

**ENTREPRENEURIAL ORIENTATION, MARKET ORIENTATION AND FIRM  
PERFORMANCE OF AGRO PROCESSING SMALL AND MEDIUM  
ENTERPRISES IN KENYA**

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Agro Processing Small and Medium Enterprises in Kenya**

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**DECLARATION**

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

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## **DEDICATION**

To my husband Samuel Kinuthia, our sons Andrew and Joshua, and our daughter Channah

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## ACRONYMS & ABBREVIATIONS

<b>EO</b>	Entrepreneurial Orientation
<b>FAO</b>	Food and Agriculture Organization
<b>FP</b>	Firm Performance
<b>IN</b>	Innovativeness
<b>KAM</b>	Kenya Association of Manufacturers
<b>KES</b>	Kenya Shillings
<b>KMO</b>	Kaiser – Meyer- Olkin
<b>MO</b>	Market Orientation
<b>PR</b>	Proactiveness
<b>R</b>	Risk taking
<b>ROA</b>	Return on Assets
<b>ROK</b>	Republic of Kenya
<b>RBV</b>	Resource Based View
<b>SEM-PLS</b>	Structural Equation Modeling – Partial Least Squares
<b>SMEs</b>	Small and Medium Enterprises
<b>SPSS</b>	Statistical Package of Social Sciences



**UK** United Kingdom

**VIF** Variance Inflation Factor

## DEFINITION OF TERMS

**Agro Processing Industry** Food and Agriculture Organization (2008) defines agro processing as the processing, preservation and preparation of agricultural products for intermediate and final consumption.

**Firm Performance** Firm performance refers to organizational effectiveness in terms of its financial and operational performance that relates to efficiency, growth and profitability (Murphy, Trailer & Hill, 1996). Firm performance refers to profitability, growth and employee turnover (Zainol & Ayadurai, 2011).

**Entrepreneurial Orientation** Entrepreneurial orientation refers to the processes, practices, methods, operating philosophy, and decision-making styles that top-level executives use in their efforts to manage entrepreneurially (Stevenson & Jarillo, 1990). Entrepreneurial orientation refers to a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive towards competitors and proactive relative to marketplace opportunities (Lumpkin & Dess, 1996).

**Innovativeness** Innovativeness is defined as firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services or technological processes, as well as the pursuit of creative, unusual, or new solutions to problems and needs (Lumpkin & Dess, 1996).

**Market Orientation** Market orientation is defined as the firm's culture that most effectively and efficiently creates the necessary behavior for the creation of superior value for customers and creates continuous superior performance for the business (Narver & Slater, 1990).

**Proactiveness** Proactiveness refers to attempts to prepare for the future by seeking new opportunities which may or may not be related to the present line of operations which enable introduction of new products and brands ahead of competition (Okpara, 2009).

**Risk taking** Risk taking refers to the firm's willingness to devote increased resources to projects whose outcome is difficult to predict, to break away from the tried-and-true path and to venture into unknown territory (Wiklund & Shepherd 2003).

**Small and Medium Enterprises** The European Commission (2013) defines small enterprises as those with fewer than 50 employees and a turnover not exceeding USD 10 million while medium enterprises are those with fewer than 250 employees and a turnover not exceeding USD 50 million.

## ABSTRACT

The general objective of the study was to establish the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of agro processing small and medium enterprises in Kenya. The specific objectives of the study sought to establish the influence of proactiveness, risk taking, innovation and entrepreneurial orientation on firm performance. Furthermore, the study sought to investigate the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance. The study was anchored on epistemology philosophy, positivism approach. The study used a qualitative and quantitative exploratory research design. The study used a census approach. The target population was 111 agro processing SMEs registered by Kenya Association of Manufacturers and the respondents were owner/managers of these enterprises. A self-administered, semi structured questionnaire was used to collect primary data. The questionnaire was tested for validity and reliability. Data was analyzed using qualitative and quantitative techniques with the assistance of IBM Statistical Package of Social Sciences (SPSS), Ms-Excel and SmartPLS Version 2.0. Data analysis was conducted in two phases, that is, measurement, outer model estimation and structural, inner model estimation. Structural equation modeling - partial least squares (SEM-PLS) was used to test the developed hypotheses using SmartPLS Version 2.0. The linear relationship between the independent and dependent variable was determined using Pearson product-moment correlation coefficient. The mediated effect of market orientation was tested using bootstrapping and the Sobel test using SmartPLS software. The study findings found out that proactiveness and risk taking had a positive and significant relationship with firm performance while innovativeness had a negative and significant relationship with firm performance. Nevertheless, it is their combined influence, Entrepreneurial orientation, which leads to greatest impact on firm performance. The results also showed that market orientation does not have a significant relationship with firm performance and that it is not a critical fit in the relationship between entrepreneurial orientation and firm performance. The study recommends that owner/managers of agro processing SMEs should encourage proactiveness and risk taking behaviour as it leads to superior firm performance while entrepreneurial orientation should be engrained in the strategic planning process. Owner/managers should also identify innovativeness types adopted by its workets that have a positive impact on firm performance Finally, the study recommends that further analysis should investigate the moderating influence of market orientation under the contingency theory research to better understand its influence on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs amongst other recommendations.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter discussed the background of the study, the statement of the problem, the general and specific objectives, research hypotheses, the justification, scope and limitations of the study.

##### **1.1.1 Background of the Study**

In many developing economies, small and medium enterprises constitute the bulk of industrial base (Kormawa, Wohlmuth & Devlin, 2011). With their backward and forward linkages, these firms produce significant multiplier effects, in terms of employment generation, value addition, food security and rural non-firm income through their continued involvement in the agro processing industry (Da Silva, Baker, Shepherd, Jenane & Miranda da Cruz, 2009). Today's business environment characterized by global competition, market liberalization and rapid technological requires agro processing small and medium enterprises (SMEs) to be entrepreneurial if they are to survive, grow or have superior performance (Fairoz, Hirobumi & Tanaka, 2010). Moreover, Lumpkin and Dess (1996) suggest that entrepreneurship carried out in pursuit of venture opportunities leads to new entry, business growth, technological progress and wealth creation. As such, entrepreneurship is an essential feature of high performing agro processing SMEs (Kropp, Lindsay & Shoham, 2006; Wang, 2008).

Scholars in strategic management and entrepreneurship emphasize on the processes, methods, practices and decision-making styles that make owner/managers to act entrepreneurially (Covin & Slevin, 1988; Miller & Friesen, 1978; Venkatraman, 1989).

Lumpkin and Dess (1996) advance that that entrepreneurial behavior is supported by five processes within the organization, which they call entrepreneurial orientation. Entrepreneurial orientation refers to a firm-level strategy that firms use to enact their organizational purpose, sustain their vision and create competitive advantage (Wiklund & Shepherd, 2003). Entrepreneurial orientation consists of autonomy, innovativeness, risk taking, proactiveness and competitiveness aggressiveness (Miller, 1983; Stevenson & Jarillo, 1990). The five dimensions of entrepreneurial orientation vary independently of each other in impact (Kreiser, Mariono & Weaver, 2002; Yoon, 2012; Yang, 2008). Consequently, different combinations of the dimensions may be appropriate depending on the context (Lumpkin & Dess, 2005; Hughes & Morgan, 2007). Covin, Green and Slevin (2006), however, argue that it is the combined influence of these dimensions of entrepreneurial orientation that make an organization entrepreneurial.

Research reveals that entrepreneurial orientation is a significant factor for a firm's organizational success (Wang, 2008; Rauch, Wiklund, Lumpkin & Frese, 2009). Entrepreneurial orientation leads to higher profits, higher sales, growth in market share and increased customer satisfaction of SMEs (Keh, Nguyen & Ng, 2007; Baba & Elumalai, 2011; Idar & Mahmood, 2011). Firms that adopt a strong entrepreneurial orientation complete and perform more effectively than their competitors (Zahra & Covin, 1995; Al-Swidi & Al-Hosam, 2012). A study by Wiklund (1999) suggests that the positive relationship between entrepreneurial orientation and firm performance of SMEs firms increases over time. The effect of entrepreneurial orientation on firm performance, however, is complex and dependent on a fit between entrepreneurial orientation and such factors as environment, structure and strategy (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Covin, Green & Slevin, 2006; Yang, 2008; Yucel, 2011). There is also evidence that the relationship between entrepreneurial orientation and firm performance is affected by the market thus establishing the need for firms to embrace market orientation (Baker & Sinkula, 2002; Todorovic & Ma, 2008).

### **1.1.2 Global perspective of Agro processing industry**

Defined as a component of the manufacturing sector where value is added to agricultural raw materials through processing and handling operations, the agro processing industry has a high multiplier effect in terms of job creation, overall turnover, regional industrial performance and value addition (Da silva, Baker, Shepherd, Jenane & Miranda da Cruz, 2009). In developed economies, the agro processing industry employs about 34% more workers per unit of value added output. The industry is the leading employer within the European Union with 13% of employment in manufacturing while in the United States of America; it is the most important sector with 9 per cent of the total manufacturing employment (Kormawa, Wohlmuth & Devlin, 2011). In developing countries, the agro processing industry plays a strategic role in pro-poor growth strategies, particularly in the Africa continent where 75% of the poor live in rural areas (United Nations Industrial Development Organization, 2005).

The importance of agro processing industry for employment in developing economies is further underscored by high and increasing levels of female involvement and the sustainable earnings from rural non-farm employment. For example, in the Dominican Republic, Chile and Nigeria, there is a high and increasing level of female involvement especially in non-traditional, high value agro chains while non-farm earnings from the agro processing industry account for 30 to 45% of the rural household income (Wilkinson & Rocha, 2009). The agro processing industry in formal markets is typically dominated by global multinational and large scale processing companies while developing countries are dominated by agro processing SMEs (FAO, 2008). Additionally, agro processing SMEs contribute significantly to value added creation and maximize the efficiency of the resource allocation and distribution by mobilizing and utilizing local human and material resources (Cunningham & Rowley, 2007).

### **1.1.3 Agro Processing Industry in Kenya**

Kenya is a largely agricultural based economy, with 70 per cent of its population living in rural areas and 75 per cent of this rural population deriving its livelihood from agriculture (Kormawa Wohlmuth & Devlin, 2011). As the dominant economic activity, agriculture is the main source of the country's economic growth, employment generation, food security and a stimulus to the generation of off-farm employment (Republic of Kenya, 2011). It is also a major source of raw materials for the manufacturing sector with 33 per cent of the manufacturing sector output derived from agricultural output (Onjala, 2010). Vision 2030 recognizes the mutually reinforcing relationship between agriculture and industry and envisages that the development of the agro processing industry will contribute to less vulnerability of production, generate important employment and reduce poverty (Republic of Kenya, 2007). The policy framework focuses on strengthening local production capacity of agro processing firms so as to raise the share of their products in regional markets (ROK, 2007).

The agro processing industry in Kenya has the largest number of formally registered manufacturing enterprises. The industries contribute to the country's manufacturing value added accounting for 70 percent of the total and employment in rural and peri urban areas (ROK, 2008, Atieno, 2005). In the period 2009 – 2012, the agro processing industry contributed on average 3% to Gross Domestic Product (GDP). Furthermore, the agro processing industry created 89,499 out of 270,249 jobs in the manufacturing industry in 2011 and 89,991 out of 271,026 jobs in 2012 which is about 33% of the total workforce in the manufacturing industry (Kenya National Bureau of Statistics, 2013).

### **1.2 Statement of the Problem**

In the period 2009 – 2012, agro processing industries in Kenya experienced low manufacturing productivity and reduced employment growth, approximately 2 per cent (KNBS, 2012). The average growth rate also remained stagnant at 3 to 4 per cent



(KNBS, 2013). A growth rate of 3% to 4% is very low given that the Kenya Vision 2030 envisages that the agro processing industry will grow at a rate of 10 percent annually (Republic of Kenya, 2008). If allowed to continue, the low firm performance of agro processing industries will lead to dominance by primary agro-based commodities, thereby increasing the country's vulnerability to international market price fluctuations (Onjala, 2010). Consequently, it will lead to low incomes of those employed in industry with correspondingly low standards of living. This threatens the long term survival of these industries leading to closure despite the fact that the raw agricultural products are readily available in Kenya (Kormawa, Wohlmuth & Devlin, 2011).

Research on the agro processing industry in Kenya has attributed the low firm performance of agro processing SMEs to limited technological capacity, limited product diversification, lack of flourishing entrepreneurship activities, inefficient use of existing knowledge and a mismatch between technical skills and market demands (ROK, 2008). Empirical studies reveal that entrepreneurial orientation leads to successful entrepreneurial outcomes of SMEs (Idar & Mahmood, 2011; Awang, Ahmad, ASGHAR, Subari & Kassim, 2011). Research on the entrepreneurial orientation in Kenya, however, has not been exhaustively examined (Otieno, Bwisa & Kihoro, 2012; Osoro, Mukulu & Sakwa, 2011). The least investigated aspect of firm-level entrepreneurship is the influence of entrepreneurial orientation dimensions on firm performance of agro processing SMEs and the influence of market orientation as a mediating fit between entrepreneurial orientation and firm performance relationship, which constitutes the problem in this study. The purpose of the study therefore was to investigate the mediating influence of market orientation in the relationship between entrepreneurial orientation and firm performance.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

The general objective of the study was to establish the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

#### **1.3.2 Specific Objectives**

The following specific objectives of the study were as follows:-

1. To establish the influence of proactiveness on the firm performance of agro processing SMEs in Kenya.
2. To determine the influence of risk taking on the firm performance of agro processing SMEs in Kenya.
3. To establish the influence of innovativeness on the firm performance of agro processing SMEs in Kenya.
4. To investigate the extent to which entrepreneurial orientation influences the firm performance of agro processing SMEs in Kenya.
5. To determine the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

### **1.4 Research Hypotheses**

The following null hypotheses guided the study:-

Ho<sub>1</sub>: There is no relationship between proactiveness and the firm performance of agro processing SMEs in Kenya.

Ho<sub>2</sub>: There is no relationship between risk taking and firm performance of agro processing SMEs in Kenya.

Ho<sub>3</sub>: There is no relationship between innovativeness and firm performance of agro processing SMEs in Kenya.

Ho<sub>4</sub>: There is no significant relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

Ho<sub>5a</sub>: There is no relationship between market orientation and firm performance of agro processing SMEs in Kenya.

Ho<sub>5b</sub>: The relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya is not mediated by market orientation.

### **1.5 Justification of the Study**

The agro processing industry in Kenya is a crucial social economic development agent (Wilkinson & Rocha, 2009). The agro processing industry comprised mainly of small and medium enterprises (SMEs) has the potential to create jobs, attract foreign direct investment and contribute to overall turnover and value addition of developing countries thus accomplishing the overall goals of Vision 2030 (ROK, 2008). Promoting agro processing SME in Kenya is therefore one of the best strategies for achieving national development and competitiveness (Kazam & Van der Haijden, 2006). There is need to increase the entrepreneurial orientation of agro processing SMEs in view of the Master plan study for Kenya Industrial Development Fund report which revealed that agro processing SMEs in Kenya do not run flourishing entrepreneurial activities (ROK, 2008). A study by Awang, Ahmad, Asghar and Subari (2011) confirmed that that entrepreneurial orientation leads to successful entrepreneurial outcomes of agro based SMEs in Malaysia. Thus, the study findings will provide a model for increasing the potential of sustainable growth and profitability for agro processing SMEs in Kenya.

### **1.6 Significance of the Study**

The study findings will provide insight on influence of entrepreneurial orientation dimensions on firm performance of agro processing SMEs and mediating influence of market orientation on the EO-firm performance relationship. The findings will add to the body of existing knowledge on entrepreneurial orientation and market orientation and firm performance. The study findings will form the basis for future academic research, model and theory development and testing on entrepreneurial orientation, market orientation and firm performance of agro processing SMEs. The findings will provide timely information and a model to enable owner/managers of agro processing SME and the Kenya Association of Manufacturers to identify market and entrepreneurial orientation dimensions that enhance firm performance. The study findings will assist the Government of Kenya in formulating policies, strategies and actions that enhance entrepreneurial orientation and market orientation of agro processing SMEs.

### **1.7 Scope of the Study**

The scope of the study was governed by the research objectives and hypotheses. To test the hypotheses of the study, structural equation modeling partial least squares was used for model analysis and hypothesis testing and therein the resultant t-statistics were observed to ascertain the significance of the relationships. Bootstrapping and the Sobel test were used to determine the strength and significance of the mediation. To narrow the scope of the study, the study focused on 111 agro processing SMEs registered by Kenya Association of Manufacturer operating within Nairobi or within a 50km radius of Nairobi Metropolitan namely Kiambu, Ruiru, Limuru, Athi River and Thika with fewer than 250 employees and a turnover not exceeding USD 50 million as defined by the European Commission (2013).

### **1.8 Limitations of the Study**

In this study, SMEs were defined as enterprises that had between 0 and 250 employees and an estimated annual turnover not exceeding USD 50 million (European Commission, 2005). A close scrutiny of the list obtained from Kenya Association of Manufacturers revealed that 51 enterprises were multinationals or large firms with more than 250 employees. Accordingly, these enterprises were removed from the list leaving 111 agro processing SMEs that met the objectives and the definition of SMEs of the study. Empirical studies advance that small sample may affect the generalization of the study findings (Al-Swidi & Al-Hosam, 2012). To mitigate against the effect of small sample of study respondents this study carried out the bootstrapping procedure using SmartPLS version 2.0.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter reviewed the theoretical and empirical literature on entrepreneurial orientation dimensions, market orientation and firm performance. It covered conceptual framework, the critique of the existing literature, summary of the literature and research gaps.

##### 2.1.1 Entrepreneurial Orientation Theory

Entrepreneurial orientation has emerged as a key success factor for SMEs (Baba & Elumalai, 2011; Patel & D' Souza, 2012). Morris and Kuratko (2002) suggest that the increased interest in corporate entrepreneurship is as a result of globalization. Entrepreneurial orientation (EO) is conceptualized as a firm level strategy making process that firms use to enact their organizational purpose, sustain their vision and create competitive advantage (Wiklund & Shepherd, 2003). Thus, it is closely related to strategic management and strategic decision making processes (Covin & Slevin, 1991). It captures organizational processes, practices, methods, and decision-making styles that owners/managers use to act entrepreneurially (Lumpkin & Dess, 1996; Naldi, Nordqvist, Sjoberg & Wiklund, 2007).

Miller (1983) was among the first to move beyond the individual-level analysis to the firm level of entrepreneurship. He suggested that entrepreneurship in a firm is associated with renewal of the organization and encompasses product innovation, proactiveness, and risk taking. Thereafter, Covin and Slevin (1991) viewed entrepreneurship as extending the firm's competence through developing resources that allow exploitation of opportunities. The authors proposed three types of firm-level entrepreneurial behaviors, which they called entrepreneurial posture, that is, top management risk taking with regard to investment decisions and strategic actions in the

face of uncertainty; the extensiveness and frequency of product innovation and the related tendency toward technological leadership; and the pioneering nature of the firm as evident in the firm's propensity to aggressively and proactively compete with industry rivals (Covin & Slevin, 1991). Firms that were high on entrepreneurial posture were considered highly entrepreneurial (Vora, Vora & Polley, 2012). Lumpkin and Dess (1996) followed a similar approach in terms of characteristics of entrepreneurial firms. They suggested that entrepreneurial behavior is supported by five processes within an organization, which they called entrepreneurial orientation. In their framework, entrepreneurial orientation consists of five factors namely autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness (Lumpkin & Dess, 1996).

Autonomy refers to the independent action by an individual or team aimed at bringing forth a vision and carrying it through to completion. Innovativeness refers to attempts to embrace creativity, experimentation, novelty, technological processes that results in the introduction of new products (Lyons, Lumpkin & Dess, 2001). Risk taking reflects a firm's readiness to commit resources in uncertain environments, exploring new segments and devoting increased resources to projects whose outcome is difficult to predict (Tajeddini, 2010). Proactiveness refers to the process of anticipating and acting on future needs by seeking new opportunities, introduction of new products and brands ahead of competition, strategically eliminating operations which are in the mature or declining stages of the life cycle (Lumpkin & Dess, 2001). Competitive aggressiveness is characterized by a combative attitude or aggressive response, which seeks a better positioning in the market or defeat threats (Boohene, Marfo-Yiadom & Yeboah, 2012).

Dess and Lumpkin (2005) advanced that the five dimensions of entrepreneurial orientation vary independently with each other based on the environmental and organizational context. As such, all five dimensions of entrepreneurial orientation may not be necessary for a firm's success (Kreiser, Marion & Weaver, 2002; Hughes & Morgan, 2007). Research studies on the influence reveal that the dimensions of entrepreneurial orientation have unique, independent and that they contribute

independently in explaining firm performance. A study by Awang, Ahmad, Said Ashgar and Subari (2009) found out in a study on Malaysian Bumiputra SMEs that entrepreneurial orientation dimensions contributes independently in explaining the performance. Similarly, a study by Kreiser, Marino and Weaver (2002) found that high innovativeness shows positive relationship with sales growth, while pro-activeness is positively related to sales level, sales growth and gross profit. Ghazil and Rejab (2012) found out that proactiveness and innovativeness were weakly positively related to employment growth, innovativeness was positively related to turnover growth while proactiveness was negatively related to profits.

Nevertheless, Covin, Green and Slevin (2006) suggest that it is the combined influence of entrepreneurial orientation dimensions that makes an organization entrepreneurial. Likewise, a study by Covin and Slevin (1989) argues that entrepreneurial orientation dimensions act together by constituting a basic, uni-dimensional strategic orientation. Thus, owner/managers of agro processing SME firms must ensure that all elements of entrepreneurial orientation that is, innovation, proactivenesss, risk taking, competitive aggressiveness and autonomy are practiced in their organization (Wiklund & Shepherd, 2005). A study by Boohene, Marfo-Yiadom and Yeboah (2012) found that when entrepreneurial orientation dimensions are regressed on firm performance, there is a significant improvement on firm performance. Similarly, Otieno, Bwisa and Kihoro (2012) found out that manufacturing firms that adopt entrepreneurial orientation enhance firm performance in terms of sales, profits and employment.

### **2.1.2 Market Orientation Theory**

Market orientation refers to the persistent search for market opportunities and the development of congruent response strategies that enable firms to optimize their performance (Gonzalez-Benito, Gonzalez-Benito, & Mun~oz-Gallego, 2009). Mai, Kim, Heo and Jan (2012) argue that market orientation focuses on customers, their current and future needs and their satisfaction levels. It captures the ability of firms to



anticipate, address and capitalizes on market changes in customer needs (Desphande, Farley & Webster, 1993). Thus, firms with high market orientation are likely to have good customer relations and superior customer value (Zahra, 2008).

Market orientation (MO) has been widely conceptualized from a cultural and behavioral perspective. Behaviourally, market orientation concentrates on organizational activities that are related to the generation and dissemination of market intelligence, dissemination and actions taken to respond to the market (Kohli & Jaworski, 1990). The cultural approach presented by Narver and Slater (1990) theorizes market orientation as an organizational culture that most effectively and efficiently creates the necessary behavior for the creation of superior value for customers. It focuses on organizational values, norms and beliefs that predict customer needs and preferences and emphasizes that the customer should be placed in the center of firm strategy and operations (Polat & Mutlu, 2012).

The cultural perspective of market orientation is made up of two decision criteria namely long term focus and profitability along with three essential dimensions namely customer orientation, competitor orientation and inter-functional coordination. Customer orientation denotes a set of beliefs that puts the customer's interest first. It suggests that firms should profit by providing customer satisfaction which requires a sufficient understanding of the customer (Johnson, Dibrell & Hansen, 2009). Competitor orientation requires firms to understand the strengths, weaknesses, capabilities and strategies of competitors and actively engage in information acquisition on existing and potential competitor (Narver & Slater, 1990; Grinstein, 2008) while inter-functional coordination entails the collective effort of different departments to create a greater value for the customers through coordination of decision making (Johnson, Dibrell & Hansen, 2009). In this study, market orientation is examined from a cultural approach.

### **2.1.3 Firm Performance Theory**

In investigating the EO-firm performance relationship, it is important to recognize that firm performance in small firms is multidimensional in nature (Glancey, 1998; Wiklund, 1999; Venkatraman & Ramanujam, 1986). That is, entrepreneurial process may lead to positive outcomes in one performance dimension and a negative outcome on another (Lumpkin & Dess, 1996). Hence, Wiklund and Shepherd (2005) recommend that firm performance should incorporate both financial measures and growth. Financial performance measures are based on accounting/financial data or stock market value which denotes a firm's ability to create new resources from day to day operations over a specific period of time (Peterson & Peterson, 1996; Kaplan & Norton, 2000). On the other hand, sales growth which denotes an increased demand for the firm's products and employee growth are important aspects of growth indicators.

Financial performance measures are critical in determining the survival and success of the firm, research indicates that they are myopic, not holistic and not sufficient to capture overall firm performance (Aggarwal & Gupta, 2006). A study by Al-Swidi and Al-Hosam (2012) argue that financial measures are unstable, might be sensitive to changing industry related facts, easily manipulated and hence may not reflect the real performance of a firm. Likewise, Keh, Nguyen and Ng (2007) warns against a heavy reliance on financial measures on the ground that these measures describe the past performance and they do not reflect drivers of future performance and value creation. Financial and growth measures should be combined to give a richer description of the actual performance of the firm and an accurate estimation of performance (Wiklund, 1999; Lumpkin & Dess, 1996; Ferreira & Azavedo, 2008; Zainol & Ayadurai, 2011). Fairoz, Hirobumi and Tanaka (2010) and Poon, Ainuddin and Junit (2006) assessed firm performance using both growth and financial performance measures.

In measuring firm performance of SMEs, both objective and subjective measures are used. Objective measures are collected from financial records of the firm, subjective

performance measures are assessed by asking owner/managers to state their firm's performance relative to that of competitors (Venkatraman & Ramanujam, 1986). Objective measures are usually difficult to obtain because owner/managers of SMEs tend not to reveal their actual business financial data leaving an over-reliance on subjective measures (Chao & Spillan, 2010). The use of subjective measures of performance is consistent with past empirical studies as subjective measures accurately reflect objective measures (Poon, Ainuddin & Junit, 2006; Idar & Mahmood, 2011). In applying subjective measures of firm performance, the perception of owner/managers in relation to that of competitors over a period of time is sought as it has been found to be highly consistent with how their firm essentially performed as indicated by objective measures (Dess & Robinson, 1984).

## **2.2 Theoretical Framework**

A theory is a set of systematic interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena (Cooper & Schindler, 2011). The theoretical review will explore theories that relate to entrepreneurial orientation, market orientation and firm performance.

### **2.2.1 Contingency Theory**

The Contingency theory argues that firm performance is improved when key variables are correctly aligned. The theory suggests the relationship between two variables depends on the level of a third variable and that the congruence or fit among key variables such as market orientation is critical for optimal performance (Lawrence & Lorsch, 1967). The Cartesian perspective of contingency theory provides the context for addressing the extent to which the dimensions of entrepreneurial orientation may, under certain conditions, vary independently rather than covary (Lumpkin & Dess, 1996). The theory maintains that contingency fit (moderating or mediating) is reached through incremental and frequent movement along continuous fit-lines (Donaldson, 2001).

Rauch, Wiklund, Lumpkin and Frese (2009) in their study on the assessment of past research on EO-business performance revealed that contingency theory hypothesis is a distinct and growing trend in entrepreneurship. Research studies on firm-level entrepreneurship have examined the importance of viewing EO-performance relationship in a contingency framework and have come to the conclusion that a typical model suggests that the effect of EO on performance is determined by the value of context (Wiklund & Shepherd, 2005). A study by Keh, Nguyen and Ng (2007) found out that market information acquisition and utilization plays a mediator role in the relationship between entrepreneurial orientation firm performances of SMEs in Singapore. Idar and Mahmood (2012) found out that market orientation partially mediate the relationship between entrepreneurial orientation and firm performance of SMEs. A study by Eggers, Kraus, Hughes, Larawa and Syncerski (2013) found out that financial resource moderates the relationship between entrepreneurial orientation and growth of SMEs. A study by Li, Huang and Tsai (2009) found out that the significant direct effect of entrepreneurial orientation on firm performance of entrepreneurs is reduced when the indirect effect of knowledge creation process is included in the total effect model. Madhoushi, Sadati and Delavari (2011) found out that entrepreneurial orientation indirectly through knowledge management affected innovation performance.

### **2.2.2 Resource Advantage Theory**

Resource advantage theory is a dynamic, process theory of competition in which monetary prices and private property are required, knowledge discovery is endogenous and entrepreneurship is productivity enhancing (Hunt & Madhavaram, 2006). The theory views entrepreneurial orientation as an organizational resource that facilitates a firm to outperform rivals and yield marketplace positions of competitive advantage (Hunt & Morgan, 1996). These resources are heritable and durable units of selection which enable firms to produce valuable market offerings thus differentiating them from rivals in a competitive process (Shane & Venkataraman, 2000; Hunt, 2000). The theory views entrepreneurial orientation as an organizational resource that yields marketplace

positions of competitive advantage, economic dynamism and wealth creation (Shane & Venkatraman, 2000). Firms that embrace an entrepreneurial orientation anticipate, discover and exploit new market opportunities (Lumpkin & Dess, 1996; Zahra & Covin, 1995; Wiklund & Shepherd, 2003). A study by Yucel (2013) found that SMEs with an entrepreneurial orientation realized higher performance. Similarly, Li, Huang and Tsai (2009) found that entrepreneurial orientation is critical to business ventures and has a positive impact on firm performance.

### **2.2.3 Resource Based View**

Resource Based View (RBV) lies in the fundamental principle that sustainable competitive advantage and enhanced firm performance lies primarily in firms creating bundles of tangible and intangible strategic resources that competitors find difficult to substitute or imitate without great efforts (Wernefelt, 1984). Strategic decision-making process resources include entrepreneurial orientation, innovativeness, risk taking and proactiveness which are controlled by a firm (Miller & Friesen, 1982; Barney, 1991; Runyan, Huddleston & Swinney, 2006). Building on the seminal work of Penrose (1959), the theory maintains that competitive advantage is grounded within the firm, in its unique resources, that enable it to perform particular tasks effectively.

The theory assumes that resources are heterogeneously (uniquely) distributed among firms and that they are imperfectly mobile across firms (Barney, 1991). Hence, firms in the same industry are expected to exhibit different levels of firm performance due to the differences in the resources that they own. Additionally, the process of resource accumulation is considered to be a reflection of innovative and entrepreneurial activities with the argument that profits can only emerge from those activities if resource accumulation costs are inferior to the rents that those resources might actually produce (Peteraf, 1993). The assumed heterogeneity and immobility are not, however, sufficient conditions for sustained competitive advantages. A firm resource must, in addition, be valuable, rare and imperfectly imitable and non-substitutable (VRIN), in order to be a

source of sustained competitive advantage (Barney, 1991). Firms holding VRIN resource characteristics have the ability to create barriers that secure economical rents and leads to profitability (Day, 1994).

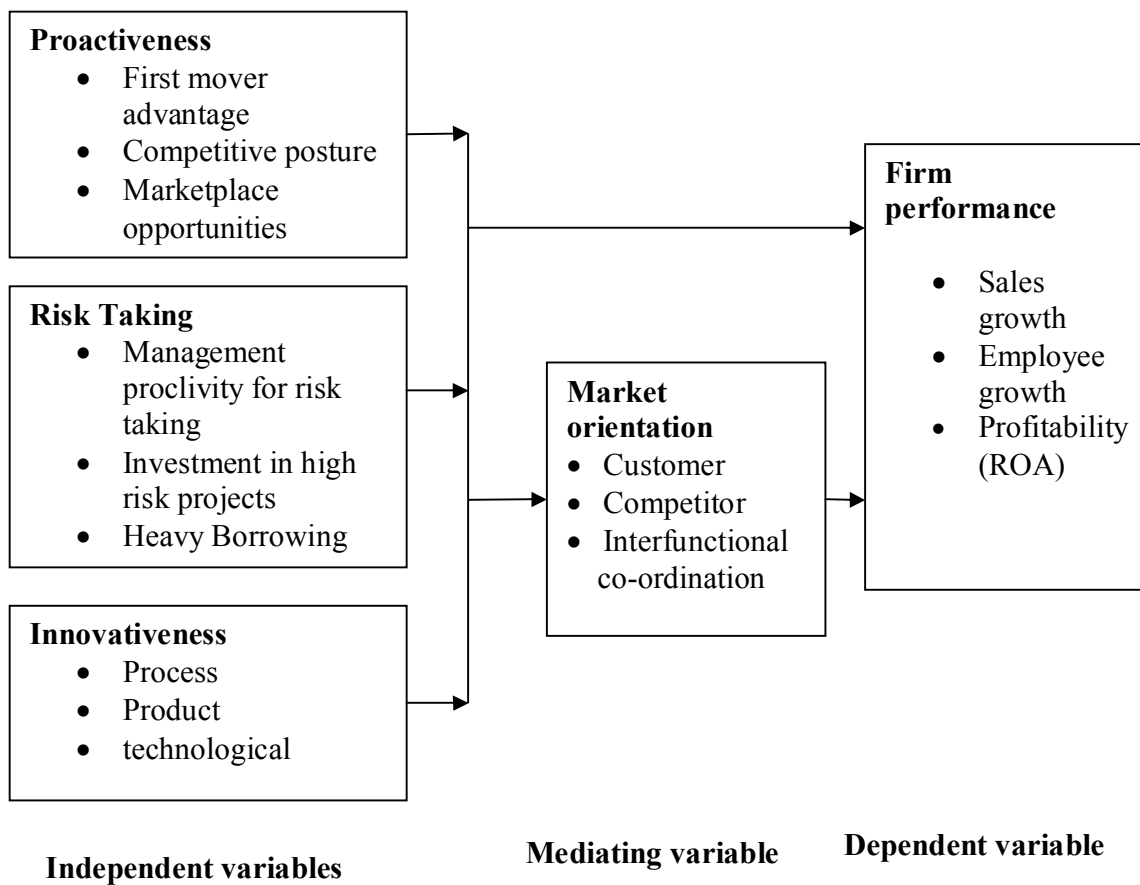
The dynamic capabilities view, which is an extension of the resources based view, suggests that capabilities such as market orientation are a complex bundle of skills and accumulated knowledge, exercised through organisational processes that enable firms to utilise their assets and functions as key success factors, cost effectively deliver customer value and deploy resources advantageously (Day, 1994). Thus, market oriented firms compete in the long term leading to competitive advantage and superior performance (Grant, 2002). Basile (2012) and Yordanova (2011) postulate that a firm's ability to act entrepreneurially depends on its developed organizational capabilities, managerial internal resources and external resources. Hunt and Morgan (1995) and Hult and Ketchen (2001) found out that superior market awareness which stems from a market orientation culture may provide entrepreneurially oriented firms with significant advantages, in terms of, the discovery and the capitalization of opportunities to provide superior value to consumers.

### **2.3 Conceptual Framework**

Kombo and Tromp (2006) state that a conceptual framework is intended to assist the researcher to develop awareness and understanding of the situation under scrutiny. The variables in the conceptual framework were derived from the identified theories and empirical studies (Lumpkin & Dess, 1996; Boohene, Marfo-Yiadom & Yeboah, 2012; Ahimbisibwe & Abaho, 2013; Wijesekara, Kumara & Gunawardana, 2014; Idar & Mahmood, 2012). The conceptual framework is diagrammatically shown as Figure 2.2 wherein proactiveness, risk taking, innovativeness and entrepreneurial orientation were considered as independent variables; firm performance was the dependent variable while market orientation was the mediating variable. Entrepreneurial orientation (EO) as a uni-dimensional construct was defined as processes, practices, methods,

philosophy, decision-making styles that top-level executives use in their efforts to act entrepreneurially (Dess & Lumpkin, 2005).

In investigating the EO-performance relationship, this study recognized that entrepreneurial orientation is a multi-dimensional construct comprised of proactiveness, risk taking and innovativeness (Fairoz, Hirobumi & Tanaka, 2010). Proactiveness (PR) was defined as a firm's efforts to seize new opportunities (Okpara, 2009); risk taking (R) was defined as to a firm's willingness to engage in high-risk projects and managerial preferences for bold versus cautious actions in order to achieve firm objectives (Frank, Kessler & Fink, 2010). Innovativeness (IN) was defined as a firm's efforts to pursue new opportunities and novel solutions by engaging in and supporting new ideas, novelty, experimentation, and creative processes (Li, Huang & Tsai, 2009). Firm performance (FP) was measured using multiple performance measures that comprised of sales growth, employee growth and profitability (Zainol & Ayadurai, 2011). Market orientation (MO) was defined as a firm's culture that most effectively and efficiently creates the necessary behavior for the creation of superior value for customers (Mai, Kim, Heo & Jan, 2012).



**Figure 2.1 Conceptual Framework**



### **2.3.1 Proactiveness and Firm Performance**

Proactiveness refers to attempts to prepare for the future by seeking new opportunities which may or may not be related to the present line of operations which enables introduction of new products and brands ahead of competition (Okpara, 2009). Proactive firms act on future needs, actively seeking new opportunities, even when these opportunities may be somewhat unrelated to existing operations (Rauch, Wiklund & Frese, 2005). Proactiveness reflects an opportunity seeking and forward-looking perspective that involves acting in anticipation of future demand and trends in search for new possibilities for growth and development (Kropp, Lindsay & Shoham, 2008). Proactive firms are characterized by first mover advantage which include introduction of new products or services ahead of competitors, adoption of new operating technologies, market penetration and development, implementation of administrative techniques which shape the business environment (Covin & Slevin, 1989; Miller & Friesen, 1983; Boohene, Marfo–Yiadom & Yeboah, 2012). Thus, proactive firms are industry pioneers as they initiate of actions or events that the competition must then react to, leading to superior performance (Eggers, Kraus, Hughes, Laraway & Snyckerski, 2013). Proactive firms scan the environment to seek opportunities, to maintain internal processes which involve changes in strategic evaluation and adaptation of operations based on their current stage in the life cycle (Venkatraman, 1989).

Empirical studies have revealed that proactiveness has a positive effect on firm performance. A study by Baba and Elumalai (2011) found out that proactiveness has a strong influence on both product performance and customer performance of SMEs. Similarly, Boohene, Marfo-Yiadom and Yeboah (2012) found out that entrepreneurial orientation had a positive and composite influence on performance of auto artisans in Cape Coast Metropolis in Ghana. Krauss, Frese, Freidrich and Unger (2005) found out that there was a positive and significant relationship between proactiveness and business

success. The first objective of the study was to determine the influence of proactiveness as a dimension of entrepreneurial orientation on the firm performance of agro processing SMEs in Kenya. The following hypothesis was proposed:

**Null Hypothesis** H<sub>01</sub>: There is no relationship between proactiveness and firm performance of agro processing SMEs in Kenya.

### **2.3.2 Risk taking and Firm Performance**

The risk-taking dimension of entrepreneurial orientation captures the extent to which the firm's processes involve and/or ignore risks (McMullen & Shepherd, 2006). Risk taking represents the aspect of a firm's strategic posture that refers to the firm's willingness and ability to devote increased resources to projects whose outcome is difficult to predict (Okpara, 2009; Frank, Kessler & Fink, 2010). Risk-taking is often used to describe the uncertainty that results from entrepreneurial behavior. Risk taking involves engaging in calculated and manageable risks in order to obtain benefits, rather than taking daring risks which are detrimental for firm performance (Dess & Lumpkin, 2005; Coulthard, 2007). Risk taking involves a willingness to commit significant resources to opportunities having a reasonable chance of costly failure (Covin & Slevin, 1991; Lumpkin & Dess, 1996). Risk-taking indicates a tendency to engage in risky projects and a willingness to break away from the tried-and-true path and venture into unknown territory (Miller, 1983; Venkatraman, 1989; Wiklund & Shepherd, 2005). Risk taking encompasses engaging in uncertain ventures, making high resource commitments, introducing new products into new markets, investing in unexplored technologies and opportunities; and borrowing heavily (Shapiro, 1994; Wiklund & Shepherd, 2005; Tajeddini, 2010).

Awang, Ahmed, Asghar and Subari (2010) points out that the ability of SMEs to stay competitive is directly related to the intensity to take calculated risks. Similarly, Otieno,

Bwisa and Kihoro (2012) posit that are the more risk averse a firm's management, the more they do not enhance their performance while the less risk averse the management, the better they enhance their performance. Agro processing SMEs that are willing to engage in relatively high levels of risk-taking behavior seize profitable opportunities in the face of uncertainty in contrast to average risk-taking firms and risk avoiders (McGrath, 2001; Wang and Poutziouris, 2010). Empirical studies on the influence of risk taking on firm performance are mixed. Coulthard (2007) found out that taking calculated risk has positive impact on firm performance. Okpara (2009) found out that there is a positive and significant relationship between risk taking and firm performance. Wang and Poutziouris (2010) found out that risk taking firms are able to secure superior growth in contrast to average risk taking firms and risk avoiders. Ahimbisibwe and Abaho (2013) found out that risk taking dimension of entrepreneurial orientation had a weak relationship with export performance of SMEs in Uganda. The second objective of the study was to establish the influence of risk taking as a dimension of entrepreneurial orientation on the firm performance of agro processing SMEs in Kenya. Therefore the following hypothesis was proposed:

**Null Hypothesis H<sub>02</sub>:** There is no relationship between risk taking and firm performance of agro processing SMEs in Kenya.

### **2.3.3 Innovativeness and Firm Performance**

Innovativeness is a component which reflects the means by which firms pursue new opportunities (Lumpkin & Dess, 1996). Innovativeness is defined as a propensity to creativity initiatives and support for new ideas, novelty, experimentation, and creative or unusual solutions to problems and needs (Lyon, Lumpkin & Dess 2000; Li, Huang & Tsai, 2009). Innovativeness departs from existing technologies or practices and ventures (Baker & Sinkula, 2009) and pursues creative or unusual solutions to problems and needs (Kabiri & Mokshapathy, 2012). Through innovativeness, owner/managers of agro

processing SMEs can create and increase wealth by trying new ways and introducing radical changes in products to eliminate wastages and inefficiencies, reduce cost of inputs and increase profits (Lumpkin & Dess, 2001).

Innovativeness symbolizes a firm's strategic orientation that signifies a readiness to critically evaluate the environment for the purpose of creating space for innovating new products and defining creative ways to explore new markets (Otero – Neiru, Lindman, & Fernandez, 2009). It involves trying new ways and introducing radical changes in the products to eliminate wastages and inefficiencies, reduces cost of inputs, and enhance profitability (Lumpkin & Dess, 2000). Indeed, Drucker (1985) posit that innovativeness is the heart of entrepreneurship. In today's business environment where the life cycle of products and services are becoming shorter and the future profits are uncertain, innovativeness increases the likelihood to realize first-mover advantages (Mai, Kim, Heo & Jang, 2012), capitalize on emerging market opportunities (Wiklund 1999) and generate extraordinary economic performance (Brown & Eisenhardt 1998). The ability to innovate gives agro processing SMEs the dynamic capabilities needed to respond more successfully to environmental changes and barriers that threaten performance (Okpara, 2009; Zahra & Garvis, 2000; Hult, Hurley & Knight, 2004; Laforet, 2011).

Innovations come in various forms. Technological innovativeness focuses primarily on product and process development, research and development, technical expertise and industry knowledge (Pearce & Robinson, 2007). It measure of the number of innovation adoptions and consistency of innovation adoptions confirming that innovative firms are those that exhibit innovative behavior consistently over time (Otieno, Bwisa & Kihoro, 2012). Prooduct-market innovativeness represents the provision of solutions to market threats and opportunities which include market research, product design and innovations in advertising and promotion (Covin & Slevin, 1989; Hernandez-Espallardo & Delgado-Ballester, 2009). Product-market innovativeness, however, is costly and risky

particularly for SMEs who are handicapped with financial and management competency restrictions (Freel, 2000). Process innovativeness is considered as an organization's capabilities to marshal, integrate, and leverage organizational resources to improve or create new processes that lead to increased market share and long term profitability (Knight, 1997; Low, Chapman & Sloan, 2007).

Empirical studies show that there is a positive and significant relationship between innovativeness and firm performance of SMEs (Laforet, 2011). A study by Ghazil and Rejab (2012) found out that innovativeness was positively related to turnover growth of agro based SMEs. Madhoushi, Sadati and Delavari (2011) found out that firms with greater innovativeness will be more successful in responding to changing environments and in developing new capabilities that allow them to achieve better performance. A study by Lwamba, Bwisa and Sakwa (2013) found out that innovativeness dimension of corporate entrepreneurship has a positive and significant relationship with financial performance of Kenya's manufacturing firms operating under East African regional community, in terms of sales, profits and employment. The third objective of the study was to find out the influence innovativeness as a dimension of entrepreneurial orientation on firm performance of small and medium agro processing enterprises in Kenya. Therefore the following hypothesis was proposed:-

**Null Hypothesis H<sub>03</sub>:** There is no relationship between innovativeness and firm performance of agro processing SMEs in Kenya.

#### **2.3.4 Entrepreneurial Orientation and Firm Performance**

The importance of entrepreneurial orientation and its influence on firm performance have been highlighted in both theoretical discussions and empirical research. Theoretically, entrepreneurial orientation has positive effects of firm performance. In addition, the effect of entrepreneurial orientation on firm performance is particularly

strong among small businesses (Wiklund, 1999; Poon, Ainuddin & Junit, 2006) and is higher in early stages rather than growth stages (Yoon, 2012). A study by Yeoh and Jeong (1995) found that the uni-dimensional EO is beneficial to SMEs as these enterprises have fewer investments and marketing opportunities, are highly competitive, and need to be innovative, proactive and risk takers in order to gain and maintain competitive advantage. Empirical studies have shown that entrepreneurial orientation has a positive effect on both financial and non-financial measures of firm performance of SMEs.

A study of Keh, Nguyen and Ng (2007) found out that entrepreneurial orientation has a direct effect on firm performance of Singapore small and medium enterprises. Arbaugh, Cox and Camp (2009) using a sample of 1045 firms from 17 countries found out that the uni-dimensional entrepreneurial orientation significantly predicted firm profitability. Fairoz, Hirobumi and Tanaka (2010) found out that firms that adopted high entrepreneurial orientation achieved higher sales growth, higher profits and increased market share compared to those with low entrepreneurial orientation. Mahmood and Hanafi (2013) found out that entrepreneurial orientation has a positive effect on business performance of women-based SMEs in Malaysia. Al-Swidi and Al-Hosam (2012) using partial least squares found out that entrepreneurial orientation has a significant positive effect on organizational non-financial performance of Islamic banks in Yemen. Yucel (2011) found out that entrepreneurial orientation is positively related to firm performance. Lee and Lim (2009) found out that entrepreneurial orientation has a positive impact on firm performance of service business. Otieno, Bwisa and Kihoro (2012) found out that entrepreneurial orientation has a significant influence on firm performance of Kenya's manufacturing firms operating under East African Community regional, in terms of sales, profits and employment. The fourth objective of the study was to determine the extent to which entrepreneurial orientation (proactiveness, risk

taking and innovativeness) influence the firm performance of agro processing SMEs in Kenya. Therefore the following hypothesis was proposed:-

**Null Hypothesis H<sub>04</sub>:** There is no significant relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

### **2.3.5 Mediating Influence of Market Orientation on EO-firm relationship**

Market orientation was conceptualized from a cultural perspective that puts the customer's interest over and above everything else (Narver & Slater, 1990). Blesa and Ripolles (2009) suggest that market oriented agro processing SMEs are committed to understand both the latent and the expressed needs of their consumers which ultimately, leads to enhanced firm performance. Empirical literature on the influence of market orientation and firm performance, however, is mixed and sometimes contradictory. Ellis (2006), in a meta-analysis of 56 studies (58 samples) conducted in 28 countries revealed that market orientation is a generic determinant of firm performance. Kumar, Jones and Venkatesan (2011) found out that market orientation has a positive effect on business performance in both the short and long term. A study by Shehu and Mahmood (2014) found out that there is a significant and positive relationship between market orientation and business performance of SMEs. Wijesekara, Kumara and Gunawardana (2014) found out that market orientation has a positive and statistically effect on organizational performance. Other empirical studies have revealed that there is no relationship between market orientation and firm performance. Demirbarg, Lenny, Koh, Tatoglu and Zaim (2006) found out that there is no relationship between market orientation and organizational performance of SMEs in Turkish textile industry. Similarly, Greenley (1995) found out that there was no direct influence of market orientation on performance. Ghani and Mahmood (2011) found out that market orientation has a negative relationship with performance of micro-finance firms in Pakistan.

A study by Miles and Arnold (1991) empirically demonstrates that market orientation and entrepreneurial orientation are two distinct but correlated constructs. This correlation suggests that the dimensions of EO respond to market changes and are affected by the market itself (Todorovic & Ma, 2008; Kohli & Jaworski, 1990; Covin & Miles, 1999). A study by Atuahene-Gima and Ko (2001) advance that market orientation and entrepreneurial orientation must both be simultaneously maximized in order to gain maximum effect on firm performance. Similarly, Gonzalez-Benito, Gonzalez-Benito and Munoz-Gallego (2009) suggest that if more activities of market orientation are adopted by agro processing SMEs, the activities of entrepreneurial orientation would also be increased. A study by Baker and Sinkula (2009) posit that there must be an alignment between EO and MO if it is to improve the ability to innovate, respond proactively to customers and market demands. A study by Idar & Mahmood (2011) found out that market orientation partially mediates the relationship between entrepreneurial orientation and performance of SMEs in Malaysia leading to improved firm performance. The fifth objective of the study was to determine the influence of market orientation on the relationship between entrepreneurial orientation and firm performance of small and medium agro processing enterprises in Kenya. Therefore the following hypotheses were proposed:-

**Null Hypothesis H<sub>05a</sub>:** There is no relationship between market orientation and firm performance of agro processing SMEs in Kenya.

**Null Hypothesis H<sub>05b</sub>:** The relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya is not mediated by market orientation.



## 2.4 Empirical Review

Al-Swidi and Al-Hosam (2012) used partial least squares (PLS) approach to examine the effect of entrepreneurial orientation on the organizational performance of Islamic banks in Yemen. The data was collected from the Yemeni banking sector employing the response obtained from the branch managers. Out of 56 distributed questionnaires, 44 usable questionnaires were returned. Before examining the effect of entrepreneurial orientation on organizational performance, the validity and reliability of the measurement outer model was investigated. The content, convergent and discriminant validity was confirmed. The predictive value of the structural inner model was assessed by  $R^2$  which was found to be 0.262 indicating that EO had substantial power in explaining organizational performance. The cross validated redundancy was 0.107 indicating that the model had an adequate prediction quality. The results of the study indicated that entrepreneurial orientation had a significant positive effect on organizational performance while Innovativeness and proactiveness were shown to be very important in reflecting entrepreneurial orientation concept when compared to risk taking dimension. The study concluded that innovativeness will help banks to lead the innovation service trends while proclivity will help banks to foresee future needs.

Idar and Mahmood (2012) argue that entrepreneurial oriented firms need dynamic capabilities that enable them to sense and seize new opportunities and renew the existing market base. The study sought to investigate the relationship between entrepreneurial orientation, market orientation and business performance of SMEs in Malaysia. Data was collected by means of a mail survey questionnaire completed by owner/managers of SMEs systematically and randomly selected from a sampling frame of registered SMEs in Malaysia. The study found that there was a significant relationship between entrepreneurial orientation and performance, and also between market orientation and

performance in SMEs. In the study, market orientation was found to partially mediate the relationship between entrepreneurial orientation and performance relationship. The findings suggested that entrepreneurial oriented SMEs enhanced firm performance while market orientation strengthened performance through entrepreneurial orientation.

In their study, Fairoz, Hirobumi and Tanaka (2010) argue that entrepreneurship plays an important role in economic growth, innovation, competitiveness and poverty alleviation. The study found that 52 per cent of SMEs presented moderate level of entrepreneurial orientation with only 8 per cent with higher levels of entrepreneurial orientation. The study showed that proactiveness, innovativeness, risk taking and the overall entrepreneurial orientation was significantly correlated with market share growth. The study also indicated that firms that adopt high entrepreneurial orientation achieve higher sales growth, higher profit, and increased market share compared to those with low entrepreneurial orientation. The results imply that SMEs should improve proactiveness, innovativeness, and take risks in order to protect and increase their market share against competitors and to increase firm performance. The study revealed that the degree of entrepreneurial orientation depends on the owner/managers' innovativeness. Additionally, entrepreneurs with positive attitudes, strong vision, and growth motivation could innovate and overcome financial and infrastructure barriers. The study showed the importance of improving owner/managers innovative abilities, creating an entrepreneurial climate, and confronting with external competitiveness as a means to improving firm performance.

Ahimbisibwe and Abaho (2013) found out that SMEs in Uganda have significantly high levels of export entrepreneurial orientation. The study revealed that there is a positive relationship between innovativeness and export performance, that proactiveness significantly and positively influences export performance while risk taking had a weak relationship with export performance. The study implied that firms which innovate by

coming up with new or modified products, ideas, processes, services or technologies will register an increase in their profits, sales and customer satisfaction in their export markets. Therefore, the study concluded that SMEs should be encouraged to always recruit entrepreneurial staff, open up for foreign partnerships and create international operations departments in order to streamline their export operations whilst committing resources towards the reinforcing of export performance.

Yucel (2011) found out that entrepreneurial orientation is positively related to firm performance and executives' individualism plays a moderating role in this relationship. The results indicated that SMEs with an entrepreneurial orientation and have executives with high individualism realize higher performance than those that have executives with low individualism. The findings on the moderating effects of executive' individualism supported the entrepreneurial orientation theory and implied that contingencies such as executive' personality characteristics should be taken into account when modeling the entrepreneurial orientation and performance relationship.

Yang (2008) found out that innovation, proactiveness and risk taking are independently and positively correlated with firm performance. There was a medium, positive correlation between total entrepreneurial orientation and firm performance. The study also found out that there was a small, positive correlation between transformational leadership and all dimensions of entrepreneurial orientation. Transactional leadership was significantly positively correlated with innovation ( $r = .13, p = .01$ ) and total entrepreneurial orientation ( $r = .11, p = .029$ ). There was a small, positive correlation between transactional leadership and innovation or total entrepreneurial orientation. There were no significant relationships between passive-avoidant leadership and entrepreneurial orientation. Transactional leadership and passive-avoidant leadership were not good predictors of the total entrepreneurial orientation. Hence, the transformational leadership of top-level managers contributed the most to the total

entrepreneurial orientation of SMEs. The findings of the study suggested that high levels of total entrepreneurial orientation may contribute positively to firm performance. A comparison of the three dimensions of entrepreneurial orientation showed that high levels of innovation and proactiveness may contribute positively to firm performance.

Okpara (2009) found out that high entrepreneurial orientation owner/managers are innovative, proactive, and risk-seeking and as a result, they are more likely to exploit export opportunities. The innovativeness dimension of an EO was associated with all the four performance indicators namely profitability, sales volume, growth, and overall performance while a stronger proactive orientation was associated with export success. The results showed that firms with high entrepreneurial orientation (EO) owner/managers are more proactive, innovative, and risk-seeking than firms with low (EO) owner/managers. They pursued export market information and performed better than their competitors.

In their study, Baba and Elumalai (2011) investigated the relationship between the entrepreneurial orientation dimensions namely autonomy, risk taking, competitive aggressiveness, innovativeness, pro-activeness; and organizational performance comprised of customer performance, product performance and sales growth among SMEs in Labuan. The study found out that competitive aggressiveness, proactiveness, risk taking, innovativeness of SMEs have positive relationship with organizational performance while autonomy did not exhibit any relationship with organizational performance. Furthermore, the study found out that competitive aggressiveness, proactiveness, risk taking and innovativeness dimensions of entrepreneurial vary and have an independent relationship with organizational performance. The study concluded that adopting these dimensions during strategic planning process would ensure growth and survival of SMEs.

Yoon (2012) found out that the positive performance effects of overall entrepreneurial orientation. Overall entrepreneurial orientation effect on firm performance was constantly significant in early stage ( $b=.60$ ,  $p<.10$ ) and in growth stage ( $b=.09$ ,  $p<.10$ ). However, the individual performance effects of entrepreneurial orientation were only significant for the case of proactiveness for growth stage ( $b=.54$ ,  $p<.10$  for early stage,  $b=.07$ ,  $p<.10$ ). In growth stage, the performance effect of innovativeness proved to be significant ( $b=.09$ ,  $p<.05$ ), but the performance effect of risk-taking was proven to be insignificant. The study suggests the entrepreneurial orientation effect patterns are contingent on the stage of growth. The study also shows that the performance effects of entrepreneurial orientation are not universalistic, and suggest that multidimensional aspect of entrepreneurial orientation seems to be more realistic than overall entrepreneurial orientation to display the degree of development of entrepreneurship.

The study by Li, Huang and Tsai (2008) on the relationships among entrepreneurial orientation, knowledge creation process, and firm performance using survey data from 165 entrepreneurs found out that entrepreneurial orientation is critical to business ventures and has positive impact on firm performance. In addition, the significance of the direct effect of entrepreneurial orientation on firm performance is reduced when the indirect effect of entrepreneurial orientation through knowledge creation process is included in a total effect model. The findings support recent arguments for a contingency perspective on the entrepreneurial orientation firm performance link. The study suggests that managers should provide incentive and support to reinforce the desired behaviors of knowledge creation. Employees will be motivated to exchange, learn, and create knowledge and further transform knowledge to fulfill strategic objectives and execution.

Liu, Manolova and Edelman (2009) examined the entrepreneurial orientation and performance relationship on a sample of small and medium-sized enterprises in

Northeast and Southeast China, focusing on the moderating effect of resource endowments. The study found out that there was a strong relationship between entrepreneurial orientation and firm performance. In addition, resources were found to be an important factor in understanding entrepreneurial orientation in transitional economies. When the resource endowment was poor, entrepreneurial orientation benefited new and small ventures up to a point, after which it started to undermine firm performance. In contrast, when the resource endowment was munificent, clear strategic positioning (e.g., either low or high level of entrepreneurial orientation) benefited firm performance, whereas a moderate level of entrepreneurial orientation did not. The study suggested that while entrepreneurial orientation generally benefited new firm performance in hostile environments, it was also quite resource-intensive. Therefore, when factor markets are incomplete and market institutions are underdeveloped, excessive proactiveness, innovation, and risk-taking can quickly deplete the resource base of the new venture and render it vulnerable to competitive threats and economic downturns. Under high resource constraints, therefore, a moderate level of entrepreneurial orientation will benefit new firm performance the most. Overall, the study indicated a configurational approach to entrepreneurial orientation should be given a lot more attention in both entrepreneurship theory and practice.

Boohene, Marfo- Yiadom and Yeboah (2012) examined the influence of entrepreneurial orientation on firm performance of auto artisans in the Cape Coast Metropolis, Ghana. Stratified sampling method was used to select respondents. Data was obtained through self-administered questionnaires. Regression analysis was employed to test the relationships between entrepreneurial orientation and firm performance. The study results revealed a significantly positive individual and composite influence of EO dimensions on performance. The study recommended that auto artisanal firms should invest financial resources in innovation so as to increased profit levels. In addition, firms

that encouraged new ideas from any workers regardless of their status were expected to increase their sales revenue.

The study found out that there was a significantly stronger positive relationship between proactiveness and firm performance. Auto artisanal firms that took an aggressive posture relative to competitors, recognized and facilitated customers need well in advance, and ha an intensive drive towards the achievement of organizational goals are likely to experience increases sales revenue and subsequently improve profits. The findings showed a weak but positive relationship between risk taking and firm performance indicating that auto artisanal firms are risk averse and therefore reduce their commitment to cutting-edge products and technologies, thereby decreasing the firm's level of innovation. Furthermore, they shy away from borrowing heavily, and/or committing significant resources to ventures in uncertain environments.

The study revealed that there was a stronger positive relationship between autonomy and firm performance which suggested that firms that allow freedom for both individual and team work, whilst allowing the owner/manager to maintain a strong central authority were able to improve sales revenue. The results indicated that there was significantly positive relationship between competitive aggressiveness and firm performance. Firms who typically adopted a bold, aggressive posture to maximize the probability of exploiting potential opportunities had the tendency to be ahead of others in introducing novel ideas or products. Besides, those that were willing to be unconventional rather than rely on traditional methods of competing were likely to increase sales, improve their revenue situation and thereby create jobs. The results showed a stronger positive influence of entrepreneurial orientation ( $r=.0748$ ,  $p=0.000$ ) on the firm performance of auto artisans in the Cape Coast Metropolis. This implied that if all the entrepreneurial orientation dimensions were combined into one construct and regressed on the firm

performance of auto artisans, there would be significant improvement on their firm performance.

Otieno, Bwisa and Kihoro (2012) sought to determine the influence of entrepreneurial orientation on the performance of manufacturing firms in Kenya operating under the East African Community regional integration. The study findings revealed that the majority of manufacturing firms had adopted entrepreneurial orientation, process and product innovation were the highest adopted strategies and management risk was the least adopted strategy. The study findings revealed that performance of Kenya's manufacturing firms operating under the East African Community regional integration was significantly influenced by entrepreneurial orientation, in terms of sales, profits and employment as measures of firm performance. The study concluded that Kenya's manufacturing firms that are intent on enhancing their performance urgently needed to adopt entrepreneurial orientation.

Keh, Nguyen and Ng (2007) found that entrepreneurial orientation plays an influential role on the acquisition and utilization of market information, and also has a direct effect on firm performance. The study also found that entrepreneurs obtain and use information on customers and competitors from both personal and impersonal sources. However, the study did not find a positive relationship between information acquisition and firm performance. The study suggested that firms that closely monitor customers' needs tend to improve creativity by producing novel and meaningful offerings and market programs that, in turn, reinforce organizational innovations through the firm's entire business system. The study concluded that a deep understanding of customers, such as their purchasing habits, psychological makeup and lifestyles could help SMEs to conduct better market segmentation and find new niche markets. Secondly, entrepreneurial willingness to dominate competitors by a combination of proactive and aggressive



moves could be more effectively realized by acquiring and using information about customers and competitors.

## **2.5 Critique of the Existing Literature**

Al-Swidi and Al-Hosam (2012) used partial least squares (PLS) approach to examine the effect of entrepreneurial orientation on the organizational performance of Islamic banks in Yemen. The results indicated that entrepreneurial orientation has a significant positive effect on organizational performance. In addition, innovativeness and proactiveness were shown to be very important in reflecting entrepreneurial orientation concept when compared to risk taking dimensions. The questionnaire as a tool of data collection was distributed to branch managers of only 4 Yemeni Islamic banks which affected the generalization of the study results. If the effect of entrepreneurial orientation on organization performance using PLS approach is repeated with larger samples, the findings would be worth generalizing. Additionally, financial measures may not be the best evaluation of organizational performance of banks due to the difficulty in getting the exact data from respondents.

Idar and Mahmood (2012) examined the relationship between entrepreneurial orientation and SME performance, and between market orientation and business performance of SMEs in Malaysia. The study findings revealed that significant relationships exist between entrepreneurial orientation and performance, and also market orientation and performance. Additionally, the study findings showed that market orientation partially mediates the relationship between entrepreneurial orientation and performance. The study investigated the relationship between entrepreneurial orientation as a uni-dimensional construct and firm performance. It may be necessary to consider the relationship between innovativeness, risk taking and proactiveness dimensions of entrepreneurial orientation and firm performance of SMEs.

In their study, Baba and Elumalai (2011) investigate the relationship between the entrepreneurial orientation dimensions namely autonomy, risk taking, competitive aggressiveness, innovativeness, pro-activeness; and organizational performance comprised of customer performance, product performance and sales growth among SMEs in Labuan. The study found out that competitive aggressiveness, proactiveness, risk taking, innovativeness of SMEs have positive relationship with organizational performance while autonomy did not exhibit any relationship with organizational performance. The study examined entrepreneurial orientation as a multi-dimensional construct. There is need for further research on the influence of entrepreneurial orientation on firm performance as a uni-dimensional construct.

Boohene, Marfo-Yiadom and Yeboah (2012) sought to examine the individual and composite influence of the dimensions of entrepreneurial orientation on business performance of auto artisans in the Cape Coast Metropolis. The study found that competitive aggressiveness, proactiveness, autonomy and innovativeness had a positive relationship with business performance while risk taking recorded a weak positive relationship with performance. The overall entrepreneurial orientation showed a stronger positive influence on business performance of auto artisans. The research framework and hypotheses developed for this study did not take into account contingency factors that may affect the relationship between overall entrepreneurial orientation and firm performance. An expanded and modified research framework or conceptual model including potential moderators and mediators such as firm size, environmental dynamism, firm size and market orientation is worth investigating.

## **2.6 Summary of the Literature Review**

This chapter has covered the theoretical framework, conceptual framework, empirical review, critique of the existing literature and the literature gaps. The theoretical framework provided a theoretical understanding of theories related to the study namely, the contingency theory, the resource advantage theory and the resource based view. Empirical studies on the other hand, examined the relationship between entrepreneurial orientation and its dimensions on firm performance, the relationship between market orientation and firm performance and the influence of market orientation on the relationship between entrepreneurial orientation and firm performance. The studies revealed that there is a significant relationship between independent dimensions of EO, EO as a uni-dimensional variable and firm performance of SMEs, in terms of profitability, sales and employee growth (Keh, Nguyen & Ng, 2007; Lee & Lim, 2009; Fairoz, Hirobumi & Tanaka, 2010; Ahimbisibwe & Abaho, 2012). The studies indicated that the relationship between market orientation and firm performance was mixed and sometimes contradictory (Kumar, Jones & Venkatesan, 2011; Shehu & Mahmood, 2014; Wijesekara, Kumara & Gunawardana, 2014; Ghani & Mahmood, 2011). Additionally, the studies revealed that the effect of entrepreneurial orientation on firm performance is influenced by contingency factors such as market orientation, industry characteristics, organizational size and structure, leadership styles, firm resources and organizational culture (Idar & Mahmood, 2011; Ayinla, 2009; Yucel, 2011; Liu, Manolova & Edelman, 2009; Wiklund & Shepherd, 2005).

## **2.7 Research Gaps**

The existing body of knowledge is not sufficient in explaining the EO-firm performance relationship and the mediating fit factors that influence the EO-firm performance relationship in developing countries such as Kenya. The majority of empirical studies on the influence of entrepreneurial orientation as a uni-dimensional or multi-dimensional

construct on firm performance had been done in developed countries or transitional economies (Fairoz, Hirobumi & Tanaka, 2010; Baba & Elumalai, 2011; Boohene, Marfo- Yiadom, & Yeboah, 2012; Idar & Mahmood, 2012). Further, there are limited studies on the mediating role of market orientation in the relationship between entrepreneurial orientation and firm performance (Idar & Mahmood, 2012).

Locally, there are limited studies on the influence of innovativeness, proactiveness and risk taking dimensions of entrepreneurial orientation on firm performance, especially amongst agro processing SMEs. These studies include Osoro, Mukulu and Sakwa (2012) which found that entrepreneurial orientation affects the business performance of SMEs in the Information Technology in Nairobi; and Otieno, Bwisa and Kihoro (2012) which found that manufacturing firms under the East African Community regional integration are significantly influenced by entrepreneurial orientation. These studies reveal that there is limited attention to the influence of contingency (mediating) factors on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya. This study sought to fill these gaps in existing knowledge.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter described the design and methodological approach used in the study. The chapter discussed the research philosophy, the research design, population, sampling design, sampling frame, data collection instruments, data collection procedure, pilot test, the statistical measurements and data processing and analysis.

#### **3.2 Research Philosophy**

Research philosophy relates to the development of knowledge, the nature of that knowledge and contains important assumptions about the way in which researchers view the world (Saunders, Lewis & Thornhill, 2009). Research philosophy is examined in two ways, namely, ontology and epistemology. Ontology is the pre- methodological question that asks how we perceive the social world. It is based on the argument that, because of our gender, age, upbringing and life experience, we all view those around us with unique ways. Epistemology issue concerns how you know what you know and the methods you choose to use in order to test the validity of knowledge (Davies, 2007).

This study adopted the positivism approach which is one of the three epistemology considerations. Positivists believe that reality is stable and can be observed and described from an objective viewpoint, without interfering with the phenomena being studied (Levin, 1988). The positivism approach advocates for the application of the methods of the natural sciences to the study on social reality and beyond (Saunders, Lewis & Thornhill, 2009). This approach entailed the elements of both deductive strategy, with the role of research being to test theories. It describes the research task as entailing the collection of data upon which to base generalizable propositions that can be tested (Bryman & Bell, 2011). This study started from hypotheses statements backed by

theoretical and empirical findings. Thereafter primary data was collected from respondents of the study. The data was then analysed to test the accuracy of the theories.

### **3.3 Research Design**

Kothari (2006) defines a research design as the conceptual structure within which research is conducted. It is the “glue” that holds all the elements in a research project together and is used to structure the research, to show how all of the major parts of the research project work together (Kombo & Tromp, 2006). Research design is the blueprint that enables the researcher to come up with solutions to problems and guides him in the various stages of the research (Nachmias & Nachmias, 2008). It is a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically (Kumar, 2005). A research design enables the researcher in allocation of limited resources by posing causal choices in methodology (Cooper & Schindler, 2011). It specifies whether the study will involve groups or individual subjects, will make comparisons within a group or between groups, or specifies how many variables will be included in the study (Gravetter & Forzano, 2006).

This study adopted a qualitative and quantitative exploratory research design. Exploratory research design explores the relationship between variables and their influence on the dependent variable while qualitative research design focused on the designs, techniques and measures that produced discreet numerical or quantifiable data (Kothari, 2009). The research design gave room to test hypotheses and validate theories (Cooper & Schindler, 2011). A study by Otieno, Bwisa and Kihoro (2013) used qualitative and quantitative exploratory research design in their study on the influence of entrepreneurial orientation on Kenya’s manufacturing firms operating under East African regional integration. Similarly, a study by Osoro, Sakwa and Kihoro (2012) adopted an exploratory approach using descriptive survey design in their study on entrepreneurial orientation effects on business performance of small medium enterprises in the information sector in Nairobi.

### **3.4 Population of the Study**

A population is a group of individuals, objects or items from which samples are taken for measurement, and refers to an entire group of persons or elements that have at least one thing in common (Kombo & Tromp, 2006; Groebner, Shannon, Fry & Smith, 2008). Doane and Seward (2009) describe a population as the set of items that the researcher is interested in. In this study, the target population consisted of agro processing SMEs in Kenya. Kombo and Tromp (2009) define a target population as a group of individuals, objects or items from which samples are taken for measurement. Cooper and Schindler (2011) define a target population as people, events or records that contain the desired information and can answer the measurement questions.

The sampling frame consisted of agro processing SMEs registered by Kenya Association of Manufacturers (KAM), details of which were contained in a list obtained from the said association. The membership-categories in the Kenya Association of Manufacturers fell under small, medium and large companies. At the time of the study, there were 162 agro processing SMEs registered with KAM. To arrive at 111 agro processing SMEs, 51 enterprises that did not meet the criteria were removed from the list. The criteria used in the study were as follows: - First, the enterprises had to be operating in Nairobi or within a 50km radius from Nairobi. Secondly, the agro processing SMEs had to be autonomous entities with no branches and not multi-nationals. Thirdly, the enterprises had to meet the definition of SMEs used in the study. The 111 agro processing SMEs as illustrated in Table 3.1 were distributed across 4 agro-processing sub-sectors, that is, food and beverage, paper and board, textiles and apparels and leather and footwear.

**Table 3.1: Population of the study**

<b>Sector categorization</b>	Frequenc	
	y	Percentage
Food and beverage	70	63.1
Textile and garment	18	16.2
Paper and board	17	15.3
leather and footwear	6	5.4
Total	111	100

Source: KAM List

### **3.4.1 Census Technique**

The study took the form of a census of all agro processing SMEs in Kenya that are registered by the Kenya Association of Manufacturers. Bryman and Bell (2011) defined a census as the enumeration of an entire population which involved collection of data from all units in a population rather than to a sample of units of that population. Census is recommended for small populations and is therefore appropriate for this study (Somekh & Lewin, 2005).

### **3.5 Data Collection Instrument**

The main tool for data collection used in the study was a semi-structured questionnaire. A semi – structured questionnaire was chosen because it was an effective way of collecting information within a short time span and at a lower cost compared to other data collection methods (Cooper &Schindler, 2011). The semi-structured questionnaire was designed to address the specific objectives and hypotheses of the study (Saunders, Lewis & Thornhill, 2009). The semi-structured questionnaire consisted of a five point Likert scale and a combination of closed and open ended questions which assisted in collecting data on the dependent variable (firm performance), independent variables



(proactiveness, innovativeness, risk taking, entrepreneurial orientation), and mediating variable (market orientation). The closed – ended questions were extremely useful for eliciting factual information while open – ended questions sought opinions, attitudes and perceptions of the respondents while the open – ended questions allowed the respondents the freedom to respond with any value, words or statements of their own choosing (Kumar, 2005). The five point Likert scale with designed measures of 1 to 5 was used to assess the response from the respondents, who independently chose the level of perceived adoption of the different entrepreneurial orientation dimensions, firm performance and market orientation within their agro processing firms. In the scale, 1 was assumed to be the worst case scenario and a scale of 5 indicated the best case scenario (Idar & Mahmood, 2011). Several studies have used semi- structured questionnaires to collect data including Osoro, Mukulu and Sakwa (2012) and Mai, Kim, Heo and Jang (2012) which used the questionnaire to collect primary data on EO-firm performance relationship.

### **3.6 Data Collection Procedure**

Data collection refers to the process of gathering data from the sample so that the research can be answered (Bryman, 2012). In this study, primary data was collected over a period of six months. The questionnaires were self-administered on owner/managers of agro processing SMEs to ensure fast return. The hand delivered questionnaires were accompanied by letter of introduction outlining the objectives of the research and the confidentiality issues. Directions on how to respond to the questionnaire were highlighted at the beginning of the questionnaire. The cover letters, research questionnaire and relevant information are contained in Appendix I, II and III. Prior to sending the questionnaire, phone calls were made to the firms to verify the contacts of the owner/managers. Some questionnaires were completed in the presence of the researcher at the first visits while others were left with the owner/managers. Six weeks later, the researcher made follow up phone calls and personal visits to the organisations who had not yet responded as discussed with the researcher. A follow-up questionnaire

replacement was personally dropped by the researcher where they had been misplaced or lost.

A number of assumptions underlay the use of self-administered questionnaires. First, it was assumed that the respondents were capable of answering the relevant questions knowledgeably and accurately. Secondly, that the respondents were expert informants due their experience and insight about their enterprises and the industry. Lastly, it was assumed that the answers given by the respondents were representative of firm behavior and practice (Kothari, 2007; Bryman & Bell, 2011). Other studies have also used self-administered questionnaires to collect data from top management. A study by Ahimbisibwe and Abaho (2013) used self-administered questionnaires to collect data on the relationship between export entrepreneurial orientation and export performance of SMEs in Uganda. Boohene, Marfo – Yiadom and Yeboah (2012) used self-administered questionnaires to collect primary data where all the respondents were thoroughly guided to complete the questionnaire in an empirical analysis of the effect of entrepreneurial orientation on firm performance of auto artisans in the Cape Coast, Metropolis. Fairuz, Hirobumi and Tanaka (2010), in a study on entrepreneurial orientation and performance of small and medium enterprises of Hambantota District, Sri Lanka, used self-administered questionnaires to collect primary data from SME owners and partners and interview guides to collect data from top level managers.

### **3.7 Operationalization of Variables**

An extensive review of existing conceptual and empirical literature produced the measurement scales for each of the variables. Mugenda (2008) states that measurement involves the assignment of real numbers to some characteristics or attributes according to specified rules while scaling involves the development of systematic rules and meaningful units of measurement to represent empirical observations. In this study, an extensive review of existing conceptual and empirical literature produced the measurement scales for each of the variables. In this study, dichotomous scale, closed

and open – ended questions and a 5-point Likert scale were used to measure the independent variables. The respondents were required to give information on proactiveness, risk taking and innovativeness dimensions of entrepreneurial orientation. The dichotomous scale was used to elicit a Yes or No answer. The 5 – point likert scale ranged from ‘never’ to ‘always’. A composite score for each measure was formed by averaging the responses across the items used for the measure. Higher scores on a measure of a construct reflected higher levels of the construct.

Entrepreneurial orientation, proactiveness, risk taking and innovativeness were the independent variables in the study. To measure proactiveness, a 5 point Likert scale was used (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always). The mean score calculated as the average of 5 items assessed the firm’s ability to seize new opportunities which may not be related to present line of operations, leading to introduction of new products and brands ahead of competition (Blesa & Ripolles , 2009). The higher the score, the more the enterprise exhibit proactive behavior. In order to assess risk taking as an independent variable, a 5 point Likert scale (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always) was used. The scale was drawn from existing literature which reflects the firm’s willingness to engage in high-risk projects and managerial preferences for bold versus cautious actions in order to achieve firm objectives (Miller, 1983).

Risk taking propensity constituted the ability to devote increased resources to projects whose outcome is difficult to predict, the ability to break away from the tried-and-true path and to venture into unknown territory by financing major projects through heavy borrowing (Ahimbisibwe & Abaho, 2013). The higher the score, the more the enterprise exhibit risk taking. For innovativeness, the scale (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always) was used to measure the firm’s willingness to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services or technological processes (Lwamba, Bwisa & Sakwa (2013). The higher the score, the more the enterprise exhibits innovativeness. This study

measured entrepreneurial orientation as a second order construct comprised of proactiveness, innovativeness and propensity for risk taking.

In this study, the dependent variable was firm performance. Firm performance was measured by subjective measures whereby profitability, employee and sales growth were measured as the degree of satisfaction with enterprise performance over a period of 5 years to control for any variations (Poon, Ainuddin & Junit, 2006). A five point Likert scale (1=not at all satisfied, 2=slightly satisfied, 3=somewhat satisfied, 4=moderately satisfied, 5=extremely satisfied) was used. The mean score was calculated as the average of the 5 items assessed on firm's perceived firm performance. Thus, the higher the score, the better the enterprise's perceived firm performance.

The mediating variable was market orientation were measured using a dichotomous scale, closed and open – ended questions and a 5- point Likert scale. The dichotomous scale was used to elicit a Yes or No answer. Market orientation was captured using as a second order construct that conceptualized customer orientation, competitor orientation and inter-functional coordination (Idar & Mahmood, 2011). The 5 – point likert scale (1=strongly disagree, 2=moderately disagree, 3=neither, 4=moderately agree, 5=strongly agree) measured the enterprise's culture that helps firms undertake the necessary behaviors needed for the creation of superior customer value and firm performance (Narver & Slater, 1990). A composite score for each measure was formed by averaging the responses across the items used for the measure. Higher scores on a measure of a construct reflected higher levels of the market orientation.

### **3.8 Pilot Study**

Pilot testing is the start phase in data gathering of the research process. It was conducted to detect weaknesses in design and instrumentation and to provide alternative data for selection of a probability sample (Cooper & Schindler, 2011). The pilot test was used measure the reliability and validity of the research instruments (Saunders, Lewis &

Thornhill, 2009). In this study, the faults and inadequacies in the instrument were corrected and refined, some questions were revised and others dropped before data collection. Bryman and Bell (2011) posit that pilot test respondents should be comparable to members of the population from which the sample for the full study will be taken. Cooper and Schindler (2011) indicate that, a pretest sample may range from 25 to 100 subject but the respondents do not have to be statistically selected. The pretest sample can also be between 1% and 10% of the sample size (Mugenda & Mugenda, 2003). In this study, the questionnaire was pretested on 14 agro processing SMEs in Nairobi selected using purposive sampling technique. The pre-test sample constituted about 10% of the sample in the study and was comparable to members of the population from which the sample for the full study was taken.

### **3.8.1 Reliability of Data Collection Instrument**

Reliability is concerned with the question of whether the results of a study are repeatable (Bryman & Bell, 2011). Kothari (2009) advanced that a measuring instrument is reliable, if it provides consistent result. In this study, internal consistency was used to determine the reliability of the data collection instruments using Cronbach's alpha ( $\alpha$ ). Abbot and McKinney (2013) defined internal consistency as the extent to which the items of a single instrument correlate with one another either in separate halves of the test or to which items correlate among themselves if there is a single theme or content in the instrument. The Cronbach's alpha ( $\alpha$ ) value of 0.5 and above implies an acceptable measure of internal consistency (Idar & Mahmood, 2011; Al-Swidi & Al-Hosam, 2012).

### **3.8.2 Validity of Data Collection Instrument**

Validity is concerned with the integrity of the conclusions that are generated from a piece of research (Bryman, 2012). It is the extent to which a measure actually captures the meaning of the concept it is intended to measure (Abbott & McKinney, 2013; Bryman & Bell, 2011). This study tested for content, construct, convergent and

discriminant validity (Kumar, 2005). Content validity is defined as the extent to which a measuring instrument provides adequate coverage of the investigative questions guiding the study (Cooper & Schindler, 2011). To ensure content validity in the study, the questionnaire was subjected to a panel of 5 entrepreneurship experts to assess whether each measurement question was essential, useful and in consonance with the known literature (Singh, 2007). In this study, content validity was also assessed by making reference to a comprehensive review of the literature concerning the scale items that represented the study constructs (Fairoz, Hirobumi & Tanaka, 2010; Osuagwu, 2006).

In this study, convergent validity of the measures was assessed using Average Variance Extracted (AVE). Convergent validity involves gauging the validity of a measure by comparing it to measures of the same concept developed through other methods (Bryman & Bell, 2011; Gyau, Spiller & Wocken, 2011). Convergent validity is demonstrated by a strong relationship between the scores obtained from two different methods of measuring the same construct (Gravetter & Forzano, 2006). On the other hand, discriminant validity was assessed using the Fornell and Larcker (1981) test of the square root of the average variance extracted. Discriminant validity focuses on the extent to which measures for constructs are distinctively different from each other (Baker & Sinkula, 2009). To satisfy the requirement of the discriminant validity, the square root of a construct's average variance extracted must be greater than the correlations between the construct and other constructs (Al-Swidi & Al-Hosam, 2012; Madhoushi, Sadati & Delavari, 2011).

### **3.9 Data Processing and Presentation**

Data analysis is the process of understanding the meaning of information collected by bringing order, structuring for decision making or making a conclusion. It involves reducing accumulated data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques (Cooper & Schindler, 2011). Kothari (2009) defines data processing as editing, coding, classification and tabulation of collected data

so that they are amenable to analysis. Editing consists of scrutinising the completed research instruments to identify and minimise, as far as possible, errors, incompleteness, misclassification and gaps in the information obtained from the respondents (Kumar, 2005; Cooper & Schindler, 2011). Coding involves assigning numbers or other symbols to answers so that the responses can be grouped into a limited number of categories. Tabulation is the process of summarizing raw data and displaying the same in compact form for further analysis (Kothari, 2009).

In this study, data collected was edited, coded, cleaned, screened and tabulated using Ms-Excel. Initial descriptive data analysis was performed using IBM SPSS version 20. IBM SPSS version 20 was also used as a transit package from SPSS to Smart PLS. The response rate and demographic characteristics of the respondents were then analyzed. To achieve the objectives of the study, qualitative techniques such as descriptive statistics, frequency distribution, means and standard deviation were used utilized to analyze primary data. The analyzed data was then presented in the form of frequency tables, bar charts, graphs and pie charts. Once initial descriptive analysis was completed, the study construct measures were subjected to exploratory factor analysis and confirmatory factor analysis. Several assumptions were assessed, that is, presence of outliers, normality, multicollinearity and communalities. Structural equation modeling (SEM) partial least squares (PLS) was then used to test the hypotheses developed in Chapter One using SmartPLS version 2.0.

SEM-PLS is a component based approach used for testing multivariate models with empirical data. It uses a two-stage procedure to test predictive models. The initial step was the evaluation of the outer or measurement model which determines the validity and reliability of the construct. The next step was the assessment of the inner or structural model. SEM-PLS assumes linear relationships or unidirectional causal relationships between the research indicators and latent variables as well as between latent variables (Bryne, 2001). In this study, SEM-PLS was used because of four reasons. First, PLS makes no prior distributional assumptions and is applicable to small sample sizes.

Secondly, PLS is used to analyze complex models with large sets of relationships among constructs and sub-constructs (Esposito Vinzi, Trincea & Amato, 2010). It provides more flexibility in modeling second order constructs and formative constructs (Chin, 1998). Thirdly, PLS could account for measurement errors of latent constructs and can assess significance of structural models simultaneously. Lastly, SEM-PLS examines the causal relationships among latent variables in situations of high complexity and low theoretical information (Byrne, 2001).

### **3.9.1 Measurement Model Estimation**

Data purification was performed using exploratory factor analysis (EFA) with IBM SPSS 20. The aim of EFA was to refine the variables into the most effective number of factors by selecting the variable with high correlations among themselves but low correlations with all other variables (Babin & Svensson, 2012). Items with low item to total correlations and low loading to intended factor and high cross loadings were removed. Liu, Manolova and Edelman (2009) in their study, Entrepreneurial orientation and firm performance: The role of resource endowments performed exploratory factor analysis to ensure that the scale items loaded on their respective constructs and to estimate the percentage of variance explained. EFA included computation of factor loading matrix, communalities and principal component analysis.

Prior to EFA, Kaiser – Meyer – Olkin (KMO) and Bartlett test of sphericity was used to assess the appropriateness of using exploratory factor analysis. Kaiser – Meyer – Olkin (KMO) measure of sampling adequacy is a measure to quantify the degree of correlations among the variables. It indicates the proportion of variance in the study constructs that might be caused by underlying factors. On the other hand, Bartlett test of sphericity provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables (Hair, Black, Babin & Anderson, 2010). KMO values more than 0.50 and Bartlett's Test of Sphericity significant at  $p < 0.001$  indicate that data may be useful in factor analysis (Idar & Mahmood, 2011).



Boohene, Marfo – Yiadom and Yeboah (2012) used Kaiser – Meyer – Olkin (KMO) and Bartlett test of sphericity to test for factor analysis in their study on the effect of entrepreneurial orientation on firm performance of auto artisans in the Cape Coast Metroplis.

Factor analysis was performed on entrepreneurial orientation and firm performance items using SmartPLS 2.0 (Singh, 2007). Factor analysis is a general term for several specific computational techniques used to examine patterns of relationships amongst select variables (Cooper & Schindler, 2011). The objective of the technique is to find a way of condensing the information contained in a number of original variables into a smaller set of variables or factors with a minimal loss of information. Huang and Wang (2011) utilized factor analysis to examine the underlying patterns or relationships for a large number of variables.

The variability of each observed variable that could be explained by the extracted factors was also checked by extracting the communality values. A low value for communality of less than 0.3 is an indication that the variable does not fit well with other variables in its component, and therefore undesirable (Pallant, 2010). Ekpe and Mat (2012) found that the value for communality was above 0.6 which indicated that the variables in the study fitted well with each other. Principal Component Analysis with Varimax rotation was performed to determine the number of factors that can best represent the interrelations among the set of variables. Awang, Khalid, Yusof, Kassim Ismail, Zain and Madar (2009) in their study, Entrepreneurial orientation and performance relations of Malaysian Bumiputera SMEs: The impact of some perceived environmental factors, utilized principal component analysis with promax rotation.

Once EFA had identified the underlying factors, the measurement models were developed using PLS. Partial Least Squares estimation was used to examine the causal relationship among latent variables. Partial Least Squares analysis has been found to be effective in situation of small sample size (Hair, Black, Babin & Anderson, 2010).

Initially, Confirmatory factor analysis was used to validate the measurement scales using multiple scales such as are construct uni-dimensionality, construct reliability, convergent validity and discriminant validity (Hair *et al.*, 2010). The presence of multivariate outliers was detected by inspecting boxplots. Kline (2005) posits that outliers are extremes score on either the low or the high end of a frequency distribution of a quantitative variable. Outliers are data points or observations that do not fit the trend shown by the remaining data. They may represent erroneous data or unusual values that have occurred by chance (Anderson, Sweeney & Williams, 2002). Boxplots indicate data points that exceed one and a half times the inner quartile range.

Schindler and Cooper (2011) indicate that boxplots are a good exploratory tool for outliers with the box being the most striking feature demonstrating the limits of the middle half of the data. Especially, the top of the box is the upper bound value (UBV), below which 75% of the data lies while the line inside the box represents the median. The bottom of the box is the lower bound value (LBV), under which 25% of the data falls. In the boxplot, outliers are the points highlighted when their distance from the box exceeds one and half times the inner-quartile range (Cooper & Schindler, 2008). In this study, several outliers were identified and dropped, after which reasonable boxplots are used to show a normal distribution of variables.

Normality is important in determining the shape of distribution and helps to predict the dependent variable score. The normality assumption was tested using graphical methods and numerical methods that include skewness, kurtosis, Kolmogorov-Smirnov and Shapiro-Wilk tests as indicated in Chapter Four (Pallant, 2010). Graphical methods were useful in checking normality for sample in  $n$  independent observations while Kolmogorov-Smirnov and Shapiro-Wilk tests helped to detect all departures from the normal and are more appropriate for small sample sizes (Stevens, 1992; Shapiro & Wilk, 1965; Anderson, 2003). In Shapiro-Wilk test, the value of  $W$  lies between zero and one. If the significance value of the Shapiro-Wilk test is greater than 0.05, the data is normal while a significance value of below 0.05 indicates that the data significantly deviates

from a normal distribution (Warner, 2008; Kline, 2005). The Skewness test is acceptable if it falls between -1 and 1 and kurtosis test is acceptable if it falls between -2 and 2. In order to determine normality graphically, the output of a normal Q-Q plot was used. If the data are normally distributed, the data points will be close to the diagonal line. If the data points stray from the line in an obvious non-linear fashion, the data are not normally distributed. Andersen (2010) and Ekpe and Mat (2012) used numerical tests to test for normality in their studies on EO- performance relationship.

Multicollinearity was tested using Variance Inflation Factor (VIF) and Tolerance as indicated in Chapter Four (Anderson, 2003). Multicollinearity exists when the independent variables are highly correlated which implies that the correlated constructs are measuring the same thing (Bordens & Abbott, 2008). When multicollinearity exists, the estimated regression coefficients can fluctuate widely from sample to sample, making it risky to interpret the coefficient as an indicator of the relative importance of predictor variables (Cooper & Schindler, 2011). High degree of multicollinearity will be reflected in lower tolerance values and higher VIF values (Black, Babin & Anderson, 2010). Tolerance of a respective independent variable is calculated from  $1 - R^2$ . Tolerance with a value close to 1 means that there is little multicollinearity, whereas a tolerance with a value close to 0 suggests that multicollinearity is a threat. Variance Inflation Factor is the reciprocal of Tolerance. A Variance Inflation factor of more than 4 indicates high multicollinearity (Martz, 2013). Kropp, Lindsay and Shoham (2008) tested for multicollinearity in their study on entrepreneurial orientation and international entrepreneurial business venture startup. Junaidu (2012) in their study on the moderating role of entrepreneurial orientation and export performance of SMEs in the Nigerian Leather used variance inflation factor to examine multicollinearity.

### **3.9.2 Structural Model Estimation and Hypothesis Testing**

To establish the linear relationship between the various independent variables and firm performance, Pearson product-moment correlation coefficient  $r$  was used. The values

obtained from Pearson  $r$  varied from -1 to +1 where a coefficient of 1.0 indicates a perfect positive relationship while -1.0 indicates a perfect negative correlation (Pallant, 2010). In this study, a correlation coefficient of +/- (.41 to .60) was defined as a moderate strength of relationship, whereas +/- (.21 to .40) was defined as a weak relationship and values ranging from +/- (0 to .2) were defined as very weak relationship or no relationship (Baba & Elumalai, 2011).

Structural Equation Modeling was used for model analysis and hypothesis testing for Objectives 1, 2, 3 and 4 of the study by identifying the structural model that best fitted the data. The hypothesized relationships were tested by running PLS algorithm and bootstrapping algorithm in SmartPLS Version 2.0. Model identification was accomplished by examining path coefficients or betas for hypothesis testing (Hair *et al.*, 2011). Path coefficients were used to determine the direction and strength of the factor. The resultant T-tests statistics from the bootstrapping procedure provided the basis for determining which relationships are statistically significant (Hensler, Ringle & Sinkovics, 2009). Hyung and Dedahonov (2014) used structural path coefficient to determine whether to reject the null hypothesis, in their study on Firm performance and entrepreneurial, market and technology orientations in Korean Technology Intensive SMEs. The predictive relevance of the model was ascertained using a blindfolding procedure to generate the cross-validated communality  $Q^2$  and cross validated redundancy. Fornell and Cha (1994) posit that the model will have predictive quality if the cross-redundancy value is found to be more than 0 otherwise the predictive relevance cannot be determined. Al-Swidi and Al-Hosam (2012) confirmed the predictive relevance of the structural model using  $R^2$  and blindfolding procedure.

### **3.9.3 Testing for Mediation effect**

The influence of market orientation (MO) on the relationship between entrepreneurial orientation (EO) and firm performance was tested using bootstrapping and the Sobel test using Smart PLS Version 2.0. The Sobel test and bootstrapping were recommended

approaches for determining the strength and significance of the mediation (Hensler *et al.*, 2009; Preacher & Hayes, 2004). For the purposes of this study, bootstrapping was used draw from the 97 original respondents 500 samples (with replacement). Baron and Kenny (1986) approach was used to test the mediation effect where the mediating variable was regressed on the independent variable then the dependent variable was regressed on the independent variable. Lastly, the dependent variable was simultaneously regressed on the dependent variable and the mediating variable (Kim, Kaye & Wright, 2001).

Idar and Mahmood (2011) state that to prove the mediating effect, it must be demonstrated that the regression coefficient associated with the EO-firm performance relationship shrinks or goes to zero when MO as a mediator is added to the equation. If the effect goes to zero when the mediator is added then full mediation has taken place, however, if the effect only shrinks in the presence of the mediator, then partial mediating has occurred. The Sobel test resulted in *z*-score and *p*-value which determined the strength of the mediation. After bootstrapping the sample, corresponding *t*- statistics were used to determine the strength of mediation alongside the Sobel Test statistics. Both approaches were used to provide a clearer understanding of the effects of the mediation paths within the models.

The mediating effect of the hypothesized relationship was tested using the following regression equations:-

Step 1: Regressing the mediator on the independent variable

$$MO = a_0 + b_1(p) + b_2(r) + b_3(i) + b_4(c) + \varepsilon \dots \dots \dots \text{Equation 1}$$

Step 2: Regressing the dependent variable on independent variables

$$y = b_0 + c_1(p) + c_2(r) + c_3(i) + c_4(c) + \varepsilon \dots\dots\dots \text{Equation 2}$$

Step 3: Regressing the dependent variable on both independent variables and mediating variable

$$Y = c_0 + d_1(p) + d_2(r) + d_3(i) + d_4(c) + \varepsilon \dots\dots\dots \text{Equation 3}$$

Where:

MO = market orientation

y = firm performance

$a_0$ ,  $b_0$ , and  $c_0$  are regression constants, the value of y when all values are zero

$b_i$ ,  $c_i$  and  $d_i$  are regression coefficients for  $i = 1,2,3,4$

$\varepsilon_i$  is a random error term

PR is proactiveness

R risk taking

IN innovativeness

Empirical studies that have used Sobel Test and bootstrapping to assess the mediation effect include Zainol and Ayadurai (2011) in their study on entrepreneurial orientation and firm performance by taking personality traits as the antecedent and Li, Huang and Tsai (2009) in a study that examined the relationship between the mediating effect of knowledge creation on the relationship between entrepreneurial orientation and firm performance.

## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSION

#### 4.1 Introduction

The chapter provides information on response rates, enterprise characteristics and measurement model estimation. In addition, this chapter will provide details on structural model estimation and testing of hypotheses.

#### 4.2 Response Rate

The respondents were owner/managers of Agro processing small and medium enterprises in Kenya. A total of 97 usable questionnaires were returned out of 111 questionnaires that were self-administered, 14 firms declined to participate in the study on grounds that their organisation had a “no-questionnaire” policy or their unavailability of owner/managers due to pressure of work. The results as illustrated in Table 4.1 reveals a response rate of 87.3% , which was found to be acceptable. According to Mugenda (2008), a response rate of 50% is considered adequate, 60% and above good, and above 70% very good. Roscoe’s (1975) rule of thumb indicates that a sample size between 30 and 500 is sufficient.

Wijesakara, Kumara and Gunawardana (2014) in their study, Impact of market orientation and entrepreneurial orientation on performance: A study of small and medium scale garment manufacturers in Sri Lanka, realized a response rate of 42.33%. Awang, Ahmad, Asghar and Subari (2010) in their study, Entrepreneurial orientation and performance relations of Malaysian Bumiputera SMEs: The impact of some perceived environmental factors, the response rate was 38%. In a study by Arshad, Rasli, Arshad and Zain (2013) on The Impact of Entrepreneurial orientation and business performance: A study of technology – based SMEs in Malaysia, 150

questionnaires were distributed, 88 of them were returned resulting in a response rate of 58.6%.

**Table 4.1: Response Rate**

	Frequency	Percentage
Initial Population	111	100%
Firms that refused to participate	14	12.6%
Usable responses	97	
Response rate	87.4%	

### 4.3 Firm Demographic

Kothari (2009) posit that descriptive statistics helps to organize, summarize, and simplify the results obtained from research studies. In this study, the descriptive characteristics of the respondents were organized and reviewed using SPSS version 20. The demographic characteristics were analysed using frequencies and percentages and presented in the form of frequency tables, bar charts, graphs and pie charts. Although the demographic data did not have an effect on the level of analysis, it assisted in providing general information about the population under study. Several studies have used descriptive statistics to analyze and present demographic data of study respondents. Kropp, Lindsay and Shoham (2006) used descriptive statistics in their study on entrepreneurial, market and learning orientations and international entrepreneurial business venture performance in South African firms. Yoon (2012) used descriptive statistics in their study on the performance effects of entrepreneurial orientation in South Korean start – ups. Otieno, Bwisa and Kihoro (2012) used



descriptive statistics in their study on influence of entrepreneurial orientation on Kenya's manufacturing firms operating under East African regional integration.

#### **4.3.1 Gender of Top Management of Agro Processing SMEs**

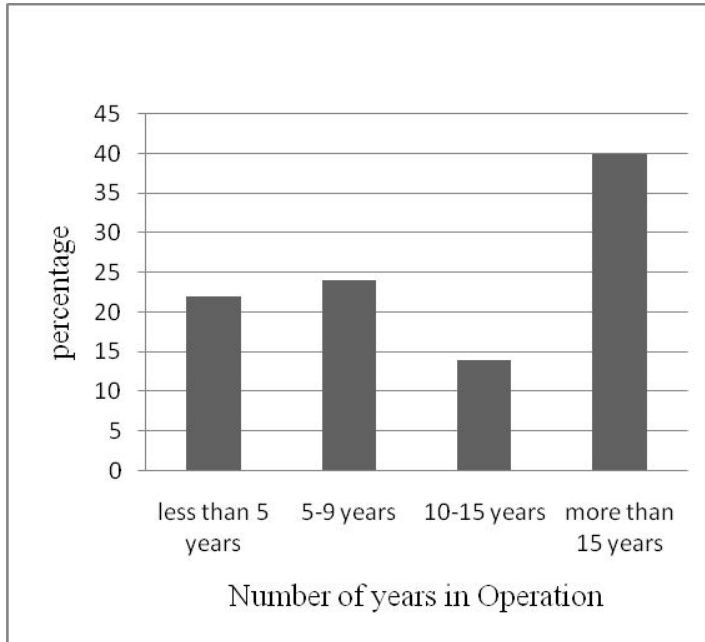
The data findings as illustrated in Table 4.2 showed that the majority (62.8%) of the respondents were male while the minority (37.2%) of the respondents was female. The findings indicate that there are more men than women in management positions of agro processing SMEs. The findings are consistent with a study by Idar and Mahmood (2011), Entrepreneurial and market orientation relationship to performance: The SME perspective found out that the majority of managers of small and medium enterprises were male. This may imply that women play a dismal role in decision-making processes of agro processing SMEs. The results are consistent with the finding of a study by Ayub, Razzap, Aslam & Iftkhar (2013) which found that male managers have a higher entrepreneurial orientation than their females counterparts. Females managers were, however, slightly more proactive than male entrepreneurs. The difference in entrepreneurial orientation could be attributed to socialization of women, difference in EO preferences and structural barriers, such as unequal access to entrepreneurship education or inadequate relevant business experiences (Yordanova & Alexandrova-Boshnakova, 2010). As such, women in management position should be advised to enhance their education which has been found to expand their horizon and aspirations of women while eradicating their learned perceptions.

**Table 4.2: Gender of Owner/managers of Agro Processing SMEs**

	Frequency	Percent
Male	60	62.8
Female	37	37.2
Total	97	100.0

#### **4.3.2 Age of Top Management of Agro Processing SMEs**

The majority (47%) of the respondents were between 31 to 40 years while 37% were between 21 to 30 years, another (14%) were between 41 and 50 years and yet another (2%) of the respondents were below 21years as illustrated in Figure 4.1. The study findings indicate that majority of owner/managers of agro processing SMEs are between 21 and 40 years implying that a young adult population is at the helm of power of agro processing SMEs. Young managers are entrepreneurially act which results in superior performance of their enterprises (Hung & Chin, 2011). A study by Wickramarantne, Kiminami and Yagi (2014) found out that owner/managers have a propensity to become less entrepreneurial with age.



**Figure 4.1: Age of Top Management of Agro Processing SMEs**

### **4.3.3 Academic Qualification of Owner/Managers**

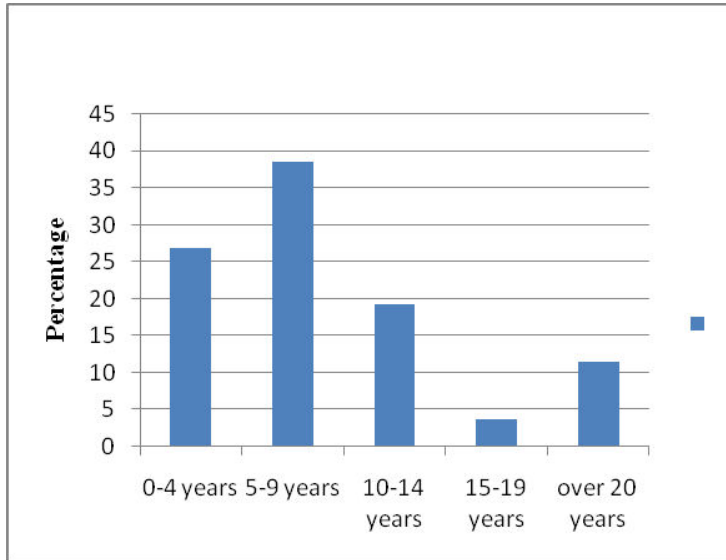
The Majority (41.2%) of the respondents were bachelor degree holders, while 39.2% were diploma holders, another 11.3% are master degree holders, yet another 6.2% are certificates holders while 2.1% are doctorate degree as indicated in Table 4.3. The study findings indicated that a majority of owner/managers are college graduates which imply that they have the technical knowhow and entrepreneurial skills necessary to run successful enterprises. A study by Grable and Lytton (1998) advances that college graduates have strong knowledge acquisition, assimilation and transformation capabilities which facilitate the comprehension of business strategic operations. Similarly, Pearce and Robinson (2009) found that managers with formal education had a greater ability to identify profitable opportunities and to communicate clearly their vision in both written and spoken word.

**Table 4.3: Academic Qualification of Owner/managers of Agro Processing SMEs**

Level of Qualification	Frequency	Percent
Certificate	6	6.2
Diploma	38	39.2
bachelor's degree	40	41.2
Master degree	11	11.3
PhD	2	2.1
Total	97	100

#### **4.3.4 Number of Years worked by Top Management**

The majority (38.5%) of the respondents had worked in their firms for a period between 5 to 9 years, another 26.9% had worked for less than 4 years, yet another, 19.3% of the respondent had worked for a period between 10 to 14 years, a few (11.5%) had worked for over 20 years while 3.8% had worked for a period between 15 to 19 years as presented in Figure 4.2. The findings suggested that majority of the top managers of agro processing SMEs had adequate understanding of their enterprises and that they had industrial experience vital for business success. A study by Hisrich (1990) found out that there is a positive relationship between the number of years worked by managers and firm performance. Similarly, Hung and Chin (2011) and Zahra (2005) found out that there was a correlation between industry specific experience and performance. Owner/managers who have diplomas and certificate as the highest academic achievement should attain higher qualifications in order to enhance their entrepreneurial skills and competencies.



**Figure 4.2: Number of years worked by owner/manager**

#### **4.3.5 Legal status of Agro Processing SMEs**

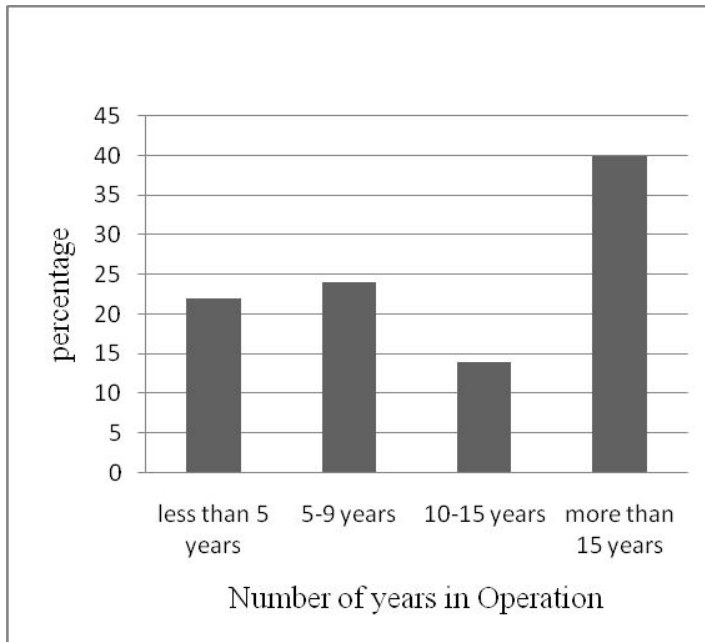
The majority (75.2%) of the respondents as illustrated in Table 4.4 were limited liability companies, while 14.4% were sole proprietors, yet another 10.4% were partnerships. The results indicated that majority of owners of agro processing SMEs are protected from personal liability in case the enterprises incur debts which is likely to support entrepreneurial formation and investment in risky projects. Moreover, the limited liability companies can cope with additional business uncertainties resulting from business environment. This will have a significant effect on firm performance of agro processing SMEs (Manolova, 2008; Eckardt, 2014).

**Table 4. 4: Legal status of Agro Processing SMEs**

	Frequency	Percent
sole proprietorship	14	14.4
limited liability company	73	75.2
partnership	10	10.4
Total	97	100

#### **4.3.6 Number of Years in Operation**

The majority (40%) of the respondents had been in operation for a period of more than 15 years while 24% of the respondents had been in operation for a period between 5 to 9 years, another 22% of the respondents had been in operation for less than 5 years, yet another 14% had been in operation for a period between 10 to 15 years as indicated in Figure 4.3. The study findings imply that most of agro processing SMES are in the maturity stage with well-embedded routines derived from prior operating experiences and a learned capacity that focuses on routine problems. These owner/managers are likely to be cautious and conservative decision makers which may slow down entrepreneurial activity of their firms. A study by Campos and Valenzuela (2013) posit that the entrepreneurial activity that characterizes new organizations tends to disappear as organizations grow older. Thus, mature agro processing need to place more effort at re-engineering themselves so as to remain innovative, risk takers and proactive.



**Figure 4.3: Number of Years in operation**

#### **4.3.7 Sales Revenue of Agro Processing SMEs**

The analysis of sales revenue of Agro processing SMEs showed a mean of 0.355 and standard deviation of 0.694 in 2009; a mean of 0.415 and a standard deviation of 0.785 in 2010; a mean of 0.480 and a standard deviation of 0.925 in 2011; a mean of 0.564 and a standard deviation of 1.139 in 2012 and a mean of 0.703 and a standard deviation of 1.463 in 2013 as illustrated in Table 4.5. The findings indicated that there was a gradual growth in sales revenue which may be attributed to increased demand for its manufactured products. The growth in sales revenue is likely to strengthen agro processing SMEs' foothold and long term viability because of the available for capital expenditure. A study by Pindyck and Rubinfeld (2009) suggests that growth in sales revenue reduce the weighting of total costs and consequently enhances firm profitability.

**Table 4.5: Sales revenue of Agro Processing SMEs in Kenya (KES)**

Sales revenue		Minimum	Maximum	Std.		
	N	(In Billion)	(In Billion)	Mean	Dev	Skewness
2009	50	0.00001	2.8	0.355	0.694	2.295
2010	50	0.00001	3	0.415	0.785	2.122
2011	50	0.00001	3.5	0.480	0.925	2.171
2012	50	0.00002	4.6	0.564	1.139	2.447
2013	50	0.00002	6.5	0.703	1.463	2.72

#### **4.3.8 Number of Employees in Agro Processing SMEs**

The analysis for the number of employees as illustrated in Table 4.6 showed a mean of 51.30 and standard deviation of 50.646 in 2009; a mean of 60.11 and a standard deviation of 56.828 in 2010; a mean of 61.83 and a standard deviation of 57.789 in 2011; a mean of 69.98 and a standard deviation of 63.034 in 2012 and a mean of 78.12 and a standard deviation of 69.490 in 2013. The data findings indicate that there was a slight growth in the number of employees from 50 employees in 2009 to 69 employees in 2013. The results suggest that agro processing SMEs in Kenya had employed less than twenty people in a period of four years. The increment in the number of employee is too low given the high number of unemployed youth in Kenya.



**Table 4.6: Number of employees in Agro Processing SMEs in Kenya**

Number of employees	N	Mean	Std. Dev	Skewness	Kurtosis
2009	97	51.30	50.646	1.460	.350
2010	97	60.11	56.828	1.287	.350
2011	97	61.83	57.789	1.302	.347
2012	97	69.98	63.034	1.337	.343
2013	97	78.12	69.490	1.481	.340

#### **4.3.9 Core Product manufactured by Agro Processing SMEs**

The frequency distribution for the core product manufactured by the respondents is shown in Table 4.7. The data findings indicate that the majority (72.2 %) of the SMEs were engaged in the manufacture of food and beverage while 15.5% were found to be engaged in paper and board manufacturing, another 8.2% of the respondents were engaged in textile and garment manufacturing and yet another 4.1% were leather and footwear manufacturers. The study findings indicate that majority of agro processing SMEs are involved in the manufacture of food and beverages. The results are consistent with a study by Da silva, Baker, Shepherd, Jenane and Miranda da Cruz (2009) that found out that worldwide, food and beverage SMEs dominate the agro processing industry. The result suggests that there is an urgent need for targeted policy interventions to ensure survival, growth and competitiveness of agro processing SMEs engaged in the manufacture of paper and board, textile and garment and leather and footwear.

**Table 4.7: Core Product manufactured by Agro Processing SMEs**

	Frequency	Percentage
Food and beverage	70	72.2
Textile and garment	8	8.2
Paper and board	15	15.5
leather and footwear	4	4.1
Total	97	100

#### **4.4 Test of Assumptions of Study Variables**

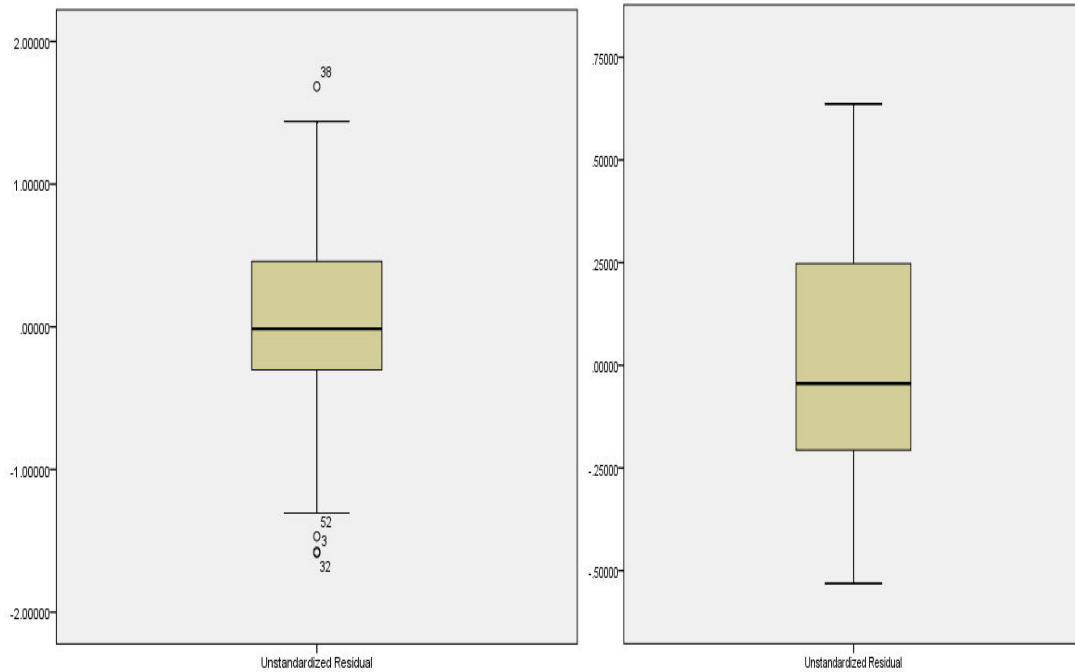
Bryman (2012) posit that before data analysis is done, it is important to test a number of assumptions about the distribution of the study variables. When the assumptions are not met, the results may not be reliable and may result in Type I or Type II error or under/over estimation of significance. To ensure that there was no violation of the assumptions, this study tested for outliers, normality and multicollinearity. Several empirical studies have conducted preliminary analyses to ensure that there was no violation of assumptions. Ekpe and Mat (2012), Moderating Effect of social environment on the relationship between entrepreneurial orientation and entrepreneurial intentions of female students at Nigerian Universities tested for normality, multicollinearity and outliers. Awang, Ahmad, Asghar, Subari and Kassim (2011) in their study, Firm entrepreneurial orientation and knowledge/networking of agro based enterprises in Malaysia: The role of technology and strategy tested for normality, multicollinearity and outliers before data analysis.

##### **4.4.1 Testing for Outliers**

Outliers were highlighted graphically using boxplots as illustrated in Figure 4.4. Outliers represent erroneous data or unusual values that have occurred by chance (Warner, 2008). Outliers change the scope of the regression line calculated from a data and can lead to wrong conclusions (Kothari, 2009). Outliers are cases or observations

showing values that were marked differently in data from the majority of the observations (Cooper & Schindler, 2008). Boxplots indicate data points that exceeded one and a half times the inner quartile range. They are a good exploratory tool for outliers with the box being the most striking feature that demonstrates the limit of the middle half of the data. The top of the box is known as the upper bound value (UBV), below which 75% of the data lies. The line inside the box represents the median. The bottom of the box is the lower bound value (LBV), under which 25% of the data falls. The median in a boxplot is represented with a thick line.

The outliers are highlighted when their distance from the box exceeds one and a half times the inner-quartile range (Cooper & Schindler, 2008). In this study, several outliers were noted and dropped from the data. Where the source of the outliers was identified, the sources were eliminated. The boxplots were found to be reasonable indicating that the data could be used for multivariate statistical analysis (Anderson, Sweeney & Williams, 2002). Ekpe and Mat (2012) in their study, The moderating effect of social environment on the relationship between entrepreneurial orientation and entrepreneurial intentions of female students at Nigerian Universities, tested for outliers and extreme observations in a sufficient number of variables.



**Figure 4.4: Multivariate Outliers of the Study Variables**

#### 4.4.2 Testing for Normality

Normality is important in determining the shape of distribution and helps to predict the dependent variable score. If the assumption of normality is violated, interpretation and inference may not be reliable or valid (Hair et al., 2005). There are three common ways to check the normality assumption, graphical methods such as the normal quantile - quantile plot (Q-Q plot), numerical methods that include skewness and kurtosis and normality tests such as Kolmogorov-Smirnov and Shapiro-Wilk tests (Pallant, 2010). Skewness presents the symmetry of the distribution while kurtosis presents the ‘peakness’ of the distribution. The closer skewness and kurtosis values are to 0, the more normal the distribution (Pallant, 2010). In addition, a variable with an absolute skew-index value greater than 3.0 is extremely skewed while a kurtosis index

greater than 8.0 is an extreme kurtosis. The ratio of standard error of skewness is acceptable when it falls within the range of -1 and + 1 and kurtosis falls between -2 and + 2 implying that the assumption of normality was satisfied (Kline, 2005). The results of the numerical methods as indicated by Table 4.8 showed that skewness was within the range of -0.203 and + 0.306 and kurtosis was within the range of -0.156 and + 0.626 implying that the assumption of normality was satisfied.

**Table 4.8: Results of Normality Test**

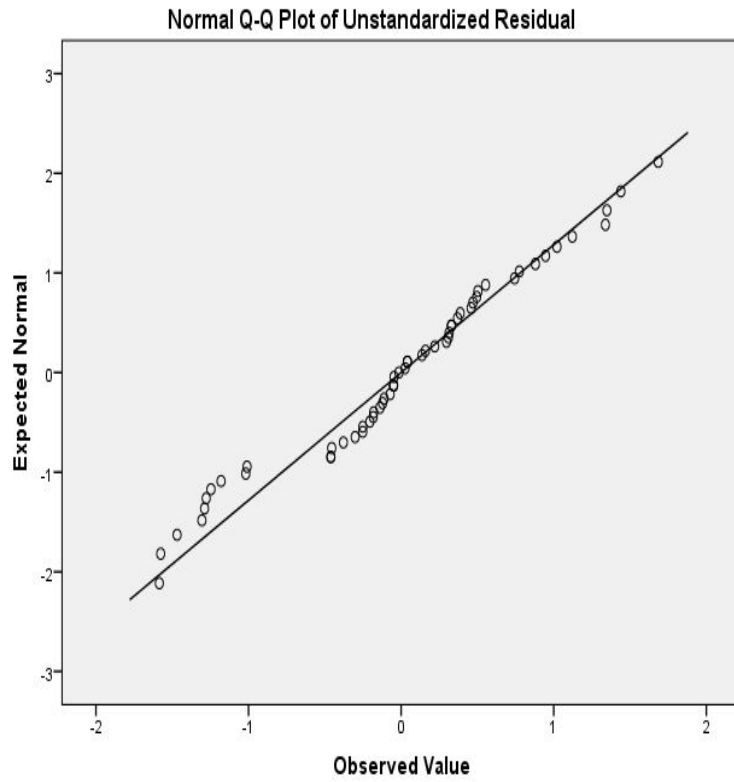
Variable Factor (FP)	Statistic	Standard Error ( $\pm$ )
Mean	0.2069	0.1033
Median	-0.0144	
Standard deviation	0.7800	
Range	3.2692	
Skewness	-0.203	0.316
Kurtosis	-0.156	0.623

Shapiro-Wilk test is the most powerful test for all types of distribution and sample size (Keskin, 2006). In Shapiro-Wilk test, the value of  $W$  lies between zero and one. Small values of  $W$  lead to rejection of normality whereas value above 0.5 suggests a normal distribution (Anderson, 2003). In this study as illustrated in Table 4.9, Shapiro-Wilk test indicated that the value of  $W$  was 0.096 above the threshold of 0.05 indicating that the study data had a normal distribution (Anderson, 2003).

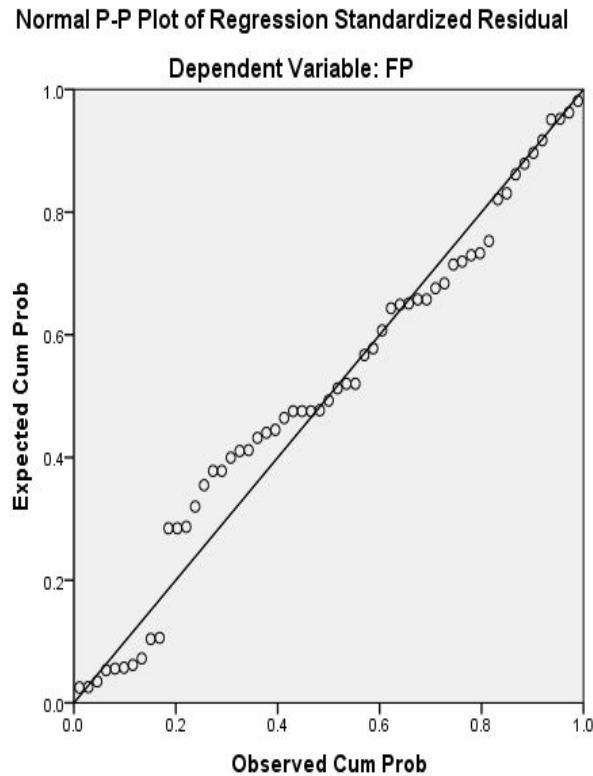
**Table 4.9: Results of Shapiro - Wilk Test**

	Shapiro-Wilk		
	Statistic	df	Sig.
Unstandardized Residual	.965	57	.096

In order to determine assumption of normality graphically, the output of a normal Q-Q plot and P-P plot was used. In the normal probability plot, the observed value for each score is plotted against the expected value from the normal distribution, where, a sensibly straight line suggests a normal distribution. If the points depart from a straight line, then the assumed distribution is called into question (Pallant, 2007). As illustrated in Figure 4.5 and Figure 4.6, the graphical analysis showed the line representing the actual data distribution closely followed the diagonal in the normal probability Q-Q plot and P-P plot suggesting normal distribution.



**Figure 4.5: Normal Q-Q Plot of Unstandardized Residual**



**Figure 4.6: Normal P-P Plot of Regression Standardized Residual of Firm Performance**

#### **4.4.3 Multicollinearity Test**

Multicollinearity exists when the independent variables are highly correlated. It is an undesirable situation where the estimated coefficients fluctuate widely from sample to sample, making it risky to interpret the coefficient as an indicator of relative importance of predictor variables. In this study, IBM SPSS statistics was used to test multicollinearity using Tolerance and Variance Inflation Factor (VIF). Variance Inflation Factor measures the effect of independent variables on a regression coefficient as a result of correlations. If no two independent variables are correlated, then the VIF values will be 1. If VIF value for one of the variables is greater than 5, there is multicollinearity associated with the variables (Cooper & Schindler, 2011).



Tolerance of a respective independent variable is calculated from  $1 - R^2$ . Tolerance with a value close to 1 means that there is little multicollinearity, whereas a tolerance with a value close to 0 suggests that multicollinearity is a threat (Martz, 2013). High degree of multicollinearity is reflected in lower tolerance values and higher VIF values (Black, Babin & Anderson, 2010). The results of the multicollinearity test as indicated in Table 4.10 reveal that the tolerance values were closer to 1 and the VIF values for the variables ranged from 1.131 (risk taking) and 1.168 (proactiveness) which was lower than 5. The results demonstrate that the beta values of the regression equation for the variables were stable with low standard errors and that there was no multicollinearity associated with proactiveness, risk taking and innovativeness. The study results are consistent with a study by Freiling and Schelhowe (2014) which found out that multicollinearity was not a problem as the item loadings had VIF score of less than 3.3.

**Table 4.10: Multicollinearity Test of Study Variables**

<b>Variance</b>	<b>VIF (1/(1-R<sup>2</sup>))</b>	<b>Tolerance (1-R<sup>2</sup>)</b>
<b>Proactiveness</b>	1.168	0.856
<b>Risk Taking</b>	1.131	0.884
<b>Innovativeness</b>	1.148	0.871
<b>Mean VIF</b>	1.149	

#### 4.4.4 Correlation of the Study Variables

In this study, Pearson product-moment correlation coefficient  $r$  correlation was used to establish the linear relationship between the various independent variables and firm performance. The results as illustrated by the correlation matrix in Table 4.11

indicated the lowest correlation was between innovativeness and proactiveness ( $r = 0.036$   $p > 0.05$ ) indicating that innovativeness had a very weak positive correlation with proactiveness. The highest correlation was firm performance and risk taking ( $r = 0.536$ ,  $p < 0.05$ ) indicating that risk taking had a moderate positive correlation with firm performance. Further, the results showed that proactiveness had a strong positive correlation with firm performance ( $r = 0.371$   $p > 0.05$ ); innovativeness had a strong positive correlation with firm performance ( $r = 0.263$   $p > 0.05$ ); proactiveness had a very weak positive correlation with risk taking ( $r = 0.090$   $p > 0.05$ ). In the study, the variables varied from -1 to +1 which indicated that the variables were sufficiently different measures of separate variables. Therefore, all the variables (proactiveness, risk taking, innovativeness and firm performance) were retained in the study.

**Table 4.11: Correlation Table of the Study Variables**

		FP	PR	RISK	INNOV
FP	Pearson	1	.371*	.436**	.263
PR	Pearson	.371*	1	.090	.036
RISK	Pearson	.536**	.090	1	-.364*
INNOV	Pearson	.263	.036	-.364*	1

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

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

## **4.5 Measurement Model Estimation**

In this study, the statistical analysis process involved two stages. The first step was the estimation of the outer or measurement model which assessed the relationship between the observable variables and the theoretical constructs they represent. The second stage was the specification of the inner or structural model and evaluation of the relationships proposed and testing of hypothesis (Bryne, 2001). In this study, constructs were measured using multiple items as conceptualized from empirical studies. A set of 30 measurement items representing 5 factors were subjected to CFA as part of partial least squares, outer model analysis using Smart PLS software. As illustrated in Figure 4.10, the cross-redundancy value was 0.147 above the threshold of 0 which demonstrated that outer measurement model was of predictive value. The measurement characteristics of the constructs were all acceptable.

### **4.5.1 Exploratory Factor Analysis**

The study's construct measures were initially purified using exploratory factor analysis (EFA). Exploratory factor analysis (EFA) is performed on the items composing the constructs to ensure that scale items loaded on their respective constructs. Exploratory Factor Analysis was assessed in order to identify the variables that cluster together into the most effective number of factors (Bordens & Abbot, 2014) and identify the structure of the measurement model for the items in the study (Hair, Black, Babin & Anderson, 2010). Exploratory factor analysis constitutes computation of factor loading matrix, extraction of communalities and principal component analysis. A study by Felgueira and Rodrigues (2012) in their study on Entrepreneurial Orientation, Market orientation and performance of teachers and researchers in public higher education institutions, used EFA in order to identify the variables that cluster together in their study. Similarly, a study by Morris, Coombes,

Schindehutte and Allen (2007), Antecedents and outcomes of entrepreneurial and market orientation in non-profit context: Theoretical and empirical insights, performed EFA to ensure that the scale items loaded on their respective constructs and to estimate the percentage of variance explained.

Prior to the EFA, two statistical tests which evaluate the factorability of data or suitability of data for structure detection were done, that is, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. In this study, as illustrated in Appendix VI, all the variables achieved the threshold of 0.600 for KMO Measures of Sampling Adequacy (Kaiser, 1974), as well as p values below 0.05 for Bartlett's test of Sphericity (Bartlett, 1954) which showed that the data was useful for factor analysis. The study findings are consistent with a study by Boohene, Marfo-Yiadom and Yeboah (2012) which found that all the variables had KMO Measures of Sampling Adequacy between 0.681 and 0.888 thus implying that the variables were highly correlated. Similarly, the study results confirm findings of a study by Huang, Wang and Chelliah (2011) which found that the Bartlett's test of Sphericity showed that the correlation was significant (degree of freedom = 0.000) while KMO had a significant value of 0.80.

#### **4.5.2 Factor loading, Communalities and Principal component analysis.**

Factor analysis was utilized to examine the underlying patterns of relationships amongst select variables (Cooper & Schindler, 2011). Factor loading values of  $\pm .50$  or greater were considered practically significant (Hair, Black, Babin & Anderson, 2010). The results as illustrated in Appendix VI indicated that the coefficients or "loadings" had values above 0.5 and therefore significant. Factors that had loading less than 0.5 were dropped, that is, two items (CA1, CA4) of competitive aggressiveness, one item (FP1) of firm performance, two items (IN3, IN4) of innovativeness, four items (MO1, MO2, MO6, MO9) of market orientation, two items (PR1, PR3) of proactiveness and

two items (R3, R4) of risk taking. The retained factor loadings ranged from 0.567 to 0.985 showing variables that were almost perfectly related to the factor pattern.

In this study, the variability of each observed variable that could be explained by the extracted factors were checked by extracting the communality values. Pallant (2010) posit that a low value for communality of less than 0.3 is an indication that the variable does not fit well with other variables in its component, and therefore undesirable. In this study as illustrated in Table 4.12, value of firm performance was 0.615, innovativeness was 0.665, market orientation was 0.537, proactiveness was 0.534 and risk taking was 0.654 which showed that all extracted communalities had values for communality greater than 0.5 implying that the variables fitted well with other variables in their factor (Kline, 2007).

**Table 4.12: Communality values of Study Variables**

<b>Item</b>	<b>Communality</b>
Firm Performance	0.615
Innovativeness	0.665
Market Orientation	0.537
Proactiveness	0.534
Risk Taking	0.6549

Principal Component Analysis is a method that transforms a set of variables into either a smaller number of variables that represent those in the original set or a completely new set of composite variables that are not correlated with each other. These linear combinations of variables, called factors, account for the variance in the data as a whole (Cooper & Schindler, 2011). In this study, Principal component analysis varimax rotation was used to extract the factors as it yields results which make it easy to identify each variable with a single factor (Hair et al, 2011). The findings of the

study indicated that 6 extracted factors out of 15 factors explained 72.5% of total variance in the data as illustrated in Appendix V. The six factors in the initial solution had eigen values of 3.047, the threshold being eigenvalues greater or equal to 1.0. The cumulative variability explained by the six factors in the extracted solution is 72.5% showing no difference from the initial eigenvalues.

#### **4.5.3 Confirmatory Factor Analysis**

Confirmatory factor analysis (CFA) was performed using SmartPLS software for measurement model estimation. The purpose of CFA was to establish the extent to which the observed data validate and fit the pre-specified theoretically based model (Chao & Spillan, 2010). Confirmatory factor analysis was estimated on multiple criteria such as construct reliability, convergent and discriminant validity. In this study, construct reliability was assessed by computing reliability and internal consistency of the items constituting the constructs. Composite reliability measures were evaluated by using SmartPLS and internal consistency was estimated using Cronbach's alpha ( $\alpha$ ). As illustrated in Table 4.13 and Appendix V, the Cronbach alpha ( $\alpha$ ) values were found to be above the 0.5 and ranged from 0.514 and 0.815 which indicates acceptable to good reliability (Mugenda, 2008). Additionally, the study findings as illustrated in Table 4.13 indicated that composite reliability of all items was above the acceptable threshold of 0.6 suggesting acceptable level of construct reliability (Hair, Black, Babin & Anderson, 2010).

**Table 4.13: Construct Reliability of the Study Variables**

	Composite	Cronbach
Construct	Reliability $\geq 0.6$	Alpha $\geq 0.5$
Proactiveness	0.6965	0.645
Risk taking	0.7869	0.514
Innovativeness	0.7991	0.658
Market Orientation	0.8517	0.815
Firm Performance	0.7507	0.556

Convergent validity is defined to be the degree to which a set of variables converge in measuring the concept on construct (Hair et al., 2010). In this study, convergent validity was assessed using Average Variance Extracted (AVE). The scores are said to be statistically significant if they are above 0.5 (Nunnally, 1978). In this study as illustrated by Table 4.14, the Average Variance Extracted (AVE) values were found to be above 0.50 which demonstrated convergent validity (Hair, Anderson, Tatham & Black, 2010).

**Table 4.14: Convergent Validity of the Study Variables**

Variable	AVE
Firm Performance	0.615880
Innovativeness	0.665477
Market Orientation	0.537628
Proactiveness	0.534673
Risk Taking	0.654957

Discriminant validity focuses on the extent to which measures for constructs are distinctively different from each other (Baker & Sinkula, 2009). Discriminant validity is assessed using the Fornell and Larcker (1981) test of the square root of the average variance extracted which compares the AVE to the highest squared correlation of each construct. To satisfy the requirement of discriminant validity, the square root of a construct's AVE must be greater than the correlation between the construct and other constructs in the model (Madhoushi, Sadati & Delavari, 2011). The results as illustrated in Table 4.15 showed that all the constructs in this study model met this criteria indicating that discriminant validity was supported. The coefficient of determination ( $R^2$ ) for proactiveness was 0.7312; risk taking was 0.8093; innovativeness was 0.8158; market orientation was 0.7332 and firm performance was 0.7848 which demonstrated discriminant validity.

**Table 4.15: Discriminant Validity of the Study Variables**

	<b>FP</b>	<b>IN</b>	<b>MO</b>	<b>PR</b>	<b>R</b>
<b>FP</b>	<b>0.7848</b>				
<b>IN</b>	-0.101302	<b>0.8158</b>			
<b>MO</b>	-0.200945	0.074067	<b>0.7332</b>		
<b>PR</b>	0.249599	-0.111609	-0.133821	<b>0.7312</b>	
<b>R</b>	0.243947	0.325621	0.056579	0.106454	<b>0.8093</b>

#### 4.5.4 Predictive Relevance of the Model

The predictive relevance of the inner model was assessed using Stone Geisser's ( $Q^2$ ) values, that is, cross validated redundancy using blindfolding procedure in SmartPLS 2.0. In blindfolding procedure, the cross-validated redundancy ( $Q^2$ ) values are obtained by the LVs that predict the block in question (Al- Swidi & Al-Hosam, 2012). A structural model is of predictive quality if the cross-redundancy value is found to be more than 0. If the value is less than 0, the predictive relevance of the model cannot be



determined (Fornell & Cha, 1994). In this study, the cross-redundancy value as illustrated in Table 4.16 was found to be 0.147 above the threshold of 0 which demonstrated that the outer measurement model had an adequate prediction value.

**Table 4.16: Predictive Relevance of the Model**

Dependent	R square	Cross-Validated redundancy	Cross-Validated Communality
Firm Performance	0.198	0.147083	0.532964

#### 4.5.5 Structural Model Estimation and Hypothesis Testing of Study Variables

Structural Equation Modeling partial least squares was used for model analysis and hypothesis testing. The structural or inner model identification was accomplished by examining path coefficients or betas for hypothesis testing (Hair *et al.*, 2011). The statistical objective of PLS is to show high  $R^2$  and significant t-values, thus rejecting the null hypothesis of no effect.  $R^2$  values range between 1 and 0 where 1 means a perfect prediction of the structural model (Hair et al. 2010). The paths between the constructs represent each hypothesis. The path coefficient estimates are used to determine direction and strength (Bordens & Abbott, 2008). The resultant T-tests statistics from the bootstrapping procedure provide the basis for determining which relationships are statistically significant (Hensler, Ringle & Sinkovics, 2009).

Parameters with an absolute t-value greater than 1.65 indicate a significance level of 0.1 (i.e.  $p < 0.1$ ), those with an absolute t-value over 1.96 indicate a significance level of 0.05 (i.e.  $p < 0.05$ ), those with an absolute t-value over 2.58 present a significance level of 0.01 (i.e.  $p < 0.01$ ), and those with an absolute t-value over 3.26 present a significance level of 0.001 (i.e.  $p < 0.001$ ). A study by Pratono and Mahmood (2015) used structural equation model partial least squares SEM (PLS) for model analysis and

hypotheses testing in their study on the mediating effect of marketing capability and reward philosophy in the relationship between entrepreneurial orientation and firm performance.

#### **4.6 Proactiveness and Firm Performance**

Objective 1: To establish the influence of proactiveness on firm performance of agro processing SMEs in Kenya.

##### **4.6.1 Descriptive analysis of Proactiveness**

The entrepreneurial dimension proactiveness was measured using 4 items on a five point Likert scale with '1' indicating 'never' on one extreme and '5' indicating 'always' on the other extreme. All measures used were grounded on literature. The questions solicited respondents to evaluate 1) the proclivity to be the first to introduce new products and services 2) the tendency to avoid deliberate competition 3) the propensity to initiates changes upon which the competitors react 4) the tendency to act ahead of competitors in anticipating future customer needs. 5) the firm ability to respond to marketplace opportunities. The reliability test on proactiveness construct achieved a Cronbach alpha of 0.645 indicating acceptable internal consistency thus verifying the reliability of the scale.

The study findings illustrated in Table 4.17 indicated that the mean for proactiveness ranged between 2.87 with a standard deviation of 1.085 and 4.38 with a standard deviation ranged between 0.661. The results indicated that 33.7% of the agro processing SMEs frequently or always are the first to introduce new products and service, another 59.6% rarely or sometimes seek to avoid deliberate competition, yet another 41.6% frequently or always initiate changes upon which the competitors react, another 88.5% frequently or always act ahead of competitors in anticipating future customer needs while 100% of agro processing SMEs respond to marketplace opportunities. The study findings reveal that agro processing SMEs are industry

pioneers, initiating actions that competitors must then react to, which leads to superior performance (Keh, Nguyen & Ng, 2007).

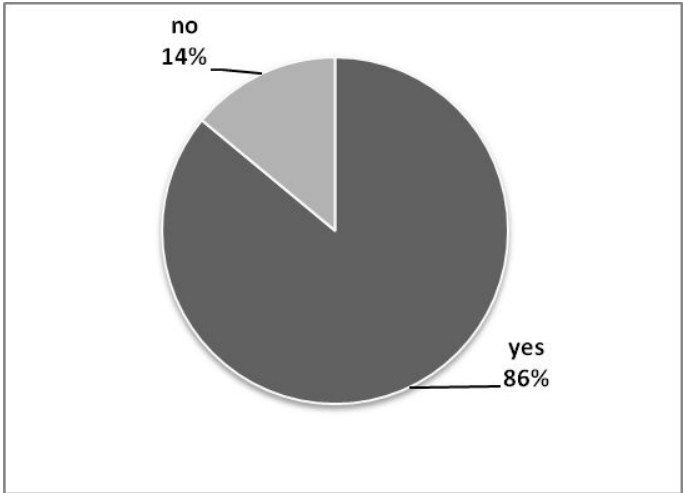
Baba and Elumalai (2011) and Boohene, Marfo-Yiadom and Yeboah (2012) argue that the ability to strategically and futuristically respond to identify and exploit market opportunities is vital for growth and survival of SMEs. Proactive agro processing SMEs will introduce new products and services, develop new technologies and administrative techniques which will shape the business environment (Baba & Elumalai, 2011). Research has shown that the behavior and attitude of top management primarily determines market penetration and development (Okpara, 2009). A study by Yucel (2011) found out that firms with executives with high individualism have higher firm performance than those that have executives with low individualism. The author argued that entrepreneurial orientation with low individualism promotes ambiguous goals and a piecemealed vision. Agro processing SMEs must take into account the personality characteristics of its owner/managers when modeling the entrepreneurial orientation and firm performance relationship.

**Table 4.17: Descriptive Analysis of Proactiveness of Agro Processing SMEs**

<b>Item</b>	<b>N</b>	<b>R</b>	<b>S</b>	<b>F</b>	<b>A</b>	<b>MEAN</b>	<b>STEVD</b>
<b>PR1</b>	3.8%	7.7%	53.8%	26.9%	7.8%	3.27	0.866
<b>PR2</b>	9.6%	30.8%	28.8%	25.0%	5.8%	2.87	1.085
<b>PR3</b>	3.8%	7.7%	26.9%	44.2%	17.4%	3.63	0.991
<b>PR4</b>	0%	1.9%	9.6%	46.2%	42.3%	4.29	0.723
<b>PR5</b>	0%	0%	10%	42.3%	48.1%	4.38	0.661

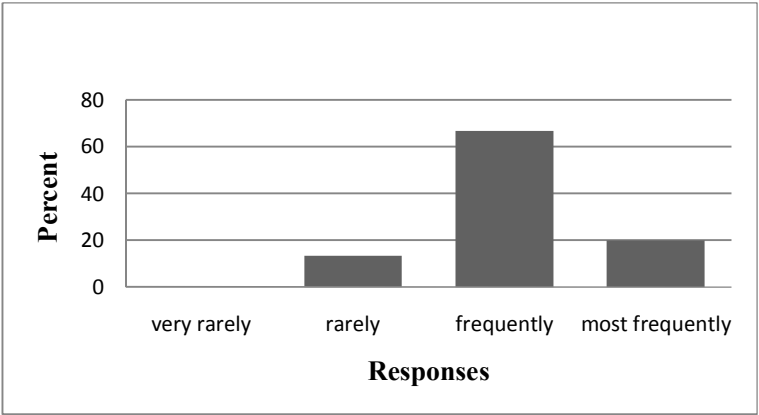
N-Never, R-rarely, S-sometimes, F-frequently, A-always

In this study, the respondents were required to indicate whether they exploit market opportunities to meet customer demand. The study findings as illustrated in Figure 4.7 indicated that the majority (86%) of the respondents exploit market opportunities to meet customer demand while 14% of the respondents do not exploit market opportunities to meet customer demand. The study findings indicate that discovering future opportunities is an integral part of the strategic planning process of agro processing SMEs. Yoon-joo, Min-jae, Jun-seok and Lee-joo (2010) suggest that firms that match market environment with management reinforces organizational innovations will introduce different solutions for satisfying customer needs. As such, agro processing SMEs should empower their employees with market intelligence, information generation and dissemination competencies so that they can successfully exploit opportunities arising from globalization and the revolution of e-commerce.



**Figure 4.7: Responses on exploitation of market opportunities.**

The study sought to find out if agro processing SMEs enter new markets with existing products. The data findings as illustrated in Figure 4.8 indicated that the majority (66.7%) frequently enter new markets with existing products, another 20% most frequently enter new markets with their existing products while 13.3 % rarely enter new markets with existing products. The results imply that agro processing SMEs forge new market segments in response to perceived opportunity. Hisrich, Peters and Shepherd (2009) argue that the ability to recognize a business opportunity represents a prospect to fill a large enough need that can result in enhanced sales and profits. Thus, agro processing SMES should maintain a continuous environmental scanning posture and develop extensive entrepreneurial networks so that they can be more attuned to new market opportunities.



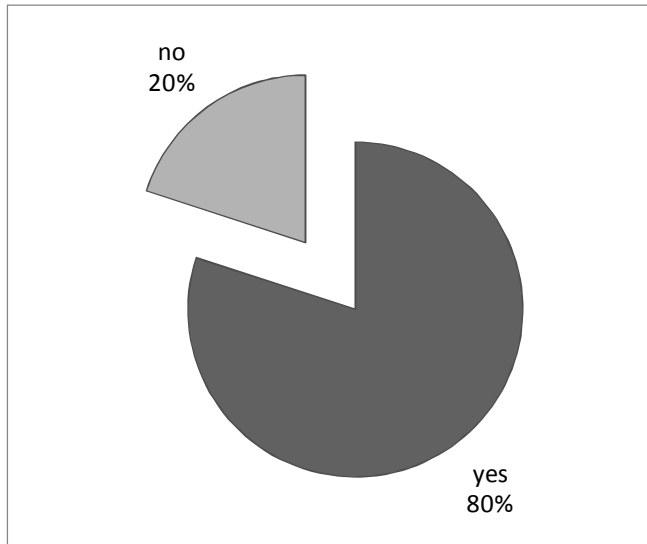
**Figure 4.8: Responses on market penetration with existing products**

Respondents gave various reasons why they do not exploit market opportunities to meet customer demands. Majority (63.9%) claimed that inadequate resources impeded exploitation of market opportunities, another 20.6% claimed that they lack managerial expertise while 15.5% claimed it was due to competition from powerful multinationals as shown in Table 4.18. The findings imply that lack of adequate resources is a major impediment to entrepreneurial activity of agro processing SMEs. Hence, only agro processing SMEs endowed with resources will have a greater capacity to engage in entrepreneurial activity. To ensure competitive advantage, agro processing SMEs may enhance their market generation and dissemination competencies and identify profitable market opportunities that can be done within their budgets.

**Table 4.18: Reasons for not exploiting market opportunities**

Reasons	Frequency	Percentage
Inadequate resources	62	63.9
Lack of managerial expertise	20	20.6
Competition from multinational firms	15	15.5
Total	97	100.0

The respondents were required to state whether they had introduced new products ahead of competitors. The study results illustrated in Figure 4.9 indicate that the majority (80%) of the agro processing SMEs had introduced new products ahead of their competitors while 20% had not introduced new products ahead of competitors. The results imply that agro processing SMEs are adept in introducing new and distinct product lines ahead of competition (Eggers, Kraus, Hughes, Laraway & Syncerski, 2013). Agro processing SMEs need to increase their innovative activities in order to ensure the rate of introduction of new products.

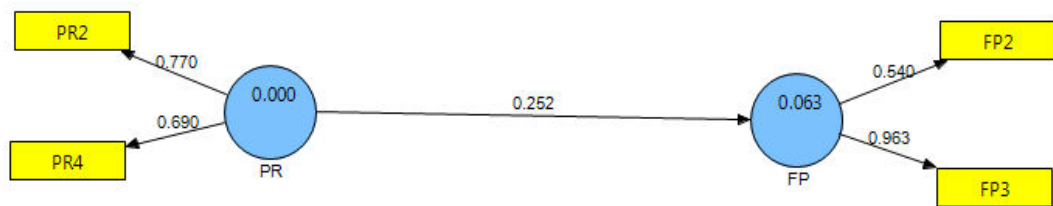


**Figure 4.9: Number of SMEs that have introduced new products ahead of competitors.**

#### **4.6.2 Structural Model and Hypothesis Testing of Proactiveness**

Proactiveness was analysed using exploratory factor analysis and confirmatory factor analysis. The results of the factor analysis indicate that two items (PR2, PR4) had loadings of 0.753226 and 0.708517 which is above the threshold of 0.5. CFA was used to test the convergent validity of the proactiveness items showed that the AVE value of 0.534673. The two constructs were used to develop an outer and inner model. The hypothesis was tested using structural equation modelling partial least squares (PLS) analysis. Path coefficients were used to determine the direction and strength. The results illustrated in Figure 4.10 indicated that the path coefficient was positive and the relationship between proactiveness and firm performance was significant at 0.05 level ( $\beta=0.262$ ,  $p<0.05$ ). The path coefficient implies that for every 1 unit increase in proactiveness, firm performance increases by 0.262 units. The results indicated that proactiveness had a coefficient  $R^2$  of 0.063. The value of  $R^2$  coefficient was 0.063

which indicates that 6.3% of the variation in firm performance can be accounted for by proactiveness.



**Figure 4.10: Path coefficient for Proactiveness and Firm Performance**

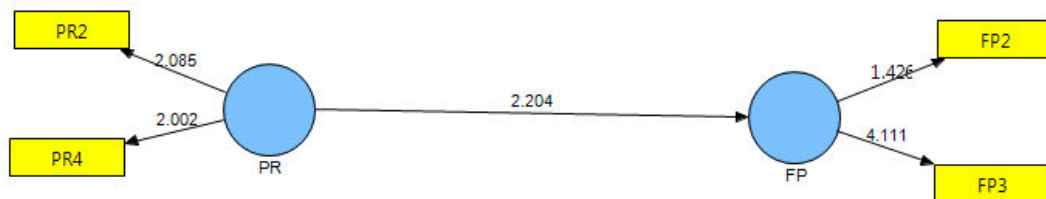
The first objective of the study was to determine the influence of proactiveness on the firm performance of agro processing SMEs in Kenya. The hypothesis below was guided by this specific objective.

**Null Hypothesis**  $H_{01}$ : There is no relationship between proactiveness and firm performance of agro processing SMEs in Kenya.

T-statistics was used to test the significance to the relationship between proactiveness and firm performance where critical values for t-statistics should be greater than 1.96 at 0.05 significant level. The resultant T-tests statistics are illustrated in Figure 4.11 shows that the model was significant at 95% significance level for a two tailed test with  $t = 2.204$  which is larger than 1.96. The results revealed that the outer model loadings were highly significant. The null hypothesis  $H_{01}$  was rejected and the alternate hypothesis that stated that there is a relationship between proactiveness and firm performance of agro processing SMEs in Kenya was supported. The results indicate that proactiveness as a dimension of entrepreneurial orientation has a positive



and statistically significant relationship with firm performance of agro processing SMEs in Kenya.



**Figure 4.11: Hypothesis testing for Proactiveness and Firm Performance**

The results confirm both theoretical discussions and empirical studies that indicate that proactiveness has statistically significant relationship with firm performance. At the theoretical level, proactiveness is considered as a forward-looking and opportunity-seeking perspective that leads to introduction of new products ahead of competitors which in turn, enhances firm performance (Lumpkin & Dess, 1996). As such, proactive firms will enhance firm performance in terms of sales growth, employee growth and profitability (Eggers, Kraus, Hughes, Laraway & Syncerski, 2013; Wiklund & Shepherd, 2005; Gray & Wert-Gray, 2012). The study findings are consistent with a study by Arshad, Rasli, Arshad and Zain (2013) which found out that there is a strong and positive relationship between proactiveness and business performance of technology-based SMEs in Malaysia. The study findings are also in agreement with Boohene, Marfo-Yiadom and Yeboah (2012), the effect of entrepreneurial orientation on firm performance of auto artisans in Cape Coast Metropolis also found out that proactiveness had a significant positive relationship with firm performance, in terms of increased sales and improved profitability. The authors advance that firms that act in anticipation of future demand are likely to experience increased sales and improved profitability. Furthermore, the study results confirm the findings of a study by Ahimbisibwe and Abaho (2013) which found that proactiveness has a strong influence on export performance of SMEs in Uganda.

## **4.7 Risk taking and Firm Performance**

Objective 2: To establish the influence of risk taking on firm performance of agro processing SMEs in Kenya.

### **4.7.1 Descriptive analysis of Risk taking**

The entrepreneurial dimension risk taking propensity in the firms was measured using 5 items on a five point Likert scale. All measures used were grounded on literature. The questions solicited respondents to evaluate 1) the willingness to commit large portions of resources to unexplored opportunities 2) the tendency to invest in high risk projects which promises high returns 3) the propensity to finance its major projects through heavy borrowing 4) the predisposition to continuously seek opportunities related to its present operations 5) the tendency to use true and tried practices to meet firm's objectives. In this study, the reliability test on risk taking construct achieved a Cronbach alpha of 0.514 indicating acceptable internal consistency. The results illustrated in Table 4.19 indicated the mean of risk taking ranged between 2.77 with a standard deviation of 1.041 and 4.10 with a standard deviation ranged between 0.913. The results also indicated that 94.2% of the respondents commit a large portion of resources in order to grow, 80.8% sometimes invest in high risk projects which promise high returns, 59.6% finance major projects through heavy borrowing, 98.1% seek opportunities related to the present operations while 96.2% use true and tried practices and technologies to explore new opportunities.

The results demonstrate that agro processing are risk averse with majority continuously seeking opportunities related to their present operations. Further, most of these enterprises are not willing to finance major projects through heavy borrowing (Awang, Ahmed, Asghar & Subari, 2010). Baba and Elumalai (2011) and Wang and Poutziouris (2010) postulate that firms that are average risk takers or risk avoiders do not secure superior growth and long term profitability. Furthermore, a study by Boohene, Marfo-Yiadom and Yeboah (2012) advances that risk-averse firms reduce

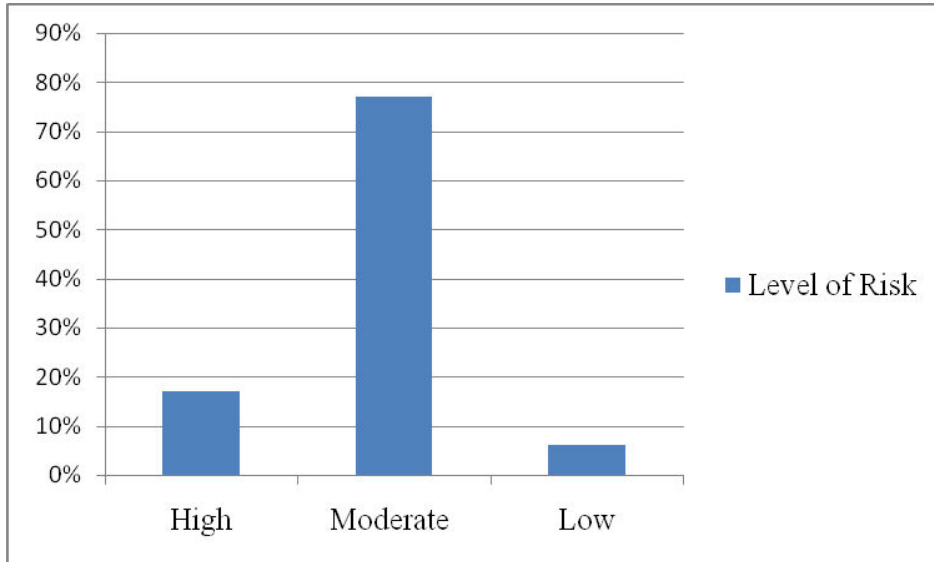
their commitment to cutting-edge products and technologies, and in so doing, decrease their innovation level. Agro processing SMEs must therefore not shy away from debt financing and commitment to high risk projects as entrepreneurial activities have an element of uncertainty and risk.

**Table 4.19: Descriptive analysis for Risk taking of Agro Processing SMEs**

<b>Item</b>	<b>N</b>	<b>R</b>	<b>S</b>	<b>F</b>	<b>A</b>	<b>MEAN</b>	<b>STEVD</b>
<b>R1</b>	0%	5.8%	28.8%	36.5%	28.8%	3.88	0.900
<b>R2</b>	1.9%	17.3%	34.6%	32.7%	13.5%	3.38	0.993
<b>R3</b>	9.6%	30.8%	40.4%	11.5%	7.7%	2.77	1.041
<b>R4</b>	0%	1.9%	23.1%	46.2%	28.8%	4.02	0.779
<b>R5</b>	1.9%	1.9%	19.2%	38.5%	38.5%	4.10	0.913

N-Never, R-rarely, S-sometimes, F-frequently, A-always

In this study, the data findings as illustrated in Figure 4.12 indicate that a majority (77%) of the respondents invest in moderate risk projects, while 17% of the respondents invest in high risk projects and the rest, 6% of the respondents invest low risk projects. The results suggest that agro processing SMEs in Kenya prefer to invest in moderate risk projects rather than high or low risk projects. Begley and Boyd (1978) found out that entrepreneurial firms have a propensity to take up projects with moderate levels of risks. Furthermore, moderate risk takers have been found to be better performers than their counterparts who assume very high or very low levels of risk taking (Morris, Kuratko & Covin, 2008). Accordingly, owner/managers of agro processing SMEs should be encouraged to avoid haphazard projects especially where the level of risks is uncontrollable or unknown (Ahimbisibwe & Abaho, 2013).



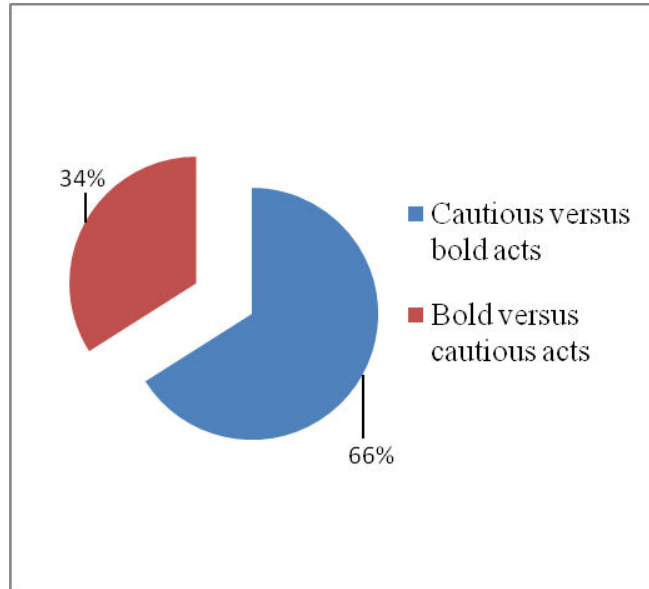
**Figure 4.12: Types of risk projects undertaken by Agro Processing SMEs**

In this study, the findings as illustrated in Table 4.20 revealed that the a majority (63.9%) of the respondents commit small portion of their resources to projects whose outcome is difficult to predict, while 20.6% of the respondents commit large portion of their resources to projects whose outcome is difficult to predict, and another 10.3% of the SMEs commit very small portion of resources to projects whose outcome is difficult to predict, yet another 5.2% of the respondents commit very large portions of resources to projects whose outcome is difficult to predict. The results may be attributed to the fact that such projects are resource intensive and agro processing SMEs are warily of excessive risk taking. Liu, Manolova and Edelman (2009) caution against excessive risk taking, especially in turbulent environments, as it can quickly deplete resources and render firms vulnerable to competitive threats and economic downturns. Owner/managers of agro processing SMEs should establish venture-capital areas for funding of uncertain projects so as not to undermine other existing or potential projects with low risk.

**Table 4.20: Responses on resource commitment to Uncertain Projects**

	Frequency	Percentage
very small portion	10	10.3
small portion	62	63.9
large portion	20	20.6
very large portion	5	5.2
Total	97	100.0

In this study, the respondents were required to state whether when confronted with decision making situations involving uncertainty, they prefer bold versus cautious acts to achieve firm objectives. The study findings as illustrated in Figure 4.13 show that majority (65.5%) of the respondents prefer cautious versus bold acts to achieve firm objectives while the rest, 34.5 % of the respondents prefer bold versus cautious acts to achieve firm objectives. The study findings reveal that a majority of owner/managers of agro processing SMEs in Kenya are risk averse. A study by Wang and Poutziouris (2010) argues that preference for cautious versus bold acts is indicative of risk avoidance. Similarly, a study by Otieno, Bwisa and Kihoro (2012) advances that the more risk averse a firm's management is, the more they do not enhance their performance while the less risk averse a firm's management is, the better they increase performance.



**Figure 4.13: Number of SMEs that prefer bold versus cautious acts.**

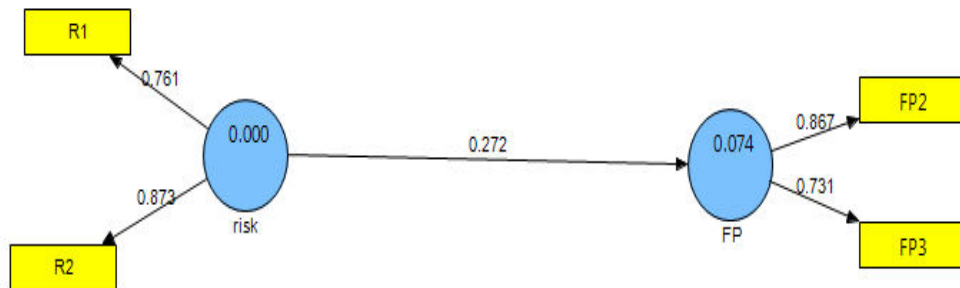
Several factors were identified by the respondents as influencing preference for bold acts in decision making situations involving uncertainty as shown in Table 4.21. Majority (47.4%) of the respondents cited free-flowing communication channels in their firms, another 33.1% stated that they have competent and skilled human capital, yet another 11.3% claimed decentralization of decision making authority while 8.2% claimed that confidence in the uniqueness of their products. The study findings suggest that strategic decision making process in agro processing SMEs is supported by collective energy towards shared goals consistent with the vision, mission and values of the firm. Knight (1997) argues that the efficacy of decision making increases proportionately to the number of participating members. Owner/managers should therefore ensure that decision making process involves majority of their employees.

**Table 4.21: Factors influencing preference for bold acts**

	Frequency	Percentage
Free-flowing communication channels	46	47.4
Competent human capital	32	33.1
Decentralization of decision making authority	11	11.3
Confidence in the uniqueness of products	8	8.2
Total	97	100.0

#### **4.7.2 Structural Model and Hypothesis Testing of Risk Taking**

Risk taking was analysed using exploratory factor analysis and confirmatory factor analysis. The results of the factor analysis indicate that two items (R1, R2) had loadings of 0.665653 and 0.931032 which is above the threshold of 0.5. CFA was used to test the convergent validity of the risk taking items showed that the AVE value of 0.655. The two factors were used to develop an outer and inner model. The hypothesis was tested using structural equation modelling partial least squares (PLS) analysis. Path coefficients were used to determine the direction and strength. The results illustrated in Figure 4.14 indicate that the path coefficient was positive and the relationship between risk taking and firm performance was significant at 0.001 level of significance ( $\beta=0.272$ ,  $p<0.001$ ). The path coefficient implies that for every 1 unit increase in risk taking, firm performance increases by 0.272 units. Figure 4.14 shows that risk taking had a coefficient  $R^2$  of 0.074. The value of  $R^2$  coefficient was 0.074 which indicates that 7.4% of the variation in firm performance can be accounted for by risk taking.



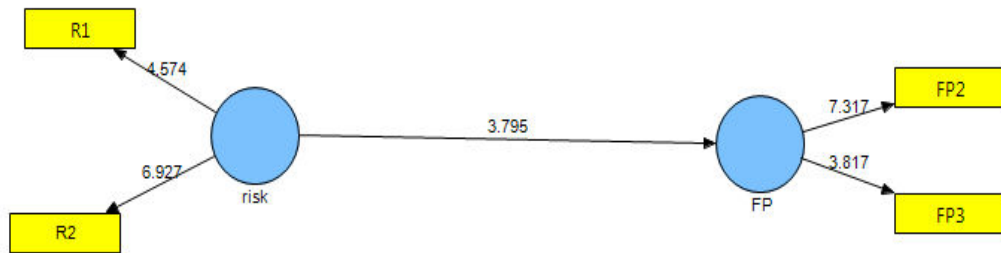
**Figure 4.14: Path coefficient for Risk Taking and Firm Performance**

The second objective of the study was to establish the influence of risk taking on the firm performance of agro processing SMEs in Kenya. The hypothesis was guided by this specific objective.

**Null Hypothesis** Ho<sub>2</sub>: There is no relationship between risk taking and firm performance of agro processing SMEs in Kenya.

T-statistics was used to test the significance to the relationship between risk taking and firm performance where critical values for t-statistics should be greater than 1.96 at 0.05 significant level. The resultant T-tests statistics are illustrated in Figure 4.15 shows that the model was significant at 0.05 significance level for a two tailed test with  $t = 3.795$  which revealed that the outer model loadings were highly significant. The results show that risk taking has a positive and statistically significant relationship with firm performance. The null hypothesis Ho<sub>2</sub> was rejected and the alternate hypothesis that stated that there is a relationship between risk taking as a dimension of entrepreneurial orientation and firm performance of agro processing SMEs in Kenya was supported. The study findings indicate that risk taking dimension of entrepreneurial orientation has a positive and significant relationship with firm performance of agro processing SMEs in Kenya.





**Figure 4.15: Hypothesis Testing for Risk taking and Firm Performance**

The study findings are in agreement with a study by Rao (2012) The impact of Entrepreneurial Orientation and Leadership styles on Business Performance: A study of Micro Small and Medium Enterprises, which found out that risk taking had a great impact on business performance in terms of profitability (7.416) and growth (8.124). Similarly, Baba and Elumalai, (2011) found out that risk taking dimension of entrepreneurial orientation has a positive relationship with organizational performance of SMEs in Labuan. The authors suggest that adopting risk taking during strategic planning process will ensure growth and survival of agro processing SMEs. However, there are mixed results on the relationship between risk taking dimensions of entrepreneurial orientation and firm performance. A study by Boohene, Marfo-Yiadom and Yeboah (2012) found out that risk taking has a weak but positive relationship with business performance of auto artisans in Cape Coast Metropolis while Ahimbisibwe and Abaho (2013) found that risk taking had a weak relationship with export performance of SMEs in Uganda.

## **4.8 Innovativeness and Firm Performance**

Objective 3: To find out the influence of innovativeness on firm performance of agro processing SMEs in Kenya.

### **4.8.1 Descriptive analysis of innovativeness**

The entrepreneurial dimension innovativeness was measured using 4 items on a five point Likert scale. All measures used were grounded on literature. The question solicited respondents to evaluate 1) the tendency to encourage and stimulate product, process and technological or administrative innovation 2) the tendency to stimulate creativity and experimentation 3) long term commitment to invest in new technology, R & D and continuous improvement 4) the routine to make dramatic innovation in products, process or technologies. The reliability test on innovativeness construct achieved a Cronbach alpha of 0.658 indicating acceptable internal consistency. The results illustrated in Table 4.22 indicate that the mean ranged between 3.35 with a standard deviation of 1.101 and 4.17 with a standard deviation of 0.706.

The results also indicated that 98.1% of the respondents have a strong intention to encourage and stimulate product, process and technological or administrative innovation, 98.1% have a strong intention to stimulate creativity and experimentation, 98.1% have a long term commitment to invest in new technology, R & D and continuous improvement while 73.1% routinely make dramatic innovation in product, process or technologies. The results revealed that majority of owner/managers of agro processing SMEs have an organizational culture that encourages and supports personal initiatives, creativity, experimentation, co-operation and group ownership of innovations (Hitt, Ireland & Hoskisson, 2007). The results demonstrate that agro processing SMEs have a preference for incremental innovations rather than radical or dramatic innovations. Incremental innovation is vital for agro processing SMEs as it locks in existing customers and generates more revenue gain with less risk than radical ones but will not guarantee survival of the firms (Pearce & Robinson, 2009). Agro

processing SMEs need to advocate for both radical and incremental innovations for sustainable competitive advantage.

**Table 4.22 Descriptive analysis of Innovativeness of Agro Processing SMEs**

<b>Item</b>	<b>N</b>	<b>R</b>	<b>S</b>	<b>F</b>	<b>A</b>	<b>MEAN</b>	<b>STEVD</b>
<b>IN1</b>	0%	1.9%	11.5%	53.8%	32.7%	4.17	0.706
<b>IN2</b>	0%	1.9%	30.8%	42.3%	25.0%	3.90	0.799
<b>IN3</b>	1.9%	0%	23.1%	32.7%	42.3%	4.13	0.908
<b>IN4</b>	1.9%	25%	26.9%	28.8%	17.3%	3.35	1.101

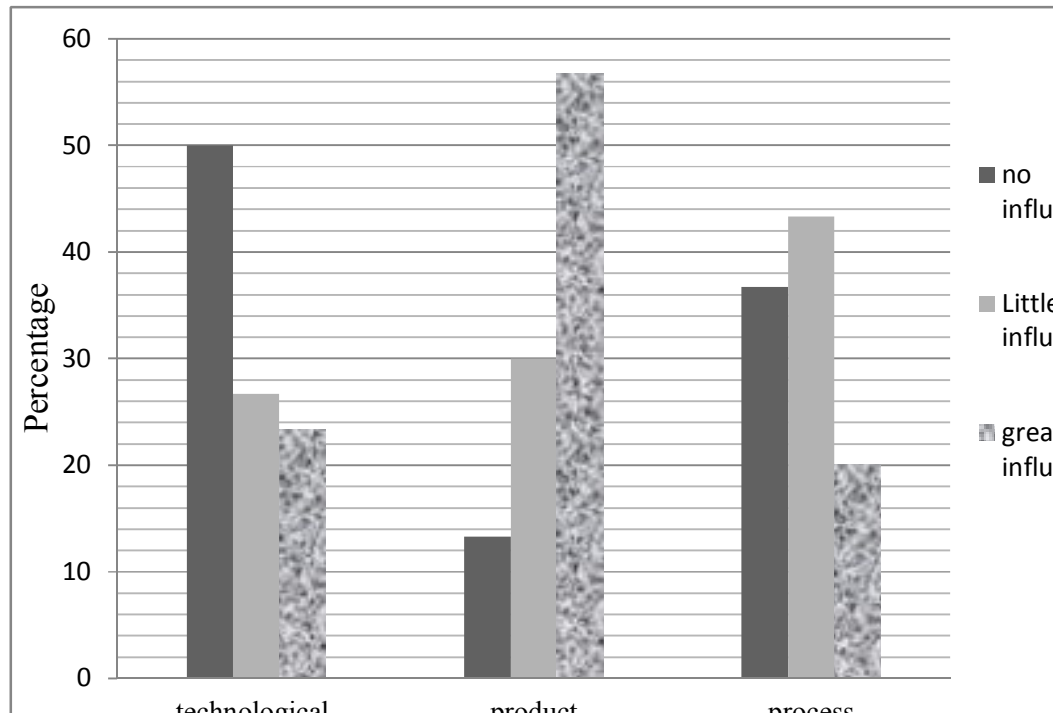
N-Never, R-rarely, S-sometimes, F-frequently, A-always

In this study as illustrated in Table 4.23, majority (45.4%) of the respondents had introduced 1-4 new products lines per year while 38.1% had introduced 5-9 new product lines, another 7.2% of the respondents had introduced 10-14, and yet another 9.3% had introduced above 15 product lines. This study findings indicate that majority of agro processing SMEs in Kenya successfully introduce 1 to 4 new products per year. The study findings demonstrate that agro processing SMEs in Kenya appreciate that the introduction of new products lines affects the functioning and future of firms. In a business environment where the life cycle of products is becoming shorter and future profits uncertain, it is important for agro processing SMEs to introduce new product lines (Mai, Kim, Heo & Jang, 2012). A study by Chen, Lin and Chang (2009) advances that competitiveness of firms depend on the continuous differentiation of the products from those of competitors. Agro processing SMEs should therefore exploit their technical competence to get the desired rate of new products lines if they are to be successful in global and domestic markets.

**Table 4.23: Number of new product lines introduced per year**

Product lines	Frequency	Percent	Cumulative Percent
1-4	44	45.4	45.4
5-9	37	38.1	83.5
10-14	7	7.2	90.7
Above 15	9	9.3	100.0
Total	97	100.0	

In this study as illustrated in Figure 4.16, the majority (56.7%) of the respondents indicated that product innovativeness had the greatest influence on firm performance, while 33.3% of the respondents revealed that technological innovativeness had the greatest influence on firm performance, another 20% of the respondents indicated that process innovativeness had the greatest influence on firm performance. The study findings demonstrate that product innovativeness is regarded by agro processing SMEs in Kenya as the best strategy to enhance firm performance. The results concur with findings of a study by Otieno, Bwisa and Kihoro (2012) which found that product innovativeness was an important strategy for manufacturing firms in Kenya as it helps in competitive positioning especially when experiencing higher pressure from Porter's five competitive forces (Hernandez-Espallardo & Delgado-Ballester, 2009). Agro processing SMEs are however, warned that product innovativeness is a costly and risky activity particularly for firms handicapped by financial and management competency restrictions (Simpson, 2006).

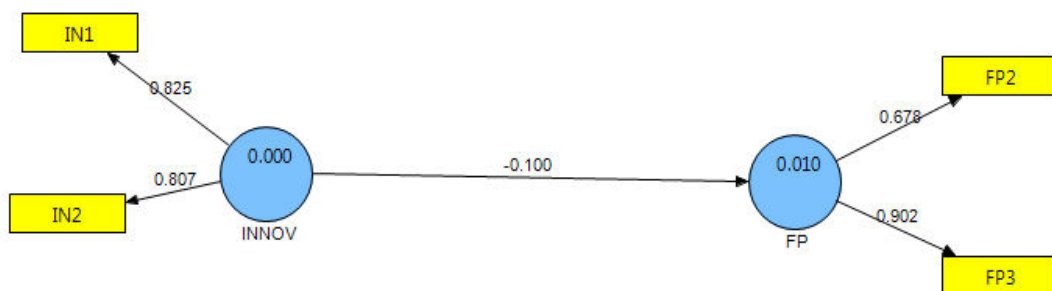


**Figure 4.16: Influence of Innovation types on firm performance of Agro Processing SMEs**

#### **4.8.2 Structural Model and Hypothesis Testing of Innovativeness**

Innovativeness was analysed using exploratory factor analysis and confirmatory factor analysis. The results of the factor analysis indicate that two items (IN1, IN2) had loadings of 0.823 and 0.808 which is above the threshold of 0.5. CFA was used to test the convergent validity of the innovativeness items showed that the AVE value of 0.665. The two constructs were used to develop an outer and inner model. The hypothesis was tested using structural equation modelling partial least squares (PLS) analysis. Path coefficients were used to determine the direction and strength. The results illustrated in Figure 4.17 indicate that the path coefficient was negative and the relationship between innovativeness and firm performance was significant at 0.05 level ( $\beta=-0.100$ ,  $p<0.05$ ). The value of  $R^2$  coefficient was 0.010 which indicates that

1% of the variation in firm performance of agro processing SMEs can be accounted for by innovativeness.

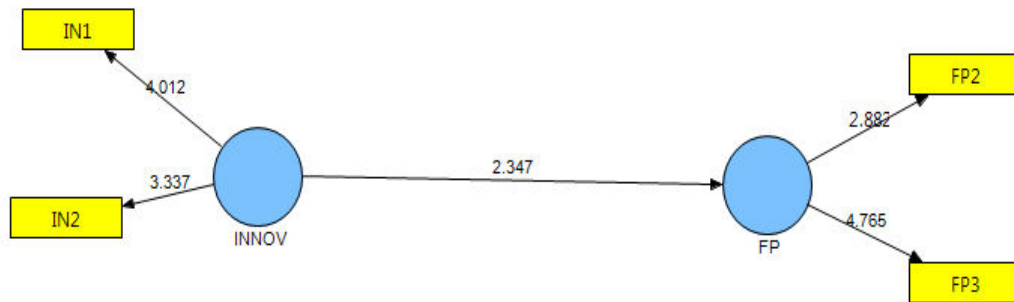


**Figure 4.17: Path coefficient for innovativeness and Firm Performance**

The third objective of the study was to find out the influence of innovativeness on firm performance of agro processing SMEs in Kenya. The hypothesis was guided by this specific objective:-

**Null Hypothesis** Ho<sub>3</sub>: There is no relationship between innovativeness and firm performance of agro processing SMEs in Kenya.

T-statistics was used to test the significance to the relationship between innovativeness and firm performance where critical values for t-statistics should be greater than 1.96 at 0.05 significant level. The resultant T-tests statistics are illustrated in Figure 4.18 shows that the model was significant at 95% significance level for a two tailed test with  $t = 2.347$  which is larger than 1.96. he results illustrated that the outer model loadings were highly significant. The null hypothesis Ho<sub>3</sub> was rejected and the alternate hypothesis that stated that there is a relationship between innovativeness and firm performance of agro processing SMEs in Kenya was supported. The results revealed that innovativeness has a negative and statistically significant relationship with firm performance of agro processing SMEs in Kenya.



**Figure 4.18: Hypothesis testing for Innovativeness and Firm Performance**

The study findings are inconsistent with both theoretical and empirical findings that suggest innovativeness has a positive and significant relationship with firm performance. The results are not in agreement with findings of a study by Madhoushi, Sadati and Delavari (2011) which found that firms with greater innovativeness are more successful in developing capabilities that allow them to achieve better performance. The study findings do not support the findings of a study by Lwamba, Bwisa and Sakwa (2013) which found that innovativeness dimension of corporate entrepreneurship affects firm performance of manufacturing firms in Kenya. Similarly, the study results are inconsistent with the findings of a study by Ahimbisibwe and Abaho (2013) found out that there is a positive and significant relationship between innovativeness and performance of SMEs in Uganda. The results are also not in agreement with the findings of a study by Ghazil and Rejab (2012) which found out that innovativeness is positively related to turnover growth of agriculture and agro processing SMEs.

Atkan and Bulut (2008) posit that in the short term, innovativeness may not have a positive and significant relationship with firm performance. The authors argue that innovative activities involve immense project investments and resource usages which may affect firm performance. Moreover, West and Farr (1989) argue that uncertainty

is inherent to innovativeness as it involves risk and therefore a positive outcome is never guaranteed. Hence, agro processing SMEs should ensure that they have at least three times the innovative efforts which, if successful, would fill the gap between what can be expected realistically, and what it needs to attain its business objectives, whether in sales or in profitability (Drucker, 1986). Agro processing SMEs should also institutionalize innovation-related learning experiences and excel in market-related activities associated with new products (North & Smallbone, 2000; Mbizi, Thondhlana & Kakava, 2013).

#### **4.9 Entrepreneurial orientation and Firm Performance**

Objective 4: To investigate the extent to which entrepreneurial orientation influences the firm performance of agro processing SMEs in Kenya.

##### **4.9.1 Descriptive Analysis of Firm Performance**

Firm Performance was measured using 3 items on a five point Likert scale. All measures used were grounded on literature. The question solicit respondents to evaluate 1) the firm is satisfied with sales growth rate over the last 5 years 2) the firm is satisfied with employee growth rate over the last 5 years 3) the firm is satisfied with profitability in terms of return on assets over the last 5 years. The reliability test on firm performance construct achieved a Cronbach alpha of 0.600 indicating acceptable internal consistency. The results illustrated in Table 4.24 indicated the mean ranged between 3.42 with a standard deviation of 1.016 and 3.65 with a standard deviation of 0.861. Standard deviation ranged between 0.861 and 1.016 indicates that the data was not clustered around the average value. In addition, the results indicated that agro processing SMEs were moderately satisfied with sales growth (46.2%), employee growth (59.8%) and profitability (43.3%). Lumpkin and Dess (1996) postulate that, the external factors such as environmental dynamism, technological sophistication, environmental hostility and industry life cycle stage may affect the relationship between entrepreneurial orientation and firm performance. Likewise, internal factors



such as firm resources, organizational culture and structure may affect the said EO-firm performance relationship. Owner/managers of agro processing SMEs in Kenya should identify contingency factors that may be affecting entrepreneurial activities and ultimately the optimal performance of their firms.

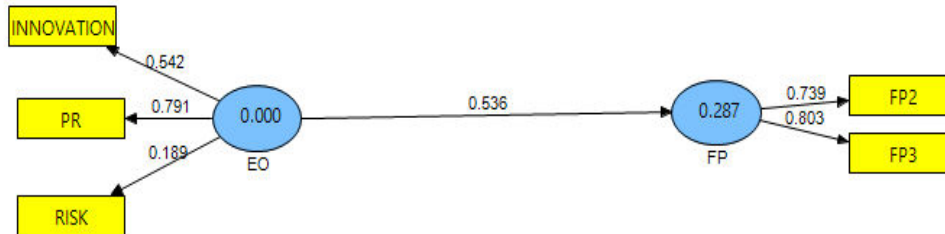
**Table 4.24: Descriptive analysis of Firm Performance of Agro Processing SMEs**

Item	NS	SS	SWS	MS	ES	MEAN	STEVD
<b>FP1</b>	6.1%	12.4%	29.9%	46.4%	5.2%	3.42	1.016
<b>FP2</b>	3.1%	13.4%	23.7%	59.8%	0%	3.31	0.981
<b>FP3</b>	0%	16.7%	26.7%	43.3%	10%	3.65	0.861

NS-Not at all satisfied, SS-Slightly satisfied, SWS-Somewhat satisfied, MS-Moderately satisfied, ES-Extremely satisfied

#### **4.9.2 Hypothesis Testing of Entrepreneurial Orientation**

Proactiveness, risk taking, and innovativeness were combined and used to develop entrepreneurial orientation as second - order construct for PLS analysis. Path coefficients were used to determine the direction and strength. The weight of the different path coefficients was used to rank the statistical importance of proactiveness, risk taking and innovativeness to EO. The results illustrated in figure 4.19 indicate that the path coefficient was positive and the relationship between entrepreneurial orientation and firm performance was significant at 0.001 level ( $\beta=0.536$ ,  $p<0.001$ ). The path coefficient implies that for every 1 unit increase in entrepreneurial orientation, firm performance increases by 0.536 units. The results as illustrated in Figure 4.19 shows that entrepreneurial orientation had a coefficient  $R^2$  of 0.287. The value of  $R^2$  coefficient was 0.287 indicates that 28.7% of the variation in firm performance can be accounted for by entrepreneurial orientation.

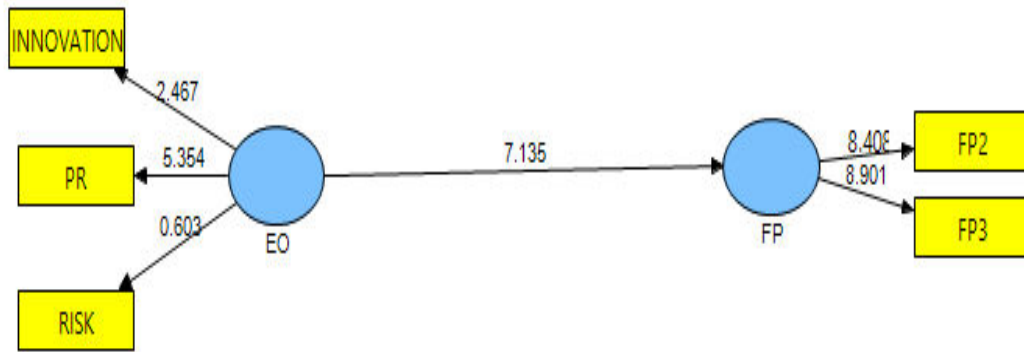


**Figure 4.19: Path coefficient for Entrepreneurial Orientation and Firm Performance**

The fourth objective of the study was to investigate the extent to which entrepreneurial orientation influences the firm performance of agro processing SMEs in Kenya. The hypothesis was guided by this specific objective.

**Null Hypothesis** Ho<sub>4</sub>: There is no significant relationship between entrepreneurial orientation and the firm performance of small and medium enterprises in Kenya.

T-statistics was used to test the significance to the relationship between entrepreneurial orientation and firm performance where critical values for t-statistics should be greater than 1.96 at 0.05 significance level. The resultant T-tests statistics are illustrated in Figure 4.20 showed that the model was significant at 0.001 significance level for a two tailed test with  $t = 7.135$  which is larger than 1.96. The findings revealed that the outer model loadings were highly significant. The results showed that entrepreneurial orientation has a strong positive and statistically significant relationship with firm performance of agro processing SMEs in Kenya. The null hypothesis Ho<sub>5</sub> was rejected and the alternate hypothesis that stated that there is a significant relationship between entrepreneurial orientation and firm performance of agro processing SMEs was supported. The study findings reveal that entrepreneurial orientation as a second order construct comprised of proactiveness, risk taking and innovativeness is a major predictor of firm performance of agro processing SMEs in Kenya.



**Figure 4.20: Hypothesis testing for Entrepreneurial orientation and Firm Performance**

The results are in agreement with a study by Mahmood and Hanafi (2013), Entrepreneurial orientation and business performance of women-owned small and medium enterprises in Malaysia: A competitive advantage as a mediator which found that there exists a significant relationship between entrepreneurial orientation and business performance. The results are consistent with the findings of a study by Poon, Ainuddin and Junit (2009) that found out that entrepreneurial orientation has a positive effect on firm performance. A study by Al Swidi and Al-Hosam (2012) in their study, the effect of Entrepreneurial orientation on the Organizational Performance: A study on the Islamic banks in Yemen using the partial least squares approach found out there exists a significant relationship between entrepreneurial orientation and business performance.

#### **4.10 Mediating Influence of Market Orientation on EO-Firm Performance relationship**

Objective 5: The find out the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs.

##### **4.10.1 Descriptive Analysis of Market Orientation**

Market orientation was measured using 9 items on a five point Likert scale with '1' indicating 'strongly disagree' on one extreme and '5' indicating 'strongly agree' on the other extreme. All measures used were grounded on literature. The questions solicited respondents to evaluate 1) the firm top management's proclivity to regularly discuss competitors' strengths and strategies 2) the tendency to give close attention to after sales service 3) the tendency to constantly monitor its level of commitment to serving customer's needs 4) the belief that the firm is more focused than its competitors 5) the tendency to have business objectives that are driven primarily by customer satisfaction 6) the proclivity to measure customer satisfaction systematically and frequently 7) the tendency to have all its departments responsive to one another's needs and requests 8) manager's proclivity to understand how everyone in the firm can contribute to creating customer value 9) the manager's tendency to visit current and prospective customers. The reliability test on market orientation construct achieved a Cronbach alpha of 0.815 indicating high internal consistency.

The results as illustrated in Table 4.25 indicated that the mean ranged between 3.85 with a standard deviation of 1.092 and 4.56 with a standard deviation ranged of 0.777.

The results further indicate that 42.3% of the respondents strongly agree that top management regularly discuss competitors' strengths and strategies, 63.5% of the

respondents strongly agree that the firm gives close attention to after sales service, 65.4% of the respondents strongly agree that the firm constantly monitor the level of commitment to serving customer's needs, 53.8% of the respondents strongly agree that the firm is more focused than its competitors, 65.4% of the respondents moderately agree that the firm's business objectives are driven primarily by customer satisfaction

The study also showed that 48.1% of the respondents strongly agree that the firm measures customer satisfaction systematically and frequently, 44.2% of the respondents strongly agree that all departments in the firm are responsive to one another's needs and requests, 50% of the respondents strongly agree that the firm managers understand how everyone in the firm can contribute to creating customer value while 51.9% of the respondents moderately agree that top management regularly visit current and prospective customers.

The study findings reveal that majority of agro processing SMEs in Kenya are committed to creating superior values for their customers. A study by Day (1994) suggests that cultural market orientation comprised of customer orientation, competitor orientation and inter-functional coordination enables firms to identify and develop capabilities that are necessary for long-term performance. It also leads to corporate positioning and market differentiation (Cockalo, Djordjevic, Sajfert, Bogetic & Besic, 2011; Baker & Sinkula, 2009). Thus, agro processing SMEs that put customer's interest first, understand capabilities and strategies of competitors and coordinate company resources will enhance their firm performance (Slater & Narver, 2000).

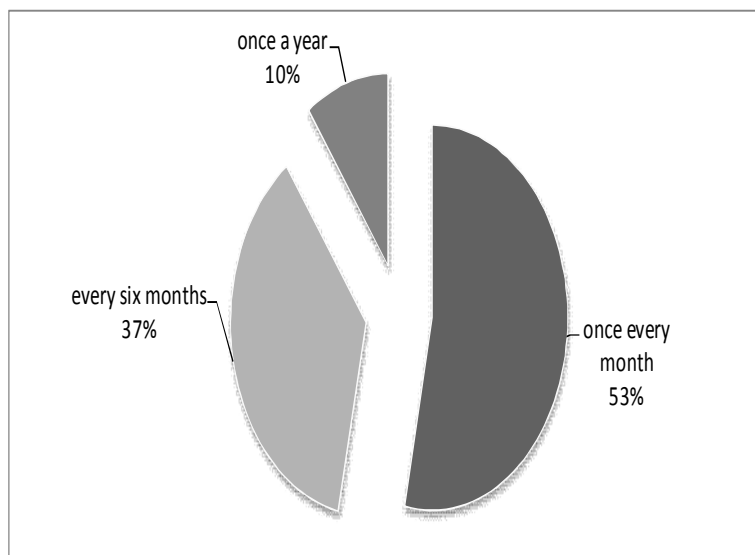
**Table 4.25: Descriptive analysis on Market Orientation of Agro Processing SMEs**

<b>Item</b>	<b>SD</b>	<b>MD</b>	<b>N</b>	<b>MA</b>	<b>SA</b>	<b>MEAN</b>	<b>STEVD</b>
<b>MO1</b>	1.9%	11.5%	9.6%	34.6%	42.3%	4.04	1.084
<b>MO2</b>	1.9%	3.8%	0%	30.8%	63.5%	4.50	0.852
<b>MO3</b>	0%	5.8%	3.8%	25.0%	65.4%	4.50	0.828
<b>MO4</b>	1.9%	1.9%	7.7%	34.6%	53.8%	4.37	0864
<b>MO5</b>	1.9%	1.9%	0%	30.8%	65.4%	4.56	0.777
<b>MO6</b>	0%	5.8%	3.8%	48.1%	42.3%	4.27	0.795
<b>MO7</b>	0%	17.3%	5.8%	32.7%	44.2%	4.04	1.102
<b>MO8</b>	5.8%	5.8%	5.8%	32.7%	50.0%	4.15	1.144
<b>MO9</b>	3.8%	13.5%	3.8%	51.9%	26.9%	3.85	1.092

SD-Strongly disagree, MD-Moderately disagree, N- Neither, MA-Moderately agree, SA-Strongly agree.

In this study as illustrated in Figure 4.21, the majority (53%) of the respondents monitor customer satisfaction once a month, while 37% of the respondents monitor customer satisfaction every 6 months and another 10% of the respondents monitor customer satisfaction once a year. The results indicate that majority of owner/managers of agro processing SMEs in Kenya are customer oriented and therefore seek to ensure their customers are highly satisfied and less influenced by competitors. A study by Cockalo, Djordjevic, Sajfert, Bogetic and Besic (2011) suggests that customer demands and expectations are not stagnant and cannot be influenced by enterprises. The authors posit that firms must continuously analyze customer expectations and demands with a view to set reasonable strategies that will

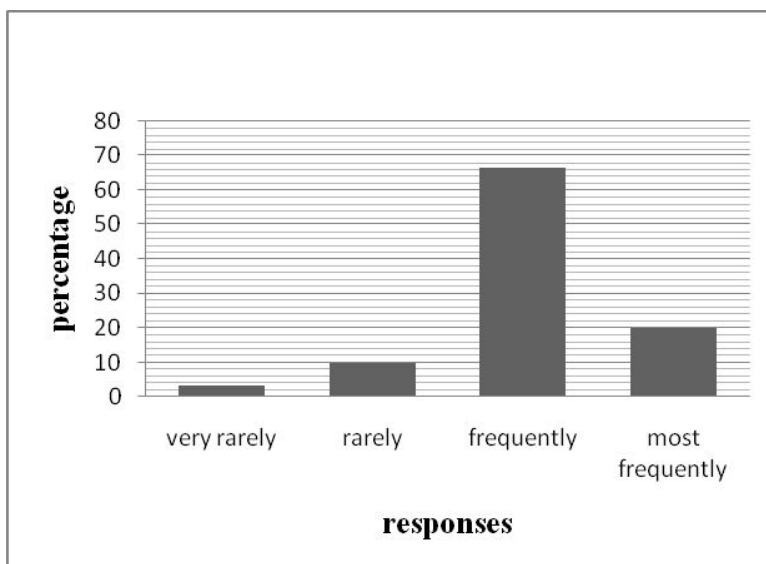
ensure customer satisfaction, which eventually translates into higher loyalty. Furthermore, a better understanding of customers' expectation will help agro processing SMEs to produce superior quality products as customers are an important resource of generating product and market knowledge for the firm (Gaur, Vasuden & Gaur, 2011). Consistent with the resource based view (Barney, 1991), such customer generated knowledge is valuable, rare, non-imitable and non-substitutable, giving a competitive advantage to the firm.



**Figure 4.21: Responses on monitoring of customer satisfaction**

When asked how often they seek for information on existing competitors, the majority (66.7%) of the respondents indicated that they frequently sought the information on existing competitors, while 20% of the respondents most frequently sought for information on existing competitors and another 13.3% of the respondents indicated that they rarely sought information on existing competitors. The results demonstrate that a majority of agro processing SMEs closely focus on competitors in an attempt to

define their strengths, weaknesses, capabilities and strategies. The importance of competitor orientation to competitive advantage is emphasized by Timmons and Spinelli (2007) suggest that firms will survive or thrive if they closely focus on competition and warned that many firms fail due to ignorance about competition. Agro processing SMEs should regularly market information on competitors. The bar chart distribution of the frequency of seeking information on existing competitors is shown in Figure 4.22.



**Figure 4.22: Responses on competitor orientation**

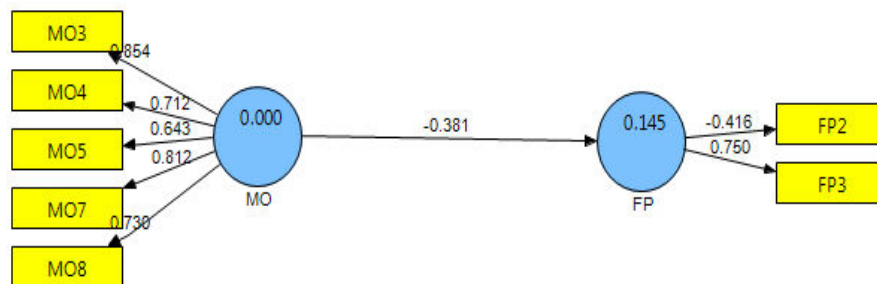
#### **4.10.2 Structural Model and Hypothesis Testing of Market Orientation**

Ho<sub>5a</sub>: There is no relationship between market orientation and firm performance of agro processing SMEs in Kenya.

Market orientation was analysed using exploratory factor analysis and confirmatory factor analysis. The results of the factor analysis indicate that five items (MO3, MO4, MO5, MO7, MO8) had loadings of 0.823 and 0.808 which is above the threshold of 0.5. CFA was used to test the convergent validity of the innovativeness items showed



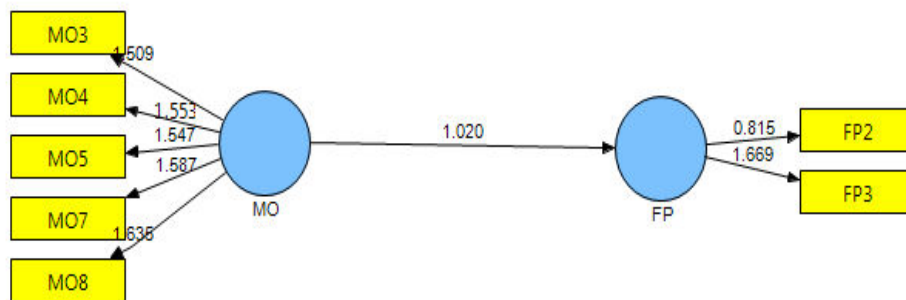
that the AVE value of 0.538. The five constructs were used to develop an outer and inner model. The hypothesis was tested using structural equation modelling partial least squares (PLS) analysis. Path coefficients were used to determine the direction and strength. The results illustrated in Figure 4.23 indicate that the path coefficient was negative and the relationship between market orientation and firm performance was insignificant at 0.05 level ( $\beta=-0.381$ ,  $p<0.1$ ) The path coefficient implies that for every 1 unit increase in market orientation, firm performance decreases by 0.381 units. The value of  $R^2$  coefficient was 0.145 which indicates that 14.5% of the variation in firm performance can be accounted for by market orientation.



**Figure 4.23: Path coefficient for market orientation and firm performance**

T-statistics was used to test the significance to the relationship between market orientation and firm performance where critical values for t-statistics should be greater than 1.65 at 0.05 significant level. The resultant T-tests statistics are illustrated in Figure 4.24 shows that the model was insignificant at 0.05 significance level for a two tailed test with  $t = 1.020$  which is less than 1.96. The results showed that the outer model loadings were highly insignificant. The null hypothesis  $H_{05}$  was accepted and the alternate hypothesis that stated that there is a relationship between market orientation and firm performance of agro processing SMEs in Kenya was rejected. The

results showed that market orientation has a statistically insignificant relationship with firm performance.



**Figure 4.24: Hypothesis testing for Market orientation and Firm Performance**

The study findings is in agreement with a study by Ghani and Mahmood (2011) which found out that market orientation had an insignificant relationship with performance of micro finance firms in Pakistan. The positive influence of market orientation on firm performance that was originally enthused by Narver and Slater (1990) was not confirmed. Empirical studies reveal mixed and contradictory result. Some studies report a strong impact on firm performance. The study findings were in agreement with a study by Pelham (1997) found out that market orientation had no significant relationship with performance of small industrial manufacturing firms. Similarly, the results were consistent with a study by Demirbag, Lenny, Koh, Tatoglu and Zaim (2006) which found that there was no relationship between market orientation and organizational performance of SMEs in Turkish textile industry. A study by Greenley (1999) found out that market orientation had no direct influence on firm performance of 240 United Kingdom companies. The author postulate that market orientation might not be an appropriate organizational strategy for turbulent markets, where customers have limited power and technological change is rapid. Wijesekara, Kumara and Gunawardana (2014) further suggested that the lack of a clear relationship between

market orientation and firm performance could be attributed to the fact that market orientation plays a more facilitative role on firm performance rather than a causative role.

#### **4.10.3 Structural Model and Hypothesis Testing for Mediated Relationship**

**Null Hypothesis H<sub>05b</sub>:** The relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya is not mediated by market orientation.

In this study, proactiveness, risk taking, and innovativeness were combined and used to develop entrepreneurial orientation as second - order construct for PLS analysis. Path coefficients were used to determine the direction and strength. The weight of the different path coefficients was used to rank the statistical importance of proactiveness, risk taking and innovativeness to EO. Likewise, customer orientation, competitor orientation and interfunctional coordination were combined and used to develop market orientation as a second-order construct for PLS analysis. Path coefficients were used to determine the direction and strength. The weight of the different path coefficients was used to rank the statistical importance of customer orientation, competitor orientation and interfunctional coordination to MO. In this study, the mediating effect of market orientation (MO) on the relationship between entrepreneurial orientation (EO) and firm performance was tested using path coefficients and Sobel Test as shown in Table 4.26. Path coefficients were used to determine the direction and strength of the factors using SmartPLS Version 2.0.

Baron and Kenny (1986) approach was used to test the mediation effect where the mediating variable was regressed on the independent variable then the dependent variable was regressed on the independent variable. Lastly, the dependent variable was simultaneously regressed on the dependent variable and the mediating variable. A mediating effect was be said to exist when both mediating paths are significant; and

the direct effect of the exogenous variable on outcome vanishes (complete mediation effect) or is significantly lower when mediator is introduced in the model (partial mediation). For the purposes of this study, bootstrapping was used draw from the 97 original respondents with 500 samples (with replacement). As illustrated in Figure 4.25 and Figure 4.26, the significant relationship between entrepreneurial orientation and firm performance ( $\beta=0.536$ ,  $p<0.05$ ,  $t= 7.135$ ) was reduced when the mediator (MO) was included in the model ( $\beta=0.571$ ,  $p<0.05$ ,  $t= 3.254$ ). Secondly, there was a significant relationship between EO and MO ( $\beta=0.368$ ,  $p<0.05$ ,  $t= 5.764$ ). Lastly, but there was an insignificant relationship between MO and FP ( $\beta= -0.171$ ,  $p<0.01$ ,  $t= 0.865$ ). The value of  $R^2$  coefficient was 0.135 which indicates that 13.5% of the variation in market orientation can be accounted for by entrepreneurial orientation. Further, the value of  $R^2$  was 0.283 which indicates that 28.3% of the variation in firm performance can be accounted for by both entrepreneurial orientation and market orientation. The Sobel test results obtained using bootstrapping in SPSS indicated that the z-score was 0.340 below the threshold of 0.5 at  $p<0.05$ .

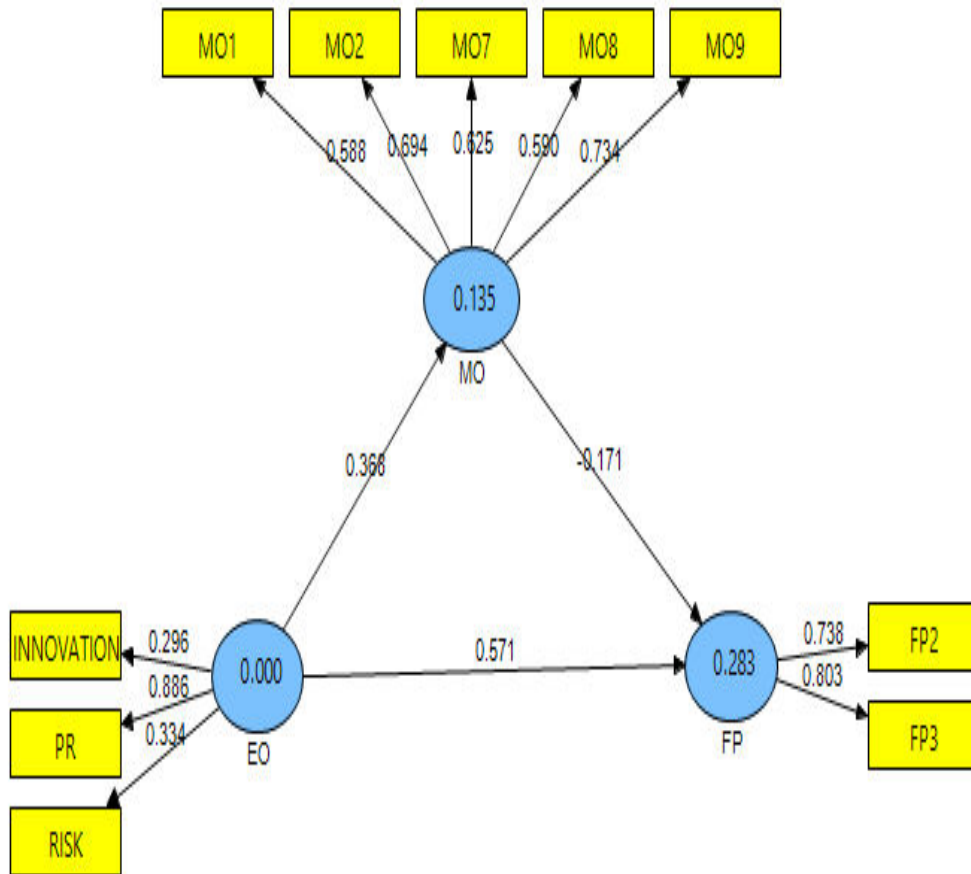
**Table 4.26: Path coefficients and Sobel Test results for the Mediator**

	Original sample	SM	SD	SE	T Statistics	p value	z score
<b>EO -&gt; FP</b>	0.571	0.522	0.175	0.175	3.254	0.05	0.340
<b>EO -&gt; MO</b>	0.368	0.417	0.064	0.064	5.764		
<b>MO -&gt; FP</b>	-0.171	-0.127	0.198	0.198	0.865		

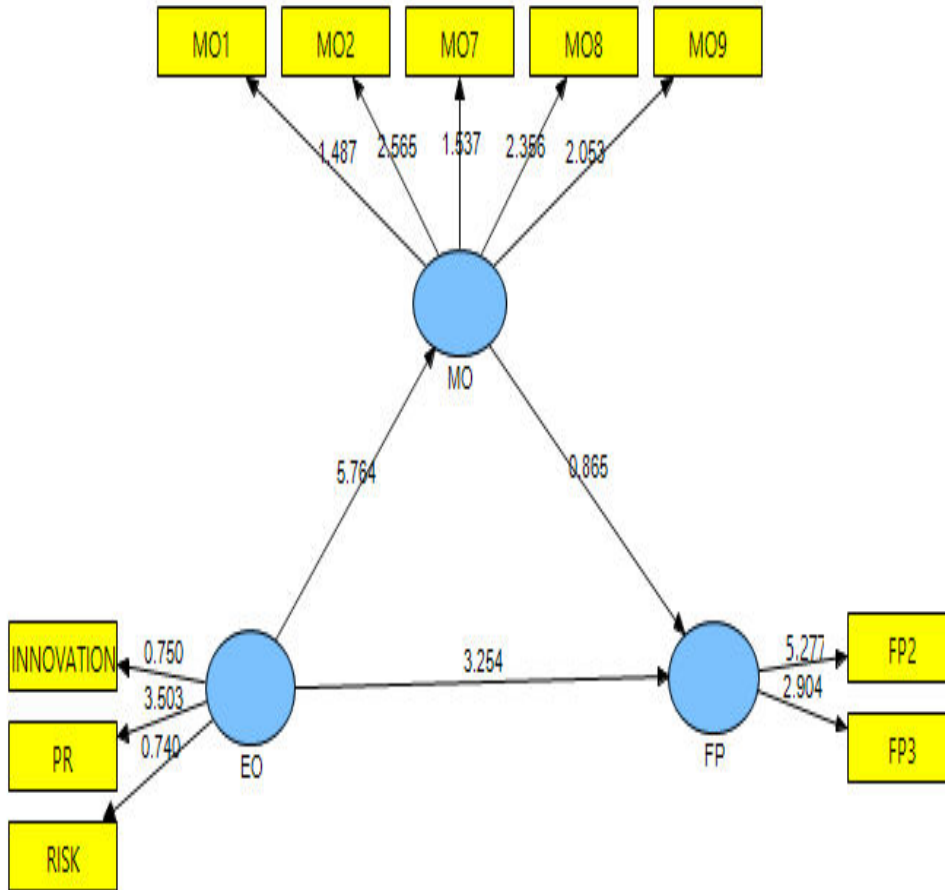
SM-Sample Mean, SD-Standard deviation, SE-Standard Error

The study findings as illustrated in Table 4.24 indicate that there was a significant relationship, that is, between EO and MO. However, the results indicate that there was an insignificant relationship between MO and FP. Thus, the results indicate that

market orientation did not mediate the relationship between entrepreneurial orientation and firm performance of agro processing SMEs. The null hypothesis  $H_{05b}$  was supported and the alternate hypothesis that stated that the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya is mediated by market orientation was rejected. The study findings imply that market orientation does not intervene in the relationship between entrepreneurial orientation and firm performance. The study findings are not in agreement with Idar and Mahmood (2011) which found out that market orientation partially mediates the EO – performance relationship. The study findings are inconsistent with a study by Matsuno, Mentzer and Ozsomer (2002) which found that entrepreneurial proclivity positively affects firm performance when it is mediated by market orientation.



**Figure 4.25: Path coefficient for Mediated Measurement Model**



**Figure 4.26: Significance test results for mediated structural model.**

#### **4.11 Summary of Hypothesis Testing Results**

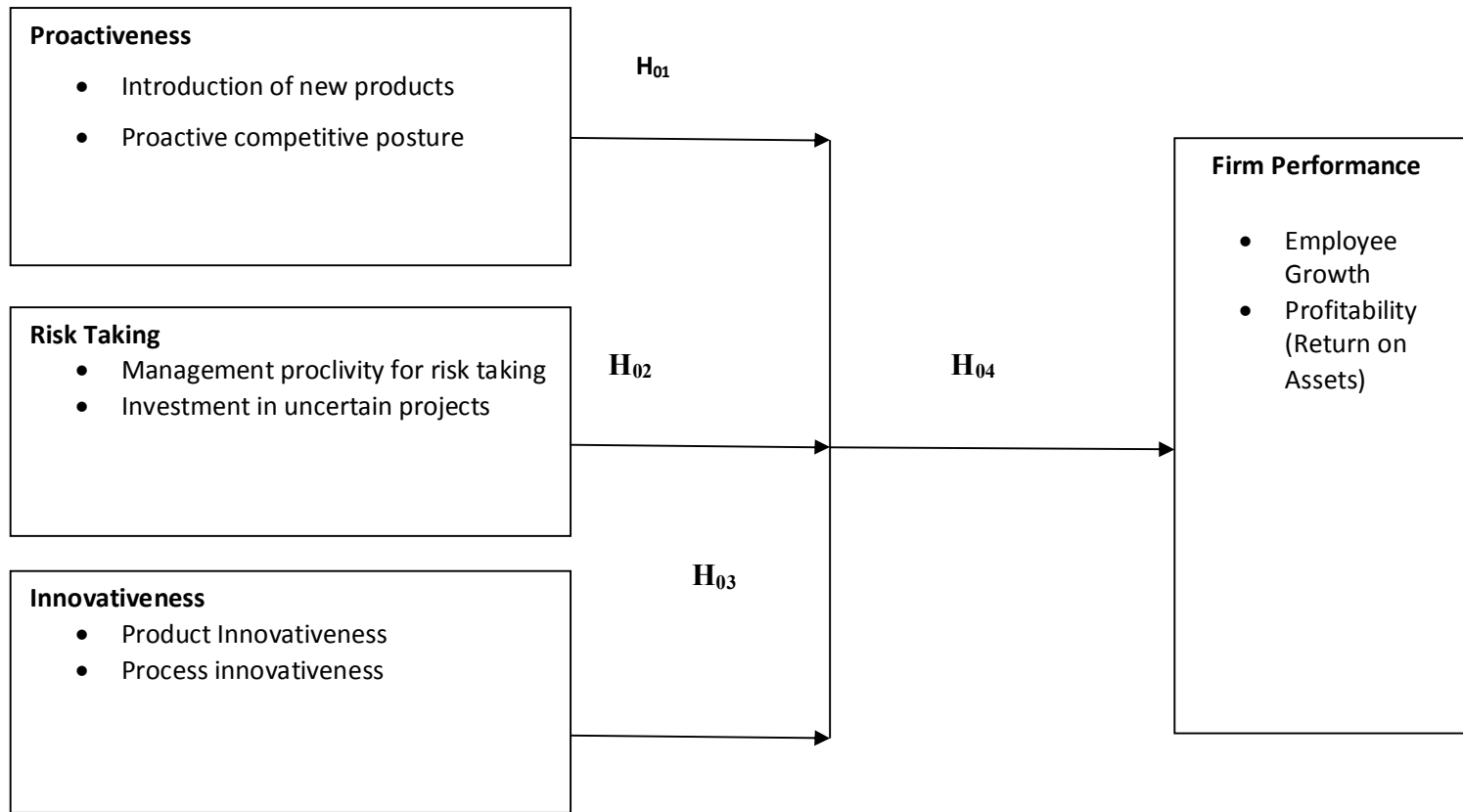
The results of hypothesis testing as indicated in Table 4.27 show that out of the six hypothesized relationships, four hypothesized relationships are significant while two hypothesized relationships are insignificant. The study results indicate that proactiveness, risk taking and innovativeness dimensions of entrepreneurial orientation had significant relationships with firm performance of agro processing SMEs in Kenya. Entrepreneurial orientation as a second order construct comprised of proactiveness, risk taking and innovativeness was found to have a strong, positive and significant relationship with firm performance of agro processing SMEs in Kenya. Market orientation as a second order construct comprised of customer orientation, competitor orientation and inter-functional coordination was found to have an insignificant relationship with firm performance of agro processing SMEs in Kenya. Lastly, the results showed that the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya was not mediated by market orientation. From the foregoing study findings, the conceptual model was revised by removing market orientation. The modified conceptual framework of the study is illustrated showing that entrepreneurial orientation dimensions namely proactiveness, risk taking and innovativeness had a significant relationship with firm performance as shown in Figure 4.27. Likewise, entrepreneurial orientation as a uni-dimensional construct had a strong and statistically significant relationship with firm performance.



**Table 4.27: Summary of Hypothesis Testing Results**

<b>Hypotheses</b>	<b>Path Coefficients</b>	<b>T statistics</b>	<b>Conclusion</b>	<b>Empirical Results</b>
Ho <sub>1</sub> : There is no relationship between proactiveness as a dimension of entrepreneurial orientation and the firm performance of agro processing SMEs in Kenya.	0.262	2.204	Positive and significant.  Reject Ho <sub>1</sub>	<b>Rejected</b>
Ho <sub>2</sub> : There is no relationship between risk taking as a dimension of entrepreneurial orientation and the firm performance of agro processing SMEs in Kenya.	0.272	3.795	Positive and significant.  Reject Ho <sub>2</sub>	<b>Rejected</b>
Ho <sub>3</sub> : There is no relationship between innovativeness as a dimension of entrepreneurial orientation and the firm performance of agro processing SMEs in Kenya.	-0.100	2.347	Negative and significant.  Reject Ho <sub>3</sub>	<b>Rejected</b>
Ho <sub>4</sub> : There is no significant relationship between entrepreneurial orientation and the firm performance of agro processing SMEs in Kenya.	0.618	8.293	Positive and significant.  Reject Ho <sub>4</sub>	<b>Rejected</b>
Ho <sub>5a</sub> : There is no relationship between market orientation and the firm performance of agro processing SMEs in Kenya.	-0.381	1.020	Negative and insignificant.  Accept Ho <sub>5</sub>	<b>Supported</b>





**Independent Variables**

**Dependent Variable**

**Figure 4.27: Modified Conceptual Framework**

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary of findings, conclusions and recommendations of the study. In addition, this chapter discusses the contribution of the study of policy and the limitations of the study.

#### 5.2 Summary of Findings

The main objective of the study is to establish the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of Agro processing SMEs in Kenya. The study relied on theoretical and empirical literature on proactiveness, risk taking, innovativeness, entrepreneurial orientation, market orientation and firm performance. The hypothesized relationships were developed and tested based on the conceptual model of entrepreneurial orientation, market orientation and firm performance. The measurement model estimation was established through exploratory factor analysis and confirmatory factor analysis. The linear relationships between the independent variables and firm performance was assessed using Pearson product-moment correlation coefficient  $r$ . The structural or inner model was accomplished by examining path coefficients or betas for hypothesis testing. The hypothesized relationships were tested by running PLS algorithms and bootstrapping algorithms in SmartPLS Version 2.0. The predictive relevance of the model was assessed using the blindfolding procedure which generated cross-validated communality and cross-validated redundancy values.

##### 5.2.1 Proactiveness on Firm Performance

The first objective sought to determine the influence of proactiveness on firm performance of agro processing SMEs in Kenya. The results of the descriptive analysis

revealed that owner/managers of agro processing SMEs identify, exploit and participate in market penetration and development. The result of the hypothesis testing showed that proactiveness has a positive and statistically significant relationship with firm performance of agro processing SMEs in Kenya. The null hypothesis  $H_{01}$  was rejected and the alternate hypothesis that stated that there is a relationship between proactiveness and firm performance of agro processing SMEs in Kenya was supported. Out of the four factors of proactiveness, two factors were found to contribute significantly to proactiveness of agro processing SMEs in Kenya, that is, the tendency to be the first to initiate new products ahead of competitors and the tendency to typically avoid deliberate competition.

### **5.2.2 Risk Taking on Firm Performance**

The second objective sought to establish the influence of risk taking on firm performance of agro processing SMEs in Kenya. The results of the descriptive analysis revealed that owner/managers of agro processing SMEs exercise cautions when taking up projects whose outcomes are uncertain or in situations where the risks are extreme and uncontrollable. The results also showed that owner/managers of agro processing SMEs take moderate risks and they are always seeking for opportunities related to the present operations. Out of the five factors of risk taking, two factors were found to contribute significantly to risk taking of agro processing SMEs in Kenya namely the tendency to invest in high risk projects which promises high returns and the willingness to commit large portions of resources to unexplored opportunities. The result of the hypothesis testing revealed that risk taking has a strong positive and statistically significant relationship with firm performance. The null hypothesis  $H_{02}$  was rejected and the alternate hypothesis that stated that there is a relationship between risk taking and firm performance of agro processing SMEs in Kenya was supported.

### **5.2.3 Innovativeness and Firm Performance**

The third objective sought to find out the influence of innovativeness on firm performance of agro processing SMEs in Kenya. The results of the descriptive analysis revealed that owner/managers of agro processing SMEs encourage and stimulate new ideas, creativity, experimentation and investment in product, process and technological innovation. The findings also demonstrated that owner/managers a preference for incremental rather than radical or dramatic innovations. The null hypothesis  $H_{03}$  was rejected and the alternate hypothesis that stated that there is a relationship between innovativeness and firm performance of agro processing SMEs in Kenya was supported. Out of the four factors of innovativeness, two factors were found to contribute significantly to innovativeness of agro processing SMEs in Kenya namely the tendency to encourage and stimulate product, process and technological or administrative innovation and the tendency to stimulate creativity and experimentation. The result of the hypothesis testing found out that innovativeness has a negative and statistically significant relationship with firm performance.

### **5.2.4 Entrepreneurial Orientation on Firm Performance**

The fourth objective sought to investigate the extent to which entrepreneurial orientation influences the firm performance of agro processing SMEs in Kenya. Proactiveness, risk taking and innovativeness were combined and used to develop the entrepreneurial orientation variable as a second order construct. The results of the hypothesis testing found out that entrepreneurial orientation has a strong, positive and statistically significant relationship with firm performance of agro processing SMEs in Kenya. Additionally, proactiveness, risk taking and innovativeness were found to contribute significantly to entrepreneurial orientation of agro processing SMEs in Kenya. The null hypothesis  $H_{04}$  was rejected and the alternate hypothesis that stated that there is a significant relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya was supported.

### **5.2.5 Market Orientation on Entrepreneurial Orientation and Firm Performance**

The fifth objective was supported by two hypothesis that sought to find out the influence of market orientation on firm performance; and the mediating influence of market orientation on the relationship between Entrepreneurial Orientation and Firm Performance of agro processing SMEs in Kenya. The descriptive analysis on market orientation of agro processing SMEs revealed that owner/managers regularly seek information on customer satisfaction and their existing competitors. In this study, Customer orientation, competitor orientation and inter-functional coordination were combined and used to develop the market orientation variable as a second order construct. Out of the nine factors of market orientation, five factors were found to contribute significantly to market orientation of agro processing SMEs in Kenya.

These factors were:- the tendency to constantly monitor its level of commitment to serving customer's needs; the belief that the firm is more focused than its competitors; the tendency to have business objectives that are driven primarily by customer satisfaction; the tendency to have all its departments responsive to one another's needs and requests; and the ability of managers to understand how everyone in the firm can contribute to creating customer value. The results of the hypothesis testing found out that market orientation has a statistically insignificant relationship with firm performance. The null hypothesis  $H_{05a}$  was supported and the alternate hypothesis that stated that there is a relationship between market orientation and firm performance of agro processing SMEs in Kenya was rejected. Further, the results of the hypothesis testing ( $H_{05b}$ ) revealed that there was a significant relationship between entrepreneurial orientation and market orientation of agro processing SMEs. However, the relationship between entrepreneurial orientation and firm performance is not mediated by market orientation. The null hypothesis  $H_{05b}$  was supported and the alternate hypothesis that

stated that the relationship between entrepreneurial orientation and firm performance of small and medium enterprises in Kenya is mediated by market orientation was rejected.

### **5.3 Conclusions of the Study**

Based on the findings, it can be concluded that agro processing SMEs that engage in product-market innovations, undertake somewhat risky ventures and are the first to come up with proactive actions will more likely improve their firm performance, in terms of, employee growth and profitability. It can be concluded that proactiveness, risk taking and innovativeness have significant relationships with firm performance of agro processing SMEs. Further, proactiveness, risk taking propensity and innovativeness vary independently of one another in explaining firm performance with risk taking having the greatest influence on firm performance of agro processing. Nevertheless, it is their combined influence (proactiveness, risk taking and innovativeness) that has the greatest influence on performance of agro processing SMEs. From the study findings, it can be concluded that focusing on one of the entrepreneurial dimensions, especially innovativeness, may lessen or hamper performance outcomes of agro processing SMEs. It can also be concluded that market orientation has no relationship with firm performance and that market orientation does not mediate the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

Proactiveness was found to have a statistically significant relationship with firm performance of agro processing SMEs in Kenya. The results are in line with the Resource Based View which postulates that superior performance depends primarily on creating strategic resources and having capabilities that competitors find difficult to substitute or imitate without great efforts. The ability to run successful enterprises in the midst of global and domestic competition calls for the ability to introduce new products ahead of competitors and the tendency to typically avoid deliberate competition. Therefore, owner/managers of agro processing SMEs have the ability to identify and



exploit market opportunities, even when these opportunities may be somewhat unrelated to existing operations.

From the findings, it can be concluded that the willingness to devote increased resources to high risk projects and ability to take calculated risks does affect the ability to seize profitable opportunities in the face of uncertainty. This is consistent with empirical literature. Otieno, Bwisa and Kihoro (2012) identified the risk taking propensity of a firm's management as a critical success factor. The authors found out that the more a firm's management takes risks, the greater the impact on firm performance. Thus, it can also be said that the ability to achieve superior firm performance is directly related to the intensity to take up calculated and moderate risks. Owner/managers need not shy away from heavy borrowing and high risk project with promises of high returns as this may have serious implications on the growth and profitability of agro processing SMEs .

Contrary to expectation, innovativeness was found to have a negative and significant relationship with firm performance of agro processing SMEs in Kenya. It can be concluded that although innovativeness has a significant influence on firm performance, an innovative culture does not necessarily lead to superior firm performance of agro processing SMEs in Kenya. The results were inconsistent with theoretical and empirical literature that provides that the ability to innovate gives firms the dynamic capability needed to increase the likelihood of first-mover advantage. Immense capital expenses incurred during the creative and experimentation stage may have affected the firm performance of these firms. Thus, this study concludes that increased innovative efforts will translate into enhanced firm performance in the long term. This study emphasizes that owner/managers need to undertake both incremental and dramatic innovations in order to guarantee survival, sustainable profits and growth.

Entrepreneurial orientation as a uni-dimensional construct was found to have a strong, positive and statistically significant relationship with firm performance of agro processing SMEs in Kenya. This is in line with the Resource Advantage Theory which

proposes that rewards flow to firms that successfully create new intangible resources. The theory suggests that entrepreneurial orientation can differentiate agro processing SMEs from their rivals and results in enhanced profitability and growth. Thus, it can be concluded that entrepreneurial orientation comprised of proactiveness, risk taking and innovativeness is needed for survival and growth of agro processing SMEs.

Market orientation was found to have a statistically insignificant relationship with firm performance of agro processing SMEs in Kenya. It can be said that although entrepreneurial activity can increase the market orientation of agro processing SMEs, market orientation is not an important strategic orientation as it does not significantly influence firm performance. It can be concluded that market orientation is not critical for obtaining optimal fit between entrepreneurial orientation and firm performance of agro processing SMEs.

#### **5.4 Recommendations**

The study was built on existing theories that generated a predictive conceptual model that demonstrated strong explanatory and predictive power. The study findings contribute to the existing knowledge by showing that entrepreneurial orientation dimensions namely proactiveness, risk taking and innovativeness have unique relationship with firm performance and vary independently of one another in impact. Nevertheless, a combination of proactiveness, risk taking and innovativeness (Entrepreneurial orientation) is what makes a firm entrepreneurial under the Resource Advantage Theory. The study contributes to theory development on market orientation as a mediating fit in the relationship between entrepreneurial orientation and firm performance under contingency theory in a developing context such as Kenya. The study results contribute to the resource based view by illustrating the influence of proactiveness, risk taking and competitive aggressiveness in the firm performance framework of agro processing SMEs. Specially, the study results indicate that

proactiveness and risk taking are intangible resources that are rare, valuable, and imperfectly imitable which lead to enhanced performance.

Entrepreneurial orientation refers to processes, practices, methods and decision making styles that owner/managers use to act entrepreneurially. Therefore, the managerial implications of the study pertain to the entrepreneurial orientation of owner/managers of agro processing SMEs that incorporates proactiveness, risk taking, innovativeness and entrepreneurial orientation for enhanced firm performance. Based on study findings, it is recommended that proactiveness should be embraced by owner/managers of agro processing SMEs. Agro processing SMEs should adopt an environmental scanning posture in anticipation of future customer demands and thereafter capitalize on identified opportunities to enhance their performance. Owner/manager of agro processing SMEs should also invest in entrepreneurial networks to ensure that they are more attuned to emerging market opportunities, which will lead to successful introduction of new products ahead of competitors.

Secondly, it is recommended that owner/managers of agro processing SMEs should consider risk taking as an effective tool for enhancing firm performance. Owner/managers of agro processing SMEs should be encouraged to take up riskier but calculated alternatives such as debt financing and unexplored venture opportunity so this enhance firm performance. Thirdly, it is recommended that agro processing industry SMEs need to identify innovativeness types frequently adopted by their workers so that they can differentiate those which positively and significantly influence firm performance from those which do not. Owner/managers of agro processing SMEs should also adopt both incremental and radical innovations to ensure short and long term firm performance.

Fourthly, entrepreneurial orientation comprised of proactiveness, risk taking and innovativeness had the greatest influence on firm performance of agro processing SMEs. As such, it is recommended that entrepreneurial orientation should be engrained in the

strategic planning process of agro processing SMEs. Owner/managers of agro processing industry should promote an entrepreneurial culture and an entrepreneurial mindset that supports entrepreneurial orientation behaviour of its employees. Employees that engage in product-market innovations, undertake somewhat risky ventures and are first to come up with proactive actions with positively contribute to superior firm performance in terms of growth and profitability. Fifthly, the study established that the cultural perspective of market orientation had no influence on firm performance of agro processing SMEs. It is recommended that owner/managers need to adopt knowledge-based resources and information gathering competencies under the behavioural perspective of market orientation rather than focus on organizational norms and values that encourage behaviour consistent with cultural perspective of market orientation. It is also recommended that owner/managers need to increase the entrepreneurial traits and activities in an attempt to increase cultural market orientation of their firms. Finally, it is recommended that further analysis should investigate the moderating influence of market orientation under the contingency theory research to better understand its influence in the entrepreneurial orientation-firm performance relationship.

With respect to methodology, this study demonstrates the use of structural equation modelling partial least squares (SEM-PLS) as an approach to data analysis in empirical studies on entrepreneurial orientation, marketing orientation and firm performance of agro processing SMEs in Kenya. It is recommended that further studies on the relationship between entrepreneurial orientation and firm performance in developing economies should adopt SEM-PLS for testing multivariate models. The study findings reveal that only 5.4 percent of the agro processing SMEs are engaged in leather and footwear manufacturing. It is recommended that there is an urgent need for targeted policy interventions and actions if Kenya is to attain Vision 2030.

### **5.5 Areas for Further Study**

The study of entrepreneurial orientation concentrated on three dimensions namely proactiveness, risk taking and innovativeness. Further research may be needed to study all five dimensions of entrepreneurial orientation namely proactiveness, risk taking, innovativeness, competitive aggressiveness and autonomy. In addition, there may be need to address entrepreneurial managerial competencies that may have a bearing on firm performance of agro processing SMEs in Kenya. The current study assessed market orientation as a second-order construct. There may be need for a more detailed study on the key dimensions of market orientation namely customer orientation, competitor orientation and inter-functional coordination. Further research may also be needed to study the behavioral perspective of market orientation. The study findings were based on evidence gathered from small and medium enterprises in the agro processing industry. Future research may be extended to include large manufacturing firms that are increasingly facing competition from their global counterparts. Finally, further research may be needed to investigate other contingency factors such as firm resources, organizational structures, demographic traits and their influence on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

## REFERENCES

- Abbot, M. L., & McKinney, J. (2013). *Understanding and Applying Reserch Design*. (1<sup>st</sup>ed.). Somerset, NJ: John Wiley & Sons, Inc.
- Aggarwal, N., & Gupta, M. (2006). Market performance measures:current status in Indian companies. *Decision*, 33(1), 47–74.
- Ahimbisibwe, G. M., & Abaho, E. (2013). Export entrepreneurial orientation and export performance of SMEs in Uganda. *Global Advanced Research Journal of Management and Business Studies*, 2(1), 56- 62.
- Al-Swidi, A. K., & Al-Hosam, A (2012). The effect of entrepreneurial orientation on the organizational performance: A study on the Islamic banks in Yemen using the partial least squares approach. *Arabian Journal of Business and Management Review (Oman Chapter)*, 2(1), 73-84.
- Aktan, A & Bulut, C. (2008). Financial performance impact of corporate entrepreneurship in emerging markets: A case of Turkey. *European Journal of Economics, Finance and Administrative Sciences*, 12, 1450-2275.
- Altinay, L., & Altinay, M. (2004). The influence of organisational structure on entrepreneurial orientation and expansion performance. *International Journal of Contemporary Hospitality Management*, 16(6), 334-344.
- Anand, G., & Ward, P.T. (2004). Fit, flexibility and performance in manufacturing: coping with dynamic environments. *Production and Operations Management*, 13(4), 369- 385.

- Andersen, J. (2010). A critical examination of EO-performance relationship. *International Journal of Entrepreneurial Behaviour & Research*, 16(4), 309 – 328.
- Anderson, T. W. (2003). *An Introduction to Multivariate Statistical Analysis*. (3<sup>rd</sup>ed.). New Jersey: John Wiley & Sons, Inc.
- Anderson, D. R., Sweeney, D. J., & Williams, T.A. (2002). *Statistics for Business and Economics*, (8<sup>th</sup>ed.). Singapore: Thomson South – western.
- Arbaugh, J., Cox, L. and Camp, S. (2009) Is Entrepreneurial Orientation a Global Construct? A Multi-Country Study of Entrepreneurial Orientation, Growth Strategy, and Performance, *The Journal of Business Inquiry*, 8(1), 12-25.
- Arshad, A.S., Rasli, A., Arshad, A.A., & Zain, Z.M. (2013). The impact of entrepreneurial orientation and business performance: A study of technology-based SMEs in Malaysia. *Social & Behavioral Sciences*, 46-53.
- Atalay, M., Anafarta, N., & Sarvan, F. (2013). The relationship between innovation and firm performance: An empirical evidence from Turkish Automotive Supplier Industry. *Social and Behavioural Sciences*, 75, 226- 235.
- Atieno, R. (2005). *Improving Industrial Performance and Promoting Employment in the Common Market of Eastern and Southern Africa/COMESA*. Paper prepared for the UNIDO Subregional Conference. Lusaka, Zambia.
- Atuahene-Gima K., & Ko, A. (2001). An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1), 54-74.

- Ayinla, A. A. (2009). Assessing the relationship between the perceived business environment and firm's entrepreneurial orientation. *Ethiopian Journal of Environmental Studies and Management*, 2(1), 50-57.
- Avlonitis, G. J., & Salavou, H. E. (2007). Entrepreneurial orientation of SMEs, product innovativeness, and performance. *Journal of Business Research*, 60(5), 566-575.
- Awang, A., Ahmad, Z, A., Asghar, A.R., & Subari, K.A. (2010). Entrepreneurial orientation among Bumiputera small and medium agro-based enterprises in West Malaysia: Policy implication in Malaysia. *International Journal of Business and Management*, 5 (5), 1-22.
- Awang, A., Ahmad, Z, A., Asghar, A.R., Subari, K.A., & Kassim, S. A. (2011). Firm entrepreneurial orientation and knowledge/networking of agro based enterprises in Malaysia: The role of technology and strategy. *African Journal of Business Management*, 5 (22), 9685-9706.
- Awang, A., Khalid, S.A., Yusof, A.A., Kassim, K.M., Ismail, M., Zain, R.S., and Madar, A.R.S. (2009). Entrepreneurial orientation and performance relations of malaysian bumiputera SMEs: The impact of some perceived environmental factors. *Journal of Business and Management*, 4(9), 84-96.
- Ayub, A., Razzaq, A., Aslam, M.S., & Iftekhar, H. (2013). Gender effects on entrepreneurial orientation and value innovation: evidence from Pakistan. *European Journal of Business and Social Sciences*, 2(1), 82-90.
- Baba, R., & Elumalai, S. (2011). *Entrepreneurial orientation of SMEs in Labuan and its effects on performance*. Working Paper Series No. 1113. Malaysia.



- Babin, B., & Svensson, G. (2012). Structural equation modelling in social science research: Issues of validity and reliability in the research process. *European Business Review*, 24(4), 320-330.
- Baird, I.S., & Thomas, H. (1985). Toward a contingency model of strategic risk taking. *Academy of Management Review*, 10(2), 230-243.
- Baker, W.E., & Sinkula, J.M. (2009). The complementary effects of market orientation and entrepreneurial orientation on profitability in small businesses. *Journal of Small Business Management*, 47(4), 443–464.
- Banbury, C., & Mitchell, W. (1995). The effect of introducing important incremental innovations on market share and business survival. *Strategic Management Journal*, 16, 161-182.
- Barney, J. (1986). Strategic factor markets: expectations, luck and business strategy, *Management Science*, 32, 1231-1241.
- Barney, J. (1991). Firm resources and sustainable competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barney, J.B. (1997). *Gaining and Sustaining Competitive Advantage*. Addison-Wesley: Reading.
- Barney, J. B., & Mackey, T. B. (2005). Testing resource based theory in D.J. Ketchen, Jr and Bergh, D.D. (Eds.). *Research Methodology in Strategy and Management*. London: Elsevier Ltd.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.

- Bartlett, J. E., Kotrlik, J.W., & Higgins, C. C. (2001). Organisational Research: Determining appropriate sample size in survey research. *Information Technology, Learning and Performance Journal*, 19(1), 43-50.
- Basile, A. (2012). Entrepreneurial orientation in SMEs risk taking to entering international markets. *Far East Journal of Psychology and Business*, 7(2), 1 – 17.
- Bategeka, L.V., Munyoki, J. M., & Ogutu, M. (2012). The effect of export market strategy on the relationship between firm competencies and export performance of small and medium manufacturing exporters in Uganda. *DBA Africa Management Review*, 2(1), 10-23.
- Begley, T.M., & Boyd, D.P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and small businesses. *Journal of Business Venturing*, 2, 79-93.
- Bhuan, S.N., Menguc, B., & Bell, S.J. (2005). Just entrepreneurial enough: the moderating effect of entrepreneurship on the relationship between market orientation and performance. *Journal of Business Research*, 58, 9-17.
- Blackburn, R. A., & Smallbone, D. (2008). Researching small firms and entrepreneurship in the UK: developments and distinctiveness. *Entrepreneurship Theory & Practice*, 32(2), 267-288.
- Blesa, A., & Ripolles, M. (2003). The role of market orientation in the relationship between entrepreneurial proactiveness and performance. *Journal of Entrepreneurship*, 12(1), 1-20.

- Block, Z., & MacMillan, I. (1993). *Corporate Venturing*, Boston: Harvard University Press.
- Boohene, R., Marfo-Yiadom, E., & Yeboah, M.A. (2012). An empirical analysis of the effect of entrepreneurial orientation on firm performance of auto artisans in the Cape Coast Metropolis, *Developing County Studies*, 2(9), 77- 88.
- Bridge, S., O'neill, K. & Cromie, S. (1998). *Understanding Enterprise, Entrepreneurship, and Small Business*, London :MacMillan.
- Brockhaus, R. H. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal*, 23(3), 509-520.
- Brown, S.L., & Eisenhardt, K.M. (1998). *Competing on the Edge*, Boston: Harvard Business School Press.
- Bryman, A. (2012). *Social Research Methods*, (4th ed). New York: Oxford University Press.
- Bryman, A. & Bell, E. (2011). *Business Research Methods*, (3rd ed). New York: Oxford University Press.
- Buffa, E.S. (1980). Research in operations management. *Journal of Operations Management*, 1(1), 1 – 12.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Callaghan, C., & Venter, R. (2011). An investigation of the entrepreneurial orientation, context and entrepreneurial performance of inner city Johannesburg street traders. *Southern African Business Review*, 15(1), 28-49.

- Campbell, D.T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multi trait-multi method matrix. *Psychological Bulletin*, 56, 81–105.
- Certo, T. S., Moss, T.W., & Short, J. (2009). Entrepreneurial orientation: an applied perspective. *Business Horizons*, 52, 319-324.
- Chao, M.C., & Spillan, J.E. (2010). The journey from market orientation to firm performance. A comparative study of US and Taiwanese SMEs. *Management Research Review*, 33(5), 472-483.
- Chen, M. J., & Hambrick, D.C. (1995). Speed, stealth and selective attack: How small firms differ from large firms in competitive behavior. *Academy of Management Journal*, 38, 453–482.
- Chia, A., Goh, M., Hum, S, H. (2009). Performance measurement in supply chain entities. Balanced scorecard perspective, Benchmarking. *An International Journal*, 16(5), 605 – 620.
- Chin, W. W. (1998). The partial least squares approach for structural equation modeling. In George A. Marcoulides (Ed.), *Modern Methods for Business Research*, Lawrence Erlbaum Associates, 295-336.
- Clark, B. H. (1999). Market performance measures: History and interrelationships. *Journal of Market Management*, 15, 711–732.
- Cochran, W.G. (1977). *Sampling Techniques*, (3<sup>rd</sup> ed.). New York: John Wiley & Sons.
- Cockalo, D., Djordjevic, D., Sajfert, Z., Bogetic, S., & Besic, C. (2011). An exploratory study of a business strategy for providing customer satisfaction in the Republic of Serbia. *African Journal of Business Management*, 5(3), 833-843.

- Conner, K. (1991). A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management*, 17(1), 121-154.
- Cooper, R. D., & Schindler, S.P. (2011). *Business Research Methods*, (10<sup>th</sup>ed.). New York: Mc Graw Hill.
- Cooper, R. D., & Schindler, S. P. (2011). *Business Research Methods*, (11<sup>th</sup>ed.). Singapore : Mc Graw Hill.
- Coulthard, M. ( 2007). The role of entrepreneurial orientation on firm performance and potential influence of relational dynamism. *Journal of Global Business and Technology*, Spring, 29- 39.
- Covin, J.G., & Miles, M.P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory & Practice*, 23(3), 47-63.
- Covin, J. G., & Slevin, D. P. (1986). The development and testing of an organizational-level entrepreneurship scale in Ronstadt, R., Hornaday, J.A., Peterson, R. & Vesper, K.H. (Eds). *Frontiers of Entrepreneurship Research*. Wellesley: Babson College.
- Covin, J. G., & Slevin, D. P. (1988). The influence of organization structure on the utility of an entrepreneurial top management style. *Journal of Management Studies*, 25, 217–234.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75-87.
- Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory & Practice*, 16(1), 7-25.

- Covin, J., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation-sales growth rate relationships. *Entrepreneurship: Theory & Practice*, 30(1), 57-81.
- Crosan, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448-474.
- Cunningham, L. X., & Rowley, C. (2007). Human resource management in Chinese small and medium enterprises. *Personnel Review*, 36(3), 415-439.
- Silva, C.A., Baker, D., Shepherd, A.W., Jenane, C., & Miranda-da-Cruz, S. (2009). *Agro – industries for Development*. Wallingford, United Kingdom: CABI Publishing.
- Damanpour, F. (1991). Organizational innovation: a meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34(3), 555-590.
- Demirbag, M., Lenny Koh, S. C., Tatoglu, K., & Zaim, S. (2006). TQM and Market orientations impact on SME's performance. *Industrial Management and Data System*, 106(8), 1206-1228.
- Deshpanda, R., Farley, J.U., & Webster, F. E. (1993). Corporate culture customer orientation, and innovativeness in Japanese firms: a quadrad analysis. *Journal of Market*, 57(1), 23-37.
- Dess, G. G., & Lumpkin, G.T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, 19(1), 147-156.
- DeTienne, D. R., & Chandler, G. N. (2007). The Role of Gender in Opportunity Identification *Entrepreneurship Theory and Practice*, 31(3), 365-386.

- Dhamu, K.P., & Ramamoorthy, K. (2008). *Statistical Methods*. Jodhpur, India: Agrobios.
- Diamantopoulos, A., & Hart, S. (1993). Linking market orientation and company performance: preliminary evidence on Kohli and Jaworski's framework. *Journal of Strategic Market, 1*, 93-121.
- Doane, D.P., & Seward, L.E. (2009). *Applied Statistics for Business and Economics*. (2<sup>nd</sup>ed.). New York: McGraw – Hill Companies, Inc.
- Donaldson, L. (2000). *The Contingency Theory of Organizations*. Thousand Oaks, CA: Sage Publications, Inc.
- Donaldson, L., Qiu, J., Luo, B.N. (2013). For rigour in organizational management theory *Research Journal of Management Studies, 50*, 153–172.
- Drucker, P. F. (1985). *Innovation and Entrepreneurship*. New York: Harper and Row.
- Eckardt, M. (2014). Legal form and internationalization of small and medium-sized enterprises in the EU. Andrassy Working Paper. Series No. 31,
- Eggers, F., Kraus, S., Hughes, M., Laraway, S., & Syncerski, S. (2013). Implications of customer and entrepreneurial orientations for SME growth. *Management Decision, 51*(3), 524-546.
- Ellis, P. D. (2006). Market orientation and performance. A meta analysis and cross-national comparisons. *Journal of Management Studies, 43*(5), 1089-1107.
- Ellis, A.; Cutura, J.; Dione, N.; Gillson, I.; Nanael, C. & Thongori J. (2007). *Gender and Economic Growth in Kenya: Unleashing the power of women*. Washington, DC: The World Bank.

- Ekpe, I., & Mat, N. (2012). The moderating effect of social environment on the relationship between entrepreneurial orientation and entrepreneurial intentions of female students at Nigerian universities. *International Journal of Management Science, 1*(4), 1-6.
- Entrialgo, M., Ferna'ndez, E., & Va'zquez, C. J. (2001). The effect of the organizational context on SME's entrepreneurship: some Spanish evidence. *Small Business Economics, 16*(3), 223- 236.
- Esposito Vinzi, V., Trinchera, L., & Amato, S. (2010). PLS Path Modeling: From Foundations to Recent Developments and Open Issues for Model Assessment and Improvement. In. V. Esposito Vinzi, W.W. Chin, J. Henseler & H. Wang (Eds) *Handbook of Partial Least Squares: Concepts, Methods and Applications* (47-82) Berlin, Germany: Springer Berlin Heidelberg.
- European Commission. (2013, 02 05). *Small and medium-sized enterprises (SMEs)*. Retrieved 08 21, 2012, from European Commission: [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm)
- Fairoz, F.M., Hirobumi, T., & Tanaka, Y. (2010). Entrepreneurial orientation and performance of small and medium enterprises of Hambantota District , Sri Lanka. *Asian Social Science, 6*(3), 34- 47.
- Fatoki, O. (2014). The entrepreneurial orientation of micro enterprises in the retail sector in South Africa. *Journal of Sociology Anthropology, 5*(2), 125-129.
- Ferreira, J., Azevedo, S.G. (2008). Entrepreneurial orientation (EO) and growth of firms: key lessons for managers and business professionals. *Problems and Perspectives in Management, 6*(1), 82-89.



- Felgueira, T., & Rodrigues, R.G. (2012). Entrepreneurial orientation, market orientation and performance of teachers and researchers in public higher education institutions. *Public Policy and Administration*, 11(4), 703-718.
- Fornell, C., & Cha, J. (1994). *Partial least squares*. In R. P. Bagozzi (Ed.), *Advanced Methods of Market Research*. Cambridge: Blackwell, 52–78.
- Frank, H., Kessler, A., & Fink, M. (2010). Entrepreneurial orientation and business performance – a replication study. *Schmalenbach Business Review*, 62, 175-198.
- Freel, M. (2000). External linkages and product innovation in small manufacturing firms. *Entrepreneurship & Regional Development*, 12(3), 245-66.
- Freeman, H., & Estrada-Valle, J. (2003). *Linking research and rural innovation to sustainable development*. Paper presented at the 2nd Triennial Global Forum on Agricultural Research (GFAR) Dakar, Senegal.
- Freiling, J., & Schelhowe, C. L. (2014). The impact of entrepreneurial orientation on the performance of internationalization. *Journal of Entrepreneurship Management and Innovation*, 10(4), 169-199.
- Frese, M., Brantjes, A., & Hoorn, R. (2002). Psychological success factors of small scale businesses in Namibia: The roles of strategy process, entrepreneurial orientation and the environment. *Journal of Developmental Entrepreneurship*, 7(3), 259–283.
- Food & Agriculture Organization. (2007). *Enabling Environments for Agribusiness and Agro-Industry Development in Eastern Europe and Central Asia. Proceedings of FAO Workshop. Budapest, Hungary. Rome.*

- Food & Agriculture Organization.(2007). *Challenges of Agribusiness and Agro-Industry Development*. Rome.
- Food & Agriculture Organization. (2008). Enabling Environments for Competitive Agro-Industries, *Paper for Global Agro- Industries Forum*. Rome.
- Food & Agriculture Organization.(2008), *Enabling Environments for Agribusiness and Agro-industrial development in Africa*. Proceedings of a FAO Workshop Accra, Ghana 8-10 October 2007. Accessed on 7<sup>th</sup> February 2013 from <http://www.gaif08.org>.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Market Research*, 18(1), 39–50.
- Frishammar, J., & Horte, S. (2007). The role of market orientation and entrepreneurial orientation for new product development performance in manufacturing firms. *Technology Analysis and Strategic Management*, 19(6), 765-788.
- Gall, M. D., Gall, J. P., Borg, W. R. (2007).*Educational Research.An Introduction*. (8<sup>th</sup>ed.). Boston: Pearson Education Inc.
- Gatignon, H., & Xuereb, J. (1997). Strategic Orientation of the Firm and New Product Performance, *Journal of Marketing Research*, 34, 77-90.
- Gaur, S.S., Vasudevan, H., & Gaur, A.S. (2011).Market orientation and manufacturing performance of Indian SMEs. Moderating role of firm resources and environmental factors. *European Journal of Market*, 45 (7/8), 1172 – 1193.
- Geiss, G. (1989). Risk Taking, Innovation and Organisational Environment, in R. Kuhn (ed.), *Creativity and Strategy in Mid Sized Firms*, Englewood Cliffs, New Jersey: Prentice Hall.

- Geisser, S. (1974). A predictive approach to the random effects model. *Biometrika*, 61(1), 101-107.
- Ghani, U., & Mahmood, Z. (2011). Factors influencing performance of Microfinance firms in Pakistan: Focus on market orientation. *International Journal of Academy Research*, 3(5), 125-132.
- Gonza'lez-Benito, O., Gonza'lez-Benito, J., & Mun'oz-Gallego, P.A. (2009). Role of entrepreneurship and market orientation in firms'success. *European Journal of MarketVol.* 43(3/4), 500-522.
- Gorard, S. (2003). *Quantitative Methods in Social Science*. New York: Continuum.
- Grable, J. E., & Lytton, R. H. (1998). Investor risk tolerance: testing the efficacy of demographics as differentiating and classifying factors. *Financial Counseling and Planning*, 9(1), 61-73.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 33(3), 114–135.
- Grant, R. M. (2002). *Contemporary Strategy Analysis*. (4th Ed.). Oxford: Blackwell Publishers Inc.
- Gray, G.T., & Wert-Gary, S. (2012). A contingency approach to market entrepreneurship: Impact of business strategies on the firm's market function. *International Journal of Business, Humanities and Technology*, 2(2), 184 – 192.
- Gravetter, F. J., & Forzano, L. B. (2006). *Research Methods for the Behavioral Sciences*. (1<sup>st</sup>ed.). Wadsworth: Thomson Learning.
- Greenley, G. E. (1995). Market orientation and company performance: empirical evidence from UK companies. *British Journal of Management*, 6, 1-13.

- Groebner, D.F., Shannon, P.W., Fry, P.C., & Smith, K.D. (2008). *Business Statistics. A Decision Making Approach*. New York: Pearson Prentice Education Inc.
- Gunasekaran, A., Patel, C., & Tirtiroglu, E. (2001). Performance measures and metrics in a supply chain environment. *International Journal of Production Economics*, 87(3), 333-347.
- Haber, S., & Reichel, A. (2005). Identifying performance measures of small ventures - The case of the tourism industry. *Journal of Small Business Management*, 43(3), 257–286.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis. A Global Perspective* (7<sup>th</sup>ed.) Upper Saddle River, Boston: Pearson Education Inc.
- Harms, R., Reschke, H., Kraus, S., & Fink, M. (2010). Antecedents of innovation and growth: analyzing the impact of entrepreneurial orientation and goal-oriented management. *International Journal of Technology Management*, 52(1-2), 135-152.
- Henley, A. (2005). Job creation by the self- employed: The roles of entrepreneurial and financial capital. *Small Business Economics*, 25, 175-196.
- Henseler J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Market. *Advances in International Market*, 20, 277–319.
- Hernandez – Espallardo, M., & Delgado – Ballester, E. (2009). Product innovation in small manufacturers, market orientation and the industry’s five competitive forces. Empirical evidence from Spain. *European Journal of Innovation Management*, 2(4), 470 – 491.

- Hisrich, R.D., Peters, M. P., & Shepherd, D. A. (2009). *Entrepreneurship African Edition*. Great Britain, Glasgow: Bell & Bain Ltd.
- Hitt, M., & Reed, T. (2000). Entrepreneurship in the new competitive landscape. In Meyer, G.D., and Heppard (Eds.), *Entrepreneurship as strategy: Competing on the entrepreneurial edge*, Thousand Oaks, California: Sage Publications.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*, 4, 599–610.
- Homburg, C., & Pflesser, C. (2000). A multiple-layer model of market-oriented organizational culture: measurement issues and performance outcomes. *Journal of Market Research*, 37(4), 449- 462.
- Hornsby, J., Kuratko, D., & Zahra, S. (2002). Middle managers' perception of the internal environment for corporate entrepreneurship: assessing a measurement scale. *Journal of Business Venturing*, 17, 253-273.
- Hughes, M., & Morgan, R.E. (2007). Deconstructing the relationship between entrepreneurial orientation and firm performance at the embryonic stage of firm growth. *Industrial Market Management*, 36(5), 651-661.
- Hult, T., Hurley, R., & Knight, G. (2004). Innovativeness: its antecedents and impact on firm performance. *Industrial Market Management*, 32, 429-438.
- Hult, G. T., & Ketchen, D, J. (2001). Does market orientation matter? A test of the relationship between positional advantage and performance. *Strategic Management Journal*, 22(9), 899-906.

- Hung, K. P., & Chiang, Y.H. (2010). Innovation, proclivity and entrepreneurial orientation and perceived firm performance. *International Journal of Technology Management*, 3(4), 257-274.
- Hung, M. L., & Chin, P. L. (2011). An AHP study of survival factors for small medium sized multinational firms in Taiwan. *African Journal of Business Management*, 5(6), 2093-2104.
- Hunt, S. D., & Arnett, D, B. (2006). Does market success lead to market success? *Journal of Business Research*, 59(7), 820–828.
- Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of Market*, 59(1), 1–15.
- Hunt, S. D., & Madhavaram, S. (2006). Teaching market strategy: Using resource-advantage theory as an integrative theoretical foundation. *Journal of Market Education*, 28(2), 93–105.
- Hussain, J., Ismail, K., & Shah, F.A. (2015). The effect of market and entrepreneurial orientations on organizational performance: study of Malaysian SMEs. *City University Research Journal*, 5(2), 203-219.
- Hutchison, J., & Das, S. R. (2007). Examining a firm's decision with a contingency framework for manufacturing. *International Journal of Operations & Production Management*, 27(2), 159- 180.
- Hyung, L. D., & Dedahanov, A. (2014). Firm performance and entrepreneurial, market & technology orientations in Korean technology intensive SMEs. *Asian Social Science*, 10(22), 37-48.

- Idar, R. & Mahmoo, R. (2011). Entrepreneurial and market orientation relationship to performance: The SME Perspective. *Interdisciplinary Review of Economics and Management*, 1(2), 1-24.
- Jajilan, K., Jamshidinavid, B., & Ghanbary, M. (2013). The impact of entrepreneurial orientation and market orientation on the performance of industrial firms listed in Tenran Stock Exchange (food, chemical, pharmaceutical, automobile). *International Research Journal of Applied and Basic Sciences*, 5(5), 644-649.
- Johnson, A.J., Dibrell, C.C., & Hansen, E. (2009). Market orientation, innovativeness, and performance of food companies. *Journal of Agribusiness*, 27(1/2), 85 – 106.
- Johnson, G.M., & Whittington, R. (2003). Micro strategy and strategizing: Towards an activity based view. *Journal of Management Studies*, 40(1), 3-22.
- Junaidu, A. S. (2012). The moderating role of entrepreneurial orientation and export performance of SMEs in the Nigerian leather industry. *International Journal of Business Management and Tomorrow*. 12(10), 872-881.
- Kabiri, F., & Mokshapathy, S. (2012). Entrepreneurial orientation and farmers performance: evidence from Bushehr Province in Iran. *Indian Journal of Education and Information Management*, 1(7), 295-301.
- Kaplan, R. S., Norton, D. P. (2004). *Strategy Maps: Converting intangible assets into tangible outcomes*. Harvard Business School Press: Boston Massachusetts.
- Kazam, A., & Van der Heijden, B. (2006). Exporting firms' strategic choices: The case of Egyptian SMEs in the food industry. *Sam. Adv. Management Journal*, 71(3), 21-33.
- Keh, H. T., Nguyen, T. T., & Ng, H. P. (2007). The effects of entrepreneurial orientation and market information on the performance of SMEs. *Journal of Business*

- Venturing*, 22(4), 592-611. Keller, G. (2009). *Statistics for Management*, New Delhi: Cengage Learning.
- Kenya National Bureau of Statistics. (2010). *Economic Survey*. Nairobi: Government Printer.
- Kenya National Bureau of Statistics. (2013). *Economic Survey*. Nairobi: Government Printer.
- Kenya National Bureau of Statistics. (2012). *Statistical Abstract*. Nairobi: Government Printer.
- Keskin, H. (2006). Market orientation, learning orientation, and innovation capabilities in SMEs An extended model. *European Journal of Innovation Management*, 9(4), 21-40.
- Kim, J-S., Kaye, J., & Wright, L.K. (2001). Moderating and mediating effects in causal models. *Issues in Mental Health Nursing*, 22, 63-75.
- Kirsten, J., Karaan, A. S., & Dorward, A. R. (2009). Exchange, contracts and property rights enforcement in Kirsten, J.F., Dorward, A.R., Poulton, C., & Vink, N.(eds) *Institutional Economics Perspectives on African Agricultural Development*, Washington: International Food Programme Research Institute.
- Kline, R, B. (2005). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press.
- Knight, G. A. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*. 12, 213-225.
- Knight, G., & Cavusgil, S. (2004). Innovation, organizational capabilities, and the born global firm. *Journal of International Business Studies*, 35(2), 124-141.



- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation - the construct, research propositions, and managerial implications. *Journal of Market*, 54(2), 1-18.
- Kombo, D. K., & Tromp, D. L.A. (2009). *Proposal and Thesis Writing: An Introduction*. Nairobi: Paulines Publication Africa.
- Kormawa, P.M., Wohlmuth, K., & Devlin, J. (2011). Agribusiness for Africa's prosperity: Country case studies. *Working Paper. (2<sup>nd</sup> Ed.)*. Vienna: UNIDO.
- Kothari, C. (2009). *Research Methodology: Methods & Techniques*. New Delhi: New age International Publishers.
- Krauss, S.I., Frese, M., Freidrich, C & Unger, J.M. (2005). Entrepreneurial orientation: a psychological model of success among southern African small business owners. *European Journal of Work and Organizational Psychology*, 14(3), 315–344.
- Kreiser, P., Marino, L., & Weaver, K. (2002). Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis. *Entrepreneurship Theory and Practice*, 26(4), 71-95.
- Kirsten, J., Karaan, A. S., & Dorward, A. R. (2009). Exchange, contracts and property rights enforcement in Kirsten, J.F., Dorward, A.R., Poulton, C., & Vink, N.(eds) *Institutional Economics Perspectives on African Agricultural Development*. Washington: International Food Programme Research Institute, 35 - 73.
- Kropp, F., Lindsay, N.J., & Shoham, A. (2008). Entrepreneurial orientation and international entrepreneurial business venture startup. *International Journal of Entrepreneurial Behavior & Research*, 14(2), 102-117.
- Kropp, F., Lindsay, N.J., & Shoham, A. (2006). Entrepreneurial, market and learning orientations and international entrepreneurial business venture performance in South African firms. *International Market Review*, 23(5), 504 – 523.

- Kumar, R. (2005). *Research Methodology. A step – by – step guide for beginners*, (2<sup>nd</sup>ed). London: Sage Publication.
- Kumar, V., Jones, E., Venkatesan, R., & Leone, R.P. (2011). Is market orientation a source of sustainable competitive advantage or simply the cost of competing? *Journal of Marketing*, 75, 16-30.
- Kuratko, D.F., & Hodgetts, R. M. 2007.*Entrepreneurship:Theory/Process/Practice*, (7<sup>th</sup> ed). Canada: Thomson Corporation.
- Kuratko, D., Ireland, D., Covin, J., & Hornsby, J. (2005). A model of mid-level managers' entrepreneurial behavior. *Entrepreneurship Theory & Practice*, 29(6), 699-716.
- Laforet, S. (2011).A framework of organizational innovation and outcomes in SMEs. *International Journal of Entrepreneurial Behaviour and Research*, 17(4), 380-408.
- Lawrence, P. R., & Lorsch, J.W. (1967).*Organization and Environment: Managing Differentiation and Integration*, Boston: Harvard Business School Press.
- Lee, S. M., & Lim, S. (2009). Entrepreneurial orientation and the performance of service business. *Journal of Service Business*, 3, 1–13.
- Lee, S.M., & Peterson, S. J. (2000).Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business*, 35(4), 401- 416.
- Lee, T.S., &Tsai, H. J. (2005). The effects of business operations mode on market orientation,learning orientation and innovativeness. *Industry Management & Data Systems*, 105(3), 325- 348.

- Levine, D.M., Stephan, D., Krehbiel, T.C., Berenson, M.L. (2006). *Statistics for Managers Using Microsoft Excel*. Upper Saddle River, New Jersey: Prentice Hall, Inc.
- Liu, Q., Manolova, T.S., & Edelman, L.F. (2009). Entrepreneurial Orientation and firm performance in China: the role of resource endowments. *Frontiers of Entrepreneurship Research*, 29 (13), 1-13.
- Li, H., Zhang, Y., & Chan, T.S. (2005). Entrepreneurial strategy making and performance in China's new technology ventures-the contingency effect of environments and firm competences. *Journal of High Technology Management Research*, 16, 37-57.
- Li, Y. H., Huang, J.W., & Tsai, M.T. (2009). Entrepreneurial orientation and firm performance: the role of knowledge creation process. *Industrial Market Management*, 38, 440-449.
- Lin, C.H., Peng, C. H., & Kao, D. T. (2008). The innovativeness effect of market orientation and learning orientation on firm performance. *International Journal of Manpower*, 29(8), 752-772.
- Low, D.R., Chapman, R.L., & Sloan, T. R. (2007). Inter-relationships between innovation and market orientation in SMEs. *Management of Research News*, 30(12), 878-891.
- Lumpkin, G.T., & Dess, G.G. (1996). Clarifying the entrepreneurial construct and linking it to Performance. *Academy of Management Review*, 21(1), 135-172.
- Lumpkin, G.T., & Dess, G.G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: the moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16, 429-451.

- Lynch, R. (2000). Resource based view: Paradigm or checklist. *International Journal of Manufacturing Technology and Management*, 2(1-7), 1041 – 1054.
- Lyon, D., Lumpkin, G., & Dess, G. (2000). Enhancing entrepreneurial orientation research: Operationalising and measuring a key strategic decision making process. *Journal of Management*, (26)5, 1055-1085.
- Madhoushi, M., Sadati, A., & Delavari, H. (2011). Entrepreneurial orientation and innovation performance : The mediating role of knowledge management. *Asian Journal of Business Management*, 3(4), 310 – 316.
- Madsen, E. L. (2007). The significance of sustained entrepreneurial orientation on performance of firms - a longitudinal analysis. *Entrepreneurship & Regional Development*, 19(2), 185-204.
- Mahmood, R., & Hanafi, N. (2013). Entrepreneurial orientation and business performance of women-owned small and medium enterprises in Malaysia: competitive advantage as a mediator. *International Journal of Business and Social Sciences*, 4(1),82-90.
- Mai, Y., Kim, M., Heo, J., & Jang, L. (2012).The effects entrepreneurship and market orientation on social performance of social enterprise. *International Conference on Economics Market and Management*. Singapore: IACSIT Press
- Martz, E. (2013). *Enough is Enough! Handling Multicollinearity in Regression Analysis*. Retrieved 06 14, 2014, from Minitab: <http://www.blog.minitab.com>.
- Matanda, M. (2007). *Entrepreneurial orientation and radical product innovations by small scale carpentry workshops in Nairobi*. 1<sup>st</sup> International Conference on Micro, Small and Medium Enterprises.Kenyatta University, Nairobi.

- Matear, S., Osborne, P., Garrett, T., & Gray, B. J. (2002). How does market orientation contribute to service firm performance? *European Journal of Market*, 36 (9/10), 1058-1075.
- Matsuno, K., Mentzer, J. T., Özsoyner, A. (2002). The effects of entrepreneurial proclivity and market orientation on business performance. *Journal of Marketing*, 66(July), 18-32.
- McCann, J. E., Leon-Guerrero, A. Y., & Haley, J. D., Jr. (2001). Strategic goals and practices of innovative family businesses. *Journal of Small Business Management*, 39(1), 50–59.
- McClave, J.T., & Sincich, T. (2006). *Statistics*. (10<sup>th</sup>ed.). New Jersey: Pearson Education, Inc.
- McGrath, R. G. (2001). Exploratory learning, innovative capacity and managerial oversight. *Academy of Management Journal*, 44(1), 118–131.
- McMullen, J.S., & Shepherd, D.A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31, 132-152.
- Micheels, E.T., & Gow, H.R. (2011). The moderating effects of trust and commitment on market orientation, value discipline clarity, and firm performance. *Agricbusiness*, 27(3), 360-378.
- Miles, M.P., & Arnold, D.R. (1991). The relationship between market orientation and entrepreneurial orientation. *Entrepreneurship Theory & Practice*, 15(4), 49-66.
- Miles, R., E., & Snow, C. (1978). *Organizational strategy, structure, and process*, New York: McGraw-Hill Book Company.

- Miles, R.E., & Snow, C. (1986). Organizations: new concepts for new forms. *California Management Review*, 28, 62-73.
- Miles, R. E., & Snow, C. C. (2003). *Organizational strategy, structure, and process*. Stanford, CA: Stanford Business Books.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.
- Miller, D., & Friesen, P. H. (1984). *Organizations: A Quantum View*, Englewood Cliffs, New Jersey: Prentice-Hall.
- Miller, D. & Shamsie, J. (1996). The resource based view of the firm in two environments: The Hollywood film studios from 1936 to 1965. *Academy of Management Journal*, 39(3), 519 -543.
- Mintzberg, H. (1973). *The Nature of Managerial Work*, New York : Harper & Row.
- Moreno, A. N., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs. A causal model. *Entrepreneurship Theory & Practice*, May, 507-528.
- Morris, M. H. (1998). *Entrepreneurial Intensity*. Westport: Quorum Publishing.
- Morris, M. H., Coombes, S., Schindehutte, M., & Allen, J. (2007). Antecedents and outcomes of entrepreneurial and market orientation in a non-profit context: Theoretical and empirical insights. *Journal of Leadership & Organizational Studies*, 13(4), 11-40.
- Morris, M. H., Kuratko, D. F., & Covin, J. G. (2008). *Corporate Entrepreneurship & Innovation, 2nd ed.* Mason: Thomson Higher Education.
- Morris, M. H., & Paul, G. W. (1987). Innovation in conservative and entrepreneurship firms. *Journal of Business Venturing*, 2, 247-259.

- Mostafa, R. H., Wheeler, C., & Jones, M. V. ( 2003). Entrepreneurial orientation, commitment to the Internet and export performance in small and medium sized exporting firms. *Journal of International Entrepreneurship*, 3, 291–302.
- Mugenda, A. G. (2008). *Social Sciences Research: Conception, Methodology and Analysis*, Nairobi: Kenya Applied Research and Training Services.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research Methods Quantitative and Qualitative Approaches*, Nairobi: Laba Graphics Services Ltd.
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15–23.
- Mwangi, M.M.A., & Ngugi, K. (2014). Influence of entrepreneurial orientation on growth of micro and small enterprises in Kerugoya, Kenya. *European Journal of Business Management*, 1(11), 417-438.
- Nachmias, D., & Nachmias, C. (2008). *Research Methods in the Social Sciences*. London: St. Martins Press.
- Naldi, L., Nordqvist, M., Sjoberg, K. & Wiklund, J. (2007). Entrepreneurial orientation, risk taking, and performance in family firms. *Family Business Review*, 20(1), 33-47.
- Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Market* 54(4), 20-35.
- Nelson R. R., & Winter S. G. (1982). The schumpeterian tradeoff revisited. *American Economic Review*, 72 (1), 114-132.

- Newbert, S. (2007). Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. *Strategic Management Journal*, 28(2), 121- 146.
- Nohria, N., & Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal*, 39, 1245-1264.
- Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.
- Okpara, J. O. (2009). Strategic choices, export orientation and export performance of SMEs in Nigeria. *Management Decisions*, 47(8), 1281-1299.
- Okpara, J.O., & Kabongo, J. D. (2009). Entrepreneurial export orientation, strategy, and performance of SMEs in an emergent African economy. *African Journal of Business Economic Resource*, 4(2&3), 34-54.
- Onjala J. (2010). Impact of China –Africa Trade Relations: The case of Kenya, *Final Report submitted to the African Economic Research Consortium (AERC)*, Nairobi.
- O’regan, N., & Ghobadian, A. (2006). Perceptions of generic strategies of small and medium sized engineering and electronics manufacturers in the UK. The applicability of the Miles and Snow typology. *Journal of Manufacturing Technology Management*, 17(5), 603 – 620.
- Osoro, W. N., Mukulu, E., & Sakwa, M. M. (2012). Entrepreneurial orientation effects on firm performance of small and medium enterprises in information technology sector in Nairobi. Jomo Kenyatta University of Agriculture & Technology, Unpublished PhD thesis.
- Osuagwu, L. (2006). Market orientation in Nigerian companies. *Market Intelligence and Planning*, 24(6), 608 – 631.



- Otero- Neiru, C., Lindman, M.T., & Fernandez, M.J. (2009). Innovation and performance in SME furniture industries. An international comparative case study. *Market Intelligence & Planning*, 27(2), 216 – 232.
- Otieno, S., Bwisa, H.M., & Kihoro, J. M. (2012). Influence of entrepreneurial orientation on Kenya's manufacturing firms operating under East African regional integration. *International Journal of Learning & Development*, 2(1), 299 – 320.
- Pallant, J. (2007). *SPSS. Survival manual*. New York: McGraw-Hill.
- Pallant, J. (2010). *SPSS Survival Manual. A step by step guide to data analysis using SPSS* (4th ed.). Melbourne: Open University Press.
- Paulssen, M., & Mirk, M. M (2007). Satisfaction and repurchase behavior in a business-to-business setting: Investigating the moderating effect of manufacturer, company and demographic characteristics. *Industrial Marketing and Management*, 36, 983–997.
- Pelham, A. M. (1997). Market Orientation and performance: the moderating effects of product and customer differentiation. *Journal of Business and Industrial Marketing*, 12(5), 276-296.
- Pelham, A. M., & Wilson, D.T. (1996). A longitudinal study of the impact of market structure, firm structure, strategy, and market orientation culture on dimensions of small-firm performance. *Journal of the Academy of Market Science*, 24(1), 7-43.
- Penrose, E.T. (1959). *The Theory of the Growth of the Firm*, Oxford : Blackwell.
- Peteraf, M.A. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic Management Journal*, 14(3), 179- 191.

- Peteraf, M. A., & Barney, J. B. (2003). Unraveling the resource-based tangle. *Managerial and Decision Economics*, 24(4), 309-323.
- Pindyck, R. S., & Rubinfeld, D. L. (2009). *Microeconomics*. (7<sup>th</sup> ed). New Jersey: Pearson Prentice Hall.
- Polat, I., & Mutlu, H. M. (2012). The impact of market orientation, entrepreneurial orientation, environmental uncertainty and internationalization speed on firm performance. *European Researcher*, 27(8/2), 1248-1255.
- Poon, J. M. L., Ainuddin, R. A., & Junit, S. H. (2006). Effects of Self-concept Traits and Entrepreneurial Orientation on Firm Performance. *International Small Business Journal*, 24(1), 61-82.
- Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press.
- Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, New York: The Free Press.
- Powell, M., & Ansic, D. (1997). Gender difference in risk behavior in financial decision-making: an experimental analysis. *Journal of Economic Psychology*, 18 (6), 605-628.
- Raju, P. S., Lonial, S.C., Gupta, Y.P., & Ziegler, G. (2000). The relationship between market orientation and performance in the hospital industry. A structural equation modeling approach. *Health Care Management Science*, 3, 237-247.
- Ramirez, R. G., Guzman, G. M., & Serna, M. C. (2014). The relationship between market orientation, entrepreneurial orientation and innovation: Evidence from Mexican SMEs. *Journal of Business and Economics*, 5(10), 1930-1940.

- Rao, S.(2013). The impact of entrepreneurial orientation and leadership styles on business performance: A study on micro, small and medium enterprises. *Journal of Entrepreneurship & Business Environment Perspective*, 2(1), 111-118.
- Rauch, A., Wiklund, J., Lumpkin, G.T., & Frese, M. (2005). Entrepreneurial orientation and firm performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 19(7), 12-18.
- Rauch, A., Wiklund, J., Lumpkin, G.T., & Frese, M. (2009). Entrepreneurial orientation and firm performance: an assessment of past research and suggestions for the future. *Entrepreneurship: Theory & Practice*, 33(3), 761-787.
- Reijonen, H., & Komppula, R. (2010). The adoption of market orientation in SMEs: Required capabilities and relation to success. *Journal of Strategic Market*, 18(1), 19-37.
- Republic of Kenya. (1996). *Sessional Paper Number 2 on Industrial Transformation to the Year 2020*. Nairobi: Government Printer.
- Republic of Kenya. (2004). *Economic Recovery Strategy for Wealth and Employment Creation*, Nairobi: Government Printer.
- Republic of Kenya. (2006). *Kenya Trade and Industrial Development Policy*. Nairobi: Ministry of Trade and Industry.
- Republic of Kenya. (2007). *Kenya -Vision 2030, A Globally Competitive and Prosperous Kenya*. Nairobi: Government Printer. .
- Republic of Kenya. (2008). *Master Plan Study for Kenya Industrial Development Final Report 2*. Nairobi: Ministry of Trade and Industry.

- Ricketts, M. (2006). Theories of entrepreneurship: historical development and critical assessment in Casson, M., Yeung, B., Basu, A. and Wadeson, N. (Eds), *The Oxford Handbook of Entrepreneurship*, Oxford: Oxford University Press.
- Rugman, A.M., & Verbeke, A. (1987). Does competitive strategy work for small business? *Journal of Small Business and Entrepreneurship*, 5(3), 45-50.
- Runyan, R., Huddleston, P., & Swinney, J. (2006). Entrepreneurial orientation and social capital as small firm strategies: a study of gender differences from a Resource-Based View. *Entrepreneurship Management*, 2, 455-477.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. London: Pearson Education.
- Segev, E. (1989). A systematic comparative analysis of two business - level strategic typologies. *Strategic Management Journal*, 10, 487-505.
- Sexton, D. L., & Kasarda, J. D. (1992). *State of the Art of Entrepreneurship*, Boston: PWS-Kent.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Shapiro, B. (1988). What the hell is 'market-oriented'? *Harvard Business Review*, 66(6), 119 - 125.
- Shapiro, Z. (1994). *Risk-taking: A managerial perspectives*. New York: Russell Sage Foundation.
- Shavazi, E.T., Moshabaki, A., Hosseini, S.H.K., & Kordnaeji, A. (2015). Designing export performance model based on organizational operations. *Iranian Journal of Management Studies*, 8(2), 265-285.

- Shenu, A. M., & Mahmood, R. (2014). An empirical analysis of market orientation and business performance relationship in the context of developing economy. *International Journal of Academic Research in Business Social Sciences*, 4(9), 457-471.
- Slater, S.F., & Narver, J.C. (2000). The positive effect of a market orientation on business profitability – a balanced replication. *Journal of Business Research*, 48(1), 69-73.
- Shepherd, A.W. (2005). The implications of supermarket development for horticultural farmers and traditional market systems in Asia. *Paper presented at the Regional Workshop on the Growth of Supermarkets as Retailers of Fresh Produce*. Kuala Lumpur.
- Slater, S.F., & Olson, E.M. (2002). A fresh look at industry and market analysis. *Business Horizons*, 45(1), 15-22.
- Slevin, D.P., & Covin, J. (1990). Juggling entrepreneurial style and organizational structure. *Sloan Management Review*, 31(2), 43-53.
- Singh, K. (2007). *Quantitative Social Research Methods*. New Delhi: Sage Publications.
- Singh, R. K., Garg, S. K., & Deshmukh, S. G. (2008). Strategy development by SMEs for competitiveness: a review. *Benchmark: An International Journal*, 15(5), 525-547.
- Skinner, W. (1969). Manufacturing- missing link in corporate strategy. *Harvard Business Review*, May-June, 136-145.
- Smallbone, D., Leigh, R., & North, D. (1995). The characteristics and strategies of high growth firms. *International Journal of Entrepreneurial Behaviour and Research*, 1(3), 44-62.

- Snow, C. C., & Hrebiniak, L.G. (1980). Strategy, distinctive competence, and organizational performance. *Administrative Science Quarterly*, 25, 317 - 336.
- Somekh, B., & Lewin, C. (2005). *Research Methods in the Social Sciences*. New Delhi: Vistaar Publications.
- Stevenson, H. H., & Jarillo-Mossi, J.C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, 11(2), 17-27.
- Stone, M. (1974). Cross-validity choice and assessment of statistical predictions. *Journal of the Royal Statistical Society*, 36(2), 111-147.
- Subramanian, R., & Gopalakrishna, P. (2001). The market orientation-performance relationship in the context of a developing economy: An empirical analysis. *Journal of Business Research*, 53, 1-13.
- Swamidass, P.M., & Newell, W.T. (1987). Manufacturing strategy, environmental uncertainty, and performance: a path analytic model. *Management Science*, 33(4), 509-524.
- Swinney, J. L., Runyan, R. C., & Huddleston, P. (2006). Difference in reported firm performance by gender: Does industry matter? *Journal of Development Entrepreneurship*, 11(2), 99-115.
- Tabachnick, B. G., & Fidell, L.S. (2001). *Using multivariate statistics*, (4<sup>th</sup>ed). Boston : Allyn and Bacon.
- Tajeddini, K. (2010). Effect of customer orientation and entrepreneurial orientation on innovativeness: Evidence from the hotel industry in Switzerland. *Tourism Management*, 31(2), 221 – 231.

- Tajeddini, K., Trueman, M., & Larsen, G. (2006). Examining the Effect of Market Orientation on Innovativeness, *Journal of Marketing Management*, 22(5-6), 529-551.
- Tangen, S. (2005). Improving the performance of a performance measure. *Measuring Business Excellence*, 9(2), 4-11.
- Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18, 509-533.
- Tennehaus, M., Esposito Vinzi, V., Chatelin, Y. M., Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159-205.
- Todorovic, Z. W., & Ma, J. (2008). Entrepreneurial and market orientation relationship to performance: the multicultural perspective. *Journal of Enterprising Communities: People and Places in the Global Economy*, 2(1), 21-36.
- Tushman, M. L. & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly*, 31, 439-465.
- United Nations Industrial Development Organization.(2005). *Industrial Statistics Database 2005*. Vienna: UNIDO.
- Upton, D. M. (1995). Flexibility and factories. *Harvard Business Review*, July-August, 74-84
- Varis, M., & Littunen, H. (2010). Types of innovation, sources of information and performance in entrepreneurial SMEs. *European Journal of Innovation Management*, 13(2), 128-154.

- Vora, D., Vora, J., & Polley, D. (2012). Applying entrepreneurial orientation to a medium sized firm. *International Journal of Entrepreneurial Behaviour & Research*, 18(3), 352 – 379.
- Venkatraman, N. (1989). Strategic orientation of business enterprises: the construct, dimensionality, and measurement. *Management Science*, 35(8), 942-962.
- Venkatraman, N., & Ramanujam, V. (1987). Measurement of business economic performance: an examination of method convergence. *Journal of Management*, 13(1), 109-122.
- Wang, Y., & Poutziouris, P. (2010). Entrepreneurial risk taking: empirical evidence from UK family firms. *Entrepreneurial Behavior & Research*, 16(5), 370- 388.
- Warner, R.M. (2008). *Applied Statistics. From Bivariate Through Multivariate Techniques*. Singapore: Sage Publications, Inc.
- Welsh, J., & White, J. (1981). A small business is not a little big business, *Harvard Business Review*, 59(4), 18-32.
- Wetzels, M., Odekerken-Schroder, G., & Oppen, C. V. (2009). Using PLS path modeling for assessing hierarchical models. Guidelines and empirical illustration. *MIS Quarterly*, 33(1), 177-195.
- Wickramaratne, A., Kiminami, A., & Yogi, H. (2014). Entrepreneurial competencies and entrepreneurial orientation in tea manufacturing firms in Sri Lanka. *Asian Social Science*, 10(18), 50-63.
- Wijesekara, W. A., Kumara, P. A., & Gunawardana, T.S. (2014). The impact of market orientation and entrepreneurial orientation on performance: A study on small and medium scale garment manufacturers in Sri Lanka. Proceedings of the 3<sup>rd</sup> International Conference on Management and Economics.



- Wilkinson, J., & Rocha, R. (2009). Agro-industries trends, patterns and development impacts in Da Silva, C.A., Baker, D., Shepherd, A., Jenane, C. & Miranda-da-Cruz, S. (Eds). *Agro-industries for Development*, Wallingford, United Kingdom: CABI Publishing.
- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation – performance relationship. *Entrepreneurship Theory & Practice*, 24(1), 37-48.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium sized business. *Strategic Management Journal*, 24 (13), 1307-1314. <http://dx.doi.org/10.1002/smj.36>.
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small firm performance: a configurational approach. *Journal of Business Venturing*, 20, 71-91.
- World Bank. (2008). *The World Development Report, Agriculture for Development*. Washington DC: World Bank.
- Yang, C. W. (2008). The relationships among leadership styles, entrepreneurial orientation and firm performance. *Managing Global Transitions*, 6(3), 257–275.
- Yeoh, P. L., & Jeong, I. (1995). Contingency relationships between entrepreneurship, export channel structure and environment: a proposed conceptual model of export performance. *European Journal of Market*, 29(8), 95-115.
- Yordanova, D. I. (2011). Entrepreneurial orientation in family and non family firms: evidence from Bulgaria. *International Journal of Economic Sciences and Applied Research*, 4(1), 185- 203.

- Yordavona, D. I., & Alexandrova-Boshnakova, M. I. (2010). Gender Effects on risk-taking of entrepreneurs: evidence from Bulgaria. *International Journal of Entrepreneurial Behaviour & Research*, 17(3), 272-295.
- Yoon (2012). The performance effects of entrepreneurial orientation: Evidence from South Korean start-ups. *International Journal of Arts and Commerce*, 1(4), 248 - 255.
- Young, G., Smith, K., & Grimm, C. (1996). Austrian and industrial organization perspectives on firm-level competitive activity and performance. *Organization Science*, 7, 243–254.
- Yucel, I. (2011). Entrepreneurial orientation, executive's individualism and firm performance: the moderating role of executives' individualism. *Far East Journal of Psychology and Business*, 5(3), 63 -78.
- Zahra, S.A., & Bogner, J.G. (2000). Technology strategy and software new ventures' performance: Exploring the moderating effect of the competitive environment. *Journal of Business Venturing*, 15, 135-173.
- Zahra, S. A., & Covin, J. (1993). Business strategy, technology policy and firm performance. *Strategic Management Journal*, 14(6), 451- 478.
- Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship– performance relationship: a longitudinal analysis. *Journal of Business Venturing*, 10(1), 43–58.
- Zahra, S. A., & Garvis, D. (2000). International corporate entrepreneurship and firm performance: the moderating effect of international environmental hostility. *Journal of Business Venturing*, 15 (4/5), 469-492.

- Zainol, F.A., & Ayadurai, S. (2011). Entrepreneurial orientation and firm performance: The role of personality traits in Malay family firms in Malaysia. *International Journal of Business and Social Sciences*, 2(1), 59 – 71.
- Zheng, K., Yim, B., & Tse, D. (2005). The effects of strategic orientations on technology and marketbased breakthrough innovations. *Journal of Market*, 69, 42-60.
- Zhou, K.Z., Brown, J.R., Dev, C.S., & Agarwal, S. (2007). The effects of customer and competitor orientation on performance in global markets: a contingency analysis. *Journal of International Business Studies*, 38, 303 – 319.
- Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology and market based breakthrough innovations. *Journal of Market*, 69(2), 42-60.

**APPENDICES**

**APPENDIX I: LETTER OF INTRODUCTION**

**Date:** .....

**To:** .....

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Dear Sir/Madam,

**RE: COLLECTION OF RESEARCH DATA**

I am a student at Jomo Kenyatta University of Agriculture & Technology (JKUAT) pursuing a Ph.d in Entrepreneurship. I am carrying out a research on “*Entrepreneurial orientation, market orientation and firm performance amongst Agro processing SMEs in Kenya*”. I am in the process of collecting the relevant data for the purpose of this study. You have been identified as one of the key respondents in this study and I would like to kindly invite you to participate in my PhD research. I therefore write to request for your invaluable assistance towards making this study a success by taking time off your busy schedule to respond to the attached questionnaire.

The information collected and used in the PhD Dissertation will be utilized for academic purposes and will be kept strictly confidential. The final report will be made available to you once all analyses are completed. I thank you very much in advance for your consideration, time and responses.

Yours sincerely,

**ANGELINE WAMBUI WAMBUGU**

**APPENDIX II: LETTER OF AUTHORIZATION**

Date: .....

To:

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Dear Sir/Madam,

**RE: ACADEMIC RESEARCH DATA: “ENTREPRENEURIAL ORIENTATION, MARKET ORIENTATION AND FIRM PERFORMANCE AMONGST AGRO PROCESSING SMEs IN KENYA”**

I am a student at Jomo Kenyatta University of Agriculture & Technology (JKUAT) pursuing a Ph.d in Entrepreneurship. I am required to undertake a thesis whose title is as indicated above as partial fulfillment for the award of the doctoral degree. I am kindly requesting for your assistance in making my research a success by granting me an opportunity to administer the questionnaire on yourself.

I give my assurance that all the data collected will be treated with utmost confidentiality and will be used exclusively for the purposes of this academic research. I am looking forward to your kind consideration and at the same time wishing your esteemed organization success in all her endeavors.

Yours sincerely,

**ANGELINE WAMBUI WAMBUGU**

## APPENDIX III: QUESTIONNAIRE

### SECTION A: GENERAL INFORMATION

This questionnaire seeks to determine the mediating influence of market orientation on the relationship between entrepreneurial orientation and firm performance of agro processing SMEs in Kenya.

#### Note

- (a) All responses will be treated in the strictest confidence;
- (b) If you would like a copy of the findings please supply name and address for receipt of your copy of the findings;
- (c) Alternatively, if you prefer your responses to remain anonymous, put only an email address in the address section.

Name: Address:
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### Section I: Background Information

#### 1. Gender

Male  Female

#### 2. Age

- a) below 21 years
- b) 21-30 years

- c) 31-40 years
- d) 41-50 years
- e) Over 50 years

**3. Academic qualification**

Diploma  Bachelor's degree  Masters  Ph. D

Others .....

**4. How long (years) have you worked as a manager in the firm?**

- a) Less than 4
- b) 5 – 9 years
- c) 9 – 14 years
- d) 15 - 19 years
- e) Over 20 years

**5. Please tick the appropriate legal status of the firm**

Sole Proprietorship  Partnership

Limited Liability Company  Others

**6. How long (years) have you operated in Kenya?**

- Less than 5 years  5 – 9 years
- 10 – 15 years  More than 15 years

**7. What is the average turnover of the firm in the past 5 years?**

Year	2009	2010	2011	2012	2013
Average sales					

revenue					
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**8. How many people have you employed in the firm in the past 5 years?**

Year	2009	2010	2011	2012	2013
Number of employees					

**9. What is the core product manufactured by the firm?**

- a) Food & beverage
- b) Leather & footwear
- c) Textile & Garment
- d) Paper & Board

**Section 2: Entrepreneurial Orientation**

This section is designed to measure the top management commitment to entrepreneurial orientation comprised of proactiveness, risk taking, innovativeness and competitive aggressiveness. Please respond as appropriate.

**(i) Proactiveness Dimension of Entrepreneurial Orientation**

a). Does the firm exploit market opportunities to meet customer demand?

Yes  No

If it is not a vital component in the organization, please explain why.....  
 .....

b). How frequently does the firm enter new markets with its existing products?



Very Rarely

Rarely

Frequently

Most frequently

c). Has your firm introduced new products ahead of your competitors in the past year?

Yes

No

d). The questions are designed to measure the firm's proactiveness using a 5-point scale. Please respond as appropriate by a tick (✓) using the scale provided.

		<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Always</b>
	ITEMS	1	2	3	4	5
a	The firm is often the first business to introduce new products and services					
b	The firm typically seeks to avoid deliberate competition					
c	The firm normally initiates changes upon which the competitors react					
d	The firm acts ahead of competitors					

	in anticipating future customer needs					
e	The firm responds to marketplace opportunities					

**(ii) Risk Taking Dimension of Entrepreneurial Orientation**

a). What kind of projects does the firm currently invest in ?

projects with low risk

a) projects with moderate risk

b) projects with high risk

b). What portion of the financial resources is committed to projects whose outcome is difficult to predict?

- a) Very small portion
- b) Small portion
- c) Large portion
- d) Very large portion

c). When confronted with decision making situations involving uncertainty, do you prefer bold versus cautious acts in your quest to achieve firm objectives.

Yes  No

If you prefer bold acts in your attempt to achieve firm objectives, please explain

.....

.....

.....

.....

d). The questions in this section are designed to measure your firm's risk taking propensity, using a 5-point scale. Please respond as appropriate by a tick (√) using the scale provided.

		<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Always</b>
		1	2	3	4	5
a	The firm commits a large portion of its resources to unexplored opportunities					
b	The firm invests in high risk projects which promises high returns					
c	The firm finances its major projects through heavy borrowing					
d	The firm continuously seeks opportunities related to the present operations					
e	The firm uses true and tried practices and technologies to meet firm's objectives					

**(iii) Innovativeness Dimension of Entrepreneurial Orientation**

a). How many new product lines are introduced to the market per year?.....

b) Please rank the following innovativeness types according to its influence on your firm’s performance under a scale of (1) = no influence; (2) = little influence (3) = greatest influence (No strategy should tie with another when ranking).

- a) Technological innovativeness
- b) Product innovativeness
- c) Process innovativeness

c). The questions in this section are designed to measure your firm’s innovativeness using a 5-point scale. Please respond as appropriate by a tick (√) using the scale provided.

		Never	Rarely	Sometimes	Frequently	Always
		1	2	3	4	5
a	The firm has a strong intention to encourage and stimulate product, process and technological or administrative innovation.					
b	The firm has a strong intention to stimulate creativity and experimentation					
c	The firm has a long term commitment to invest in new technology, R & D and continuous improvement					
d	The firm routinely makes dramatic					

	innovation in products, process or technologies					
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### Section 3: Market Orientation

a). How frequently do you monitor its customer satisfaction?

Once a month

Every 6 months

Once a year

Never

b). How frequently do you seek for information on existing competitors?

Very Rarely

Rarely

Frequently

Most frequently

c). The questions in this section are designed to measure your firm's level of market orientation using a 5-point scale. Please respond as appropriate by a tick (✓) using the scale provided.

		<b>Strongly Disagree</b>	<b>Moderately Disagree</b>	<b>Neither</b>	<b>Moderately Agree</b>	<b>Strongly Agree</b>
		1	2	3	4	5
	<b>Market orientation</b>					
a	The firm's top management regularly discusses competitors' strengths and strategies					
b	The firm gives close attention to after sales service					
c	The firm constantly monitor its level of commitment to serving customer's needs					
d	The firm believes that it is more customer focused than its competitors					
e	The firm's business objectives are driven primarily by customer satisfaction.					
f	The firm measures customer satisfaction systematically and frequently					
g	All the departments in the firm are responsive to one another's needs and requests					
h	The firm's managers understand how everyone in the firm can contribute to creating customer value					
i	The firm's top managers regularly visit					



current and prospective customers					
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#### Section 4: Firm Performance

Firm performance has been identified for the purpose of this study as sales growth, employee growth and profitability. Please rate your satisfaction with your firm performance (on average) relative to that of your competitors.

		<b>Not at all</b>	<b>Slightly</b>	<b>satisfied</b>	<b>Somewhat</b>	<b>Moderately</b>	<b>Extremely</b>
		1	2	3	4	5	
a	The firm is satisfied with the sales growth rate over the last 5 years						
b	The firm is satisfied with the employee growth over the last 5 years						
c	The firm is satisfied with the profitability in terms of return on assets over the last 5 years						

**What has been the firm's net assets and equity in Kenya Shillings (KES) in the past five years?**

<b>Year</b>	2011	2012	2013	2014	2015
<b>Assets (in KES)</b>					
<b>Equity (in KES)</b>					

*Thank you for your time and co-operation.*

**APPENDIX IV: Kenya Association of Manufacturer's List of Agro Processing SMEs**

- 
1. Adpak International Limited
  2. Africa Spirits Ltd
  3. Agriner Agricultural Development
  4. Allpack Industries
  5. Alltex EPZ Ltd
  6. Al-Mahra Industries Ltd
  7. Alpha Fine Foods Ltd
  8. Alpha Knits Limited
  9. Alpharama Ltd
  10. Alpine Coolers Ltd
  11. Andika Industries Ltd
  12. Apex Apparels (EPZ) Ltd
  13. Aquamist Ltd
  14. Arkay Industries Ltd
  15. Ashton Apparel EPZ Ltd
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16. Associated Paper & Stationery Ltd
  17. Autolitho Ltd
  18. Bag and Envelope Converters Ltd
  19. Bags & Bailers Manufacturers Ltd
  20. Bakers Corner Ltd
  21. Bata Shoe (K) Ltd
  22. Bedi Investments Limited
  23. Belfast Millers Ltd
  24. Beverage Services (K) Ltd
  25. Bidco Oil Refineries Limited
  26. Bio Food Products Limited
  27. Bogani Industries Ltd
  28. Brand Printers
  29. Breakfast Cereal Company (K) Ltd
  30. British American Tobacco
  31. Broadway Bakery Ltd
  32. Budget Shoes Ltd
  33. Bunda Cakes & Feeds Ltd
  34. Buzeki Dairy Ltd
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35. C Dormans Ltd
  36. C & P Shoes Industries Ltd
  37. Candy Kenya Ltd
  38. Capwell Industries Ltd
  39. Cardbury (K) Ltd
  40. Carton Manufacturers Limited
  41. Cartubox Industries (E.A.) Ltd
  42. Cempack Ltd
  43. Centrofood Industries Ltd
  44. Chandaria Industries Limited
  45. Coast Silos Kenya Ltd
  46. Colour Labels Ltd
  47. Colour Packaging Ltd
  48. Colourprint Ltd
  49. Compack Packaging Limited
  50. Corn Products Kenya Ltd
  51. Creative Print House
  52. Del Monte K. Ltd
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53. D. L. Patel Press (Kenya) Limited
  54. Deepa Industries Ltd
  55. Diamond Industries Limited
  56. Dodhia Packaging Limited
  57. Dogbones Ltd
  58. East Africa Packaging Industries Limited
  59. East African Breweries Ltd
  60. East African Paper Converters Ltd
  61. East African Seed Co. Ltd
  62. Edible Oil Products
  63. Ellam Products
  64. Elite Offset Ltd
  65. Ellams Products
  66. Embalishments Ltd
  67. English Press Limited
  68. Equator Bottlers Ltd
  69. Franciscan Kolbe Press
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70. Frigoken Ltd
  71. Fulchand Manek & Bros Ltd
  72. Future Garments EPZ Ltd
  73. General Printers Limited
  74. Giloil Company Limited
  75. Global Apparrels Ltd
  76. Global Fresh Ltd
  77. Global Tea & Commodities (K) Ltd
  78. Gold Crown Beverages (K) LTD
  79. Gold Crown Foods (EPZ) Ltd
  80. Gonas Best Ltd
  81. Graphics & Allied Ltd
  82. Green Forest Foods Ltd
  83. Guaca Stationers Ltd
  84. Hantex Garments EPZ Limited
  85. Happy Cow Ltd
  86. Highland Paper Mills Ltd
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87. Highlands Cannery Ltd
  88. Highlands Mineral Water Co. Ltd
  89. Icons Printers Ltd
  90. Image Apparels Ltd
  91. Insight Kenya
  92. Insta Products (EPZ) Ltd
  93. Interlabels Africa Ltd
  94. Jambo Biscuits (K) Ltd
  95. James Finlay Kenya Ltd
  96. Jetlak Foods Ltd
  97. Kabianga Dairy Ltd
  98. Kamili Packers Ltd
  99. Kamyn Industries Limited
  100. Kapric Apparels EPZ Ltd
  101. Kartasi Industries Ltd
  102. Kavirono Filments Ltd
  103. Kenafic Industries Limited
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104. Kenblest Limited
  105. Kenshop Supermarket (TI) Hot Bread Section
  106. Kenya Knit Garment (EPZ) Ltd
  107. Kenya Litho Ltd
  108. Kenya Shirts Manufacturers Company Ltd
  109. Kenya Stationers Ltd
  110. Kenya Sweets Ltd
  111. Kevian Kenya Ltd
  112. Kibos Sugar and Allied Industries
  113. Kikoy Co. Ltd
  114. Kikoy Mall
  115. Kim-Fay East Africa Ltd
  116. Kinangop Dairy Limited
  117. Kisii Bottlers Ltd
  118. Kitui Floor Mills Ltd
  119. Koba Waters Ltd
  120. Krish Commodities Ltd
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121. Kuguru Food Complex Ltd
  122. Kul Graphics Ltd
  123. Kwaliti Candies & Sweets Ltd
  124. L.A.B International Kenya limited
  125. Label Converters
  126. Leather Industries of Kenya Limited
  127. Leena Apparels Ltd
  128. Le-Stud Limited
  129. Lifeworks Shukrani Limited
  130. Mafuko Industries Ltd
  131. Manipal International Printing Press Ltd
  132. Manji Food Industries Ltd
  133. Mastermind Tobacco (K) Ltd
  134. Mayfeeds Kenya Ltd
  135. Mega Spin Ltd
  136. Melvin Marsh International
  137. Menengai Oil Refineries Ltd
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138. Midco Textiles (EA) Ltd
  139. Milly Fruit Processors Ltd
  140. Mini Bakeries (Nbi) Ltd
  141. Miritini Kenya Ltd
  142. Mjengo Ltd
  143. Nairobi Flour Mills
  144. New Wide Garments (K) Limited
  145. Nutro Manufacturing Limited
  146. Patco Industries
  147. Premier Industries Limited
  148. Proctor & Allan EA Ltd
  149. Razco Limited
  150. Ricardo International
  151. Sigma Supplies Limited
  152. Spice World Ltd
  153. Super Bakery Ltd
  154. Tarpo Industries
  155. Teita Estates Limited
  156. Twiga Stationers & Printers
  157. Unga Group
  158. United Aryan Limited
  159. Vaja ManufacturerS Limited
  160. W.E.Tiley Limited
  161. Wrigley Co. (E.A) Ltd
  162. Zingo Investments Limited
-

**APPENDIX V: Reliability Test of Study Variables**

1. Reliability Statistics for Proactiveness

Cronbach's Alpha	No of Items
.645	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PR1	12.183	2.932	.530	.497
PR3	11.833	2.819	.408	.605
PR4	11.250	3.445	.437	.571
PR5	11.083	3.806	.356	.622

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.450	5.167	2.2731	4

2. Reliability Statistics for risk taking

Cronbach's Alpha	No of Items
.514	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
R1	3.317	.966	.347	.
R2	3.950	.794	.347	.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
7.267	2.368	1.5389	2

3. Reliability Statistics for innovativeness

Cronbach's Alpha	N of Items
.658	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IN1	11.400	4.312	.471	.581
IN2	11.650	4.231	.416	.607
IN3	11.500	3.542	.531	.523
IN4	12.250	3.648	.376	.651

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.600	6.278	2.5056	4

1. Reliability Statistics for Market Orientation

Cronbach's Alpha	N of Items
.815	9

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MO1	34.333	24.192	.502	.800
MO2	33.917	27.095	.330	.818
MO3	33.850	25.181	.590	.788
MO4	33.917	26.213	.533	.795
MO5	33.750	27.309	.453	.804
MO6	34.083	26.281	.493	.799
MO7	34.167	23.124	.697	.771
MO8	34.050	23.777	.599	.785
MO9	34.333	25.277	.461	.804

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
38.300	31.400	5.6036	9

2. Reliability Statistics for Firm Performance

Cronbach's Alpha	N of Items
.556	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FP1	6.917	2.145	.369	.453
FP2	7.050	2.252	.356	.472
FP3	6.800	2.400	.378	.443

Mean	Variance	Std. Deviation	N of Items
10.383	4.173	2.0427	3

**APPENDIX VI: KMO Measures of Sampling Adequacy & Bartlett's Test of Sphericity**

<b>Variable</b>	<b>KMO Measure of Sampling Adequacy</b>	<b>Bartlett's Test of Sphericity</b>
Proactiveness	0.687	Approx. Chi-Square 30.805 df 6 Sig. <b>0.000</b>
Risk Taking	0.612	Approx. Chi-Square 18.711 df 10 Sig. <b>0.044</b>
Innovativeness	0.698	Approx. Chi-Square 34.238 df 6 Sig. <b>0.000</b>
Market Orientation	0.718	Approx. Chi-Square 93.769 df 10 Sig. <b>0.000</b>
Firm Performance	0.626	Approx. Chi-Square 13.617 df 3 Sig. <b>0.003</b>



### APPENDIX VII: Factor Loading Matrix

	<b>FP</b>	<b>INNOV</b>	<b>MO</b>	<b>PR</b>	<b>RISK</b>
<b>FP2</b>	0.567382				
<b>FP3</b>	0.953855				
<b>IN1</b>		0.823381			
<b>IN2</b>		0.808083			
<b>MO3</b>			0.672244		
<b>MO4</b>			0.670988		
<b>MO5</b>			0.648942		
<b>MO7</b>			0.827528		
<b>MO8</b>			0.824667		
<b>PR2</b>				0.753226	
<b>PR4</b>				0.708517	
<b>R1</b>					0.665653
<b>R2</b>					0.931032

**APPENDIX VIII: Extracted Components Using Principle Component Analysis**

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.047	20.315	20.315	3.047	20.315	20.315	2.532
2	2.418	16.122	36.437	2.418	16.122	36.437	2.101
3	1.565	10.432	46.869	1.565	10.432	46.869	2.130
4	1.452	9.677	56.547	1.452	9.677	56.547	1.922
5	1.318	8.786	65.332	1.318	8.786	65.332	1.816
6	1.089	7.262	72.594	1.089	7.262	72.594	1.177
7	.968	6.450	79.044				
8	.746	4.976	84.021				
9	.648	4.319	88.339				
10	.506	3.375	91.714				
11	.382	2.549	94.264				
12	.324	2.157	96.421				
13	.265	1.764	98.185				
14	.192	1.283	99.467				
15	.080	.533	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.