

RELATIONSHIP BETWEEN ENTREPRENEURIAL ORIENTATION AND PERFORMANCE OF SMALL AND MEDIUM WOMEN OWNED ENTERPRISES IN UASIN GISHU COUNTY, KENYA

Fredrick K. Birech¹, Loice Chemutai Karoney and Dr. Omwono Gedion Alang'o

¹Student at the catholic University of Eastern Africa, GABA campus Eldoret

²Lecturer at The Catholic University of eastern Africa, Gaba campus Eldoret

ABSTRACT: *The purposes of this study aimed at examine the relationship between entrepreneurial orientation and performance of SMEs in Uasin Gishu County. The research questions were; what is the relationship between innovation and performance of women owned SMEs in Uasin Gishu County?, what is the relationship between proactiveness and performance of women owned SMEs in Uasin County?, what is the relationship between risk taking and performance of women owned SMEs in Uasin Gishu County? This study adopted a correlation research design, with the target population comprised of 81 women owners of all small and medium enterprises within Uasin Gishu County. Questionnaire was the main tool of data collection. Questionnaires were administered with the help of research assistants. Chi-square was computed to establish the association between entrepreneurial orientation dimensions and performance. The study found out that innovation $X^2(73) = 0.829$ $p = 0.032$, proactiveness $X^2(73) = 0.716$ $p = 0.002$ and risk taking $X^2(73) = 0.897$ $p = 0.002$ were significantly associated with performance. The results of this study reveal a relationship between the independent variables and the dependent variable. The study recommended that the Department of Micro and Small-Enterprise Development (DMSED) needs to sensitize women entrepreneurs on strategies for innovation, proactiveness and risk taking in improving performance. The study further recommends that SMEs need to embrace entrepreneurial orientation dimensions: Innovation, proactiveness and risk taking for their businesses to grow. Therefore, women entrepreneurs should be innovative, proactive to acquire new market opportunities and take risks to succeed in a dynamic environment.*

KEYWORDS: Entrepreneurial Orientation, Performance of SMEs

INTRODUCTION

Background to the Problem

In order to grow and succeed in today's rapidly changing business environment, companies regardless of their size need to constantly seek for new opportunities, to which possessing an Entrepreneurial Orientation (EO) has been recognized as potentially beneficial (Wiklund & Shepherd, 2011). EO involves the willingness to innovate, take risks to try out new products, services and markets, and act more proactively than competitors when it comes to new opportunities in the marketplace (Covin & Slevin, 2009). Due to the potential benefits of EO, it has become a central concept in the field of entrepreneurship and received a significant amount of attention both among researchers and practitioners (Covin, Green & Slevin, 2006).

Small and medium sized enterprises (SMEs) represent an important part of the economies of both developed and developing countries. They are recognized as a pivot on which economic

growth, job creation, poverty reduction and industrial development can be built (Ogechukwu, 2008; Okpara, 2011;). SMEs development is essential in a country's growth strategy because of their ability to respond to the systematic shock rapidly and their potentials to generate jobs and income at the time when the large firm sector is undergoing a rapid decline (Krasniqi & Hashi, 2011). Kenya, recognize the importance of SMEs as a catalyst for economic development and poverty alleviation. Although it is difficult to accurately measure the impact of SMEs on the Kenyan economy due to dearth of records, it has been estimated that SMEs account for 97% of all businesses in the country (National SME collaborative survey, 2013).

Women are becoming increasingly important in the socio-economic development of both developed and developing economies as they account for a significant percentage of the operators of Small and Medium Enterprises (SMEs) (Kjeldsen & Nielson, 2010). Women interests and activities in the economic growth and development especially in the area of SMEs have received outstanding interest from scholars. Global Entrepreneurship Monitor (GEM) (2005) confirmed that women participate in a wide range of entrepreneurial activities across the 37 GEM and their activities in different countries have paid off in form of many newly-established enterprises for job and wealth creation. This notwithstanding, entrepreneurship is usually seen from the perspective of men driven economy (Gelin, 2005) due to its complexity, particularly its gender issues, the role of women entrepreneurs has not been properly documented.

In USA, the analysis of gender creative businesses shows that the rate of growth of women-owned businesses is twice that of men and this comprises more than 35% share of all entrepreneurial ventures. They generate over \$2.3 trillion in annual revenue, and employ 18 million individuals (Bartol & Martin, 2006). In Kenya as well, women entrepreneurs are considered as an integral part of economic growth. Their businesses contribute jobs, productive and distributive activities required for wealth creation both for family and nation's economies (Soetan, 2007; Okunade, 2007). One of the economic goals of a government is to improve the lives of its citizens by raising the competitiveness of the economy and creating opportunities that empower people to earn a sustainable income. In this line of thought, the Government of Kenya has developed a development blueprint called the vision 2030. The goal of the vision is to transform Kenya from a developing country into middle income and industrialized nation, through provision of quality life to all the Kenyans by 2030 (Ministry of planning, 2008).

In the EO literature the munificent environment is usually conceptualized using four dimensions: environmental dynamism, technological opportunities, industry growth and demand for new products; hostile environments comprise unfavorable change and competitive rivalry (Antoncic & Hisrich, 2009). While literature in entrepreneurship has theorized the positive relationship between EO and performance, the same has not always been true, when examining this relationship empirically. Interestingly, a handful of research findings have revealed insignificant and sometimes negative correlations between EO and performance (Kaya & Seyrek, 2005).

Statement of the Problem

Ideally, Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms

that indicate opportunities for successful innovation. And they need to know and to apply the principles of successful innovation.

However, in Uasin Gishu SMEs are faced with a lot of challenges raising initial capital to start anew business; lack of access to credit facilities (loan) from financial institution hinders the growth of small businesses. Poor business management practice also and competitive marketing skills or elaborate business distribution channels to sell their products and services.

Several studies has been done in this area, a study by Wambua, R.,(2016) on effects of enterprenueral management on access to venture financing of SMEs in Starehe sub-county, found that resource gap identification was influencing access to venture finnacing of small and medium enterprises followed by growth, orientation, opportunity commitment and innovation. In another study by Margret et al (2015) on resource and performance of SMEs in retail service sector: moderating role of Gender, found a strong positive correlation between human capital resource education and performance. Therefore, this study aimed at examine the relationship between entrepreneurial orientation and performance of SMEs in Uasin Gishu County

Research Questions

This study was guided by the following research questions:

1. What is the relationship between innovation and performance of women owned small and medium enterprises in Uasin Gishu County?
2. What is the relationship between proactiveness and performance of women owned small and medium enterprises in Uasin County?
3. What is the relationship between risk taking and performance of women owned small and medium enterprises in Uasin County?

Research Hypotheses

This study tested the following hypotheses:

- H₁:** There is a relationship between innovation and performance in small and medium enterprises owned by women in Uasin Gishu County.
- H₂:** Proactiveness has a relationship with performance of small and medium enterprises owned by women in Uasin Gishu County.
- H₃:** There is a relationship between risk taking and performance of women owned enterprises in Uasin Gishu County.

Significance of the Study

The findings of this study were significant to entrepreneurs in establishing the relationship that exists between entrepreneurship orientation and performance of small and medium enterprises owned by women. Specifically, the findings of this study shed light on the influence of proactiveness, innovation, and risk taking on performance of small and medium enterprises owned by women. The findings of the study were significant to the Ministry of Industrialization and planning mandated with economic planning by highlighting the need to

assess the influence of key pillars to the success of entrepreneurial activities. Besides, adding to the pool of knowledge in entrepreneurship, this study formed a basis for further research in the field of entrepreneurship.

Theoretical Framework

This study was based on Zahra & Covin's (1995) theory of entrepreneurial orientation. These authors hold that firms with an EO can target premium market segments, charge high prices and "skim" the market ahead of competitors. They further indicate that such firms monitor market changes and respond quickly, thus capitalizing on emerging opportunities. The authors of this theory observed that innovation keeps such firms ahead of competitors, gaining competitive advantage that leads to better financial results. Zahra & Covin's (1995) indicate that firms with EO have an undue advantage of proactiveness which gives them the ability to present new offers to the market ahead of competitors which gives them a competitive advantage. These authors affirmed that the relationship between EO and performance is particularly strong among small firms. They emphasize that smallness of firms per se fosters flexibility and innovation but limits competitiveness in other strategic orientations. This component makes this theory relevant to this study as it provides the impetus for examining the role that EO plays on performance of small firms (Small and Medium Enterprises); which are the focus of this study.

Zahra and Covin's (1995) further observe that although the relationship between EO and firm performance may be more complex than previously assumed, the relationship may in particular be contingent upon the nature of the environment that the firm operates in. These authors observe that EO may be a better predictor of performance for firms in hostile than benign environments. They hold that the fit between EO and environment and not EO per se is what promotes performance and that firms in growing industries may perform better than other firms regardless of their EO. Hence, these authors suggest that environment may influence small firm performance directly or moderate the relationship between EO and performance.

Some scholars have however provided a critique of this theory. Storey (2009) observed that Zahra & Covin's (1995) theory does not take cognizance of the fact that more variables (other than those that define the dimensions of EO) may still influence the performance of small firms. Storey (1994) mentioned that a relatively consistent finding is that capital availability may also affect firm performance.

Conceptual Framework

In Figure 1.1, the independent variable was entrepreneurial orientation. The concept of entrepreneurial orientation comprises three dimensions; innovativeness, proactiveness, and risk taking. Innovativeness is the firm's ability and willingness to support creativity, new ideas and experimentation which may result in new products/services while proactiveness is the pursuit of opportunities and competitive rivalry in anticipation of future demand. Relating to risk-taking, the firm knowingly devotes resources to projects with a chance of high returns. The dependent variable was the ultimate performance of women owned small and medium enterprises. Firm performance is determined by increase in sales as a result of proactiveness, profits due to increased innovation and growth in capital due to risk taking.

Independent Variables

Entrepreneurial Orientation

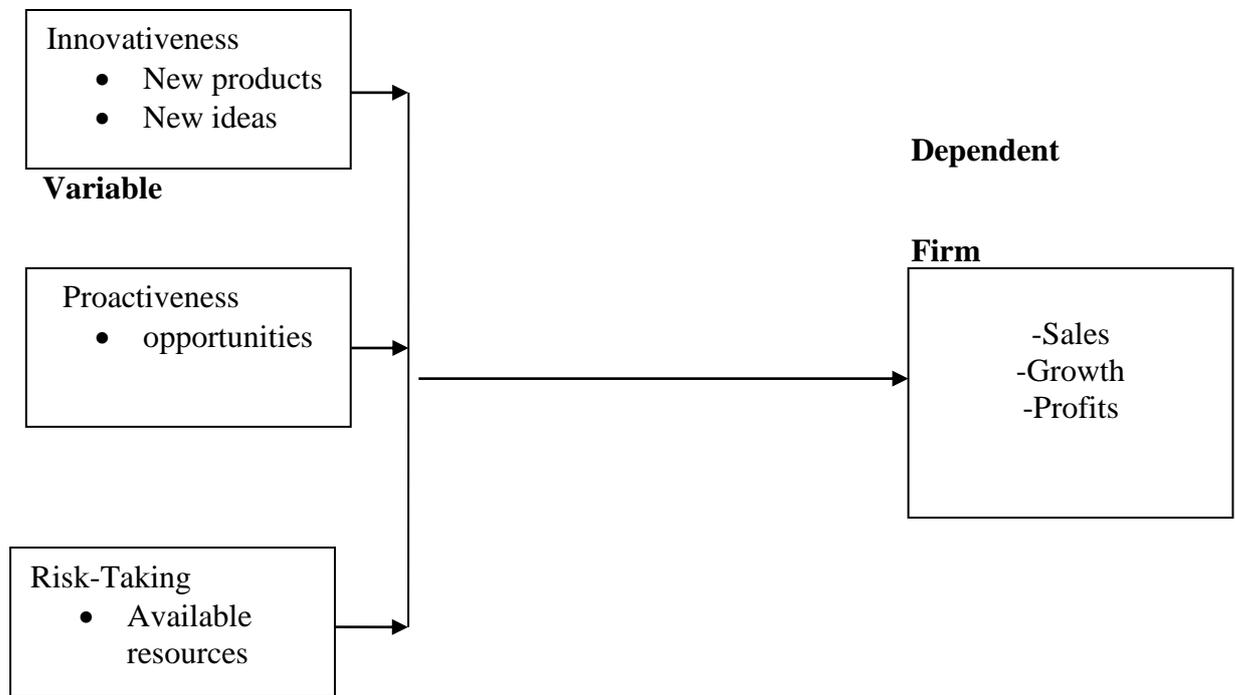


Figure 1.1: Conceptual framework

Source: (Researcher 2015)

LITERATURE REVIEW

Review of Theories

Resource Based Theory

Resource based theory emphasizes that valuable, rare, inimitable or non-substitutable firm-specific capabilities are the determinants of performance. This relates to innovation as a dimension of entrepreneurial orientation.

Schumpeter Theory of Entrepreneurship

An Entrepreneur is one who perceives the opportunities to innovate, this is relevant to the study as in women owned enterprises will perform highly through innovation. The theory emphasizes on innovation and excludes the risk taking and organizing aspects.

Systems Theory

Systems theory is based on the idea that everything is part of a larger, interdependent arrangement. Performance of enterprises is composed of many parts including: innovation,

creativity and technology. This theory is relevant to the study in that lack of innovation and creativity and entrepreneurial orientation can hinder performance of an enterprises.

Contingency Theory

The women owned enterprises because of concerns with performance implications require the contingency theory because it holds that the relationship between two variables depends on a third variable. Creativity and innovation require entrepreneurial orientation to enhance performance. The operating environment is ever changing and must be flexible to accommodate the many challenges that women owned enterprises are likely to face.

Critique of the Theories

Criticism of the Resource Based Theory

It has been argued that the Resource Based Theory has limited focus on capabilities. There is the assumption that a firm can be profitable in a highly competitive market as it can exploit advantageous resources but this may not necessarily be the case. Resource Based Theory therefore implies that a firm can enhance performance to achieve sustainable competitive advantage through innovativeness.

Criticisms of Schumpeter's Theory of Innovation

The theory emphasizes on innovation and excludes the risk taking and organizational aspects. Schumpeter's entrepreneurs are large-scale business persons who introduce new technology and new methods of production. The entire process of Schumpeter's theory is based on the innovator who is regarded as an ideal person and innovation as the main cause of economic development. Economic development is the result of the cyclical process. Schumpeter fails to acknowledge other facets of economic evolution.

Criticisms of Systems theory

Systems theory has been debated and criticized. One argument has been that it escapes from reality and is not productive. Systems theory is thus a view that emphasizes certain perspectives and relatively ignores others. It is always important to consider what the consequences are of ignoring certain perspectives. In relations to the study, the theory is criticized as one that will ignore synergy in women owned enterprises. Synergizing will enable women owned enterprises to grow to higher level of performance instead of existing as a small-scale informal enterprise.

Criticisms of Contingency Theory

The Contingency theory does not take into account the percentage of "intermediate favorability" situations verses "extremely favorable or unfavorable" situations. In relation to the study, the contingency theory therefore means that women enterprises are at liberty to undertake any necessary they find best to solve the problems facing them. This is not supportive as the enterprises must keep a close relationship and understanding in order to survive in a volatile business environment.

RESEARCH DESIGN AND METHODOLOGY

Research Design

A correlation research design was adopted in this study. The basic idea behind correlational research was to examine relationships between entrepreneurial orientation and performance of SMEs in Uasin Gishu County, Kenya.

Target Population

Target population refers to the entire group of individuals, objects, item, cases, articles or things with common attributes or characteristics from which samples are taken for measurements. This study targeted all women owners of all small and medium enterprises within the County. According to the 2014 first quarter report of The Department of Micro and Small-Enterprise Development (DMSED) there are 325 SMEs in Uasin Gishu County which were classified as small and medium. This report further reports that of these enterprises, 25% (81) of them are owned by women.

Description of the Sample and Sampling Procedures

The target population was drawn from 81 enterprises owned by women in Uasin Gishu County based on DMSED (2014) report. The owners of these 81 small and medium enterprises were all selected.

Description of Research Instruments

In this study, data collection was done through the use of questionnaires. The questionnaire had seven sections with a total number of twenty three questions. The questionnaire had sections A, B, C, D, E and F. Instructions on filling the questions were indicated for each question in each section.

Validity and Reliability of Research Instruments

Pilot Testing and Reliability of Research Instruments

The questionnaires were pre-tested to a selected sample which was similar to the actual sample used in the study. The procedures used in pre-testing the questionnaires were identical to those that were used during the actual study or data collection. In this case, pilot testing was done in ten women owned enterprises in Kapsabet town, Nandi County. In the ten enterprises, nine managers participated in the exercise. Pilot testing was important because deficiencies such as unclear directions, insufficient space to write the response and wrong phrasing of questions were detected and rectified. Vague items were also re-phrased appropriately.

The researcher administered the instruments to the same group of respondents at two different times after a span of one week. The researcher used the two sets of results to compute alpha correlation co-efficient to determine the co-efficient of reliability. According to Fraenkel & Wallen (2000) items in the instruments of data collection are considered reliable if they yield a correlation coefficient of 0.7 and more.

Validity

The instruments were validated by research experts who were also consulted and their input incorporated in the modification of the research items.

Description of Data Analysis Procedures

After data collection, responses from all questionnaires were cross-checked to facilitate coding and processing. Chi-square was computed to establish the significance levels of correlation between entrepreneurial orientation and firm performance. Hypothesis was tested at 0.05 confidence level. Study findings were presented in form of tables, graphs and charts.

DISCUSSION

Out of a total of 81 questionnaires that were given out, 75 were filled and returned by the respondents, yielding a response rate of 92.6%. This was considered a reliable response rate appropriate for making generalizations from the findings of the study.

Demographic Information

Respondents' Age

The Majority 44.0% (33) of the respondents was aged between the 30 and 50 years, 29.3% (22) were aged above 50 years while 26.7% (20) of the respondents were aged below 30. The researcher found it appropriate to establish the distribution of respondents in terms of their age in order to establish the dominant age group that is majorly involved in SME businesses in Uasin Gishu County (Figure 4.1). This implies that majority of the respondents who operated SMEs in the County were young entrepreneurs. They were therefore flexible enough to provide their opinions on items seeking the influence of EO on performance of their enterprises.

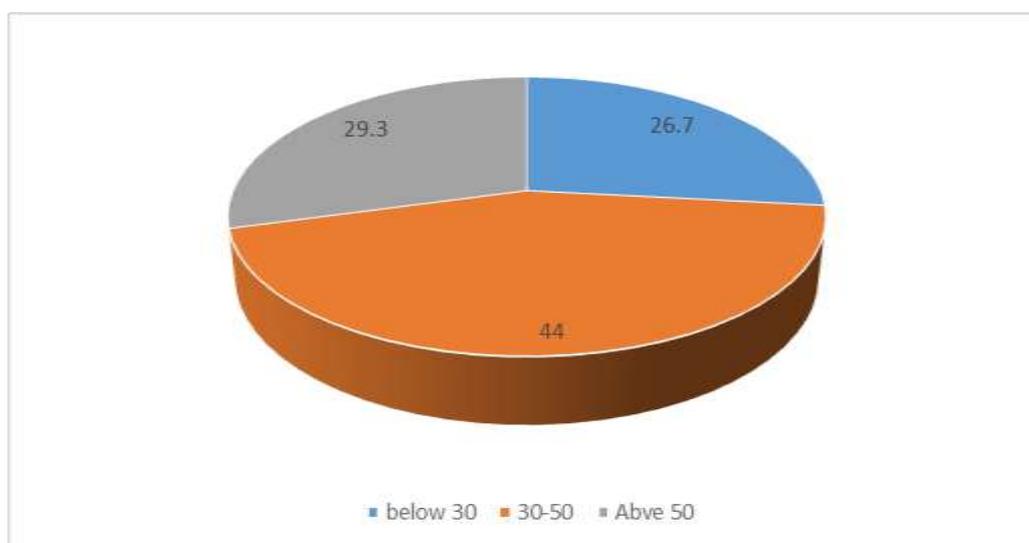


Figure 4.2: Age distribution of the respondents

Education Level of Respondents

A proportion of 35 (46.6%) of the respondents had acquired first degree, 39 (38.7%) had acquired secondary education while 11 (14.7%) had acquired post graduate degree. The implication is that there are few women in business with a post graduate degree. Table 4.1 summarizes this information.

Table 4.1: Education level of the respondents

Educational level	Frequency	Percentage
Secondary	29	38.7
First degree	35	46.6
Post graduate	11	14.7
Total	75	100

Classification of Enterprises

The study also established the type of services that the respondents' enterprises dealt with. A proportion of 29 (38.9%) of the enterprises provided food and beverage services, 25 (33.3%) provided ICT services, 8 (10.7%) provided transportation and other services like M-pesa, phone repairs, tailoring and hair and beauty services while 5 (6.7%) of the enterprises provided hotel and tours services. This question was appropriate since it enabled the researcher to identify the services that were mostly offered by women' enterprises in Uasin Gishu county. Table 4.2 summarizes these findings.

Table 4.2: Classification of Enterprises

Services	Frequency	Percentage
Food and beverage	29	38.6
ICT services	25	33.3
Transportation	8	10.7
Hotel and tours		6.7
Others	5	10.7
	8	
Total	75	100

The reliability coefficient of the items in the questionnaire ranged from 0.8459 to 0.9234 for the attributes studied. Table 4.3 provides the results of computations of reliability test.

Table 4.3 Item Reliability Tests

Variable	Number of Items	Cronbach's Alpha
Effect of innovation on performance	5	0.8613
Effect of proactiveness on performance	9	0.8459
Effect of risk taking on performance	6	0.9234
Average		0.8768

The reliability coefficient of items yielded 0.8768 which is more than 0.7; therefore, it was desirable for consistency levels. (Fraenkel and Wallen 2000)

Influence of Innovation ability on Performance

The study sought to establish the effect of innovation ability on the performance of small and medium enterprises owned by women in Uasin Gishu County. In relation to this research question, the respondents were asked to indicate to what extent they agreed/disagreed with a list of items provided to them. The researcher asked the respondents to respond to items that were based on a likert scale. The statements aimed at establishing the perceived effects of innovation on growth of SMEs. Figure 4.3 presents the cumulative responses.

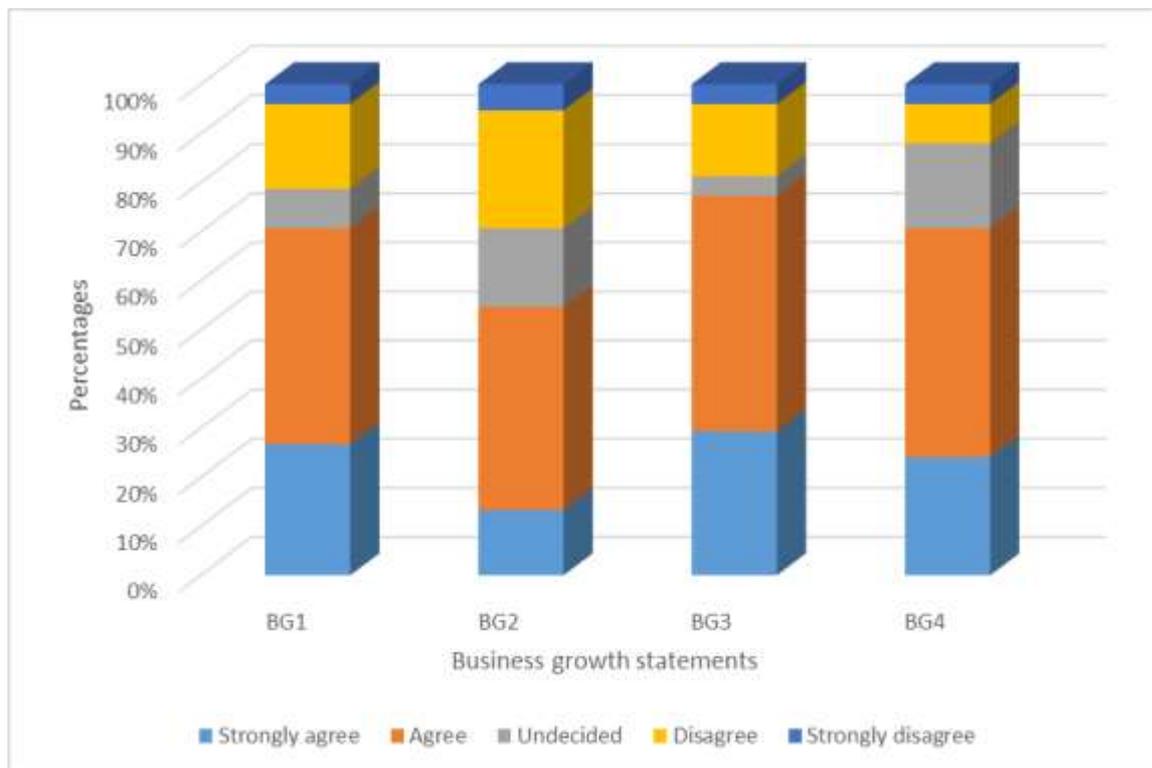


Figure 4.3: Effect of innovation on the performance of small and medium enterprises

Key BG- Business Growth

- BG1 Innovation has led to improved quality
- BG2 Innovation has led to increased market share
- BG3 Innovation has led to increased sales volumes
- BG4 Innovation has led to an improved products portfolio

The study sought to establish whether innovation had led to improvement in the quality of goods and services provided by the SMEs. Majority of the respondents 44% (33) agreed to the statement, 26.7% (20) of them strongly agreed to the statement, 17.3% (13) of them disagreed, 8% (6) of them were undecided whereas 4% (3) of the respondents strongly disagreed to the statement that innovation had led to improved quality of goods and services. When asked to indicate whether innovation had led to increased market share, majority of them 41.3% (31) agreed to the statement, 13.3% (10) of them strongly agreed to the statement, 24% (18) of them disagreed to the statement, 5.3% (4) of them strongly disagreed to the statement whereas 16% (12) were undecided.

Besides, majority of respondents 48%; (36) agreed to the fact that innovation had led to increased volume of sales, 29.3% (22) of them strongly agreed to the statement, 14.7% (11) of them disagreed to the statement, 4% (3) of them strongly disagreed to the statement and another 4% (3) of them were undecided. Finally, when asked to indicate whether innovation had led to an improved products portfolio in their respective SMEs, majority of the respondents 46.7% (35) agreed to the statement, 24% (18) of them strongly agreed to the statement, 8% (6) of them disagreed to the statement, 4% (3) of them strongly disagreed to the statement and another 17.3% (13) of the respondents were neutral.

Hypothesis testing was done to determine the relationship between entrepreneurial orientation and firm performance. A Chi-square test of association was computed to establish the relationship between innovation and performance of small and medium enterprises owned by women in Uasin Gishu County (Table 4.4). The null hypothesis was that there is no relationship between innovativeness and firm performance of SMEs. The data on innovation was originally collected on a nominal scale but was converted into dummy variables; 1= Yes and 0= No for purposes of computing the Chi-square correlation.

Table 4.4: Chi-Square Test of association between innovation and performance

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Chi-Square	.129 ^a	1	.829		
Continuity Correction	.016	1	.899		
Likelihood Ratio	.129	1	.027		
Fisher's Exact Test				.182	.091
Linear-by-Linear Association	.127	1	.032		
N of Valid Cases	75				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.77.

A significant relationship was found, $\chi^2(73) = 0.829, p = 0.032$. The null hypothesis was therefore rejected. It was concluded therefore that innovation has a statistically significant relationship with performance of small and medium enterprises.

The study sought to establish the respondents' opinion on the influence of innovation on performance small and medium enterprises. Majority of them, 60.0% (45), were of the opinion that there exists a positive influence while 26.7% (20) of them were of the opinion

that there was no influence of innovation on performance and 13.3% (10) of them were in different. From these findings, majority of the respondents agreed that innovation has led to improved market share, volumes of sales, quality of goods and services and increased product portfolio.

Influence of Enterprises' Proactiveness on performance

In order to establish the influence of proactiveness on performance, respondents were presented with items which required them to indicate: how often they developed or introduced new products in the market, whether they carry out environmental scanning to determine their competitors, whether they had tried networking with other women owned enterprise and whether government regulations had in any way interfered with their proactiveness. Finally, the respondents were required to indicate the extent to which proactiveness improved business growth, increased sales and profits.

At least 50 (66.7%) respondents indicated that they had always developed or introduced a new product in the market ahead of their potential competitors. Few 15 (20.0%) of them had not. Further, majority of the respondents 39 (52.0%) had carried out environmental scanning to determine what their competitors were doing in the market. Respondents who indicated that they had tried networking with other women-owned enterprises were 39 (52 %) of the sample. Thirty nine (52%) respondents feared that government regulations could interfere with their proactiveness. Table 4.5 presents a summary of this finding.

Table 4.5: Influence of proactiveness on firm performance

	Frequent occurrence	Rare occurrence	Never occurs
Development of new products	50(66.7%)	15(20.0%)	10(13.3%)
Environmental scanning	39(52.0%)	19(25.3%)	17(22.7%)
Networking with other women owned enterprises	39(52.0%)	22(29.3%)	14(18.7%)
Interference by government regulations	39(52.0%)	26(34.7%)	10(13.3%)

A significant number of the respondents, 49(65.3%), agreed that proactiveness enables an organization to improve business growth, increase sales and profits respectively. Table 4.6 summarizes this finding.

Table 4.6: Proactiveness and Firm Performance

Statement	1	2	3	4	5
Proactiveness improves Business growth	37(49.3%)	12(16.0%)	4(5.3%)	13(17.3%)	9(12.0%)
Proactiveness increases sales	35(46.7%)	11(14.7%)	5(6.7%)	12(16.0%)	12(16.0%)
Proactiveness increases profits	36(48%)	10(13.3%)	7(9.3%)	12(16.0%)	10(13.3%)

1-Strongly Agree; 2-Agree; 3-Undecided; 4-Disagree; 5-Strogly Agree

To establish the relationship between proactiveness and firm performance, a Chi-Square test was computed. Table 4.7 presents a summary of the analysis.

Table 4.7: Correlation between Proactiveness and Firm Performance

Correlations			
		Proactiveness	Firm performance
Proactiveness	Chi-square	1.000	.716
	Correlation		
	Sig. (2-tailed)		.002
	N	75	149
Firm performance	Chi-square	.716	1.000
	Correlation		
	Sig. (2-tailed)	.002	
	N	75	75

The null hypothesis was that there is no relationship between proactiveness and business performance of SMEs. A strong correlation that was significant was found $\chi^2(75) = 0.716$, $p = 0.002$. The null hypothesis was therefore rejected. Therefore, proactiveness has a significant influence on business growth of a firm.

Influence of Enterprise Risk-Taking on Performance

The study sought to establish the relationship between risk taking and performance of SMEs that were sampled in the study. This was done by finding out the source of start-up capital of the different SMEs sampled in the study, determining the frequency with which the owners of the SMEs borrowed from financial institutions, and whether borrowing from financial institutions was risky or not. Majority of respondents 67 (89.4%) indicated that they sought their start-up capital for their businesses from financial institutions in form of loans. A negligible proportion of these respondents sought their start-up capital from friends and family members, inheritances and grants.

A greater proportion of the respondents 57 (76 %) indicated that they always borrowed loans from financial institutions to run their businesses. Only few of the sampled respondents borrowed often, rarely or never borrowed from financial institutions. When asked whether borrowing loans from financial institutions to run their businesses was risky or not, at least five in every ten of the respondents (56%) indicated that it was a risky venture and at least two in every ten (25.3%) of the respondents indicated that it was highly risky. This finding is illustrated in Table 4.8

Table 4.8: Influence of enterprise risk-taking on business performance

Determinant	n (%)
Source of startup capital	
Bank loans	67 (89.4%)
Family and friends and Inheritance	4 (5.3%)
Grants	4 (5.3%)
Frequency of loan borrowing	
Always	57 (76%)
Often	9 (12%)
Rarely	7 (9.3%)
Never	2 (2.7%)
Extent of risk in loan borrowing	
Risky	65 (86.7%)
Not risky	6 (8.0%)
Unsure	4 (5.3%)

To establish the relationship between risk-taking and business performance, a Chi-Square test was computed. Table 4.9 presents a summary of the analysis.

Table 4.9: Correlation between Risk-Taking and Business Performance

Correlations			
		Risk-Taking	Business Performance
Risk-Taking	Chi-square	1.000	0.897
	Correlation		
	Sig. (2-tailed)		0.002
Business Performance	N	75	75
	Chi square	0.897	1.000
	Correlation		
	Sig. (2-tailed)	0.002	
	N	75	75

The null hypothesis being tested was that there is no relationship between risk taking and business performance of SMEs. A strong correlation that was significant was found $\chi^2(75) = 0.897$, $p = 0.002$. The null hypothesis was therefore rejected. Therefore, risk-taking has a positive significance on business performance.

Table 4.10 below represents a summary of the hypothesis.

Table 4.10 Interpretation of the study results

Hypotheses	Chi Square	P value	Rejected/accepted
There is no significant influence between innovation and performance of women owned enterprises	0.829	0.032	Null hypothesis was rejected Alternate hypothesis was accepted
Proactiveness has no significant influence on performance of SMEs owned by women	0.716	0.002	Null hypothesis was rejected Alternate hypothesis was accepted
There is no significant influence of risk taking on performance of women owned enterprises	0.897	0.002	Null hypothesis was rejected Alternate hypothesis was accepted

Discussion of research findings

The study focused on the influence of entrepreneurial orientation on performance of 81

Small and medium enterprises owned by women in Uasin Gishu County.

The study focused on research questions in order to show the extent to which innovation, proactiveness and risk taking influence performance of women owned SMEs.

The null hypothesis showed there is no relationship between innovation and performance. Research findings showed a significant relationship, $X^2(73) = 0.829$, $p=0.002$ therefore, Concluded that innovation has significant relationship with performance. Therefore, the study finding was in tandem with a study conducted by Rauch, et al ., (2009) which established that innovativeness reflects a firm's ability to engage in new ideas and creative processes that may result in new products, markets, or technological process.

A study carried out by Thompson (cited in Calantone, *et al.*, 2006) buttresses this finding since it found out that innovation is the generation, acceptance, and implementation of new ideas, processes, products, or services. Although Coulthard (2007) found out that innovativeness is not the most significant dimension of a firm's performance, the current study established that innovation influences performance of a firm's performance. Majority of the respondents 45(60.0%) agreed that innovation has led to improved market share, increased volumes of sales, quality of goods and services and increased product portfolio.

On proactiveness, a significant number of respondents 44(65.3%) agreed that proactiveness enabled a firm to improve business growth, increase sales and profits. The null hypothesis indicated that there was no relationship between proactiveness and firm performance, research findings showed a significant relationship $X^2(73) = 0.716$, $p = 0.002$, therefore, proactiveness has a significant influence on business growth.

Just as Rauch, *et al.*, (2009) found out that proactiveness is an opportunity-seeking, forward-looking perspective characterized by the introduction of new products and services ahead of the competitors and acting in anticipation of future demand, this study's finding concurs. The

study's finding is also in tandem with Kropp, *et al.*, (2008) who suggested that proactiveness involves the identification and evaluation of new opportunities, and monitoring market trends. Hughes & Morgan (2007) and Coulthard (2007) in their study of dimensions of EO and firm performance also found out that, at the embryonic stage of firm growth, proactiveness was a critical factor that affected firm performance improvement.

The null hypothesis indicated that there is no relationship between risk taking and firm performance of SMEs, research findings showed a significant relationship $X^2(73) = 0.897$, $p=0.002$, a positive significant influence on SMEs on performance. A proportion of respondents 57 (76%) indicated that they always borrowed loans to finance their businesses. Majority 67(89.4%) sought their start-up for their businesses from financial institutions in form of loans.

In buttressing this finding, Cantillon (2007) described an entrepreneur to be a rational decision-maker "who assumes risk and provides the management of the firm". In the 1800s, John Stuart Mill argued that risk-taking is the paramount attribute of entrepreneurship. Risk-taking implies willingness for committing huge resources to opportunities which involve probability of high failure (Wiklund & Shepherd, 2005). It is therefore apparent that risk-taking influences the performance of an organization and is therefore worth considering.

Among the three dimensions of entrepreneurial orientation, risk taking has a strong correlation that was significant $X^2(73) = 0.897$, $p = 0.002$. The study findings reinforced previous studies that entrepreneurial oriented firms tend to be more willing to take risks, are more innovative and proactive that leads to increased performance (Ahl, 2006; Zimmerman and Brouthers, 2012). This suggested that the firms and women owner managers may benefit from efforts to increase their level of entrepreneurial orientation in order to survive the dynamic fast faced and complex environment characterized by shorter life cycles, globalization and continuous improvement in technology. Entrepreneurial orientation is a survival tool for success of women owned SMEs.

The government of Kenya has greatly contributed to development of small and medium enterprises in Kenya through creation of funding for women owned enterprises like women enterprise fund and Uwezo fund.

Interpretation of research findings

The dimensions of entrepreneurial orientation under investigation in this study were significantly associated with performance. The findings indicated that innovation has significant relationship with performance of SMES ($X^2(73) = 0.829$, $p = 0.032$). This agreed with the Schumpeter (1934) theory that pointed out the importance of innovation in entrepreneurial processes. It also agreed with Lumpkin and Dess (1996) that innovation is a firm's tendency to engage and support new ideas. Swierczek & Ha (2003) observed that innovation takes a firm to a new paradigm of success. This study indicated that 31 (41.3%) of the respondents agreed that innovation led to increased market share, 36 (48%) agreed it led to increased volume of sales and 35 (46.7%) indicated that it led to improved product portfolio. This study provided valuable extension for the perspective of resource based theory which explains that firms with capability to control unique resources and handle market power have more opportunities to achieve superior profits. The significant relationship of innovation with performance $X^2(73) = 0.829$, $p=0.032$ can be interpreted to mean that innovation has a positive relationship with performance of SMEs. Firms that

adopt innovation will not only grow but also attain a larger market share than competitors because of better products. Therefore, it is important for owners of a firm to put a strong emphasis on innovation to attain technological leadership.

Venkatraman (1989) conceptualized proactiveness as processes that are aimed at introduction with of new products ahead of competitors. Hughes and Morgan (2007) indicated that a proactive firm is seen in its responsiveness to market signals and awareness to market trends. This study indicated that 38 (50.7%) of respondents agreed that they introduced new products in the market ahead of their competitors, 39 (52.0%) carried out environmental scanning and 39 (52%) tried networking. Proactiveness has a significant influence on business growth. The significant relationship of proactiveness with performance $X^2(73) = 0.716$, $p = 0.002$ can be interpreted to mean that there is a positive relationship with performance of a firm. This is significant because firms that embrace proactiveness have the capability of leading the market. The dimensions may vary independently, if a firm has a lower score on proactiveness $X^2(73) = 0.716$, $p = 0.032$ while innovativeness had a higher score $X^2(73) = 0.829$ $p = 0.002$, it would mean the firm innovative to become more successful in product leadership in the market than reaching a market faster. This study indicated a positive significant influence on performance of SMEs. A strong correlation that was significant was found $X^2(73) = 0.897$, $p = 0.002$, it is therefore apparent that risk taking influences the performance of an organization and therefore worth considering. It is important to note that the risky environments of developing countries are marked by market uncertainty as the market place is less well institutionalized leading to investment decisions based on imperfect information and absence of risk premium. However, the study indicated that 67 (89.4%) sought their start-up capital from financial institutions and 57 (76%) took loans to run their businesses.

Risk taking had the highest positive significant positive relationship $X^2(73) = 0.897$ $p = 0.002$, this could mean women borrow more because they are traditionally not endowed with tangible property like land which could be sold to obtain finance, for example, as start-up capital, as indicated in the study that 67(89.4%) sought their start-up capital from financial institution. The results showed that all the three EO variables have a positive influence on firm performance. This means that all other factors held constant, a unit increase in one like innovation is likely to increase performance.

FINDINGS

Effect of innovation on performance of SMEs

A Chi-square correlation revealed a significant positive relationship $\chi^2(73) = 0.829$, $p = 0.032$ between innovation and performance of SMEs. Majority of respondents were in agreement that innovation in SMEs leads to improved quality of products, increased market share, increased sales volumes and improved products portfolio.

Effect of Proactiveness on Business Growth of SMEs

The results of a Chi-square analysis between proactiveness and business growth yielded a strong significant correlation $\chi^2(73) = 0.716$, $p = 0.002$. The null hypothesis was therefore rejected. Majority of respondents indicated that they had struggled to introduce new products

in the market ahead of their potential competitors, they always carried out environmental scanning and that they had networks with other women owned enterprises. These are components of proactiveness which respondents indicated that had significantly influenced the growth of their enterprises.

Effect of Risk-Taking on Performance of SMEs

Like innovation and proactiveness, the study established a correlation that was significant $\chi^2(73) = 0.897, p = .002$) between risk-taking and performance of the sampled SMEs. Majority of the respondents indicated that they heavily relied on loans from financial institutions to finance their enterprises. This was despite the fact that majority of them considered loans as a risky mode of financing their businesses. Nonetheless, the respondents indicated that their enterprises had experienced growth as a result of the frequent loans from financial institutions which boosts their capital base.

CONCLUSION

Based on the findings, the study concluded that entrepreneurial orientation is useful as a Predictor of performance in women owned SMEs in Uasin Gishu County. All the Entrepreneurial orientation dimensions: innovativeness, proactiveness and risk-taking had Positive significant effect on performance of women owned SMEs.

This study concluded that innovation led to improved market share, quality of goods, volume of sales and increase product portfolio. The study also concluded that proactiveness enabled the organization to improve business growth and profits. There is also better business performance with higher risk taken. This implies that behaviors associated with innovativeness, proactiveness and risk-taking when taken as an overall strategic may indeed help SMEs in Kenya to grow. Further, the results suggests that EO-oriented activities within an organization not only results in better performance but also assist owners of SMEs to make better decision regarding the choice of strategic resources acquired. The findings of this study add to our understanding on the relationship between EO and performance of SMEs and represent an important contribution to the body of knowledge in the field of entrepreneurship.

Recommendations

Based on the research findings and conclusion this study recommends that:

- (i) SMEs need to embrace the entrepreneurial orientation dimensions, innovativeness, risk taking and proactiveness to increase business performance.
- (ii) There is need for the Department of Micro and Small-Enterprise Development (DMSED) to consider in its blue print, facilitation of workshops and seminars for small and medium women entrepreneurs to sensitize them on the significance of these dimensions in business performance.
- (iii) Women entrepreneurs should be innovative and develop new products ahead of their competitors. They should also be proactive by carrying out strategic environmental scans for new opportunities in the market.

- (iv) Finally, women entrepreneurs need to consider risk-taking to effectively and successfully respond to the dynamic environments that require organizations to increase decision-making speed.

Future Research

Further studies may consider including other dimensions of EO notably autonomy and competitive aggressiveness.

The study was only limited to women owned SMEs in Uasin Gishu County. More research should be carried out in other counties in Kenya and could include youth entrepreneurs, male owned enterprises and large scale firms. Additionally, a comparative study could be done between male owned and female owned small and medium enterprise.

Factors that play a mediating role in the influence of entrepreneurial orientation on performance like munificence, dynamism and hostility should be in future studies.

REFERENCES

- Ahl, H. (2006). Why research on women entrepreneur needs directions. *Entrepreneurship And Enterprenuership* vol5 issue 11 2016. www.ijssse.org
- and External Firm factors on International Product adaptation Strategy and Export Performance: A Three Coutry Comparison. *Journal of Business Research* 5a (2) 176-185.
- Antonic, B., & Histrich, R. D. (2009).Clarifying Intrapreneurship Concept. *Journal of Small Business and Enterprise Development*, 10(1) 7-24.
- Bartol, R. M. & Martin, D. A. (2006). The moderator-mediator variable distinction in social psychological research: conceptual strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Calatone, R. Kim D., Schmidt J. B. and Cavusgil S. T.(2006) The Influence of Internal Covin, J. G., & Covin, T. J. (1990). Competitive aggressiveness, environmental context and small firm performance. *Entrepreneurship Theory and Practice*, Sumer, 35-50.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: reflections and needed construct. *Entrepreneurship Theory and Practice*, 856-872.
- Covin, J. G., & Slevin, D. P. (1986).*The development and testing of an organizational-level entrepreneurship scale*. Wellesley, Massachusetts: Babson College.
- Covin, J. G., & Slevin, D. P. (1991).A conceptual model of entrepreneurship as firm behavior.*Entrepreneurship Theory and Practice*, 16(7-25).
- Covin, J. G., Slevin, D. P., & Schultz, R. L. (1994).Implementing strategic missions: Effective strategic, structural, and tactical choices. *Journal of Management Studies*, vol. 31, No. 4, 481-503.
- Culhane, J. M. H (2003). The International Entrepreneurial Orientation-performance Linkage in high Technology Firm: A Comparative Study. PhD Thesis, University of Massachusetts Amherst.
- Davis, J. L. (2007). Firm-level entrepreneurship and performance: An examination and extension of relationships and measurements of the entrepreneurial orientation construct. Unpublished Thesis, University of Texas.

- Day, G. S., & Wensley, R. (2008). Assessing advantage: A framework for diagnosing competitive superiority. *Journal of Marketing*, 52, 1-20.
- De Clercq, D., Sapienza H. J. & Crijns, H. (2003). The Internationalization of small and medium sized firms, Working paper, Vlerick Leuven Gent.
- Dess, G. G., Pinkham, B. C., & Yang, H. (2011). Entrepreneurial orientation: assessing the constructs validity and addressing some of its implications for research in the areas of family business and organizational learning. *Entrepreneurship Theory and Practice*, 35 (5), 1077-1090.
- Dess, G., Lumpkin, T., & Covin, J. G. (2013). Entrepreneurial strategy making and firm performance: Tests of contingency and configurationally models. *Strategic Management Journal*, 18(9), 677-695.
- Dess, G., Lumpkin, T., & McFarlin, D. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of organizational task environments. Administrative Science Quarterly*, 17: 313-327.
- Dillman, D. (2000). Mail and Telephone surveys: *The tailored made design methods 2nd edition*. New York, NY John Wiley and Sons.
- Felsentein D. and Swartz D. (1993) Constraints to Small Businesses Development Across the life cycles: Some evidence from peripheral areas in Israel. Unpublished
- Gakure, R (2003) "Factors affecting Entrepreneurs' Growth prospects in Kenya" prepared for the International Labour Organisation (ILO), Geneva, November 2003.
- Gelin, M. (2005). "The importance of gender in starting and managing a small business" Houston Psychiatric society
- GEM (Global Entrepreneurship Monitor (2005). *Global Report on High-Growth Entrepreneurship*. Babson college, Babson Park, MA London Business School, London UK
- GOK (2007), Kenya Vision 2030, A Globally competitive and prosperous Kenya. Government of Kenya, International Labour Organisation and United Nations in Kenya. Towards the year 2030, Nairobi.
- Grande, J., Madsen, E. L., & Borch, O. J. (2011). The relationship between resources, entrepreneurial orientation and performance in farm-based ventures. *Entrepreneurship and Regional Development*, 23 (3-4), 89-111.
- Hortovany L. (2010) Entrepreneurship Management in Hungaria SMEs PHD Thesis, University of Budapest.
- Journal published by international journal of Business and management Review vol
- Karasniqi, B. A., & Hashi, I. (2011). Entrepreneurship and SME growth: Evidence from Advanced and laggard transition economies. *International Journal of Entrepreneurial Behavior and Research Vol. 17 No. 5*.
- Kaya & Seyrek I., (2005) Performance Impacts of Strategic Orientation Evidence from Turkish Manufacturing Firms. *The Journal of American Academy of Business* 68-71
- Kjeldsen J. & Nielsen K. (2000). The Circumstances of Women Entrepreneurs, Danish Agency for Trade and Industry Kobenhavn.
- Kraus, S., Kauranen, I., Reschke, C. H. (2011). Identification domains for a new Conceptual model of Strategic Entrepreneurship using the configuration approach. *Management Research Review* 34 (1): 58-74.
- Kreiser, P. M., & Davis, J. (2010). Entrepreneurial Orientation and Firm Performance: The Unique Impact of Innovativeness, Proactiveness and Risk Taking. *Journal of Small Business and Entrepreneurship*, Vol. 23, No. 1, 39-51.

- Kropp F., Lindsay N.J., & Shohan A. (2008) Entrepreneurial Orientation and International Entrepreneurial Business venture start up. *International Journal. Entrepreneurial Behaviour Research* 14(2): 10-117.
- Kuratko, D. F. (2007). The Corporate Entrepreneurship Process; A Research Model *Foundation and Trends in Entrepreneurship Journal*, 3, 162-182.
- Kuratko, D. F., & Audretsch, D.B. (2009). Strategic Entrepreneurship Exploring different perspectives of an emerging concept. *Entrepreneurship Theory and Practice*, 33, 1; 1-17.
- Kwak, N., & Radler, B. (2002). A comparison between mail and web surveys: Response pattern, respondent profile, and data quality. *Journal of Official Statistics*, 18, 257-273.
- Landstrom, H. (2009). *Pioneers in Entrepreneurship and Small Business Research*, 2nd ed. Springer, New York, N.Y.
- Li Y., Huang J. W., & Tsai M. T. (2009) Entrepreneurial Orientation and Firm Performance: The Role of Knowledge Creation Process. *Industrial Marketing Management*, 38: 440-449
- Lowe B. & Lynch D. (2010) Study and some proposition about marketing in a fast growth. SMES is entrepreneurial marketing difference? *Journal of Business and Economic Research*.
- Lowe, R., & Marriot, S. (2006). *Enterprise: Entrepreneurship and innovation, concepts, contexts and commercialization*. Elsevier Ltd.
- Lumpkin, G. T. (1998). Do new entrant firms have an entrepreneurial orientation? Paper presented at the Paper presented at the annual meeting of the Academy of Management, San Diego, CA.
- Lumpkin, G. T. (2006). The Entrepreneurial Orientation (EO) of New Entrants: Performance Implication of Alternative Configurations of EO, Environment, and Structure. Unpublished PhD, University of Texas Arlington.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and lifecycle. *Journal of Business Venturing*, vol. 16, 429-451.
- Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and Measuring Autonomy: An Entrepreneurial Orientation Perspective. *Entrepreneurship Theory and Practice*, 47-69.
- Margret white, Loise Maru, Rose J Boit & Emma Serem, (2015) *Resource and Performance of*
- Miles, R. E., & Snow, C. C. (2009). *Organizational strategy, structure and process*. New York: Standard, CA: Standard Business Books.
- Miller, D. (2011) Miller, (1983). Revisited: A Reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice*, 35(6), 873-894.
- Moreno A, & Casillas J. C. (2008) Entrepreneurial Orientation and Growth of SMEs: A casual Model *Entrepreneurship and Theory in Practice*, 32(3) 507-528
- Morgan, R. E., & Strong, C. A. (2007). Business performance and dimensions of strategic orientation. *Journal of Business Research*, 56 (3), 163-176
- National SME Collaborative Survey (2013)
No 5. www.eajournals.org
- Ogechukwu, O. L. (2008). Small and Medium-sized Enterprises Development under Trade Liberalization: A survey of Nigerian experience. *International Journal of Business and Management*, Vol. 3 No. 12.
- Okpara, J.O. (2011). Factors constraining the growth and survival of SMEs in Nigeria. Implications for poverty alleviation. *Management Research Review*, Vol. 34 No. 2.

- Okunade, E. O. (2007). Influence of Leadership on Women Activities in Women based Rural Development in Osun state. *Research Journal of Social Sciences Vol.2* 22-24
- Rauch, A., & Frese, M. (2007). Born to be an entrepreneur Revisiting the personality approach to entrepreneurship in the psychology of entrepreneurship: Baun J. R., Frese, M., & Baron, R. A. EDS. Mahwah, N. J., Erlbaum, 41-46.
- Roux, Y., & Couppey, M. (2007). Investigating the relationship between Entrepreneurial and Market orientations within French SMEs and Linking it to performance. Masters Thesis, UMEA School of Business and Economics. UMEA University.
- Slater, S. F. and Narver, J. C. (2000). The positive effect of a market orientation on business profitability: A balanced replication, *Journal of Business Research*, 48, 69-73
- Small and Medium Enterprises in Retail service sector: moderating role of Gender*.
- SMEs in Starehe sub-county, Kenya*. Journal published by international journal of arts
- Soetan F., (1997) "Entrepreneurship and Nigerian Women, Is there any meeting point?" *Small Enterprise Development Vol.8*
- Storey D. J. (1994) *Understanding the Small Business Sector*. London Routledge
- Swierczek, F.W., & Ha, T. T. (2003). Entrepreneurial Orientation, uncertainty, avoidance and firm performance. *Entrepreneurship and Innovation*, 46-48
- Terungwa, A. (2012). Risk Management and Insurance of Small and Medium Scale Enterprises (SMEs) in Nigeria. *International Journal of Financial and Accounting I(1)*, 8-17.
- Theory and practice*, (30(5)595-625)
- Tovstiga, G. & Tulugurova, E. (2009) Intellectual capital practices: A four region comparative study. *Journal of Intellectual Capital*, 10(1), 70-80
- Venkatraman, N., & Ramanujam, V. (1987). Measurement of business economic performance: An examination of method convergence. *Journal of Management*, 13: 109-122.
- Wambua, R., (2016) *Effects of enterprenueral management on access to venture financing of*
- Wang G. & Singh, P. (2014) 'The evolution of CEO compensation over the organizational life cycle. A contingency explanation' *Human Resource Management Review* 24(2)144-159
- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation—Performance relationship. *Entrepreneurship Theory and Practice*, vol. 24, no.1.37-48.
- Wiklund, J., & Shepherd, D. A. (2011). Where to from here? EO-as-experimentation, failure, and distribution of outcomes. *Entrepreneurship Theory and Practice*, 35 (6), 925-946.
- Wiklund, J., Davison, P., Audretsch, D. B., & Karisson, C. (2011). The Future of Entrepreneurship Research. *Entrepreneurship Theory and Practice*, Vol. 35.No.1, 1-9
- Williams C. C.; Round J., & Rodgers, P. (2010). Explaining the off-their book enterprise culture of Ukraine: reluctant or willing entrepreneurship? *International Journal of Entrepreneurship and Small Business* 10(2): 165-180.
- Wu, D., & Zhao, F. (2009). Performance measurement in the SMEs in the information technology industry. *Information Technology Entrepreneurship and Innovation*. F. Zhao. Hershey, USA, Idea Group, Inc.: 79-99.
- Zahra, N. (2013). Implications of demographic antecedents in determining the motivational drives among women entrepreneurs: a Case study of women entrepreneurs venturing in Lahore, Pakistan. *Asian Journal of Business Management*, 5 (1), 163-142.
- Zahra, S. A. (1993). A conceptual model of entrepreneurship as firm behavior; Acritique and extension. *Entrepreneurship: Theory & Practice*, vol. 17, no. 4, 5-22.

- Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technological opportunities, *Academy of Management Journal*, vol. 39, no. 6, 1713–1735.
- Zahra, S. A. (2008). Being entrepreneurial I and market drives: implication for company performance. *Journal of strategy and management*, 1 (2), 125-142.
- 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*, vol. 15, 135-173.
- Zimmerman, M. A. and Brothers, K. D. (2012). Gender heterogeneity, entrepreneurial orientation and international diversification. *International Journal of Gender and Entrepreneurship*, 4(1)20-4