderating effect of firm level institutions in the relationship between competitive strategy and firm performance; firm performance was significantly affected by competitive strategy and the interaction term as product of competitive strategy and firm level institutions. The combined effect of

entrepreneur characteristics and competitive strategy was inconsistent with their individual effects on firm performance demonstrating existence of mediating effect in the relationship between entrepreneur characteristics, competitive strategy and performance.

There was empirical evidence to reject all the null hypotheses in favour of alternative hypotheses implying that there were significant relationships between entrepreneur characteristics, competitive strategy, firm level institutions and firm performance. There was empirical evidence for the significant relationship between entrepreneur characteristics and firm performance; significant link between entrepreneur characteristics and competitive strategy drivers; significant relationship between competitive strategy and firm performance; significant moderating effect of firm level institutions on relationship between competitive strategy and firm performance; and significant mediating effect of competitive strategy on the entrepreneur characteristics and firm performance relationship. Thus, all the five objectives of this study were fully achieved.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

This chapter presents the discussion of the results of this study aimed at establishing the relationships in the entrepreneurship to performance nexus as per the research objectives. The results are discussed to show whether they were in support of previous studies done to assess relationships in the entrepreneurship to firm performance nexus. The chapter discusses whether they approve or disapprove the conceptual issues advanced in this study. Whether the findings agreed with the assumptions advanced by various theories that formed the foundation of this study is also discussed. In addition, the chapter brings out the implications of the study to theory and practice.

5.2 Key Results and Discussion

The general objective of this study was to determine the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and performance of SMEs in the NTFPs sub-sector in Kenya. To achieve this general objective, five objectives were specified and corresponding hypotheses tested. The five null hypotheses tested were stated negatively to reflect absence of the expected relationships between variables.

It was observed that the entrepreneur characteristics of age, managerial skills, industry experience and social skills significantly influenced firm performance; the hypothesis (H_1) was rejected and objective one of this study achieved. Equally, the entrepreneur characteristics of age, gender, education, managerial skills, industry experience and social

skills significantly affected competitive strategy resulting in rejection of the hypothesis (H_2) and achievement of objective two of this study. Competitive strategy drivers of uniqueness, focus and cost significantly affected firm performance; the hypothesis (H_3) was rejected and objective three of this study achieved. It was also realized that there was a significant moderating effect of firm level institutions on the relationship between competitive strategy and firm performance resulting in rejection of the hypothesis (H_4) and achievement of objective four of this study. The combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs was significantly different from their individual effects resulting in rejection of the hypothesis (H_5) and achievement of objective five of this study.

5.2.1 Entrepreneur Characteristics and Firm Performance

H_1 – Objective One

To achieve objective one of this study, hypothesis H_1 was tested, that there is no significant relationship between entrepreneur characteristics and performance of SMEs.

The aim of the first objective was to establish the relationship between entrepreneur characteristics and firm performance. Although it has become increasingly clear that entrepreneur characteristics impact on performance of the firm, the conceptual issues presented in this study showed mixed results on the causal effects and magnitude of the different entrepreneur characteristics on firm performance. Byers (1997) opined that although the support by studies was overwhelming over the effect of entrepreneur characteristics on firm performance, some studies found little evidence of the effect of the entrepreneur demographic and social background on firm performance; specifically, the

effects of age, gender, education, experience and skills on firm performance were varied in various studies. Indeed the results by Analoui and Karami (2003) and Shigang (2010) raised debate whether the relationship between entrepreneur characteristics and firm performance is indeed direct. However, Kristiansen et al. (2003) showed that demographic factors such as age and gender, and individual background including education and previous work experience affect firm performance. Thus, hypothesis H_1 was formulated for testing, that there is no significant relationship between entrepreneur characteristics and firm performance.

In this study, therefore, the researcher sought to extent the frontiers of knowledge regarding how entrepreneur characteristics affected firm performance. Specifically, the effect of age, gender, education, managerial skills, industry experience and social skills on firm performance was investigated. The study relied on the RBV and theories relating to entrepreneur characteristics to expound on how entrepreneur characteristics affect firm performance. The targeted entrepreneur characteristics depict knowledge, talents, skills, abilities, experience, intelligence, and training advanced under RBV as some of the resources and capabilities necessary for achieving competitive advantage (Wernerfelt, 1984; Barney, 1991; Castanias & Helft, 1991; Conner & Prahalad, 1996). The theories relating to entrepreneur characteristics explicate various traits that contribute to supply of entrepreneurs including education background, skills and experience (Kubeczko & Rametseinerm, 2002; Greve & Salaff, 2003).

The major findings of this study were that firm performance was significantly affected by entrepreneur characteristics of age, managerial skills, industry experience and social

skills. Whereas the relationship between age and firm performance was negative, that between managerial skills, industry experience and social skills and firm performance was positive. Results achieved objective one but did not support hypothesis H_1, that there is no significant relationship between entrepreneur characteristics and firm performance.

The results of a significant relationship between entrepreneur characteristics and performance were similar with other studies. Kibas and K'Aol (2004) in their study aimed at investigating and profiling cases of successful Kenyan entrepreneurs opined that most Kenyan entrepreneurs exhibit typical characteristics of other entrepreneurs elsewhere. Bowen et al. (2009) in their study on management of business challenges among SMEs in Nairobi observed that training or education was positively related to business success. Islam et al. (2011) in a study in Bangladesh observed that entrepreneur's age, education, managerial know-how, industry experience and social skills influence firm performance.

The negative relationship between firm performance and age indicated that SMEs operated by young adult entrepreneurs had better performance than competition. This finding supported the results by other studies that business firms operated by young entrepreneurs have better performance. Amran (2011) in a study on Malaysian public listed family businesses observed that young entrepreneurs performed better than mature ones as they changed and grabbed opportunities faster thus, increasing firm performance. Carlsson and Karlsson (1970) noted that mature entrepreneurs tended to be more risk averse than younger ones, thus negatively impacting on firm performance.

The positive relationship between firm performance, and managerial skills and industry experience showed that training and experience are crucial in the venture performance. Fielden et al. (2000) in a study on micro and small business start-up in North-West England reported that skills and experience are very crucial to enterprise survival while experience from previous job, and on the job experience are key factors in enterprise duration, growth and survival. Martin and Staines (2008) indicate that managerial skills assist managers to solve issues that are directly relevant to the current, fast shifting business environment. Mfinanga (2008) in a study on paratransit situation in Dar es Salaam observed that managerial skills are important in running any business. Although the influence of education on performance in this study was not significant, the better performance by poorly educated entrepreneurs could have been due to the compensating effect of experience and managerial trainings they had received. Gomide et al. (2004) suggests a link between sales turnover and business training. According to Khayesi (2009), the objective of training is to help owners of SMEs improve their skills.

The strong influence of social skills on performance lies in the advantages associated with collective actions through membership to clubs. Economic and social networks are very useful in assembling the resources needed for starting and managing manufacturing industries (Burnett, 2000). Bowen et al. (2009) in their study on management of business challenges among SMEs in Nairobi observed that memberships to social as well as professional clubs provide necessary networks that bring beneficial effects such as information and experience sharing, technical know-how and bargaining power to entrepreneurs running SMEs. Kamalakumati and Sathiyakala (2013) in their study on impact of entrepreneurial characteristics on the organizational development of the small

business entrepreneurs observed that small businesses could strengthen their social networks by forming clubs to get connected with large scale businesses.

The findings of this study showed that age, managerial skills, industry experience and social skills explained only about 20 percent of variance in firm performance. However, studies have pointed out that low R-squared values are not always bad, and are even expected in studies of this nature. Odundo (2012) points out that such level is acceptable given that the study only focused on a few variables rather than modelling for performance indicators in general. Adegbite et al. (2006) in their study on impact of entrepreneurial characteristics on firm performance in Nigeria observed that the 10 personal entrepreneurial characteristics applied in regression analysis could only explain 19.7 percent of variation in the sales turnover. Hsiu-Jung (2008) in a study on effects of entrepreneurship and interpersonal network on firm performance in Taiwan observed that innovativeness, pro-activeness, autonomy, risk-taking, and competitive aggressiveness explained 38.6 percent variance in performance. Islam et al. (2011) in a study on business success in Bangladesh obtained the R^2 of 0.213. Equally, Kamalakumati and Sathiyakala (2013) observed that competent entrepreneur characteristics of achievement, planning and power explained 33.1 percent variation in firm performance.

The findings of this study affirm the observations in literature that the entrepreneur characteristics have significant effect on firm performance. Equally, the findings support the RBV and theories relating to entrepreneurship that skills and experience are important in enhancing firm performance. The assumption by the RBV that a firm can obtain sustainable competitive advantage by having strategically relevant resources and

capabilities that are embedded in the entrepreneurs and employees inform of skills and tacit knowledge (Polanyi, 1966; Wernerfelt, 1984: Castanias & Helft, 1991) is strongly supported by the findings of this study. Equally, the findings also support the advancement by the socio-cultural and other theories explaining entrepreneur characteristics that skills, experience and social networks are important in entrepreneurial action and behaviour (Dubini & Aldrich, 1991; Greve & Salaff, 2003). The findings of this study, therefore, provide evidence that age, skills and experience matter; there was need for the firms to enhance their capacities by adopting employment policies that target young staff that have requisite skills and experience. Most businesses in the NTFP sub-sector were small and were operated with entrepreneurs without necessary skills. Thus, a robust employment policy to attract the many unemployed young skilled people in Kenya would rejuvenate their performance.

5.2.2 Entrepreneur Characteristics and Competitive Strategy

H_2 – Objective Two

To achieve objective two of this study, hypothesis H_2 was tested, that there is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs.

The second objective of this study aimed at establishing the relationship between entrepreneur characteristics and competitive strategy which was observed in the conceptual arguments as debatable. Whereas some studies have indicated a direct link between entrepreneur characteristics and competitive strategy, others have observed the relationship to be indirect and hidden (Mintzberg, 1978) or not clear (Pelham, 2000;

Kemp & Verhoeven, 2002). Thus, hypothesis H_2 was formulated for testing, that there is no significant relationship between entrepreneur characteristics and competitive strategy.

This study, therefore, sought to explore the relationship between entrepreneur characteristics and competitive strategy of the firms. It was conceptualized in this study that the entrepreneur provides a prediction of competitive strategy and firm performance; entrepreneur characteristics could affect firm performance directly or through mediation effects of competitive strategy. Essentially, the link between entrepreneur characteristics of age, gender, education, managerial skills, industry experience and social skills, and competitive strategy drivers of uniqueness, focus and cost was investigated by performing correlation analysis. This study relied on the RBV to expound on how the targeted entrepreneur characteristics affect implementation of strategy drivers in creating and enhancing competitiveness of the firm. The entrepreneur characteristics of education, managerial skills, industry experience and social skills are depicted under the RBV as the knowledge, talents, skills, abilities, experience, intelligence, and training necessary for achieving competitive advantage (Wernerfelt, 1984; Barney, 1991; Castanias & Helft, 1991; Conner & Prahalad, 1996).

The major findings of this study were that the entrepreneur characteristics had a significant link with the competitive strategy drivers. Whereas the relationship between age and competitive strategy drivers was negative, that of gender, education, managerial skills, industry experience and social skills with the three competitive strategy drivers was positive demonstrating that firms operated by young, well-educated and skilled male entrepreneurs had highest levels of application of competitive strategy drivers. Results

achieved objective two but did not support hypothesis H_2, that is no significant relationship between entrepreneur characteristics and competitive strategy of SMEs.

The findings corresponded with findings by various studies (Peyrefille et al., 2002; Namusonge, 2014) that an entrepreneur's competence, role and commitment are critical to the successful formulation and implementation of strategies. Verhees and Meulenberg (2004) in their study on market orientation, innovativeness, product innovation, and performance in small firms observed that the owner's innovativeness permeates all variables in the model and had a positive influence on market orientation, innovation, and performance. However, the insignificant link of experience with focus and cost drivers contradicted the finding of a strong fit between strategy and team experience obtained by Shrader and Siegel (2007) in high-tech entrepreneurial ventures.

The negative coefficients of age with the three competitive strategy drivers indicated that the firms operated by young entrepreneurs demonstrated high levels of implementation of competitive strategy drivers. This finding was similar to the results by various studies that firms operated by young entrepreneurs demonstrate high levels of implementation of competitive strategy drivers. Carlsson and Karlsson (1970) in their study on age, cohorts and the generation of generations noted that mature people tend to be more risk averse than younger people, thus negatively impacting on the implementation of competitive strategy drivers. Shrader and Siegel (2007) in their study aimed at assessing the relationship between human capital and firm performance observed that firms operated by young entrepreneurs demonstrate high levels of strategy implementation.

The positive coefficients of gender, education, managerial skills, industry experience and social skills with competitive strategy drivers pointed to an indication that gender, education, skills and experience drive competitive strategy implementation. The findings showing that male entrepreneurs implemented competitive strategies better than women corresponded with findings by various studies. Cooper et al. (1994), Cliffe (1998) and Amran (2011) observed that male operated firms were competitive and had better performance. However, the finding contradicted other studies like, Woldie et al. (2008) who observed in their study on firms in Nigeria that both men and women had the ability to run business achieving similar competitiveness and performance levels. The skills and experience reflecting the level of competencies were opined by Hamel and Prahalad (1996) as strategically aligned with the business strategies. Peyrefille et al. (2002) observed that competencies play critical roles in the formulation and implementation of strategies. Bowen et al. (2009) observed that relevant training or education is positively related to business success. Namusonge (2014) emphasized importance of a firm's competencies in achieving competitive strategies; sustainable competitive advantages are likely to result if firms increase their competencies on a continuous basis.

The findings of this study affirm the observations that the entrepreneur characteristics and competitive strategy are significantly linked. This observation support the RBV that skills and experience are important in implementation of competitive strategy to create and enhance competitiveness. The RBV postulation that a firm can obtain sustainable competitive advantage by having strategically relevant resources and capabilities that are embedded in the entrepreneurs and employees inform of skills and tacit knowledge

(Wernerfelt, 1984; Barney, 1991; Castanias & Helft, 1991; Conner & Prahalad, 1996) is strongly supported by the findings of objective two of this study.

The findings of this study, therefore, provide evidence that age, education, gender, skills and experience matter in competitive strategy choice and implementation. Unfortunately, the findings showed that a substantial number of the SMEs (about 25 percent) were operated by older entrepreneurs aged 50 years and above, and about 60 percent had entrepreneurs with no education at all (1.4 percent) or had primary (17 percent) and secondary (41.5 percent) levels of education. Equally, most entrepreneurs did not have requisite managerial (56 percent) and social skills (59.2 percent). Thus, most of these firms were operated with little benefit of competitive strategy implementation. Thus, it was important that the firms recruit the unemployed but highly educated, skilled and young graduates to help in enhancing their competitiveness through competitive strategy choice and implementation.

5.2.3 Competitive Strategy and Firm Performance

H_3 – Objective Three

To achieve objective three of this study, hypothesis H_3 was tested, that there is no significant relationship between competitive strategy and performance of SMEs.

Objective three of this study was aimed at determining the relationship between competitive strategy and firm performance. Existence of a relationship between competitive strategy and firm performance is debatable as per the conceptual issues presented by this study. Some studies have pointed to a positive relationship between

competitive strategy and firm performance. Gibcus and Kemp (2003) observed that strategies pursued have a direct and strong influence on firm performance. Gibcus and Kemp (2003) opined that firms with a clear and consistent strategy out-perform those without. Consequently, entrepreneurs often aim to ensure that right strategy choices are made and implemented. However, some studies have observed either a weak link (Teach & Schwartz, 2000) or no relationship between strategy and firm performance (Kemp & Verhoeven, 2002). Thus, hypothesis H_3 was formulated for testing, that there is no significant relationship between competitive strategy and performance of SMEs.

In this study, therefore, the researcher sought to extent the frontiers of knowledge regarding how competitive strategy impacts on firm performance. This study relied on the RBV to expound on how competitive strategy affects firm performance. The RBV states that a firm can obtain a sustainable competitive advantage by having strategically relevant resources and capabilities that are valuable, specific, rare and unable to be either imitated or substituted (Barney, 1991). Such resources and capabilities include strategic planning (Michalisin et al., 1997).

The major findings of this study were that firm performance was significantly affected by competitive strategy drivers of uniqueness, focus and cost. The relationship was positive and direct. Results achieved objective three but did not support hypothesis H_3, that there is no significant relationship between competitive strategy and performance of SMEs.

The findings corresponded with results of previous studies. Pushpakumari and Watanabe (2009) in a study investigating whether strategies improve performance of SMEs in Japan

and Sri Lanka observed that firm performance varied with the choice of strategy orientation that owner-managers adopted. Shigang (2010) in a study investigating competitive strategy and business environment of small enterprises in China showed that differentiation and cost strategies had significant positive relationship with overall performance. Pelham (2000) observed that an emphasis on a low-cost strategy had lower impact on performance than an emphasis on a growth/differentiation strategy. However, this study observed that the three strategy drivers of uniqueness, focus and cost significantly affected firm performance.

The findings showed that about 30 percent of the variance in firm performance was explained by the three competitive strategy drivers of uniqueness, focus and cost. The R^2 value was average and consistent with observations in other studies. Lerner and Almor (2002) regressed growth and strategic volume and reported adjusted R^2 of 0.21. The adjusted R^2 reported by Sadler-Smitb et al. (2003) was 0.12. Shrader and Siegel (2007) obtained a strong fit between strategy and team experience as a key determinant of the long-term performance.

The findings of this study affirm the observations that the competitive strategy has a significant effect on firm performance. The findings support the RBV that strategic planning is one of the strategically relevant resources that enable firms obtain sustainable competitive advantage. This finding, therefore, provide evidence that strategic planning and implementation matter; there was need for the firms to enhance their competitiveness and performance by enhancing their strategic planning and implementation through, inter alia, targeted staff recruitment policies and staff development.

5.2.4 Firm Level Institutions on Relationship Between Competitive Strategy and Firm Performance

H_4 – Objective Four

To achieve objective four of this study, hypothesis H_4 was tested, that there is no significant moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs.

The aim of the fourth objective was to establish the moderating effect of firm level institutions on the relationship between competitive strategy and performance. The effect of firm level institutions which were categorized as resource based and administrative based firm level institutions on the entrepreneurship and firm performance relationship is debatable in literature. While some studies have advanced the moderation effect, others have discounted it. Equally, most of the evidence on the effect of firm level institutions is from large corporations. Mahler (2009) and Machuki et al. (2012) observed firm level institutions to influence the relationship between competitive strategy and performance. The study by Machuki et al. (2012) concentrated on large corporations leaving out SMEs and the findings were mostly statistically not significant. However, Lindley and Walker (1993) opined that moderation effect may reduce or enhance the direction of the relationship between predictor variables and dependent variable, or it may even change its direction altogether from positive to negative or vice versa. Therefore, hypothesis H_4 was formulated for testing, that there is no moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs.

This study, therefore, sought to extent the frontiers of knowledge regarding how firm level institutions moderate the relationship between competitive strategy and performance. The study relied on the institutional theory to expound on how firm level institutions influence the relationship between competitive strategy and performance. The institutional theory proposition is that entrepreneurs are both constrained and enabled by the institutions in their environment; internal institutions including the resource based and administrative based ones affect firm performance (Bruton & Ahlstrom, 2003; Scott, 2004; Bruton et al., 2010).

The major findings of this study were that firm level institutions affected the relationship between competitive strategy and firm performance. The conditions for moderating effect were made demonstrating that firm level institutions moderated the relationship between competitive strategy and firm performance. Results achieved objective four but did not support hypothesis H_4, that there is no moderating effect of firm level institutions on the relationship between competitive strategy and performance of SMEs.

The indication of a significant moderating effect of firm level institutions concurred with findings of past studies. Various studies (CPA, 2007; Peng et al., 2008; Mahler, 2009; Machuki et al., 2012) observed that firm level institutions influence the relationship between competitive strategy and performance. A study by CPA (2007) on internal controls for small business in Australia demonstrated that administrative based firm level institutions including internal control structures and procedures influence the relationship between competitive strategy and performance. Peng et al. (2008) in a perspective article on institution-based view of international business strategy of emerging economies

opined that institutions drive firm strategy and performance. Machuki et al. (2012) in a study on firm-level institutions and performance of publicly quoted companies in Kenya offer support for the influence of skills and competencies, knowledge base, culture and resources categorized as resource based firm level institutions, and internal control structures and procedures classified as administrative based firm level institutions to influence the relationship between competitive strategy and performance.

The findings of this study affirm the observations that the firm level institutions have significant moderating effect on competitive strategy and firm performance relationship. Equally, the findings support the institutional theory that institutional dimensions including the resource based and administrative based ones affect firm performance (Bruton & Ahlstrom, 2003; Scott, 2004; Bruton et al., 2010). The findings of this study, therefore, provide evidence that improved performance was visible with only firms that had manifested firm level institutions to implement competitive strategy; there was need for firms to enhance their capacities through appropriate staff recruitment policies and staff development to enhance manifestation of the right firm level institutions.

5.2.5 Joint Effect of Entrepreneur Characteristics and Competitive Strategy on Firm Performance

H_5 – Objective Five

To achieve objective five of this study, hypothesis H_5 was tested, that combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not different from their individual effects.

Objective five of this study was to determine the joint effect of entrepreneur characteristics and competitive strategy on firm performance. Empirical evidence on the joint effect of entrepreneur characteristics and competitive strategy on firm performance is debatable. Studies have indicated the relationship as either direct (Phan & Butler, 2003), inconclusive (Sidik, 2012) or being indirect and hidden (Mintzberg, 1978). In this study, therefore, the test results for joint effect were compared with the individual effects in providing a better understanding of the relative role of entrepreneur characteristics and competitive strategy in accounting for differences in performance. If mediating effect existed in the relationship, simultaneous use of entrepreneur characteristics and competitive strategy to predict performance would result in reduced and/or insignificant relationship between entrepreneur characteristics and firm performance (Baron & Kenny, 1986; Mallinckrodt et al., 2006). On the other hand, if the effects were additive, then the relationships were direct (Phan & Butler, 2003). Thus, hypothesis H_5 was formulated for testing, that the combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not significantly different from their individual effects.

In this study, the researcher sought to extent the frontiers of knowledge regarding how entrepreneur characteristics and competitive strategy jointly affected firm performance. The study relied on the RBV and theories relating to entrepreneur characteristics to expound on how entrepreneur characteristics and competitive strategy jointly affect firm performance. The RBV advances that a firm can obtain a sustainable competitive advantage by having strategically relevant resources and capabilities (Barney, 1991). The entrepreneur characteristics targeted by this study depicted the knowledge, talents, skills, abilities, experience, intelligence, and training advanced under RBV as some of relevant

resources and capabilities for enhancing competitiveness (Wernerfelt, 1984; Barney, 1991; Castanias & Helft, 1991; Conner & Prahalad, 1996). The theories relating to entrepreneur characteristics expound on the characteristics that contribute to supply of entrepreneurs (Kubeczko & Rametseinerm, 2002; Greve & Salaff, 2003).

The major findings of this study were that the combined effect of entrepreneur characteristics and competitive strategy was inconsistent with their individual effects on performance; competitive strategy significantly mediated the relationship between entrepreneur characteristics and firm performance. The analysis of joint effect of entrepreneur characteristics and competitive strategy on firm performance met the three conditions for existence of mediating effect as specified by Baron and Kenny (1986), that: a significant relationship between entrepreneur characteristics (predictor) and performance (dependent) existed before testing for a mediating effect; relationship between entrepreneur characteristics (predictor) and performance (dependent) became non-significant after introducing competitive strategy (mediator); and entrepreneur characteristics (predictor) influence competitive strategy as it influences performance (dependent). The effect of entrepreneur characteristics was reduced but not eliminated completely when competitive strategy was introduced indicating partial mediation. Perfect mediation requires the beta coefficient for predictor to be decreased to zero (Baron & Kenny, 1986). Results achieved objective five but did not support hypothesis H_5, that the combined effect of entrepreneur characteristics and competitive strategy on performance of SMEs is not significantly different from their individual effects.

The findings of this study were in support of previous studies done to assess mediation of entrepreneurship to firm performance relationship. Mintzberg (1978) in the study on patterns in strategy formulation noted that the relationship between entrepreneur characteristics and strategic action is indirect and hidden. The study by Venkataraman and Camillus (1984) exploring the concept of "fit" in strategic management posits that an internal fit between resources and strategies would lead to improved performance. Edelman et al. (2002) in their study on role of strategy on firm performance observed a mediating role of strategy in the relationship between human and organizational resources and firm performance demonstrating that neither resources alone, nor strategies alone determine performance. Oyedijo and Akewusola (2012) in a study on competitive strategy orientations of small and medium business owners and their performance impacts in Nigeria observed that firm strategy is a key determinant of firm performance.

The findings of this study affirm the results in literature that competitive strategy significantly mediates the relationship between entrepreneur characteristics and firm performance. Equally, the findings support the RBV and theories relating to entrepreneurship that skills and experience are important in enhancing firm performance. The assumption by the RBV that a firm can obtain sustainable competitive advantage by having strategically relevant resources and capabilities is strongly supported by the findings of this study. Equally, the findings also support the advancement by the socio-cultural theory as one of the theories explaining entrepreneur characteristics that skills, experience and social networks are important in entrepreneurial action and behaviour (Dubini & Aldrich, 1991; Greve & Salaff, 2003). The findings of this study, thus provide evidence that competitive strategy matter in firm performance; actions and behaviour of

entrepreneurs in enhancing performance of their firms are dependent on the competitive strategy chosen and implemented. Thus, there was need for the firms to enhance their capabilities to implement strategy for enhancing competitiveness and performance.

5.3 Summary of the Discussion of Results

This chapter presented the discussion of key results of this study in establishing relationships in the entrepreneurship to performance nexus as per the research objectives. An elaborate justification was offered based on conceptual issues for each relationship and corresponding hypothesis tested. In addition, key results by this study as per each research objective were presented and a discussion offered clearly elucidating how they were in agreement with results by other studies. In the chapter, it was indicated clearly whether each research objective was achieved and respective hypothesis rejected or accepted. How the findings of this study extended the frontiers of knowledge was also presented by discussing whether the key findings agreed with the assumptions advanced by various theories that formed the foundation of this study. The chapter also highlighted the implications of this study to theory and practice.

All the five research objectives by this study were achieved with the results indicating significant relationships between entrepreneur characteristics and firm performance, entrepreneur characteristics and competitive strategy, competitive strategy and firm performance, moderation by firm level institutions on relationship between strategy and performance, and combined effect of entrepreneur characteristics and competitive strategy on performance achieved but did not support the corresponding hypotheses H_1 to H_5. The key findings were consistent with results in previous studies on the relationships.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents summary of the study findings, conclusions and recommendations. In addition, the theoretical, managerial, policy and research implications are presented. The main objective of this study was creating the understanding of the multi-dimensional nature of firm performance by evaluating the relationships of entrepreneur characteristics, competitive strategy, firm level institutions and performance. Thus, this chapter presents a summary of the findings on the multi-dimensionality of firm performance with a clear indication of the relationships between factors. The implications of this study in terms of contribution to theory, policy, research and private players are presented.

6.2 Summary of the Study Findings

The integration and interactions of internal organizational factors including entrepreneur characteristics, strategy and institutions to enhance competitiveness and performance of firms in NTFPs were not well understood. It was not clear how the traits that present the entrepreneur as a resource interact with strategy choices made, and institutional dimensions put in place by the firm in enhancing its competitiveness and performance. The main purpose of this study, therefore, was to determine the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and firm performance. Literature review done revealed that no other study had been conceptualized with same framework and similar alignment of variables for firms in the NTFPs sub-sector in Kenya.

The study was conducted as a cross-sectional survey covering 314 SMEs in the NTFPs sub-sector in nine counties with 88 percent response rate. Before the analyses to achieve the study objectives, data was organized, cleaned and tested for violation of key assumptions. The Pearson correlation coefficients, coefficient of determination (R^2), F statistic, and the t-test and their significance levels were applied in presenting the fit of the models and the relationships between variables.

6.2.1 Entrepreneur Characteristics and Firm Performance

The entrepreneur characteristics exhibited strong relationship with firm performance. Firm performance was significantly influenced by entrepreneur characteristics of age, managerial skills, industry experience and social skills. Thus, it was observed that firms operated by young and experienced owners/managers with high managerial know-how and social skills performed better than competition.

The first research objective by this study was achieved with the results indicating significant relationship between entrepreneur characteristics and firm performance. The overall significance led to the rejection of the null hypothesis, H_1 in favour of the alternative hypothesis, that there is a relationship between entrepreneur characteristics of age, managerial skills, industry experience and social skills, and performance of firms in the NTFPs sub-sector. The findings were in support of results made in previous studies.

6.2.2 Entrepreneur Characteristics and Competitive Strategy

The entrepreneur characteristics had a significant link with the competitive strategy drivers; however the focus and cost drivers exhibited significant relationship with only

managerial skills and social skills. It was, thus observed that entrepreneur characteristics had significant effect on competitive strategy of firms in the NTFPs sub-sector. The firms operated by young and well educated male entrepreneurs with high managerial know-how and social skills demonstrated high levels of application of competitive strategy.

The second research objective by this study was achieved with the results indicating significant relationship between entrepreneur characteristics and competitive strategy. The overall significance led to the rejection of the null hypothesis, H_2 in favour of the alternative hypothesis, that there is a significant relationship between entrepreneur characteristics and competitive strategy.

6.2.3 Competitive Strategy and Firm Performance

The competitive strategy drivers exhibited strong relationship with firm performance. There was a positive relationship between the three competitive strategy drivers of uniqueness, focus and cost and firm performance. Firm performance was significantly affected by competitive strategy drivers of uniqueness, focus and cost.

The third research objective by this study was achieved with the results indicating significant relationship between competitive strategy and firm performance. The high coefficient of determination values and the significance of the F statistic demonstrated fit of the model and let to rejection of the null hypothesis, H_3 in favour of the alternative hypothesis, that there is a relationship between competitive strategies and firm performance. It was, therefore, observed that competitive strategy had significant effect on firm performance.

6.2.4 Firm Level Institutions, Competitive Strategy and Firm Performance

Firm level institutions affected the relationship between competitive strategy and firm performance. The conditions for moderating effect were made demonstrating that firm level institutions categorized as resource based and administrative based firm level institutions moderated the relationship between competitive strategy and performance of firms in the NTFPs sub-sector.

The fourth research objective by this study was achieved with the results indicating significant moderating effect of firm level institutions on the relationship between competitive strategy and performance. The overall significance led to rejection of the null hypothesis, H_4 in favour of alternative hypothesis, that there is moderating effect of firm level institutions on the relationship between competitive strategy and firm performance.

6.2.5 Joint Effect of Entrepreneur Characteristics, Competitive Strategy and Firm Performance

The combined effect of entrepreneur characteristics and competitive strategy was inconsistent with their individual effects on firm performance. The inconsistence of the combined effect and individual effects of entrepreneur characteristics and competitive strategy on firm performance demonstrated existence of mediating effect.

The fifth research objective by this study was achieved with the results indicating significant difference between the combined and individual effects of entrepreneur characteristics and competitive strategy on firm performance. The overall significance led to the rejection of the null hypothesis, H_4 in favour of the alternative hypothesis, that the

combined effect of entrepreneur characteristics and competitive strategy on firm performance was significantly different from their individual effects. The conditions defined for the mediating effect were made demonstrating that competitive strategy mediated the entrepreneur characteristics and performance relationship.

6.3 Conclusions of the Study

The general objective of this study was to determine the influence of competitive strategy and firm level institutions on the relationship between entrepreneur characteristics and performance of firms in the NTFPs sub-sector in Kenya. The assessment of firm performance was complex as the target SMEs pursued diverse objectives including profitability and continued existence. This complicated the measurement of firm performance but the application of both financial and non-financial performance metrics made it possible for the exercise to be undertaken. Chong (2008) observing that performance measurement is complex and a major challenge for researchers called for use or integration of various measurement dimensions. This study too asserts that the complex and often difficult to capture performance of SMEs could be measured by use of both financial and non-financial metrics and then integrated into an index.

The entrepreneur characteristics had a strong and direct effect on the performance of firms in the NTFPs sub-sector. Thus, it was concluded that entrepreneur characteristics and performance of firms in the NTFPs sub-sector were empirically related. Entrepreneur characteristics of age, managerial skills, industry experience and social skills affected firm performance; firms operated by young and experienced owners/managers with high managerial know-how and social skills performed better than competition. This view that

entrepreneur characteristics and firm performance of SMEs in the NTFPs sub-sector were empirically related was consistent with positions by various studies. O'Farrell and Hitchens (1988) and Erikson (2002) concluded that the characteristics of the entrepreneur are central to the determinants of SME performance. Islam et al (2011) concluded that entrepreneur characteristics have significant effect on business success of SMEs.

The entrepreneur characteristics of age, gender, education, managerial skills, industry experience and social skills had significant link with competitive strategy. Entrepreneur characteristics affected choice and application of competitive strategy in enhancing competitiveness of the firm. It was, therefore, concluded that a link existed between entrepreneur characteristics and competitive strategy; firms run by relatively young, well-educated and skilled male entrepreneurs had high levels of application of competitive strategies. This conclusion compares favourably to perspectives by other studies. Phan and Butler (2003) demonstrated that the relationship between entrepreneur characteristics and competitive strategy is direct. Similarly, Shrader and Siegel (2007) concluded that entrepreneur characteristics were determinants of strategy and performance.

The competitive strategy drivers of uniqueness, focus and cost had significant effect on firm performance. This led to the conclusion that a direct relationship existed between competitive strategy and firm performance; competitive strategy drivers application led to improved firm performance. A similar position was taken by Gibcus and Kemp (2003) and Peng et al. (2008) that strategies have a direct and strong influence on performance.

Firm level institutions significantly influenced the relationship between competitive strategy and performance of firms in the NTFPs sub-sector. The indicators for firm level institutions including resource based and administrative based firm level institutions had strong association with competitive strategy and firm performance. The causal effect of competitive strategy on firm performance was moderated by firm level institutions. It was, thus concluded that firm level institutions enhanced the relationship between competitive strategy and firm performance by acting as a moderator; although the relationship between competitive strategy and firm performance was true, it was nevertheless dependent on firm level institutions. This perspective of institutions playing a moderating role finds support in literature. Peng et al. (2008) demonstrated that institutions play an important role in affecting firm performance than just playing a role of background conditions. Mahler (2009) study concluded that internal institutions influence the relationship between competitive strategy and performance.

The competitive strategy influenced the relationship between entrepreneur characteristics and firm performance. The competitive strategy provided a causal link between entrepreneur characteristics and firm performance. It was thus, concluded that the relationship between entrepreneur characteristics and firm performance was not direct but required mediating effect of competitive strategy. The overall conclusion is that the relationship between entrepreneur characteristics and firm performance is not direct but dependent on competitive strategy and firm level institutions that play mediating and moderating roles in the relationship, respectively. A multi-dimensional link existed with entrepreneur characteristics, competitive strategy, firm level institutions and firm performance as the linkages; firms required resources, appropriate strategy choices and

firm level institutional framework, and owners/managers with appropriate personal characteristics to enhance their competitiveness and firm performance.

A summary of research objectives, hypotheses, findings and conclusion is presented in Table 6.1.

Table 6.1: Summary of the objectives, hypotheses, findings and conclusion

Objective	Hypothesis	Findings	Conclusion
Determine relationship between entrepreneur characteristics and firm performance	There is no significant relationship between entrepreneur characteristics and firm performance	Firm performance significantly affected by entrepreneur characteristics of age, managerial skills, experience and social skills	H_1 rejected
Establish the relationship between entrepreneur characteristics and competitive strategy	There is no significant relationship between entrepreneur characteristics and competitive strategy	Competitive strategy significantly related with entrepreneur characteristics of age, gender, education, managerial skills, industry experience and social skills	H_2 rejected
Determine relationship between competitive strategy and performance	There is no significant relationship between competitive strategy and performance	Performance significantly affected by competitive strategy drivers of uniqueness, focus and cost	H_3 rejected
Establish effect of firm level institutions on relationship between competitive strategy and performance	There is no significant moderating effect of firm level institutions on relationship between strategy and performance	Significant moderation effect of firm level institutions on the relationship between strategy and firm performance	H_4 rejected
Determine joint effect of entrepreneur characteristics and competitive strategy on performance	Combined effect of entrepreneur characteristics and strategy on performance is not significantly different from their individual effects	Combined effect of entrepreneur characteristics and competitive strategy was inconsistent with their individual effects on performance confirming mediation effect	H_5 rejected

Source: Researcher, 2015

From the summary of the results presented in Table 6.1, all the relationships were significant resulting in the rejection of all the five null hypotheses, H_1 to H_5. This indicated existence of significant relationships between entrepreneur characteristics and firm performance, entrepreneur characteristics and competitive strategy, competitive strategy and firm performance, moderation by firm level institutions on relationship between strategy and performance, and mediating effect of competitive strategy on the relationship between entrepreneur characteristics and firm performance. Thus all the five research objectives were achieved.

6.4 Recommendations of the Study

This study demonstrated that although a direct relationship exist between entrepreneur characteristics and performance, implementation of strategy and manifestation of institutions led to enhanced competitiveness and improved performance. Therefore, for the firms in the NTFPs sub-sector and similar ones to enhance the implementation of strategies and manifestation of the right firm level institutions, it is recommended that they aim to have staff with right skills and experience. It is important that the firms too offer training programmes to their entrepreneurs and staff to help equip them with requisite skills.

The observation by this study that the firms in NTFPs sub-sector run by relatively young, well trained and experienced entrepreneurs performed better than competition calls for the firms to have employment policies that target these trained but unemployed young people to be part of their operational teams. Thus, it is recommended that the firms put in place measures that encourage these well trained young people to join them. Kenya has

many well trained but unemployed young people that should be targeted by these firms to enhance their competitiveness and performance.

6.5 Implications of the Research Findings

This study was anchored on the institutional theory, RBV and theories relating to entrepreneur characteristics. The preceding data analysis and discussion on the findings by this study thus, pointed at theoretical, managerial and policy implications. These implications focus on scholarly contribution and contribution to managers, policy makers and other industry players.

6.5.1 Theoretical Implications

This study was centred on the institutional theory, RBV and theories of entrepreneurship to ground the arguments and conceptualization of the relationships. This study was based on the general argument that entrepreneurial decisions and implementation are hampered or enhanced by the resources and capabilities possessed, and the internal institutional framework put in place. This general assumption finds support from the findings and conclusions of this study that firms with owners/managers with requisite qualities, resources, strategy and internal environment including systems, structures, and good working procedures and culture were competitive and performed better than competition.

Specifically, this study enriches the institutional theory by adding some insights that firms required resources and administrative systems that form the internal institutional milieu to drive through the strategy choices to achieve competitiveness and performance. With regard to RBV, this study provides support for the argument that a firm can obtain

sustainable competitive advantage by having strategically relevant resources and capabilities that are embedded in the owners/managers and employees inform of skills and tacit knowledge. The findings on the entrepreneur characteristics indicating the signs and magnitude of the influence help enrich the theories of entrepreneurship that; SMEs with better performance than competition were associated with entrepreneurs who were young, well-experienced, and skilled in management and social capital.

This study conceptualized existence of a multi-dimensional link with entrepreneur characteristics (independent), competitive strategy (mediating), firm level institutions (moderating) and firm performance (dependent) as linkages. The results confirmed the existence of a statistically significant relationship between the four variables. This observation adds to the existing literature by unearthing mediating effect of competitive strategy on the relationship between entrepreneur characteristics and firm performance, and the moderating effect of firm level institutions on the relationship between competitive strategy and firm performance. The results indicate that the relationship between entrepreneur characteristics and firm performance is significant but is depended on competitive strategy. Equally, the relationship between competitive strategy and firm performance is significant but can be enhanced by manifesting firm level institutions.

6.5.2 Managerial Implications

The entrepreneurs are key drivers in the performance of their businesses. Thus, to enhance firm competitiveness and performance it was observed that owners should adopt managerial principles that ensure those entrusted with running their businesses have the right personal characteristics including age, skills and industry experience. The

recruitment policies and procedures should be focused towards targeting managers who are young, skilled and with industry experience.

To enhance competitiveness and performance of the SMEs, the entrepreneur should put emphasis on having staff with required skills and an institutional framework to be able to make right strategy choices and implement them to either deliver unique mix of value to counter competitor's actual or predicted strategy; offer particular products or services in particular markets; and/or minimize costs of doing business and create a cost advantage. This would help the firms create and promote brands of NTFPs and expand in specific segments like superstores and high end hotels where loyalty would be cultivated.

Enrollment and participation in societies or associations/clubs or professional bodies encompassing practitioners in the industry for a networking and build-up of social skills is necessary. Such organizations serve the interests of its members and are used to bargain for better terms with other bodies and the government. There is need to encourage entrepreneurs and staff of their firms to participate in social interaction settings and team building activities to enhance their social skills.

Managerial skills are key in optimal business management through strategic planning, resource mobilization and implementation. Therefore, entrepreneurs must upgrade their skills in order to enhance competitiveness and performance of the businesses. Specialized training programmes in entrepreneurship should be organized to equip potential and existing entrepreneurs with necessary theoretical and practical skills in business management. Enrolments of start-ups in incubation programmes would be critical.

6.5.3 Policy Implications

In the last three decades, Kenya developed legal and regulatory framework, and programmes to enhance the spirit of entrepreneurship in the country. The notable achievements include, inter alia, the Sessional Paper No 2 of 2005: Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction; the Micro and Small Enterprises Bill 2011 (MSME Bill 2011); and the Vision 2030 which recommends the development of SME Parks and calls for more research and development in encouraging their innovation. Thus, the country is now moving toward institutionalizing SMEs in its policy and statutory instruments and is experiencing a growing awareness of the importance of developing entrepreneurship and small business management for sustained economic growth, rapid employment generation and poverty eradication (GoK, 2013; World Bank, 2014).

Despite the strides made to enhance entrepreneurship in Kenya, this study demonstrated that the firms operated by older entrepreneurs were largely uncompetitive because of low levels of application of competitive strategy; older entrepreneurs in Kenya were managing their firms without the benefit of the application of competitive strategies. Policy makers should, therefore, be made aware that the SMEs run by relatively young, well-trained and skilled entrepreneurs had high levels of application of competitive strategies calling for policy measures to encourage the many well trained young people but with high unemployment to engage in businesses. Equally, observation by this study that firms were managed by entrepreneurs with no requisite skills calls for training programmes including incubation to equip the practitioners with necessary theoretical and practical capacities to enhance application of strategies, and manifestation of firm

institutions for improved competitiveness and performance. The County Governments and agencies like KFS and KEFRI that are involved in natural resource management should be encouraged to build up databases of firms in the NTFPs sub-sector to enhance their focus and contributions to the economies.

6.6 Limitations of the Study

The findings, discussions, conclusions, and implications of this research study are bound by some limitations. It is imperative, therefore, that some caution is exercised when interpreting parts of this study. The research study involved data collection, analysis and write-up. Essentially, distortion of views or measurement errors would have emerged especially where it involved capturing perceptions. Equally, the cross-sectional nature as well as reliance on views of the entrepreneurs who were interviewed singly could lead to risk of common method variance. However, the reliability tests done indicated that such errors were minimal. The authenticity of views expressed could have been compromised limiting the validity of study data although Cronbach's alpha value was high.

This study was limited to the SMEs in the NTFPs sub-sector. This is a small portion of the economy with a comparatively small number of SMEs. The sub-sector was constraint with data on the number and state of the SMEs. Equally, the SMEs in the sub-sector were limited to dealing with few products and the sizes for most of them were small. Essentially, the representation in the medium group was comparatively low. Equally, the study was limited to the Kenyan situation and did not consider impacts of globalization or regional integration dynamics on the performance of targeted firms. This, therefore, calls for caution while generalizing the data and results for business firms.

6.7 Suggested Areas for Further Research

Based on the research findings, focus and limitations of the study, further research is necessary for detailed evaluation of the effect of firm level institutions on the relationship between entrepreneur characteristics and firm performance as well as extending similar studies to other sectors of the economy. The study was only limited to only few entrepreneur characteristics that explained about 22 percent of the variation in firm performance. Thus, there is need too to increase scope of entrepreneur characteristics and assess their effect on firm performance.

A cross-sectional design capturing perceptions of owners/managers of respondent SMEs at a point in time was applied by the study. Such an approach was cost-effective, time saving and helpful in predicting relationships among variables. However, such an approach was constraint in the provision of causal relationships among the variables in the entrepreneurship to firm performance relationship. It was not possible to make inferences about the dynamics and the nature of the causal relationships in the entrepreneur – strategy – institutions - performance nexus. However, a longitudinal study captures well the dynamism state and causal effects and is necessary.

This study made suggestions for future research to be done. While some of the suggestions were consequences of the research findings of this study, suggestions given were taken up as complementary research to be conducted. However, further research should be conducted to create more insights into the entrepreneurship and firm performance relationship. The study findings pointed out a multi-dimensional interaction with the entrepreneur characteristics as independent, competitive strategy as mediator, and firm level institutions as moderator. However, options still exist for other combinations of the variables. This would give a much broader theoretical basis for the study of entrepreneurship to firm performance relationship, and enhance understanding of competitiveness and performance of SMEs. This would also increase the likelihood of making a significant contribution to the existing pool of knowledge on the subject.

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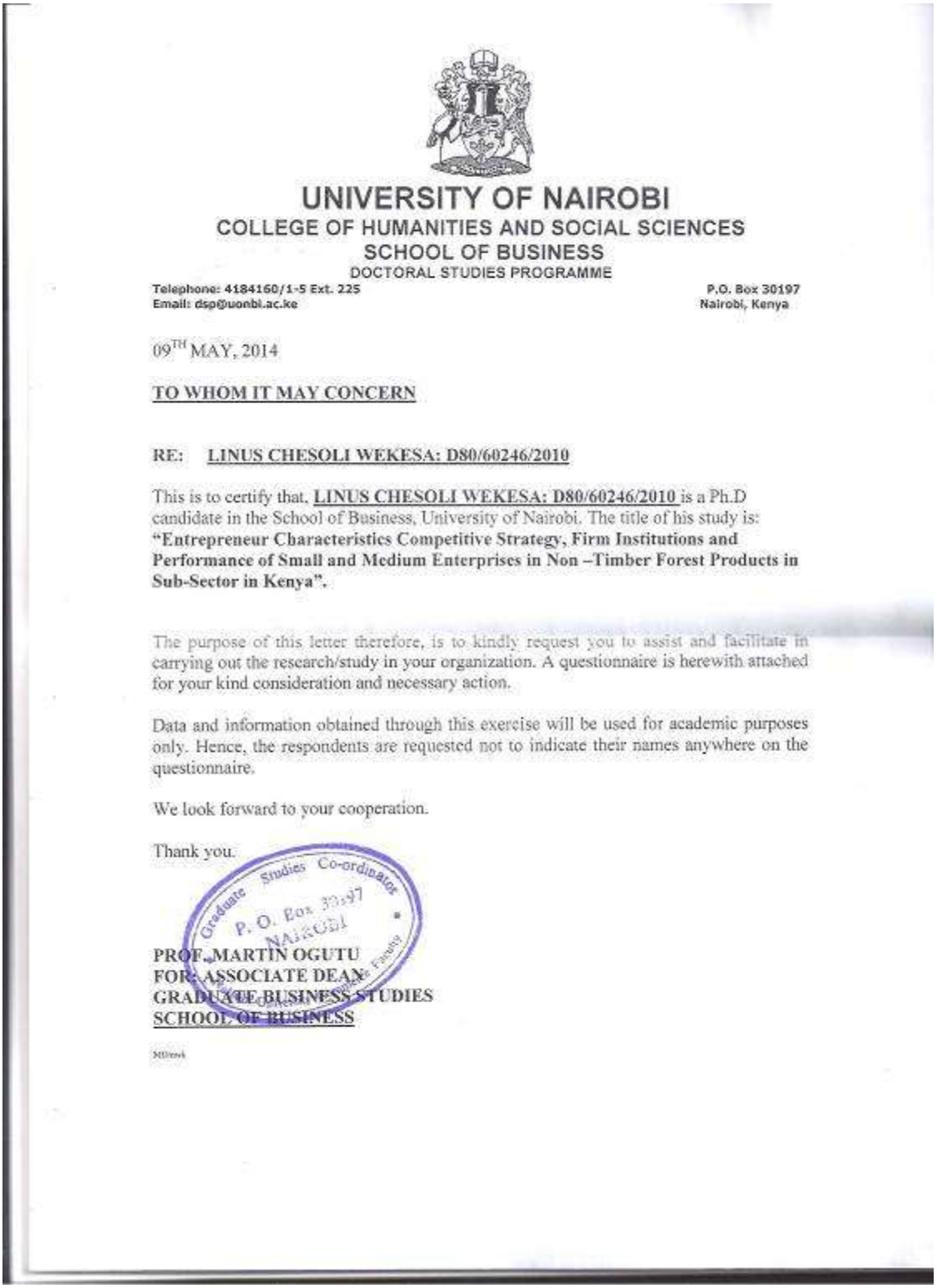
APPENDICES

Appendix I: Letter of Introduction for Data Collection



UNIVERSITY OF NAIROBI
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DOCTORAL STUDIES PROGRAMME

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P.O. Box 30197
Nairobi, Kenya

09TH MAY, 2014

TO WHOM IT MAY CONCERN

RE: LINUS CHESOLI WEKESA: D80/60246/2010

This is to certify that, **LINUS CHESOLI WEKESA: D80/60246/2010** is a Ph.D candidate in the School of Business, University of Nairobi. The title of his study is: **"Entrepreneur Characteristics Competitive Strategy, Firm Institutions and Performance of Small and Medium Enterprises in Non –Timber Forest Products in Sub-Sector in Kenya".**

The purpose of this letter therefore, is to kindly request you to assist and facilitate in carrying out the research/study in your organization. A questionnaire is herewith attached for your kind consideration and necessary action.

Data and information obtained through this exercise will be used for academic purposes only. Hence, the respondents are requested not to indicate their names anywhere on the questionnaire.

We look forward to your cooperation.

Thank you.

Graduate Studies Co-ordinator P. O. Box 30197 NAIROBI

PROF. MARTIN OGUTU
FOR: ASSOCIATE DEAN
GRADUATE BUSINESS STUDIES
SCHOOL OF BUSINESS

Appendix II: Letter of Request for Permission to Collect Data

KENYA FORESTRY RESEARCH INSTITUTE

Coast Eco Region Research Programme - Gede

Telkom Wireless:+254-20-23S6358
E-mail:cdgcde@ke fri.org

P.O. Box 1078 – 80200
Malindi KENYA

Ref: GRRC/1/4/93

Date: 25th March 2014

TO WHOM IT MAY CONCERN

This questionnaire has been designed to gather information on the performance of business organizations dealing with non-timber forest products. This is purely an academic exercise conducted under the framework of Kenya Forestry Research Institute (KEFRI) and the School of Business, University of Nairobi towards meeting the requirements for my award of the degree of Doctor of Philosophy in Business Administration.

You are kindly requested to spare a few minutes to respond to the questions by ticking appropriate choices that reflect your general impressions/perceptions. The information that you provide will be treated with utmost confidentiality and in no instance will your name or that of your organization be mentioned in the report. I have attached a letter from the university certifying my candidature and a copy of the questionnaire. The findings of this study will be availed to you upon request.

Thanking you in advance.

Yours faithfully

Linus Wekesa
Social Economist/PhD. Candidate

Appendix III: Questionnaire for Small and Medium Enterprises in the Non-timber Forest Products Sub-sector

Business organization Code…… Name …….

Part I: Bio Data

1. Your job title in the business organization (tick)
   i. Owner/Director ……..... [ ]
   ii. Chairman …… [ ]
   iii. Manager ……. [ ]
   iv. Other (specify……)..……... [ ]

2. Products/services provided by business organization
   i What is the nature of products you deal with? (tick)
      a. Fruits …….. [ ]
      b. Medicinal ……. [ ]
      c. Bee products …… [ ]
      d. Others (specify ……)…….. [ ]
   ii How many products of the above (in 2(i)) do you deal with? (tick)
      a. One ……...…… [ ]
      b. Two ……..……...……. [ ]
      c. Three ……..……...……..... [ ]
      d. More than three ……...…… [ ]

3. Legal status of the business organization (tick)
   i. Sole proprietorship ……..[ ]
   ii. Partnership …….. [ ]
   iii. Limited Company ……... [ ]
   iv. Cooperative society/self-help group ……..…….. [ ]

4. How old is this business organization? (tick)
   i 0 – 5 years …….. [ ]
   ii 6 – 10 years ……..... [ ]
   iii 11 – 20 years ……[ ]
   iv Over 20 years ……...[ ]

5. Year when business was registered ……...

6. Telephone contact of business ……...

Part II: Entrepreneur Characteristics

7. What is your age bracket amongst the following? (Tick as appropriate)
   i. Below 20 years …….. [ ]
   ii. 20 – 29 years ……[ ]
   iii. 30 – 39 years …….. [ ]
   iv. 40 – 49 years …… [ ]
   v. 50 – 59 years …… [ ]
   vi. Over 60 years …….. [ ]

8. Gender: Male ( ) Female ( )

9. Highest level of education attained
   i. Primary School ……..……. [ ]
   ii. Secondary School …… [ ]
   iii. Tertiary ……..…[ ]
   iv. Others (specify…….). . [ ]

10. How long have you been involved in a managerial position or in running the business? (tick)
   i 0 – 5 years ……..…… [ ]
   ii 6 – 10 years ……..…….. [ ]
   iii 11 – 20 years ……..……. [ ]
   iv over 20 years ……..……. [ ]

11. Social clubs, groups and organizations

   (i) Do you belong to any social club, group or organization? (tick) Yes [ ] No [ ]

   (ii) If yes in (i) above, how many social clubs, groups or organizations do you belong to?
      a. One ……..……. [ ]
      b. Two ……..……..... [ ]
      c. Three ……..…….. [ ]
      d. Over three ……..…….…. [ ]

12. Managerial skills

   (i) Have you undertaken any training to enhance your managerial skills? (tick) Yes [ ] No [ ]

   (ii) If yes in (i) above, indicate the number of trainings you have undertaken within last the 5 years

a. One ……..……. [ ]
b. Between two to five ……..……... [ ]
c. Between six to ten ……..…….. [ ]
d. Over ten ……..…….…… [ ]

Part III: Competitive strategy

13. To what extent do you implement the following strategy drivers in enhancing the competitiveness of your business organization? Use the scale provided to TICK appropriate response concerning the implementation of the strategy drivers.

Scale: 1= to a great extent 2=high extent 3=moderately 4=small extent 5=Not at all

a. **Unique Drivers**

Approach used	**1**	**2**	**3**	**4**	**5**
i. We always brand our products and make them unique	[ ]	[ ]	[ ]	[ ]	[ ]
ii. Our products are always packaged with clear labels	[ ]	[ ]	[ ]	[ ]	[ ]
iii. We apply pricing strategy to differentiate our products	[ ]	[ ]	[ ]	[ ]	[ ]

b. Focus Drivers

Approach used	**1**	**2**	**3**	**4**	**5**
i We always strive to learn and adhere to customer needs	[ ]	[ ]	[ ]	[ ]	[ ]
ii We always try out new ways of service delivery	[ ]	[ ]	[ ]	[ ]	[ ]
iii We always make quick responses to market changes	[ ]	[ ]	[ ]	[ ]	[ ]
iv We have been consistent in our market strategy selection	[ ]	[ ]	[ ]	[ ]	[ ]

c. Cost Drivers

Approach used	**1**	**2**	**3**	**4**	**5**
i We always concentrate on process improvements	[ ]	[ ]	[ ]	[ ]	[ ]
ii We have adopted newer technologies in our products	[ ]	[ ]	[ ]	[ ]	[ ]
iii We always observe and maintain cost cutting measures	[ ]	[ ]	[ ]	[ ]	[ ]
iv We strive to gain highest leverage per shilling spent	[ ]	[ ]	[ ]	[ ]	[ ]

Part IV: Firm Institutions

(i) Resource Based Firm Institutions

14. To what extent are the following firm level resources availed for use by your business organization? Use the scale provided to TICK appropriately

Scale: 1= to a great extent 2=high extent 3=moderately 4=small extent 5=Not at all

Firm Level Resources	1	2	3	4	5
i. Enough financial resources provided to all departments/ sections to carry out key tasks of strategy implementation	[ ]	[ ]	[ ]	[ ]	[ ]
ii. Serious consideration is placed on the skills and competency development of staff in our strategic decision making process	[ ]	[ ]	[ ]	[ ]	[ ]
iii. Need for retraining the workforce and management of change has always been taken into account	[ ]	[ ]	[ ]	[ ]	[ ]
iv. Management Style applied ensures that there is enough qualified and professional staff to implement organizational strategy	[ ]	[ ]	[ ]	[ ]	[ ]
v. Possession of tacit/implicit/intangible knowledge is embedded in the organizational culture	[ ]	[ ]	[ ]	[ ]	[ ]
vi. Rare, valuable, and imperfectly imitable organizational culture	[ ]	[ ]	[ ]	[ ]	[ ]
vii. Emphasis on continuous learning on how to do things better	[ ]	[ ]	[ ]	[ ]	[ ]
iii. Emphasis on having highly charged, motivated and loyal employees	[ ]	[ ]	[ ]	[ ]	[ ]
ix. Organization possesses highly valued and rare resources	[ ]	[ ]	[ ]	[ ]	[ ]

(ii) Administrative Based Firm Institutions

15. Specify to what extent the following administrative based firm institutions are true in your organization by TICKING appropriately.

Use the scale where 1= to a great extent 2=high extent 3=moderately 4=small extent 5= not at all

Administrative Based Firm Institutions	1	2	3	4	5
i. Whenever there is need, appropriate and suitable organizational structure has always been put in place to support the implementation of strategy	[ ]	[ ]	[ ]	[ ]	[ ]
ii. Management style is clear assigning responsibility of various tasks of strategic implementation	[ ]	[ ]	[ ]	[ ]	[ ]
ii. The management systems used have always been adapted to support strategy implementation	[ ]	[ ]	[ ]	[ ]	[ ]
v. The work processes are highly automated	[ ]	[ ]	[ ]	[ ]	[ ]
v. Decision making process is highly decentralized	[ ]	[ ]	[ ]	[ ]	[ ]
vi. Internal Controls to manage resources put in place and functional	[ ]	[ ]	[ ]	[ ]	[ ]
ii. Various systems and processes have been enforced to closely monitor what individuals are expected to do	[ ]	[ ]	[ ]	[ ]	[ ]

ii. Clear working procedure are defined and applied in the strategy implementation process [ ] [ ] [ ] [ ] [ ]

Part V: Firm Performance

(i) Financial Performance Indicators

16. What is the average annual sales made by your business organization in last five years? (Tick)

Annual sales (Ksh)	**2009**	**2010**	**2011**	**2012**	**2013**
i. <100,000	[ ]	[ ]	[ ]	[ ]	[ ]
ii. 100,001 – 500,000	[ ]	[ ]	[ ]	[ ]	[ ]
iii. 500,001 – 1,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
iv. 1,000,001 – 5,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
v. 5,000,001 – 10,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
vi. 10,000, 001 – 20,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
vii. 20,000,001 – 30,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
iii. 30,000,001 – 50,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
ix. 50,000,001 – 100,000,000.	[ ]	[ ]	[ ]	[ ]	[ ]
x. 100,000,001 – 200,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
xi. 200,000,001 – 500,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
xii. >500,000,000	[ ]	[ ]	[ ]	[ ]	[ ]

17. What is the annual net profits made from your business organization for the last five years? (Tick)

Annual net profit (Ksh)	**2009**	**2010**	**2011**	**2012**	**2013**
i. <100,000	[ ]	[ ]	[ ]	[ ]	[ ]
ii. 100,001 - 500,000	[ ]	[ ]	[ ]	[ ]	[ ]
iii. 500,001– 1,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
iv. 1,000,001 – 5,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
v. 5,000,001 – 10,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
vi. 10,000,001 – 20,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
vii. 20,000,001 – 50,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
viii. 50,000,001 – 100,000,000	[ ]	[ ]	[ ]	[ ]	[ ]
ix. >100,000,000	[ ]	[ ]	[ ]	[ ]	[ ]

18. To what extent do you agree with the following statements indicating that your financial performance has been superior to your competition? Use the scale provided to TICK:
Key: 1= strongly agree; 2 = agree; 3 = indifferent; 4 = disagree; 5 = strongly disagree

Factor	1	2	3	4	5
i. Our business firm annual sales have been on an upward trend over the past five years	[ ]	[ ]	[ ]	[ ]	[ ]
ii. Our business firm annual net profit margins have been on an upward trend over past 5 years	[ ]	[ ]	[ ]	[ ]	[ ]

(ii) Non-Financial indicators

19. What is the average percentage market coverage that your business organization commands for its products/services in the last five years? (Tick)

Average market coverage ()	2009	2010	2011	2012	2013
<5	[ ]	[ ]	[ ]	[ ]	[ ]
6 – 10	[ ]	[ ]	[ ]	[ ]	[ ]
11 – 15	[ ]	[ ]	[ ]	[ ]	[ ]
16 – 20	[ ]	[ ]	[ ]	[ ]	[ ]
21 – 50	[ ]	[ ]	[ ]	[ ]	[ ]
> 50	[ ]	[ ]	[ ]	[ ]	[ ]

20. To what extent do you agree with the following statements indicating that your non-financial performance has been superior to your competition? Use the keys provided to TICK:

Key: 1= strongly agree; 2 = agree; 3 = indifferent; 4 = disagree; 5 = strongly disagree

Factor	1	2	3	4	5
i. The organization has a good reputation	[ ]	[ ]	[ ]	[ ]	[ ]
ii. The organization protects its business domain aggressively	[ ]	[ ]	[ ]	[ ]	[ ]
iii. The organization has continued to expand its market coverage	[ ]	[ ]	[ ]	[ ]	[ ]
iv. The processes of service delivery are efficient	[ ]	[ ]	[ ]	[ ]	[ ]
v. Quality of management system in the organization is high	[ ]	[ ]	[ ]	[ ]	[ ]
vi. Clients are satisfied with goods/services of organization	[ ]	[ ]	[ ]	[ ]	[ ]
vii. The organization's number of employees has been on an upward trend over past 5 years	[ ]	[ ]	[ ]	[ ]	[ ]

21. What is the number of employees in this business organization?
Less than 5 ……[ ]
5-15 ……[ ]
16-25 ……[ ]
26-50 ……[ ]
51-99 ……[ ]
Over 99 ……[ ]

Appendix IV: Population of Small and Medium Enterprises in the Non-timber Forest Products Sub-sector in Kenya

	County	Number of SMEs	Percentage (%)
1	Mombasa	211	12
2	Kwale	56	3
3	Kilifi	78	3
4	Tana River	41	2
5	Lamu	34	2
6	Taita-Taveta	36	2
7	Garissa	47	3
8	Wajir	43	3
9	Mandera	35	2
10	Marsabit	56	3
11	Isiolo	69	3
12	Meru	34	2
13	Tharaka-Nithi	23	1
14	Embu	35	2
15	Kitui	88	3
16	Machakos	45	3
17	Makueni	56	3
18	Nyandarua	-	0
19	Nyeri	-	0
20	Kirinyaga	-	0
21	Murang'a	-	0
22	Kiambu	10	1
23	Turkana	21	1
24	West Pokot	15	1
25	Samburu	12	1
26	Trans Nzoia	-	0
27	Uasin Gishu	-	2
28	Elgeyo-Marakwet	11	1
29	Nandi	-	0
30	Baringo	17	1
31	Laikipia	16	1
32	Nakuru	24	2
33	Narok	31	2
34	Kajiado	44	3
35	Kericho	-	0
36	Bomet	-	0
37	Kakamega	23	1
38	Vihiga	-	0
39	Bungoma	-	0
40	Busia	-	0
41	Siaya	-	0
42	Kisumu	-	2
43	Homa Bay	15	1
44	Migori	16	1
45	Kisii	-	0
46	Nyamira	-	0
47	Nairobi	470	27
	TOTAL	**1712**	100

Source: Compilation from April 2013 Databases of Counties, KEBS, KEFRI and KFS

Appendix V: Map of Kenya Showing Nine Counties where Data was Collected

Source: Kenya Open Data Project, 2012

Appendix VI: Non-Timber Forest Products Firms and Entrepreneurs Interviewed

Table Va: List of Non-Timber Forest Products Firms Covered

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Garissa	Ambia Green G	Owner/director	Fruit products	Sole proprietorship	6-10 years	70771048
Garissa	Ambi Haja Fru	Owner/director	Fruit products	Sole proprietorship	11-20 years	729684850
Garissa	Horse Horticu	Manager	Fruit products	Cooperative/SHG	Over 20 yrs	711844840
Garissa	Maili Grocers	Owner/director	Fruit products	Sole proprietorship	6-10 years	735708709
Garissa	Syamab Shop	Owner/director	Fruit products	Sole proprietorship	6-10 years	713691079
Garissa	Genya Aboi Gr	Owner/director	Fruit products	Sole proprietorship	11-20 years	722295294
Garissa	Salam Abdi	Owner/director	Fruit products	Sole proprietorship	6-10 years	706588832
Garissa	Jamhuri Farm	Manager	Fruit products	Limited company	Over 20 yrs	46249691
Garissa	Maendeleo Far	Manager	Fruit products	Limited company	Over 20 yrs	720911611
Garissa	Alasow Abai	Owner/director	Fruit products	Sole proprietorship	11-20 years	7239987
Garissa	Osma Fruits S	Owner/director	Fruit products	Sole proprietorship	6-10 years	724999867
Garissa	Munasar Ltd	Manager	Medicinal	Sole proprietorship	6-10 years	
Garissa	Kheir Abdi	Owner/director	Medicinal	Partnership	6-10 years	724427020
Garissa	Haji Gum Vent	Owner/director	Medicinal	Sole proprietorship	11-20 years	729684850
Garissa	Hassan Adan G	Owner/director	Medicinal	Sole proprietorship	6-10 years	724743232
Garissa	Abdiazizi Hus	Owner/director	Medicinal	Sole proprietorship	11-20 years	727870983
Garissa	Arator Wild G	Manager	Medicinal	Sole proprietorship	11-20 years	724743482
Garissa	Maalim Salim	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	720301178
Garissa	Kilimanjaro S	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	
Garissa	Salim Mohamed	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	720301178
Kilifi	Mjana Heri Fa	Owner/director	Bee products	Limited company	6-10 years	723215527
Kilifi	Ali Kidiku	Owner/director	Bee products	Sole proprietorship	11-20 years	721333455
Kilifi	Mnazi Network	Chairman	Bee products	Cooperative/SHG	0-5 years	729279232
Kilifi	Malindi Natur	Manager	Fruit products	Cooperative/SHG	0-5 years	
Kilifi	Samuel Thumbi	Owner/director	Fruit products	Partnership	6-10 years	722553194
Kilifi	Garithe Mangr	Chairman	Fruit products	Cooperative/SHG	6-10 years	726131550
Kilifi	Harmu Mwangi	Owner/director	Fruit products	Partnership	6-10 years	720401075
Kilifi	Ngala Garithe	Owner/director	Fruit products	Sole proprietorship	11-20 years	728939737
Kilifi	Ack St Pauls	Chairman	Fruit products	Cooperative/SHG	6-10 years	722781749
Kilifi	Franco Export	Owner/director	Fruit products	Limited company	11-20 years	722823830
Kilifi	Barani Commun	Chairman	Fruit products	Cooperative/SHG	Over 20 yrs	711824589
Kilifi	Tupendane Coc	Manager	Fruit products	Sole proprietorship	6-10 years	710158383
Kilifi	Francis Thoya	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	728731636
Kilifi	Musifini Yout	Owner/director	Fruit products	Partnership	0-5 years	729794640
Kilifi	Joseph Kivunz	Owner/director	Fruit products	Sole proprietorship	0-5 years	715523703
Kilifi	Mazacha Juice	Owner/director	Fruit products	Sole proprietorship	6-10 years	72491648
Kilifi	Dickson Menza	Owner/director	Fruit products	Partnership	6-10 years	712061806

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Kilifi	Safina Handcr	Owner/director	Fruit products	Partnership	11-20 years	734512446
Kilifi	Festus Ngala	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	704213800
Kilifi	Bayusufu Farm	Manager	Fruit products	Partnership	6-10 years	721172340
Kilifi	Muyoma Patric	Owner/director	Fruit products	Sole proprietorship	11-20 years	733799534
Kilifi	Masline Mitza	Owner/director	Fruit products	Sole proprietorship	0-5 years	722533385
Kilifi	Galana Farmer	Manager	Fruit products	Cooperative/SHG	6-10 years	703277033
Kilifi	Munzaa Mutind	Owner/director	Fruit products	Sole proprietorship	0-5 years	727122051
Kilifi	Tarumbeta Wom	Chairman	Medicinal	Cooperative/SHG	6-10 years	722480819
Kilifi	Rescue Women	Chairman	Medicinal	Cooperative/SHG	0-5 years	710345025
Kilifi	Ruruma Farmer	Other	Medicinal	Cooperative/SHG	6-10 years	719577587
Kilifi	Mkuzi Joha	Owner/director	Medicinal	Sole proprietorship	0-5 years	706369405
Kitui	Milsam	Owner/director	Bee products	Sole proprietorship	0-5 years	702615656
Kitui	Bidii Bee Kee	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	720761973
Kitui	Samson Muthag	Owner/director	Bee products	Sole proprietorship	11-20 years	727485984
Kitui	Ngulu Kimenyi	Owner/director	Bee products	Sole proprietorship	6-10 years	701106754
Kitui	Zayab Khamis	Owner/director	Fruit products	Sole proprietorship	6-10 years	722969503
Kitui	Muhidin Abuu	Owner/director	Fruit products	Sole proprietorship	0-5 years	724508325
Kitui	Khadija Bakar	Owner/director	Fruit products	Sole proprietorship	11-20 years	715245400
Kitui	Chuluni Horti	Manager	Fruit products	Cooperative/SHG	6-10 years	729352399
Kitui	Paul Syengo S	Owner/director	Fruit products	Sole proprietorship	11-20 years	
Kitui	Maingi Kiema	Owner/director	Fruit products	Sole proprietorship	11-20 years	722610228
Kitui	Kavisa Kaula	Other	Fruit products	Partnership	6-10 years	718488382
Kitui	Mwanzia Maing	Owner/director	Fruit products	Partnership	6-10 years	72674820
Kitui	Gideon Kihind	Owner/director	Fruit products	Partnership	6-10 years	725013007
Kitui	David Ngondi	Owner/director	Fruit products	Partnership	11-20 years	713056601
Kitui	Afred Mbiti N	Manager	Fruit products	Sole proprietorship	Over 20 yrs	726638782
Kitui	Racheal Ngina	Manager	Fruit products	Sole proprietorship	0-5 years	
Kitui	Joseph Mwango	Manager	Fruit products	Sole proprietorship	Over 20 yrs	727348245
Kitui	Dominic Kivoi	Owner/director	Medicinal	Sole proprietorship	11-20 years	724470968
Kitui	Malonza Farm	Owner/director	Medicinal	Sole proprietorship	0-5 years	712127016
Kwale	Msambweni Bee	Chairman	Bee products	Cooperative/SHG	6-10 years	734373766
Kwale	Chitsanze Fal	Chairman	Bee products	Partnership	6-10 years	726012188
Kwale	Kwale Maphombe	Chairman	Bee products	Cooperative/SHG	6-10 years	714705556
Kwale	Asili Ya Asal	Chairman	Bee products	Cooperative/SHG	0-5 years	721423253
Kwale	Vanga Youth G	Chairman	Bee products	Cooperative/SHG	0-5 years	728050557
Kwale	Jimbo Environ	Other	Bee products	Cooperative/SHG	6-10 years	702692034
Kwale	Mwambiweje Wo	Chairman	Bee products	Cooperative/SHG	11-20 years	720249630
Kwale	Mkwajuni Slef	Chairman	Fruit products	Cooperative/SHG	0-5 years	706108585
Kwale	Suleiman Baka	Owner/director	Fruit products	Sole proprietorship	0-5 years	
Kwale	Tumaini Youth	Other	Fruit products	Cooperative/SHG	Over 20 yrs	712778397
Kwale	Ukunda Sc Mak	Chairman	Fruit products	Cooperative/SHG	0-5 years	717789379
Kwale	Malani Fruit	Chairman	Fruit products	Sole proprietorship	0-5 years	716111783
Kwale	Swaleh Mushee	Owner/director	Fruit products	Sole proprietorship	11-20 years	704973457

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Kwale	Kilulu Self H	Chairman	Fruit products	Cooperative/SHG	0-5 years	714705556
Kwale	Msabweni Coco	Chairman	Fruit products	Cooperative/SHG	6-10 years	724146850
Kwale	Masika Selema	Owner/director	Fruit products	Sole proprietorship	0-5 years	
Kwale	Tumaini Self	Chairman	Fruit products	Cooperative/SHG	0-5 years	713936162
Kwale	Aloe Producti	Chairman	Medicinal	Partnership	6-10 years	713094547
Kwale	Tomoni Farms	Owner/director	Medicinal	Limited company	0-5 years	720934006
Kwale	Upendo Magon	Chairman	Medicinal	Partnership	6-10 years	729176792
Kwale	Choir Supplie	Owner/director	Others	Sole proprietorship	6-10 years	722365058
Machakos	Sobete Genera	Owner/director	Bee products	Sole proprietorship	6-10 years	727789748
Machakos	James Mbuthia	Owner/director	Bee products	Sole proprietorship	6-10 years	721407003
Machakos	Masala Beekep	Chairman	Bee products	Sole proprietorship	Over 20 yrs	724562326
Machakos	Makiyika Mang	Chairman	Fruit products	Cooperative/SHG	6-10 years	736942526
Machakos	Gleen Quoich	Owner/director	Fruit products	Limited company	6-10 years	724817593
Machakos	Makueni Fruit	Chairman	Fruit products	Cooperative/SHG	0-5 years	7221905714
Machakos	Mbae Farm	Owner/director	Fruit products	Sole proprietorship	6-10 years	724271214
Machakos	Makueni Herba	Manager	Medicinal	Cooperative/SHG	6-10 years	713419743
Makueni	Christine Mul	Owner/director	Bee products	Sole proprietorship	6-10 years	713879075
Makueni	Nzukini Heny	Manager	Bee products	Cooperative/SHG	11-20 years	727724811
Makueni	Catherine Usa	Owner/director	Bee products	Sole proprietorship		
Makueni	Ndambu Manzo	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	718959099
Makueni	Jane Ngina Mu	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	712007943
Makueni	Agnes Mutua	Chairman	Bee products	Cooperative/SHG	Over 20 yrs	721655278
Makueni	Mukunzu Mwa	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	
Makueni	John Mwanthi	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	729319993
Makueni	Julius Masia	Owner/director	Bee products	Sole proprietorship	Over 20 yrs	726129878
Makueni	Nthenya Muli	Owner/director	Fruit products	Sole proprietorship	11-20 years	720676717
Makueni	Nathaniel Mak	Owner/director	Fruit products	Sole proprietorship	6-10 years	729320317
Makueni	Agnes Munini	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	723932327
Makueni	Martha Matuku	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	714883011
Makueni	Dancan Mutie	Owner/director	Medicinal	Sole proprietorship	0-5 years	726780047
Makueni	Kasmona Herba	Owner/director	Medicinal	Sole proprietorship	6-10 years	712468323
Makueni	Toru Health C	Manager	Medicinal	Cooperative/SHG	11-20 years	721386961
Mombasa	Kipepeo Proje	Manager	Bee products	Partnership	Over 20 yrs	719671161
Mombasa	Honey Care Li	Owner/director	Bee products	Limited company	11-20 years	722590788
Mombasa	Kenya Nuts Co	Manager	Fruit products	Limited company	Over 20 yrs	721748915
Mombasa	Wondernut Ken	Manager	Fruit products	Limited company	11-20 years	412318932
Mombasa	Millennium Ma	Manager	Fruit products	Limited company	11-20 years	722983232
Mombasa	Dahman Green	Owner/director	Fruit products	Sole proprietorship	11-20 years	721253887
Mombasa	Ziwani Self H	Chairman	Fruit products	Partnership	11-20 years	720712114
Mombasa	Nasur Coconut	Manager	Fruit products	Sole proprietorship	11-20 years	724380761
Mombasa	Maina John	Owner/director	Fruit products	Sole proprietorship	6-10 years	710680781

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Mombasa	Peter Ndolo I	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	721399794
Mombasa	Salim Mango I	Owner/director	Fruit products	Sole proprietorship	6-10 years	700726383
Mombasa	Macharia Mang	Owner/director	Fruit products	Sole proprietorship	11-20 years	729223011
Mombasa	Games Muyoke	Owner/director	Fruit products	Sole proprietorship	11-20 years	728765752
Mombasa	Pari Investme	Manager	Fruit products	Partnership	11-20 years	712519052
Mombasa	Musyoka Mutua	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	
Mombasa	Danson Joshua	Chairman	Fruit products	Cooperative/SHG	6-10 years	713689137
Mombasa	Hidaya Rajabu	Owner/director	Fruit products	Sole proprietorship	11-20 years	700483094
Mombasa	Daniel Mukui	Owner/director	Fruit products	Sole proprietorship	Over 20 yrs	722768268
Mombasa	Barisa Baya	Owner/director	Fruit products	Sole proprietorship	11-20 years	7103835565
Mombasa	Karuku Enterp	Owner/director	Fruit products	Sole proprietorship	11-20 years	720655671
Mombasa	Wild Remedies	Owner/director	Medicinal	Sole proprietorship	11-20 years	727484526
Mombasa	Waqash Enterp	Owner/director	Medicinal	Limited company	6-10 years	722410942
Mombasa	Neem Tea Pack	Manager	Medicinal	Limited company	11-20 years	720708031
Mombasa	Great Lakes C	Owner/director	Medicinal	Limited company	11-20 years	735677777
Mombasa	Navida Natura	Manager	Medicinal	Limited company	6-10 years	738321038
Mombasa	Kentex Ltd	Manager	Medicinal	Limited company	11-20 years	722843743
Mombasa	Kenta Ltd	Manager	Medicinal	Limited company	11-20 years	722843743
Mombasa	Jailal Servic	Owner/director	Medicinal	Limited company	11-20 years	72224752
Mombasa	Matano Copra	Owner/director	Medicinal	Sole proprietorship	6-10 years	728704582
Mombasa	Honest Indust	Manager	Medicinal	Limited company	11-20 years	722382078
Mombasa	Harnest Indus	Manager	Medicinal	Limited company	11-20 years	722382078
Mombasa	G-Cline Limit	Owner/director	Medicinal	Limited company	11-20 years	720644655
Mombasa	Ngagi Enterpr	Owner/director	Medicinal	Sole proprietorship	6-10 years	714846206
Mombasa	Salim Nut Sel	Owner/director	Medicinal	Sole proprietorship	11-20 years	727842438
Mombasa	Nuru Mwkudha	Manager	Medicinal	Partnership	11-20 years	710841492
Mombasa	Grace Gitau	Owner/director	Medicinal	Sole proprietorship	11-20 years	726988781
Mombasa	Omar Hassan M	Owner/director	Medicinal	Sole proprietorship	6-10 years	710114374
Mombasa	Kariuki John	Owner/director	Medicinal	Sole proprietorship	0-5 years	7230446198
Mombasa	Kamau Mango	Owner/director	Medicinal	Sole proprietorship	11-20 years	729223011
Mombasa	Hussein Cocon	Owner/director	Medicinal	Sole proprietorship	11-20 years	722258240
Mombasa	Kazungu Fruit	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	723775258
Mombasa	Mama Riziki H	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	711973760
Mombasa	Lima Self Hel	Chairman	Medicinal	Partnership	11-20 years	725660113
Mombasa	Hinzano Herba	Owner/director	Medicinal	Sole proprietorship	Over 20 yrs	725403624
Mombasa	Tabu Kazungu	Owner/director	Medicinal	Sole proprietorship	6-10 years	702968458
Nairobi	Janester Ente	Manager	Bee products	Partnership	11-20 years	722382679
Nairobi	Back To Natur	Manager	Bee products	Partnership	11-20 years	722387136
Nairobi	Benflo Qualit	Owner/director	Bee products	Sole proprietorship	6-10 years	721239195
Nairobi	Care Africa	Owner/director	Bee products	Sole proprietorship	0-5 years	733470356
Nairobi	Innovative Fo	Manager	Bee products	Sole proprietorship	6-10 years	716635248
Nairobi	Rosana Horney	Chairman	Bee products	Partnership	11-20 years	716166000
Nairobi	Peak Performa	Manager	Bee products	Sole proprietorship	6-10 years	202051708
Nairobi	Liberty Garde	Manager	Bee products	Sole proprietorship	0-5 years	721929715
Nairobi	Octagon Ventur	Manager	Bee products	Limited company	6-10 years	720362084

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Nairobi	Biaco Foods	Other	Bee products	Limited company	6-10 years	722898548
Nairobi	Sarachan Food	Manager	Bee products	Cooperative/SHG	6-10 years	721784775
Nairobi	Natures Way H	Manager	Bee products	Limited company	Over 20 yrs	724980332
Nairobi	Homett Foods	Owner/director	Bee products	Sole proprietorship	6-10 years	722943343
Nairobi	Nutrofoods	Owner/director	Bee products	Partnership	0-5 years	721328960
Nairobi	Tropical Prod	Manager	Bee products	Limited company	11-20 years	720218576
Nairobi	Elizea Enterp	Owner/director	Bee products	Cooperative/SHG	6-10 years	727204244
Nairobi	Channel Star	Manager	Bee products	Limited company	11-20 years	722225901
Nairobi	Tolmlyne Prod	Owner/director	Bee products	Sole proprietorship	11-20 years	722405824
Nairobi	Joyanca Food	Manager	Bee products	Sole proprietorship	0-5 years	7226372253
Nairobi	Wegans Co.	Owner/director	Bee products	Sole proprietorship	0-5 years	724910253
Nairobi	Wall Street	Owner/director	Bee products	Sole proprietorship	0-5 years	714169276
Nairobi	Food Safety I	Manager	Bee products	Partnership	11-20 years	722402089
Nairobi	Vital Industr	Manager	Bee products	Limited company	11-20 years	722709041
Nairobi	Newtaf Fine F	Owner/director	Bee products	Partnership	6-10 years	721555165
Nairobi	Mutash Food Products	Manager	Bee products	Sole proprietorship	0-5 years	7256484404
Nairobi	Wamuga Food Products	Owner/director	Bee products	Sole proprietorship	6-10 years	715244737
Nairobi	Mbuki Honey I	Manager	Bee products	Sole proprietorship	0-5 years	724745153
Nairobi	National Bee	Manager	Bee products	Cooperative/SHG	Over 20 yrs	202044797
Nairobi	Bengas Co.	Manager	Bee products	Limited company	Over 20 yrs	722310449
Nairobi	Makundi Enter	Owner/director	Bee products	Partnership	0-5 years	722385886
Nairobi	Royal Bee Kee	Manager	Bee products	Sole proprietorship	6-10 years	722443312
Nairobi	Twinriver Far	Owner/director	Bee products	Partnership	11-20 years	721239195
Nairobi	African Hope	Chairman	Bee products	Cooperative/SHG	0-5 years	713395770
Nairobi	Greenland Cer	Owner/director	Bee products	Partnership	0-5 years	722505517
Nairobi	Eunice	Manager	Fruit products	Sole proprietorship	0-5 years	
Nairobi	Nicholas Fruits	Owner/director	Fruit products	Sole proprietorship	0-5 years	713364737
Nairobi	Fresh Fruits	Owner/director	Fruit products	Sole proprietorship	0-5 years	731626803
Nairobi	Krumble Bakery	Manager	Fruit products	Sole proprietorship	6-10 years	728159541
Nairobi	Innscore (K)	Manager	Fruit products	Limited company	11-20 years	720993000
Nairobi	Kevian Ltd	Manager	Fruit products	Limited company	Over 20 yrs	723026084
Nairobi	Shalyns Cake	Owner/director	Fruit products	Sole proprietorship	0-5 years	734785992
Nairobi	Kell Mwanz Sn	Manager	Fruit products	Limited company	6-10 years	726671362
Nairobi	Savanna House	Manager	Fruit products	Limited company	11-20 years	722528354
Nairobi	Nzembi Fresh	Owner/director	Fruit products	Limited company	11-20 years	715073935
Nairobi	Oladall	Owner/director	Fruit products	Limited company	6-10 years	721474218
Nairobi	Mutuku & Sons	Owner/director	Fruit products	Sole proprietorship	0-5 years	725962428
Nairobi	Fatash Foods	Owner/director	Fruit products	Sole proprietorship	0-5 years	717909360
Nairobi	Frehna World	Owner/director	Fruit products	Partnership	0-5 years	720562158
Nairobi	Uzuri Food Lt	Owner/director	Fruit products	Cooperative/SHG	0-5 years	712843494
Nairobi	Supat Bakers	Manager	Fruit products	Partnership	0-5 years	721560380

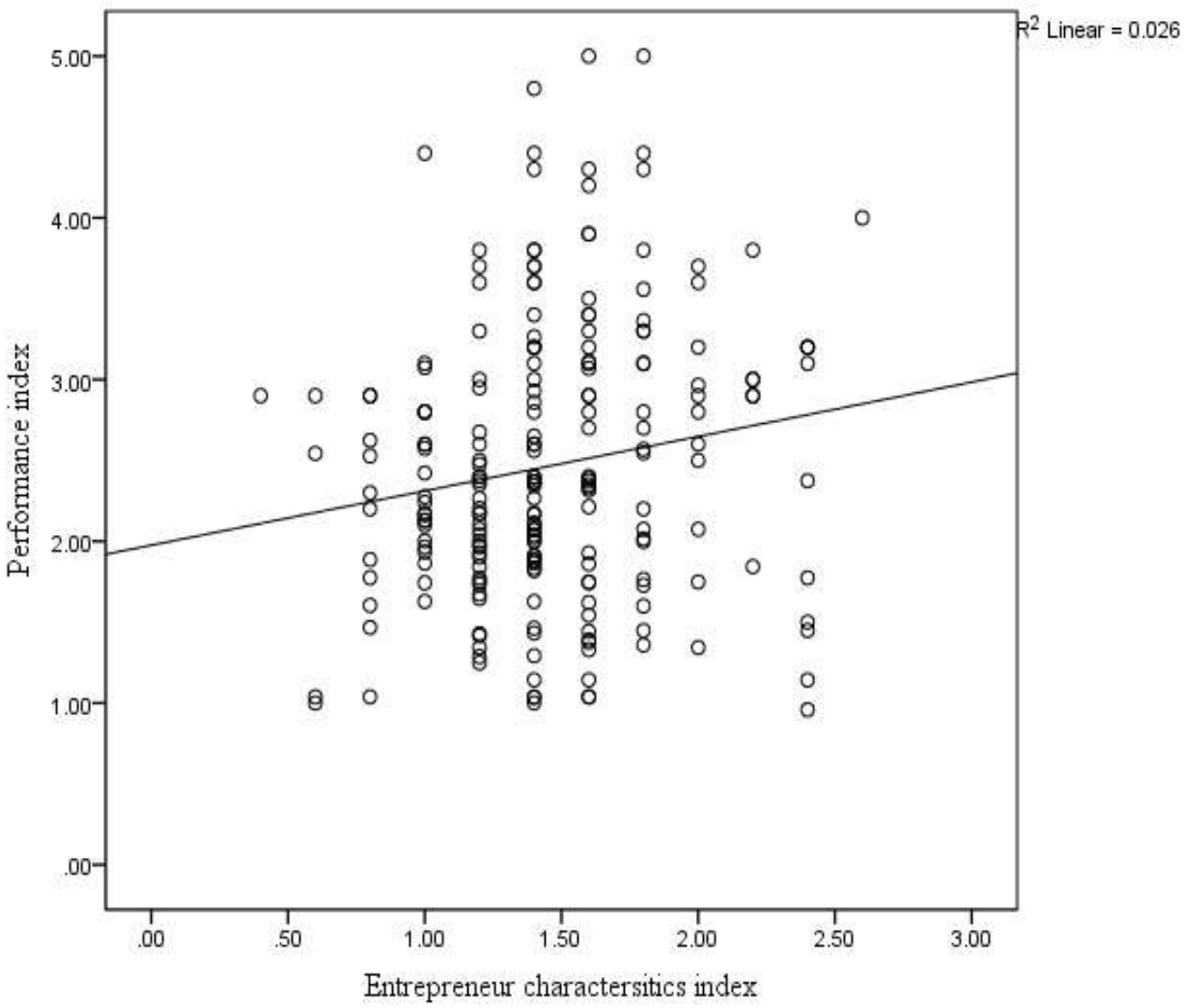
County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Nairobi	George	Manager	Fruit products	Sole proprietorship	6-10 years	728159541
Nairobi	New Ebenezer	Manager	Fruit products	Partnership	11-20 years	718750776
Nairobi	Agnes Mwangi	Owner/director	Fruit products	Sole proprietorship	0-5 years	720450271
Nairobi	Deepa Industries	Manager	Fruit products	Partnership	6-10 years	727967176
Nairobi	Sweet Gardens	Chairman	Fruit products	Sole proprietorship	0-5 years	727798867
Nairobi	J. T. Enterpr	Manager	Fruit products	Sole proprietorship	0-5 years	723456529
Nairobi	Gladys Fruitp	Owner/director	Fruit products	Sole proprietorship	11-20 years	723813495
Nairobi	Mama Njoki's	Owner/director	Fruit products	Sole proprietorship	11-20 years	722449671
Nairobi	Sammy Fruit S	Manager	Fruit products	Sole proprietorship	0-5 years	727667931
Nairobi	Julius Brothe	Owner/director	Fruit products	Sole proprietorship	11-20 years	717386170
Nairobi	Ebenezer Juice	Manager	Fruit products	Partnership	0-5 years	710431309
Nairobi	Matunda Green	Owner/director	Fruit products	Sole proprietorship	6-10 years	723701619
Nairobi	Nanjala Ltd C	Manager	Fruit products	Limited company	6-10 years	722238767
Nairobi	Californian C	Manager	Fruit products	Limited company	Over 20 yrs	721247757
Nairobi	Lily's	Chairman	Fruit products	Sole proprietorship	0-5 years	728536562
Nairobi	Inscor Kenya	Owner/director	Fruit products	Limited company	Over 20 yrs	720067511
Nairobi	Krumble Cake	Manager	Fruit products	Limited company	6-10 years	700329891
Nairobi	Fresh Fruits	Manager	Fruit products	Partnership	0-5 years	723194618
Nairobi	Kimzacks	Owner/director	Fruit products	Sole proprietorship	0-5 years	725009252
Nairobi	Mulaa Fruits	Manager	Fruit products	Sole proprietorship	6-10 years	727764232
Nairobi	Jazz Touch	Owner/director	Fruit products	Sole proprietorship	0-5 years	721937261
Nairobi	Bakers Byte	Other	Fruit products	Sole proprietorship	6-10 years	723628192
Nairobi	Nemuua Cereal	Chairman	Fruit products	Partnership	0-5 years	738740805
Nairobi	Cookies Mans	Owner/director	Fruit products	Partnership	11-20 years	723952142
Nairobi	Ben Enterprise	Owner/director	Fruit products	Partnership	0-5 years	705966509
Nairobi	Myks Fruit St	Owner/director	Fruit products	Sole proprietorship	6-10 years	720099171
Nairobi	Bobos	Manager	Fruit products	Partnership	0-5 years	700030001
Nairobi	Pamoja Superm	Manager	Fruit products	Sole proprietorship	11-20 years	724462206
Nairobi	Wholemeal Bak	Manager	Fruit products	Limited company	0-5 years	726924788
Nairobi	George Mwangi	Owner/director	Fruit products	Sole proprietorship	0-5 years	724912380
Nairobi	Confaire Food	Other	Fruit products	Sole proprietorship	0-5 years	726911841
Nairobi	Archies Consu	Owner/director	Fruit products	Sole proprietorship	0-5 years	725901248
Nairobi	Cansur Trader	Owner/director	Fruit products	Partnership	0-5 years	720424014
Nairobi	Anury Enterpr	Owner/director	Fruit products	Partnership	0-5 years	722996690
Nairobi	Mwangis Fruit	Owner/director	Fruit products	Sole proprietorship	11-20 years	721975967
Nairobi	Maliq Coz Ven	Manager	Fruit products	Sole proprietorship	0-5 years	700371140
Nairobi	Sarah Fruits	Owner/director	Fruit products	Sole proprietorship	0-5 years	720037544
Nairobi	Gertobert Ent	Manager	Fruit products	Partnership	6-10 years	722648132
Nairobi	Joseph's Fruits	Owner/director	Fruit products	Sole proprietorship	6-10 years	722418905
Nairobi	Beyond Fruits	Owner/director	Fruit products	Sole proprietorship	0-5 years	727426844
Nairobi	Stephene Fruits	Owner/director	Fruit products	Sole proprietorship	0-5 years	725297945
Nairobi	Amarus Foods	Owner/director	Fruit products	Sole proprietorship	0-5 years	725944978

County	Business Name	Job Title	Products	Legal Status	Firm Age	Telephone
Nairobi	Githurai Inn	Other	Fruit products	Sole proprietorship	6-10 years	729746241
Nairobi	Umoja Fresh J	Owner/director	Fruit products	Sole proprietorship	11-20 years	722759312
Nairobi	Tabitha Fruit	Owner/director	Fruit products	Sole proprietorship	0-5 years	723468600
Nairobi	International	Owner/director	Medicinal	Partnership	Over 20 yrs	726584677
Nairobi	Makini Herbal	Owner/director	Medicinal	Partnership	11-20 years	700711914
Nairobi	Menengai Bro	Manager	Medicinal	Partnership	6-10 years	715894616
Nairobi	Specialisties	Manager	Medicinal	Partnership	6-10 years	724546292
Nairobi	Kosilo Invest	Owner/director	Medicinal	Partnership	6-10 years	720107472
Nairobi	United Aloe H	Owner/director	Medicinal	Partnership	6-10 years	727145061
Nairobi	Glen Quioich	Manager	Medicinal	Partnership	6-10 years	729432784
Nairobi	Millennium Al	Chairman	Medicinal	Cooperative/SHG	6-10 years	700711914
Nairobi	Charag (K) Lt	Owner/director	Medicinal	Partnership	11-20 years	
Nairobi	Herbal Garden	Manager	Medicinal	Limited company	11-20 years	701821373
Nairobi	Mercuto Asali	Chairman	Medicinal	Sole proprietorship	0-5 years	733385968
Nairobi	Kates Organic	Owner/director	Medicinal	Limited company	0-5 years	705646581
Nairobi	Allspice	Manager	Medicinal	Partnership	0-5 years	715065259
Nairobi	Zamichemicals	Manager	Medicinal	Limited company	6-10 years	715789617
Nairobi	Kamili Packer	Chairman	Medicinal	Limited company	11-20 years	714264152
Nairobi	Balm Industries	Chairman	Medicinal	Limited company	11-20 years	718377400
Nairobi	Pick Performa	Manager	Medicinal	Partnership	0-5 years	202051708
Nairobi	Homes And Life	Owner/director	Others	Limited company	0-5 years	722609422
Nairobi	Primavara Pic	Other	Others	Sole proprietorship	11-20 years	722714275
Nairobi	Stop N Snack B	Manager	Others	Sole proprietorship	6-10 years	728277446
Nairobi	Supa Sam Snac	Owner/director	Others	Sole proprietorship	11-20 years	720840915
Nairobi	Equator Cereals	Manager	Others	Partnership	11-20 years	718465843
Nairobi	Jire Cake Shop	Manager	Others	Sole proprietorship	0-5 years	721805665
Nairobi	Lenas Confect	Manager	Others	Limited company	0-5 years	710253865
Nairobi	Angela Cereals	Owner/director	Others	Partnership	0-5 years	724450455

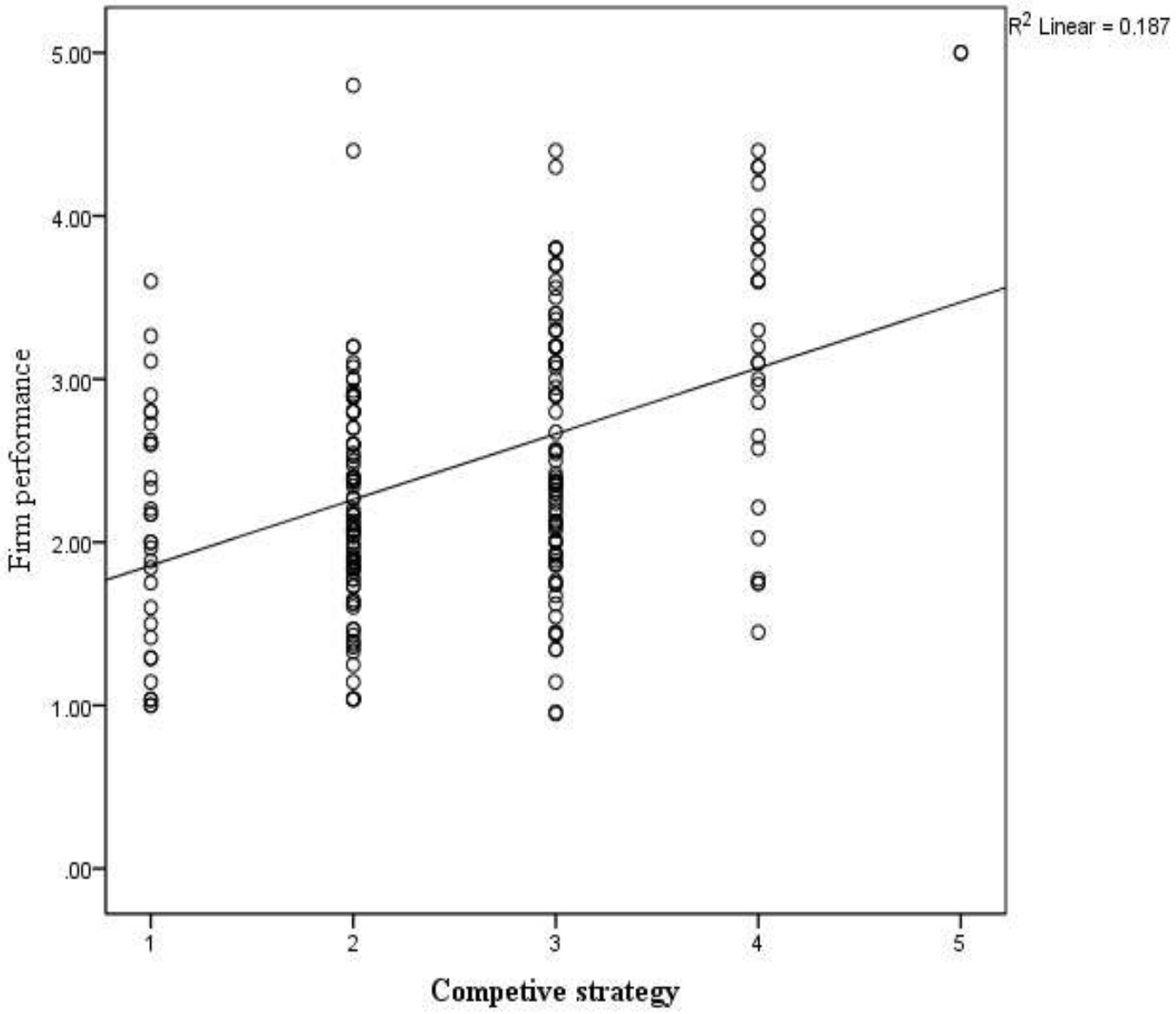
Table VIb: Summary of Entrepreneurs Interviewed

County	Managers	Others	Owners/chairmen	Owners/ Directors	TOTAL
Garissa	5			15	20
Kajiado					0
Kilifi	4	1	6	17	28
Kitui	4	1		14	19
Kwale		2	14	5	21
Machakos	1		3	4	8
Makueni	2		1	13	16
Mombasa	13		3	29	45
Nairobi	52	5	9	54	120
TOTAL	81(29%)	9(3%)	36(13%)	151(55%)	277(100%)

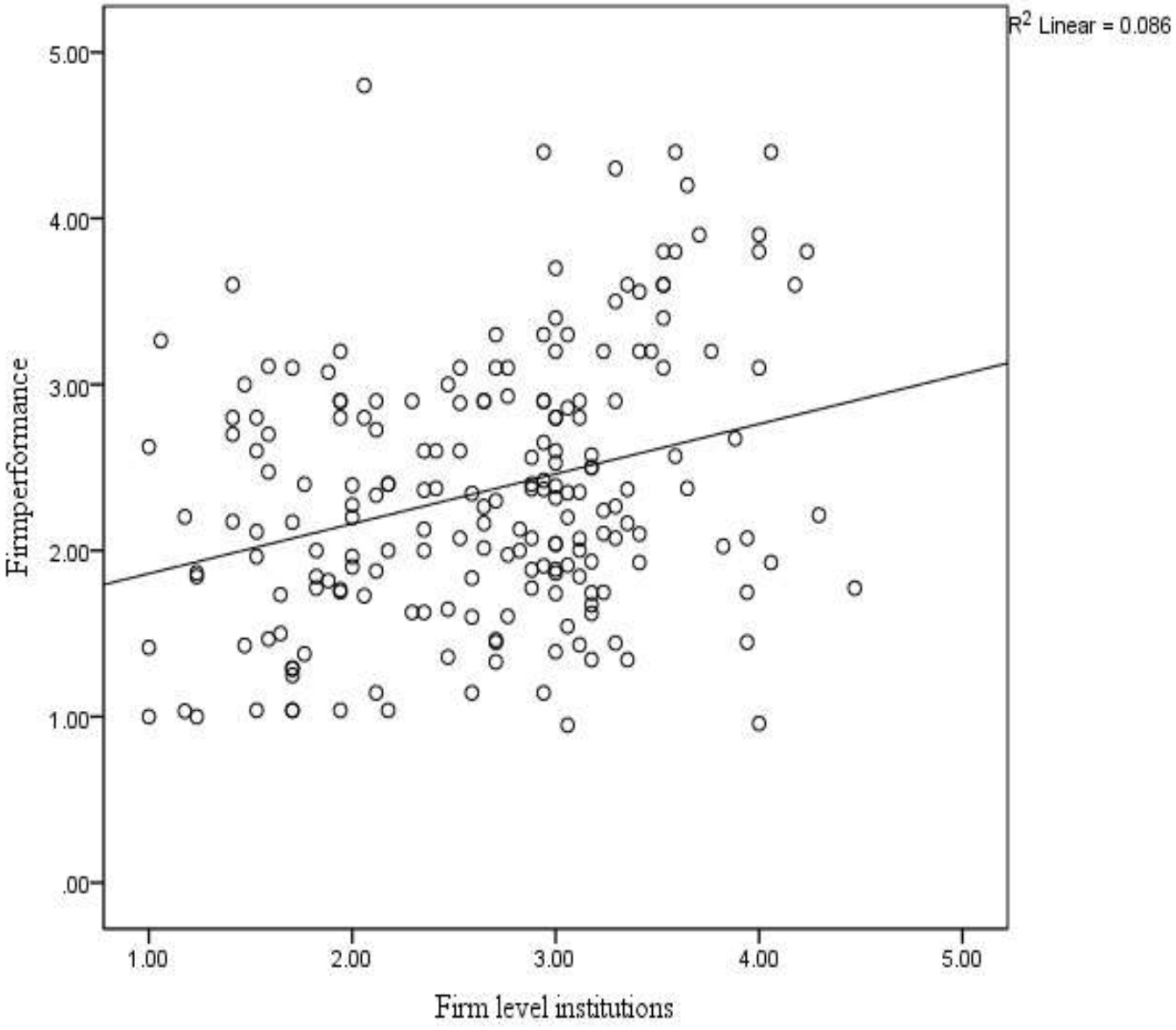
Appendix VII: Scatter Plots for Dependent and Independent Variables



Scatter Plot of Performance With Entrepreneur Characteristics

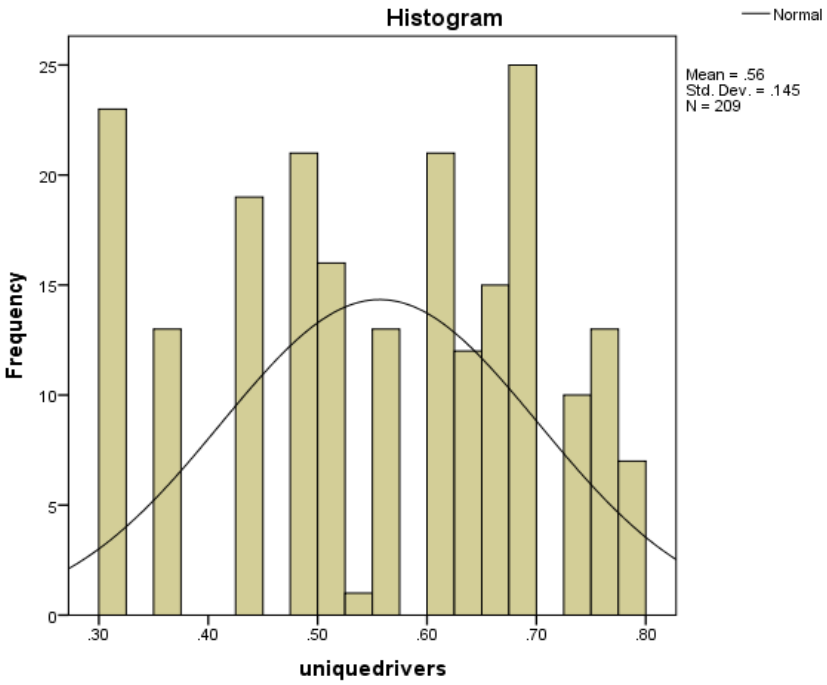


Scatter Plot of Performance With Competitive Strategy

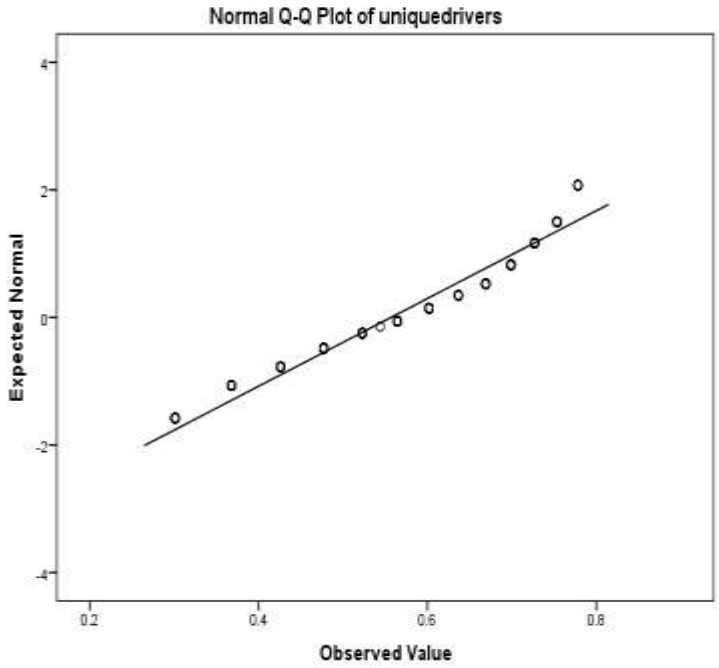


Scatter Plot of Performance With Firm Level Institutions

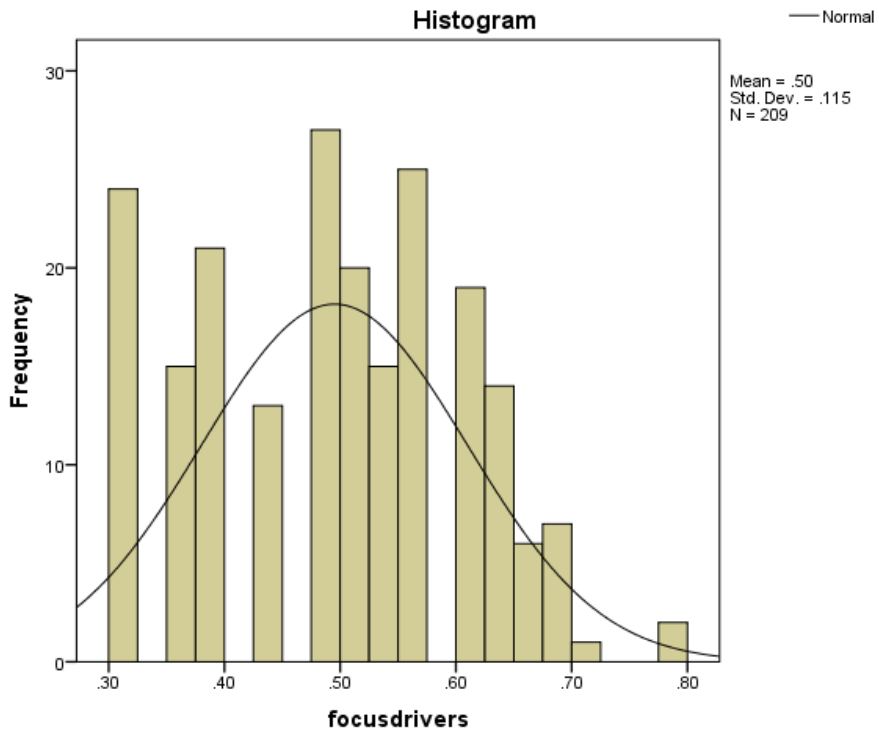
Appendix VIII: Normal Distribution Graphs for Study Dependent Variables



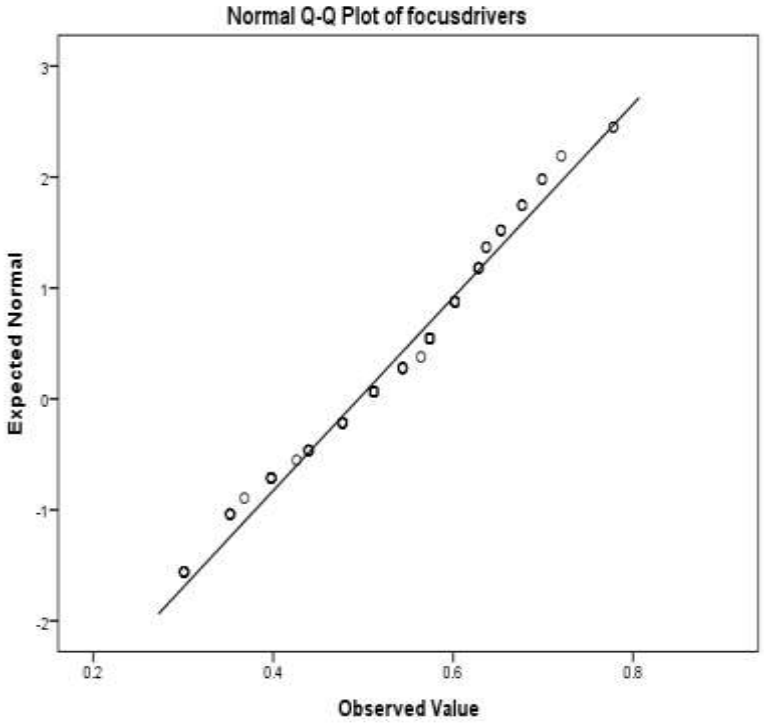
Normal Distribution Curve of Uniqueness Drivers



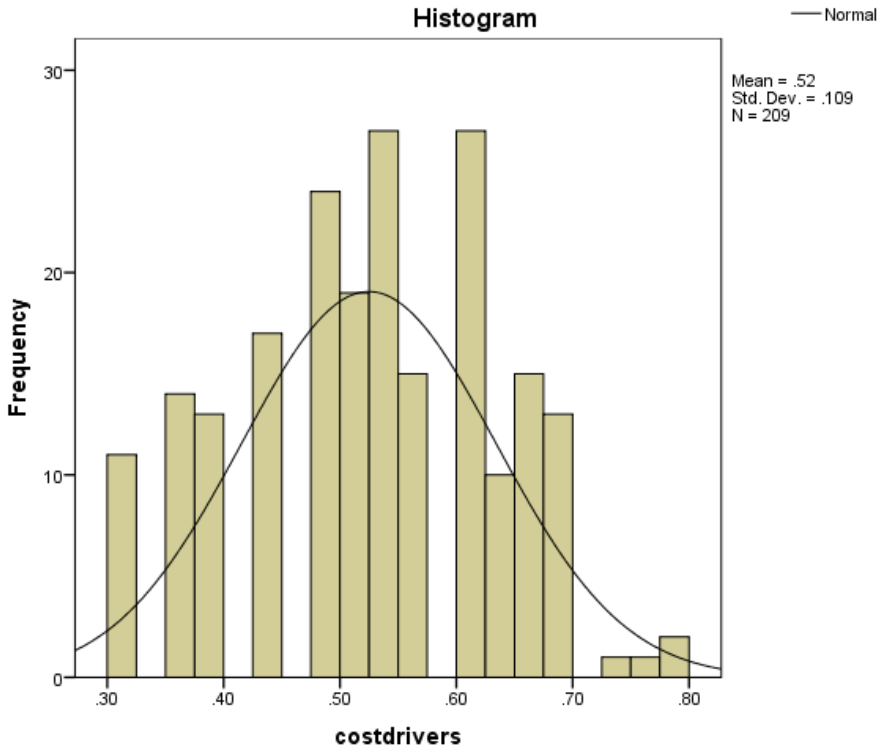
Normal Q-Q plot of Uniqueness Drivers



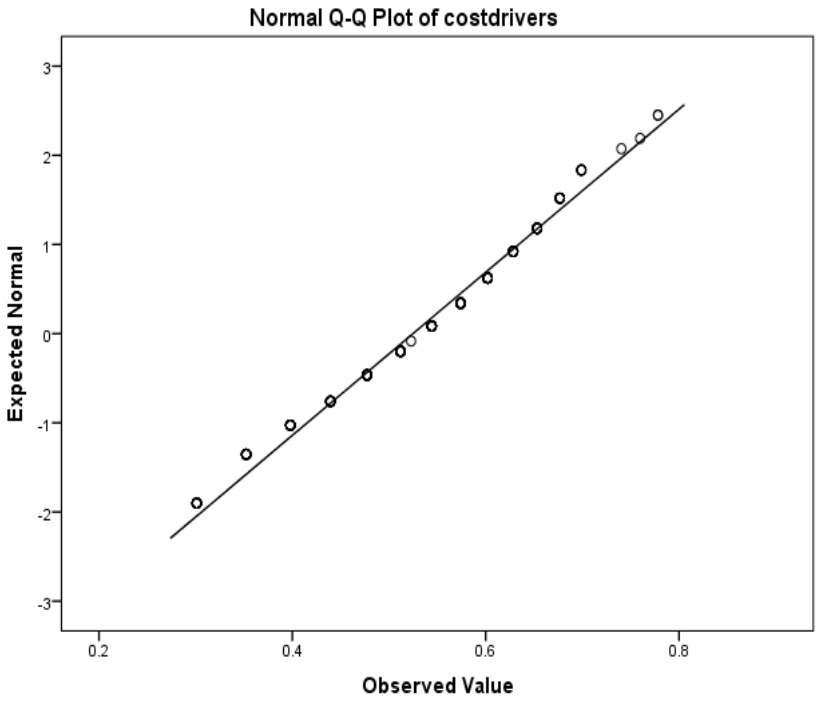
Normal Distribution Curve of Focus Drivers



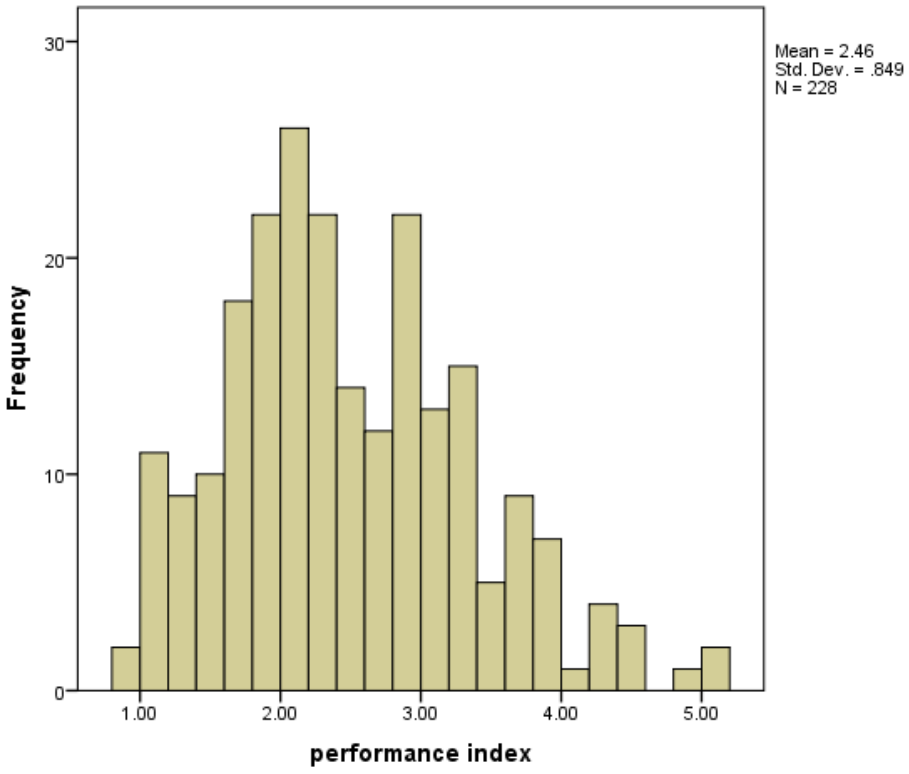
Normal Q-Q plot of Focus Drivers



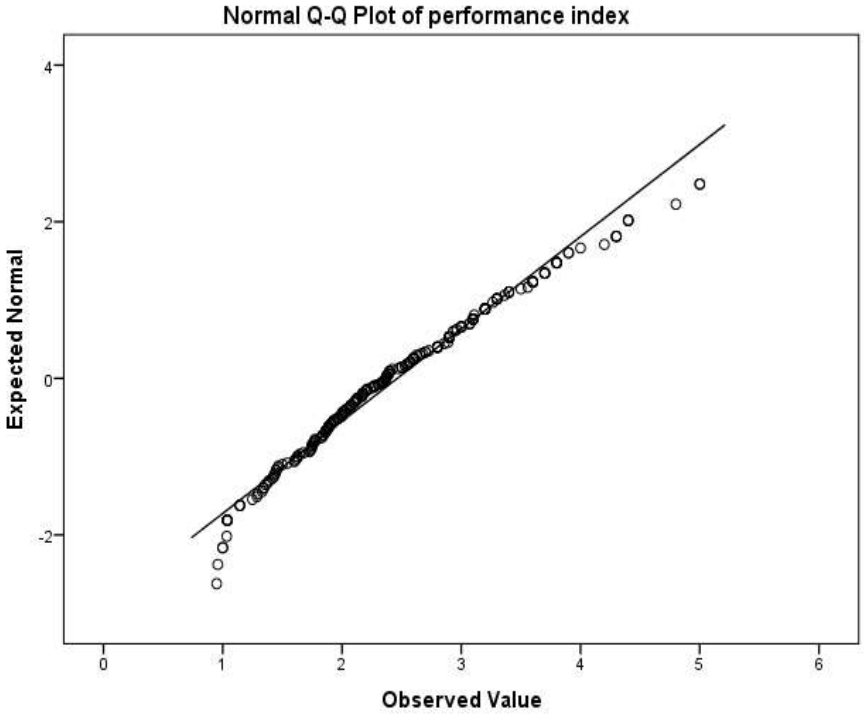
Normal Distribution Curve of Cost Drivers



Normal Q-Q plot of Cost Drivers



Normal Distribution Curve of Performance



Normal Q-Q Plot of Performance

Appendix IX: Correlation Matrix for Performance Metrics

Performance Metrics	Performance Index Final	Annual Sales Growth Rate	Annual Profit Growth Rate	Market Share	Efficiency	Client Satisfaction
Performance index	1.000	.612**	.627**	.514**	.436**	.440**
Annual sales growth rate	.612**	1.000	.461**	.193*	.199*	.141*
Annual profit growth rate	.627**	.461**	1.000	.223**	.154*	.140*
Market share	.514**	.193*	.223**	1.000	.726**	.418**
Efficiency	.436**	.199*	.154*	.726**	1.000	.445**
Client satisfaction	.440**	.141*	.140*	.418**	.445**	1.000

* Correlation is significant at the 0.05 level (1-tailed)

** Correlation is significant at the 0.01 level (1-tailed)

Appendix X: Regression of Entrepreneur Characteristics and Firm Performance

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	social skills, highest level of education, age, gender, managerial skills, industry experience	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.467[a]	.218	.196	.78889

a. Predictors: (Constant), social skills, highest level of education, age, gender, managerial skills, industry experience

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.663	6	6.110	9.818	.000[b]
	Residual	131.315	211	.622		
	Total	167.978	217			

a. Dependent Variable: performance index
b. Predictors: (Constant), social skills, highest level of education, age, gender, managerial skills, industry experience

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.813	.274		6.611	.000
	age	-.104	.050	-.142	-2.102	.037
	gender	.035	.114	.019	.311	.756
	highest level of education	.063	.071	.056	.886	.377
	managerial skills	.398	.113	.224	3.533	.001
	industry experience	.146	.061	.163	2.379	.018
	social skills	.535	.115	.296	4.666	.000

a. Dependent Variable: performance index

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
2	social skills, highest level of education, age, managerial skills, industry experience[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.469[a]	.220	.202	.78280

a. Predictors: (Constant), social skills, highest level of education, age, managerial skills, industry experience

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	37.226	5	7.445	12.150	.000[b]
	Residual	131.746	215	.613		
	Total	168.972	220			

a. Dependent Variable: performance index
b. Predictors: (Constant), social skills, highest level of education, age, managerial skills, industry experience

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	1.799	.266		6.755	.000
	age	-.094	.047	-.130	-1.991	.048
	highest level of education	.064	.069	.057	.931	.353
	managerial skills	.395	.111	.224	3.551	.000
	industry experience	.133	.059	.150	2.274	.024
	social skills	.549	.112	.307	4.893	.000

a. Dependent Variable: performance index

Appendix XI: Regression of Competitive Strategy and Firm Performance

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	cost drivers, focus drivers, uniqueness drivers[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560[a]	.313	.306	.65680

a. Predictors: (Constant), cost drivers, focus drivers, uniqueness drivers

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.776	3	17.259	40.008	.000[b]
	Residual	113.454	263	.431		
	Total	165.231	266			

a. Dependent Variable: performance index
b. Predictors: (Constant), cost drivers, focus drivers, uniqueness drivers

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.626	.129		4.831	.000
	uniqueness drivers	.104	.042	.166	2.457	.015
	focus drivers	.288	.059	.319	4.885	.000
	cost drivers	.145	.057	.172	2.540	.012

Appendix XII: Regression of Firm Institutions, Competitive Strategy and Performance

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	strategy index[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460[a]	.211	.208	.70130

a. Predictors: (Constant), strategy index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.898	1	34.898	70.956	.000[b]
	Residual	130.333	265	.492		
	Total	165.231	266			

a. Dependent Variable: performance index
b. Predictors: (Constant), strategy index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.235	.095		13.034	.000
	strategy index	.127	.015	.460	8.424	.000

a. Dependent Variable: performance index

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
2	institutions index, strategy index[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.459[a]	.211	.204	.63390

a. Predictors: (Constant), institutions index, strategy index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	24.551	2	12.276	30.549	.000[b]
	Residual	92.018	229	.402		
	Total	116.569	231			

a. Dependent Variable: performance index
b. Predictors: (Constant), institutions index, strategy index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	.953	.146		6.521	.000
	strategy index	.072	.019	.285	3.794	.000
	institutions index	.202	.068	.223	2.967	.003

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
3	product of strategy and institutions, strategy index, institutions index[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.482[a]	.233	.222	.62640

a. Predictors: (Constant), product of strategy and institutions, strategy index, institutions index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
3	Regression	27.106	3	9.035	23.027	.000[b]
	Residual	89.463	228	.392		
	Total	116.569	231			

a. Dependent Variable: performance index
b. Predictors: (Constant), product of strategy and institutions, strategy index, institutions index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	1.281	.193		6.624	.000
	strategy index	.044	.022	.177	2.062	.040
	institutions index	.075	.084	.083	.893	.373
	product of strategy and institutions	.001	.000	.269	2.552	.011

a. Dependent Variable: performance index

Appendix XIII: Regression of Joint Effect of Entrepreneur Characteristics and Competitive Strategy on Performance

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	ecfinal[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.276[a]	.131	.127	.85792

a. Predictors: (Constant), entrepreneur characteristics index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.225	1	5.225	7.100	.008[b]
	Residual	163.397	222	.736		
	Total	168.622	223			

a. Dependent Variable: performance index
b. Predictors: (Constant), entrepreneur characteristics index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.894	.210		9.025	.000
	entrepreneur characteristics index	.371	.139	.176	2.665	.008

a. Dependent Variable: performance index

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
2	strategy index[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.492[a]	.242	.239	.75239

a. Predictors: (Constant), strategy index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	41.405	1	41.405	73.142	.000[b]
	Residual	129.636	229	.566		
	Total	171.041	230			

a. Dependent Variable: performance index
c. Predictors: (Constant), strategy index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	1.193	.153		7.773	.000
	strategy index	.168	.020	.492	8.552	.000

a. Dependent Variable: performance index

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
3	entrepreneur characteristics index strategy index[b]	.	Enter

a. Dependent Variable: performance index
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.517[a]	.267	.261	.74433

a. Predictors: (Constant), entrepreneur characteristics index, strategy index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
3	Regression	44.302	2	22.151	39.981	.000[b]
	Residual	121.332	219	.554		
	Total	165.634	221			

a. Dependent Variable: performance index
b. Predictors: (Constant), entrepreneur characteristics index, strategy index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	1.168	.203		5.750	.000
	strategy index	.180	.021	.526	8.442	.000
	entrepreneur characteristics index	-.054	.131	-.026	-.414	.679

a. Dependent Variable: performance index