

The mediating role of market innovation between Entrepreneurship orientation and the firm performance- field on SMEs Sector- Sudan-2022

الدور الوسيط لابتكار السوق بين توجيه ريادة الأعمال ومجال أداء الشركات في قطاع المشروعات الصغيرة والمتوسطة - السودان .

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Abstract

Entrepreneurship orientation is an important tool that facilitates firm performance. The purpose of this study was to examine the relationship between entrepreneurship orientation (EO) and firm performance market based innovation as mediate. Within SMEs sector. Entrepreneurship is an important for the support of small and medium enterprises. Results shows that the three dimensions of the entrepreneurship orientation: pro-activeness, risk taking and competition aggressiveness affect firm performance. This study contributes to the rare empirical investigate of the entrepreneurship orientation and firm Performance. The paper provides detail discussion, Imitations and suggestions for future research.

Keywords-entrepreneurship orientation, market based innovation, firm performance, SMEs

Keywords.

ملخص

توجه المشاريع هي أداة هامة لتسهيل أداء الشركات. وكان الغرض من هذه الدراسة هو دراسة العلاقة بين توجه المشاريع وأداء الشركات والابتكار القائم على السوق كمتغير وسيط. في قطاع الشركات الصغيرة والمتوسطة. تنظيم المشاريع هو مهم لدعم المشاريع الصغيرة والمتوسطة. النتائج تبين أن الأبعاد الثلاثة لتوجه المشاريع: استباقية، المخاطرة والمنافسة العدوانية تؤثر على أداء الشركات الصغيرة والمتوسطة. تساهم هذه الدراسة إلى التحقيق التجريبية نادرة في توجه المشاريع وأداء الشركات الصغيرة والمتوسطة. وتقدم الورقة مناقشة التفاصيل، التقليد واقتراحات للبحث في المستقبل.

الكلمات المفتاحية: الريادة ، التوجه، السوق ،الشركات الصغيرة والمتوسطة.

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1. INTRODUCTION

Few studies were found to explore core competencies in small and medium sized enterprise, whereas small and medium sized enterprise tend to be significant players in global market sometimes performs better than bigger counterparts. Hitt, M.A., Ireland, (2003)

Thus, this situation has been of great concern to citizenry, operators, practitioners and the organized private sector groups. As well As, Challenges facing small and medium-sized enterprises sector.

However most of the previous research studied the effect of two components of relationship entrepreneurship orientation, as independent variable on firm performance. Entrepreneurship has the ability to act as the engine of economic dynamism, particularly in such emerging economies, where a significant proportion of underprivileged micro-entrepreneurs operate within the informal part of the economy (Al-Mamun et al., 2016)., Nevertheless this literature didn't consider sufficiently the mediator variable. The current study addressed to exploring The Impact of Entrepreneurship Orientation on Firm Performance the Mediating Role of market based Innovation

Research Questions:

This research seeks to answer the following research questions:

Q1: To what extent do the underpinnings of entrepreneurship orientation dimensions (i.e. risk taking, pro-activeness, and competition aggressiveness) variables influence firm performance?

Q2: To what extent does entrepreneurship orientation relate to firm performance?

Q3: Does the entrepreneurship orientation dimension effect the relationship between and firm performance?

Objectives:

To explore the relationship between entrepreneurship orientation variables and firm performance.

- To determine the relationship between entrepreneurship orientation variables and firm performance. in SMEs.

The study is expected to contributing significantly in economic growth through entrepreneurship orientation and market based on innovation lead to more firm performance success and satisfaction. Entrepreneurship is important for the support of small and medium enterprises. OECD, (2006).With an active Small and Medium Enterprises (SMEs) sub- sector in the production, developed and less developed countries are expected to depend less on large industries to drive their economy towards posterity. According to , Veer Bhappa Havinal, (2009) entrepreneur an individual who

notices opportunities and take responsibility for mobilizing the resources necessary to product new and improved

The term SMEs covers a wide range of definitions and , varying from country to country and between the sources reporting SME statistics. Some of the commonly used the number of employees, total net assets, sales and investment level. However, The aim of this study investigates empirically the role of moderating effect of entrepreneurial orientation (EO) in relationship between intellectual capital (IC) and innovative performance (IP) among Jordanian small and medium-sized enterprises (SMEs). **Mohammad Abdal,Mohd, Zubaidah Bt. Othman,2017**. This study is seeking to investigate the mediating role of market innovation Entrepreneurship orientation on the firm performance outcomes on SMEs Sector Sudan

The present study uses a sample of owners, employees and managers from Sudanese SMEs sector to clarify the relationships between EO, and firm performance. The study suggests that EO variables (pro-activeness, risk taking and competition aggressiveness) influence firm performance (satisfaction and success) meditating market based innovation variable

Literature Review and Research Hypotheses

Entrepreneurial Orientation (EO) is a significant factor for a SMEs success (Wang, 2008). Entrepreneurial orientation has been conceptualized as the process and decision making activities used by entrepreneurs that leads to entry and support of business activities Kropp, F. Lindsay, N. J., Shoham, A., (2006)

According to, . Yusuf and Albanawi (2016) state that entrepreneurship is the key to economic growth, and it is responsible for the expansion and promotion of all types of productive activities in the world economy..This study is aimed factors that are affecting business success of small and medium enterprises (SMEs) in Thailand. The intention of this study provided the understanding on how people should start their business by looking at all the factors affecting business success hence help to reduce the risk of failure and increase chances of success. The study examined eight factors that influence the SMEs business success Unger, J.M., A. Rauch, M. Frese & N. Rosenbusch (2011). In this paper, we compare the competitiveness between clustered and dispersed Small Medium Enterprises (SMEs) in Indonesian food processing industry. This study compares personal self-esteem in relation to individual entrepreneurial orientation (IEO) levels, as well as IEO in relation to starting their own business venture in a study of 209 Pacific Northwestern university students.

The items for scale are based on the entrepreneurial orientation dimensions from Lumpkin and Dess, and individual entrepreneurial orientation from Bolton and Lane, as well as the self-esteem dimensions from Heatherton and Polivy. (Laura Vogelsang,2015)

Entrepreneurship is attractive both men and women who are interested in profitable. To ensure adequate development and competitiveness in entrepreneurship, considerable research has examined the participation of both male and female in venturing in business activities, particularly those reported to have personal dreams of entrepreneurship.

although we argued that an entrepreneurship or small firm context is often perceived as an appropriate work environment for ADHD adults_ effectiveness and success (Verheul et al., 2015), we could not define and clarify such an environment in terms of autonomy or work satisfaction using our data set.

This paper considers the relationship of both orientations with firm performance in business-to-business (B2B) markets simultaneously, and in particular examines the mediating effect of innovation on the relationship orientation-firm performance relationship L.M. Bouter,(2010). In the work of a definition for performance measurement is formed as follows. Entrepreneurial orientation concept emphasizes the firm-level practices, processes, decision-making style (Lumpkin and Dess, 1996), and strategic orientation (Wiklund and Shepherd, 2003) of an entrepreneurially-oriented firm. Another study (Latif, Abdullah, & Jan, 2016), which looked at the role of entrepreneurial orientation in commercialization of university research products found that entrepreneurial orientation improves the rate of commercialization. Entrepreneurial Orientation (EO) is a widely researched construct of corporate entrepreneurship. Despite long-standing research on EO, past studies on this construct have been unable to resolve issues related to its measurement. Innovation Intensity (II) is also a dynamic construct of corporate entrepreneurship but has received relatively less empirical attention (Tahseen Anwer Arshi,2016). Based on this, entrepreneurial orientation, has great impact on the development of dynamic capabilities (João Leitão and Mário Franco 2011; Li et al.,2009; Merlo and Auh, 2009. There is a broad consensus among scholars (Bhuian et al., 2005; Hughes and Morgan,2007;) around Miller's (1983) view that entrepreneurial orientation includes three key dimensions: risk taking, pro-activeness and innovativeness. Risk taking. It represents resource commitment in implementing projects that involves high uncertainty level for the likely outcomes (Hughes and Morgan, 2007; Morris and Sexton, 1996; Bhuian et al., 2005) which lead to increased pace in the strategic decision making

regarding the introduction of innovations(Hughes and Morgan, 2007). **Pro-activeness** involves taking responsibility and doing whatever it takes to ensure an entrepreneurial venture produces successful outcome and it also involves insistence, flexibility and readiness to assume responsibility for failure (Morris, 1998). According to, F. Norzima , Ghobakhloo,(2012).Small and medium sized enterprises (SMEs) are one of the fastest growing sectors of the economy. Nevertheless, measurement of IT satisfaction and acceptance in SMEs has been largely ignored in the literature while the level of user acceptance of and satisfaction with information technology has broadly been confirmed as the indicators of IT success and a number of models and theories, each with different sets of acceptance determinants have been present concerning these issues. The following sections concentrate on the integrative reviews of SMEs, entrepreneurship, firm performance literature.

With the interest of competitive aggressiveness, it is also defined as the intensity and the tendency of a firm's efforts to outperform industry rivals through assuming a combative posture and a forceful response to competitor's actions and employing a high level of competitive intension in attempts to surpass rivals Lumpkin, G.T., and Dess, G.G. (2001).

Risk taking is an important component of entrepreneurial orientation. It refers to willingness and a proclivity to accept the uncertainty and risk factor, tolerate ambiguity, and commit resources to risky ventures Lee, S.M. & Peterson, S.J. (2000).The concept of risk-taking has been long associated with. Early definition of entrepreneurship centered on the willingness of entrepreneurs to engage in calculated business risk. From the above discussion, declared that, there is significant relation between (market based innovation).Respective and firm performance.

Based on the above discussions, the following hypotheses were generated:

HypothesisH1: There is a positive relationship between Entrepreneurship orientation and firm performance.

HypothesisH2: There is a positive relationship between Entrepreneurship orientation and market based on innovation

Hypothesis H3: There is a positive relationship between market based on innovation and firm performance.

Hypotheses H4: market based on innovation variable mediate the relationship between Entrepreneurship orientation Variables and firm performance.

Research Method

Data and procedures

The chosen scale items were translated from English into Arabic language to avoid translation errors and minimize loss or dilution of meaning. Further, owners, employees and managers with a good understanding of the aim of the study refined the construct measurements to suit with the SMEs context. A pilot questionnaire was administered to **43** owners, employees and managers, to test the clarity and ambiguity. The outcome of this pre-test was revisions to three items. All questions were to be answered on a five-point Likert scale of agreement with statements containing the items, ranging from “strongly agree” to “strongly disagree”. The survey sample consisted of **160** owners, employees and managers in Sudanese SMEs sector, selected by purpose sampling from the membership list of the (SMEs). The final questionnaire yielded **146** usable returns after elimination of those containing inaccurate or invalid answers. The response rate of **84%** per cent is unusually high for a questionnaire-based survey. The data collection instrument is a structured questionnaire which was first developed and pre-tested among a small group of respondents, who are academics and have significant expertise in marketing. The questionnaire contains two sections: section one deal with the SMEs perception of EO, while section two deals with firm performance.

Measures

Majority of the respondents did not have a good command of English, thus the questionnaire was administered in Arabic. The process of back-translation was conducted to check consistency between the English and the Arabic versions of the questionnaire. All the variables measurements used in this study were drawn from literature and were adapted for the context of this research.

Risk-taking involves a willingness to pursue opportunities that have a probability of producing losses or considerable performance inconsistencies. Risk taking was measured using four items adapted from Amran; Kamsol ;Shaiful A. Rozihana.Zine (2006) and are evaluating on five-point Likert scale.

Pro activeness is defined as the opportunity, forward-looking perspective that involves introducing new products and services ahead of the competition and acting in anticipation of future demand to create change and first mover advantage-seeking efforts to shape the environment Kropp, F. and Zolin, R. 2005; Wiklund ; Shepherd, 2003). Pro-activeness was measured using Five items adapted from (from Covin & Slevin, 1989; Wiklund ; Shepherd, 2003 ;Kreiser, 2002).Are evaluating on five-point Likert scale is used in this research.

Accordingly, competitive aggressiveness reflects to the willingness to challenge market rivals directly in order to gain market share and opportunity Kropp, F. and Zolin, R. (2005) Competition aggressiveness was measured using Three items adapted from (Lumpkin and Dess 1997 ;Naldi, Nordqvist,2009; Naidoo. (2010) , are evaluating on five-point Likert scale .Naidoo (2010) .

Market based innovation assisted in developing and sustaining competitive advantages for SMEs. Market based innovation was measured using Four items adapted from , Catherine L. ; Pervaiz K. Ahmed ;Ahmed Wang (2004.), are evaluating on five-point Likert scale.

Defined as success as a specific aspect of performance and equate success with high performance. There is, however, much debate on what constitutes success (Rogoff 2004; Abdul Rashid Sintha Madar 2009) scale allowed for the measurement of Success. Success was measured using six items adapted from of Abdul Rashid Sintha Madar (2009.). The scale included Five items on five-point Likert scale.

Satisfaction is defined as a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (outcome) in relation to his or her expectations. Koter, Philips armstrog,(2007;Ali, S. A; Bustani , 2011).Satisfaction was measured using six items adapted from(Ali, S. A; Bustani , 2011) and are evaluating on five-point Likert scale.

Analyses and results

Descriptive statistics, factor analysis, reliability tests, correlation analysis, and regression analysis was used to analyze the data in this study. Table, (1) show the demographic data of the respondents, most of the respondents were owners and male and single with age of 31-35 years, majority are Educational level of B.cs and more.

Table (1) General Characteristics of the Respondents (N=160)

Variable	Category	Frequency	Percent
Ownership	Owners	67	41.9
	Employees		
		52	32.5
	Managers	33	20.6
Gender	Male	153	98.6
	Female	-	-

Marital status	Single	82	51.3
	Married	64	39.4
Educational level	PhD	4	2.5
	Masters	15	9.4
	B.cs	88	55.0
	Others	42	26.3
Age			31-35 y

Goodness of measures

The exploratory factor analysis (Principal component analysis) was conducted on Entrepreneurship Orientation variables, market based innovation and firm Performance variables. Reliability test (Cronbach alpha) was done to measure the internal consistency of the items used on the questionnaire. These two methods were very important to assess the goodness of the measures (Sekaran, 2003). The next sections presented the results of the factor analysis and reliability tests. In conducting factor analysis, this study followed assumptions that recommended by Hair et al. (2010). Firstly, there must be sufficient number of statistically significant correlations in the matrix. Secondly, Kaiser-Meyer-Olkin measure of sampling adequacy should be at least 0.6. Thirdly, Bartlett's test of sphericity should be significant at 0.05. Fourthly, communalities of items should be greater than 0.50. Fifthly, the minimum requirement of factor loading 0.50 (since the sample size of this study 160 owners, manages, employee of SMEs) based on a 0.05 significant level, with value of cross loading exceeds 0.50. Also to provide a simple structure column for interpretation, the factors were subjected to Varimax rotation. Finally, eigenvalues should be more than 1 for factor analysis extraction. Factor analysis was done on the forty-three items, which was used to measure Entrepreneurship orientation.

Table (2) showed the summary of results of factor analysis on Entrepreneurship orientation. In the first run of factor analysis, items proQ4 and proQ2 and proQ3 and proQ1 were found to have communalities less than 0.50.. A close inspection on communalities table show that item risk taking Q1, risk taking Q2, risk taking Q3 and risk taking Q4 .Also in the subsequent run showed competition aggressiveness Q2 ,competition

aggressiveness Q3 , competition aggressiveness Q1. Finally, all assumptions were satisfactory fulfilled. All the remaining items had more than recommended value of at least 0.50 in Entrepreneurship orientation with KMO value of 0.818 (above the recommended minimum level of 0.60), and Bartlett's test of sphericity is significant ($p < .01$). Thus, the items are appropriate for factor analysis.

Table (2) shows that the items for Entrepreneurship orientation loaded on three components/factors with eigenvalues exceeding 1.0. These three factors explain 40.315% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factors of Entrepreneurship orientation captures all the items of the pro-activeness and three items of pro-activeness, second factor captures all the items of risk taking, and the third factor captures all the items of competition aggressiveness. However, the items for first factor captures all the items of pro-activeness and some items of pro-activeness.

Table (2) Rotated Factor Loading for Entrepreneurship orientation (EO)

Items No:		Components			
		f1	f2	f3	f4
Entrepreneurship orientation (EO)					
Proac4	Our company is seldom the first one to introduce new products	.807	.174	.004	.026
Proac2	Normally react upon initiatives taken by our competitors.	.776	.372	.168	.040
Proac3	Normally initiate changes upon which our competitors react	.764	.181	.036	.155
Proac1	In general firm has strong tendency be ahead of others introducing in novel ideas or products.	.728	.188	.328	.28
Risk1	Our firm invests heavily in marketing.	.288	.843	.211	.72
Risk2	Our firm invests in high cost projects?	.311	.842	-.199	.159

Risk3	Our firm spends large amount of money in renew	.319	.841	-184	.79
Compet2	In dealing with its competitors, my firm is very often the first business to introduce new products operating technologies	.134	.145	.799	.021
Compet3	In dealing with its competitors, firm typically adopts a very competitive posture.	.090	.246	.746	.026
Compet1	In dealing with competitors my firm typically initiates actions that competitors then respond to	.262	.065	.710	.388
	Eigenvalues	5.241	1.775	1.234	1.008
	Percentage of Variance Explain	24.261	20.346	18.165	11.008
	Total Variance Explained (%)	.71.213			
	Kaiser-Meyer-Olkin (KMO)	.818			
	Bartlett's Test of Sphercity				747.045

Variables loaded significantly on factor with Coefficient of at least 0.5, *
Items deleted due to high cross loading

Factor analysis was done on the 4 items, which was used to measure market based innovation. Table (3) showed the summary of results of factor analysis on market based innovation. Also to provide a simple structure column for interpretation, the factors were subjected to Varimax rotation finally, all assumptions were satisfactory fulfilled. All the remaining items had more than recommended value of at least 0.50 in Entrepreneurship orientation with KMO value of 0.83 (above the recommended minimum

level of 0.60), and Bartlett's test of sphericity is significant ($p < .01$). Thus, the items are appropriate for factor analysis. Table (3) shows that the item for market based innovation loaded on four components/factors with eigenvalues exceeding 1.0. This factor explains 71.213% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The factor of market based innovation. Thus, this study found that market based innovation in Sudanese SMEs

Table (3) Rotated factor loading for market based on innovation

Items No:		Compo nents f1
market based innovation		
Market innovation	In comparison with our competitors, our products' most recent marketing program is Evolution in the market	.790
Market innovation	New products and services in Our company often take us up Against new competitors	.775
Market innovation	In new product Introduction our company is often at the cutting edge of Technology	.734
Market innovation	Our recent new products and are only minor changes from our previous products and	.677
	Eigenvalues	2.924
	Percentage of Variance Explain	28.326
	Total Variance Explained (%)	71.476
	Kaiser-Meyer-Olkin (KMO)	0.674
	Bartlett's Test of Sphericity	301.088

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading

The original questionnaire had six items measuring, six items for commitment, and six items for satisfaction. The factor analysis results

indicates that the measure of (KMO) was 0.818, whilst the Bartlett test of sphericity was significant, both indicating that there is sufficient number of significant intercorrelation for factor analysis Table (4) shown result of the factor analysis. Firm Performance

To simplify the factor structure Varimax rotation was used. The result of factors analysis showed two factors loading. Factor one has a high loadings on stisQ3 Are you satisfied with for your advancement , stisQ5 you satisfied with working conditions, stisQ4 you satisfied with your customers, stisQ2 you satisfied with your working, Hours. Therefore the original name for this factor was retained. Factor two has high loadings on: successQ2 Growing customer base is a sure sign that the SMEs is effectively reaching Target markets. SuccessQ1 Profitability is the first thing think in it when measuring success your Company. SuccessQ4 Employee satisfaction is another key indicator of business success, successQ3 Customer satisfaction is an indication that the SMEs is understands the Needs of customers. Therefore, the original questionnaire had two dimensions to measuring firm performance it mentioned at the first paragraph. In this context and due to an overlapping between two items of variables.

Table (4) shown results of the two loading factors ranging from 0.88 to 0.65, factor one was the six questions on satisfaction. Factor two on five questions related to success. Consequently, these two factors cumulatively captured about 71.476 of the total variance in the data. All items had factor loadings above .05. The corresponding reliability (Cronbach alpha) for two factors was 0.97, and 0.84 respectively

Table (4) Rotated Factor loading for firm performance

Items No:		Components f1f2	
Firm performance			
Satisfacton3	Are you satisfied with for your advancement	.922	.120
Satisfacton2	Are you satisfied with your working Hours	.838	.346
Satisfacton5	You satisfied with working conditions	.833	.085
Satisfacton4	Are you satisfied with your customers	.813	.184
Satisfacton1	Are you satisfied with your co-workers	.721	.447
Success2	Growing customer base relationship is a sure sign that the SMEs is effectively reach Target markets.	.101	.822

Success1	Profitability is the first thing to measure success your Company.	.107	.756
Success4	Employee satisfaction is another key indicator of business success	.364	.753
Success3	Customer satisfaction is an indication That the SMEs is understands the Needs of customers.	.215	.741
	Eigenvalues	4.781	1.580
	Percentage of Variance Explain	40.269	30.405
	Total Variance Explained (%)	70.674	
	Kaiser-Meyer-Olkin (KMO)	.871	
	Bartlett's Test of Sphercity	661.195	

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading

Reliability Analysis and Descriptive Statistics

Reliability is an assessment of the degree of consistency between multiple measurements of variables (Haire et. al., 2010). To test reliability, this study used Cronbach's alpha as a diagnostic measure, which assesses the consistency of entire scale, since being the most widely used measure (Sharma, 2000). According to, Haire et al. (2010), the lower limit for Cronbach's alpha is 0.70. The results of the reliability analysis summarized in Table (3) confirmed that all the scales display a satisfactory level of reliability (Cronbach's alpha exceeded the minimum value of 0.70). Therefore, it can be ended that the measures have acceptable level of reliability. Table (4) in bellow shows the descriptive statistics of the variables specifically for the EO variables, the highest mean scored was for competition aggressiveness (2.03), followed by pro-activeness (1.99), followed by (1.71) and with the lowest mean level (1.87) for risk taking. Obviously, for market based innovation mean score (1.71).

Finally, the table also shows the mean score on two dimension's of for firm performance (namely: satisfaction, success), the two dimensions revealed a mean score (2.79) and (1.87) Table (4) presents the results of the intercorrelation among the variables. The correlation analysis was conducted to see the initial picture of the interrelationships among the variables under the study. Therefore, the importance of conducting correlation analysis is to identify any potential problems associated with multicollinearity (Sekaran, 2000).

Table (5) Reliability and descriptive analysis for study variables

Variable	No. of items	Cronbach's alpha	Mean	Standard deviation
Pro-activeness	4	.836	2.0408	.75042
Risk taking	3	.933	1.8367	.9713
Competition aggressiveness	3	.734	2.0567	.65733

Note: All variables used a-5 point likert scale with (1= strongly disagree, 5= strongly agree)

Correlation Analysis

Table (4) shows that pro-activeness is positively and significantly correlated with risk taking ($r = .542$, $p\text{-value} < 0.01$) and pro-activeness ($r = .380$, $p\text{-value} < 0.01$). risk taking is significantly correlated with competition aggressiveness ($r = .370$, $p\text{-value} < 0.01$). The table 4. also shown that market innovation is positively correlated with pro-activeness ($r = .261$, $p\text{-value} < 0.01$), and risk taking ($r = .354$, $p\text{-value} < 0.01$). and market innovation ($r = .305$, $p\text{-Value} < 0.01$). The correlation table 4. also shows that competition aggressiveness is significantly and positively correlated with the two dimensions of firm performance o, namely satisfaction ($r = .330$, $p\text{-Value} < 0.01$); as well as mediti1($r = .246$, $p\text{-Value} < 0.01$) Furthermore, the table also show that success is positively correlated with the two outcomes namely, competition aggressiveness ($r = .182$, $p\text{-Value} < 0.01$); as well as word of satisfaction ($r = .553$, $p\text{-value} < 0.01$)._

Table (6) presents the results of the intercorrelation between the variables. The correlation analysis was conducted to see the initial picture of the interrelationships between the variables under the study. Therefore, the importance of conducting correlation analysis is to identify any potential problems associated with multicollinearity. Table (4) represents the correlation matrix for the constructs operationalized in this study. These bivariate correlations allow for preliminary inspection and information regarding hypothesized relationships. Besides that, correlation matrix gives information regarding test for the presence of multicollinearity. The table shows that no correlations near 1.0 (or approaching 0.8 or 0.9) were detected, which show that multicollinearity is not a significant problem in this particular data set.

Table 4. shows that pro-activeness is positively and significantly correlated with risk taking ($r = .542$, $p\text{-value} < 0.01$) and pro-activeness ($r = .380$, $p\text{-value} < 0.01$).

value < 0.01). risk taking is significantly correlated with competition aggressiveness ($r = .370$, $p\text{-value} < 0.01$). The table() also shown that market innovation is positively correlated with pro-activeness ($r = .261$, $p\text{-value} < 0.01$), and risk taking ($r = .354$, $p\text{-value} < 0.01$). and competition aggressiveness ($r = .509$, $p\text{-value} < 0.01$).The next section of the analysis is testing the hypotheses.

Table (6) Correlations among the all study variables

Variables		PROQ4	RSIK3	COMPQ3	M.market
PROQ4	Pro-activeness	1			
RSIKQ3	Risk taking	.542**	1		
COMPQ3	Competition	.380**	.347**	1	
	aggressiveness				
M.market		261**	354**	509**	

Notes: Level of significant: ** $p < 0.01$, $N = 149$

Hypotheses Testing

This section discusses the results of hypotheses of the study. Given that the new emerged variable from factor analysis and the eliminated ones, there are four hypotheses in this study. To perform regression analysis, it is generally agreed that there are at least five assumptions (normality, linearity, multicollinearity, homoscedasticity, and outliers) should be met. The results of testing these assumptions are provided below:

1. The normality had been established through the relevant Histogram. Histograms show that most values fall in the center and the curves take the bell-shape. The normal probability (P-P) plots also show that the residual points are close to the diagonal line. Therefore, the variables are normally distributed.
2. Linearity of relationships: No curvilinear pattern of relationship is apparent from the scatter plots. Therefore, there is no violation of the assumption of linearity.
3. Heteroscedasticity was checked through the scatter plots of standardized residual. The residual plots take roughly the rectangular shape, which shows that there is no problem of heteroscedasticity in the data.
4. The result of Multicollinearity test showed that all values of the VIF are less than the threshold of 10, all Tolerance values are more than 0.1, and all Variance Proportions are less than 0.90. This shows that, there is no multicollinearity in the data.

Outliers was identified and removed through using case-wise diagnostics. Therefore, the assumptions of the multiple regression analysis were met in this study and the regression analysis can securely be used to test the designated hypotheses.

Table(6) the results show that of the regression equation testing the influence of the entrepreneurship orientation variables on pro-activeness., the market innovation variable cumulatively contributed with 36% of the variance in market based on innovation. The results ,in table(6) also shows a significant positive relationship between market based on innovation {namely; **H2.1a** (pro-activeness with market based on innovation), and **H2.1b** were accepted, (risk-taking with market based on innovation), competition aggressiveness with market based on innovation (**H2.1c**) showed no significant impact on market based on innovation}

The regression coefficient in table (6) show, the results in the above indicated that among these independent variables, communication was the most important in explaining the variance in pro-activeness ($\beta = .007$), followed by risk taking ($\beta = .249$), and competition aggressiveness ($-.420$).

**Table(6) Multiple Regressions: Entrepreneurship orientation and
 Market based on innovation**

		(Beta coefficient)
Variables	MV: Market based on innovation	
Model variables:	Std. Beta	
Pro-activeness PROQ4		.007**
Risk taking RiskOQ3		.0249
Competition aggressiveness COMPQ3		-.420*
R ²		.311*
Adjusted R ²		.296*
R ² change		.31
F change		8.663**

Note: Level of significant: *p<0.10, **p<0.01

Discussion

Entrepreneurship orientation has been hypothesized to have significant and positive impact on firm performance; the outcomes of this research point out that risk taking, pro-activeness, and competition aggressiveness are positively related to success. However, competition aggressiveness demonstrates no significant but positive relationship with success. The risk -taking dimension refers to the willingness of management to commit significant resources to opportunities in the face of uncertainty. Pro-activeness. It refers to seeking new opportunities and aiming to be leaders rather than followers due to a desire to shape the environment through seizing new opportunities, thus, it is anticipated that pro-activeness will facilitate innovation Merlo and Auh, (2009 .)

On others the hand, small business risk is a particularly pertinent issue for researchers as there is a strong association between small business owner-managers/entrepreneurs and risk by virtue of the high failure rates of small firms. David Carson, (2009.).

According to, Kuo-Hsiung Chen investigates the effects of Entrepreneurial Orientation (EO) on firm performance. In recent times, especially with the growth of globalization and other such factors, the performance measurement standards have changed. This has also led to a significant change in the factors that are now used within the operational sphere of an organization in order to affect the firm performance.

The outcomes of the research demonstrated that all three components of entrepreneurship orientation (pro-activeness Risk taking and competition aggressiveness, firm performance.) have positive relationship with firm performance.

The findings of this research proved that pro-activeness Risk taking have significant relationship with firm performance. This signifies that enhancing EO impacts sales growth and satisfaction directly. This disagrees with the outcomes of (Tahseen Anwer Arshi,2016) who argued that relation Entrepreneurial Orientation and its impact on innovation intensity in the omani corporate sector .and similar with study of Another study (Latif, Abdullah, & Jan, 2016), which looked at the role of entrepreneurial orientation in commercialization of university research products found that entrepreneurial orientation improves the rate of commercialization. and study of Zehir et al. (2016) found that entrepreneurial orientation even plays a mediating role between strategic human resource management and firm performance in terms of financial and employee performances. Entrepreneurship orientation has been hypothesized to have significant and positive impact on success. This outcome is concurring with the research

that has shown. Firstly, it proposed a quantitative analysis in which entrepreneurial orientation are key success factors of SMEs. The findings reveal that significant relationships exist between entrepreneurial orientation and performance,

The outcomes of this research point out that pro-activeness, risk taking and competition aggressiveness are positively related to success. However, risk taking demonstrated the significant with success. The findings of this research, in general, provide support for the affirmation made by scholars Raduwan and Rosli Mahmood.(2011) ; Adli Abouzeedan2011; Pasanen, Mika,(2003). The outcomes show that the competition aggressiveness has positively significant impact on success.

They consider firms to be closed systems, and undermine the significance of networking mechanisms in the promotion and enhancement of firm performance. Adli Abouzeedan(2011.)

Particularly little research has been focused on factors affecting the performance of established SMEs in peripheral regions. The findings suggest that there are several types of successful SMEs. Pasanen, Mika. (2003.).

The outcomes of the research showed that risk taking has significant impact on success. This concurs with prior studies, which emphasize the valuable role of risk taking.

Intelligent entrepreneurship orientation can offer a way for marketing owners and managers to share knowledge and expertise. Such sharing could help improve the economics and effectiveness of the marketing function, which is ultimately reflected in the entrepreneurship orientation success of small and medium sized enterprise(SMEs)

Implications of the Study

The current research has supported the present knowledge on business value of Entrepreneurship orientation within the field of small and medium sized enterprise (SMEs). The first theoretical contribution is related to entrepreneurship orientation contain three component by concentrated on firm performance .

The second theoretical contribution of this research the development of better and more acceptable measures of market innovation. The third theoretical contribution the positive relationship between Entrepreneurship orientation and firm performance (non-financial measures).

The third theoretical contribution of this research set up that the three components of Entrepreneurship orientation did not equally contribute

to firm performance. While two components of entrepreneurship orientation (risk taking and competition aggressiveness) have significant positive impact on two proportions of firm performance, pro-activeness has the only significant positive impact on satisfaction.

Limitations and Suggestions for Future Research

Limitations of the Research

This research contributes to increased understanding of the resource-based view and system theory across organizational variables through testing the relationships between entrepreneurship orientations, market based innovation, and firm performance, the outcomes of this research must be interpreted with caution because of some certain limitations.

First, while the research population adequately meets the acceptable statistical standards, as well as demonstrates sufficient construct its inclusiveness of the Sudanese Small and medium sized enterprise (SMEs) the potentially limits its general ability to other industry contexts such as the SMEs sector.

Second, this research investigates the relationship between entrepreneurship orientation, market based innovation and firm performance across dissimilar forms in SMEs in their owners.

On the other hand, some of the respondents were not able to answer and return Questionnaires in time due to unexplained reasons. Third, with the ongoing economic reform, nationwide uniform SMEs classification criteria should also be set up to enhance the research done on SMEs. The administration functions of relevant government agencies on SMEs should be merged and a State SMEs Administration with comprehensive adjustment power should be established.

Finally, instituted on the converging outcomes from the multiple regressions' analysis, it can be deducing that entrepreneurship orientation and market base on innovation can be used to explain the firm performance variation among Sudanese SMEs. The regression analysis outcomes (R^2 -values) suggest that a high percentage of this variation is still unexplained or there is variables not found to measure.

Suggestions for Future Research

This research represents an early attempt to build and test a theoretical framework of entrepreneurship orientation. However, instituted

on the limitations of the research mentioned above, this research provides some propositions for future research. These suggestions are as follows:

First, future studies can replicate this research using larger sample and dissimilar contexts such as dissimilar sectors or countries.

Beside, confirmatory factor analysis (CFA) can be used to test if the three components proposed by the exploratory factor analysis is a good representation of entrepreneurship orientation. Further, pro-activeness scale contain only three items while there are many others that might be used to more capture the pro-activeness construct. Therefore, this warrants further research.

Secondly, with the ongoing economic reform, nationwide uniform SME classification criteria should also be set up to enhance the research done on SMEs. The administration functions of relevant government agencies on SMEs should be

Merged and a State SME Administration with comprehensive adjustment power should be established.

Thirdly, the research set up some insignificant relationships between the market based on innovation and two proportions of firm performance. This inconclusive outcome is not surprising in resource-based view previous research since the capabilities-performance relationship has received only modest supports overall (McCarthy, G. & Perera, N. 2009; Kuo-Hsiung Chen2011; Adli Abouzeedan 2011. Therefore, future studies may further investigate the interactions between these variables in different small and medium sized enterprise (SMEs).

Finally, the R^2 values in this research ranges from 0.155 and 0.81 for the direct relationships between entrepreneurship orientation and firm performance, and range from 0.40 and 0.53 for the relationships between entrepreneurship orientation and market based innovation, which are not especially low compared with R^2 values in previous research. In general, there are many factors, not just entrepreneurship orientation, that locate firm performance.

Further studies should also involve such factors. Additionally, this research has not considered the possibility that other forms of market based innovation could intervene in the conjunction entrepreneurship orientation and firm performance. It is conceivable, for example, that other forms of market based innovation such as innovation and imitation competency

mediate this relationship. Further research is needed to investigate such mechanisms.

Conclusions

This research is an attempt to enhance the understanding of the firm performance concept in the context of SMEs in Sudan. Alongside, the research has investigated the relationship between entrepreneurship orientation and firm performance expressing the role that key market based innovation play in mediating that relationship. The present research was run among 160 SMEs affiliated with the trading registered of Sudan.

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