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Entrepreneurial orientation and the growth performance of small and medium enterprises in Southwestern Nigeria

Aderemi Ayinla Alarape*

Institute for Entrepreneurship and Development Studies (IFEDS), Obafemi Awolowo University, Ile-Ife, Nigeria

The paper examined the nature and strength of the relationship between entrepreneurial orientation (EO) and its dimensional variables – innovativeness, risk-taking, and proactiveness – and their effects on the growth performance of small and medium enterprises (SMEs) in Southwestern Nigeria.
The data for the study were collected from primary and secondary sources. The data generated were analysed using descriptive and inferential statistics. Principal component analysis was employed in identifying important factors that contributed to EO. Furthermore, parametric and non-parametric relational statistics and linear regressions were adopted in explaining the relationship and their effect on the performance of SMEs.
The study showed that the growth performance of the SMEs in Southwestern Nigeria is generally poor and the EO is positively related to performance. The relationship between EO and growth performance of a firm is not unidirectional but dynamic.

Keywords: entrepreneurial orientation; growth performance; small and medium enterprises

L'article examine la nature et la force des relations entre l'orientation entrepreneuriale (OE) et ses variables dimensionnelles (capacité d'innovation, prise de risque et proactivité), et leurs effets sur les performances de croissance des petites et moyennes entreprises au Nigeria du Sud-Ouest.
L'étude a utilisé des données issues de sources primaires et secondaires. Les données produites ont fait l'objet d'analyses statistiques descriptives et déductives. L'analyse du composant principal a permis d'identifier les facteurs importants ayant contribué à l'orientation entrepreneuriale. En outre, des statistiques de liaison paramétrique et non paramétrique, ainsi que des régressions linéaires ont été adoptées dans l'explication des relations et de leurs effets sur les performances des PME.
L'étude a montré que les performances de croissance des PME au Nigeria du Sud-Ouest sont mauvaises en général et l'orientation entrepreneuriale est positivement liée aux performances. Les relations entre l'orientation entrepreneuriale et les performances de croissances de l'entreprise ne sont pas unidirectionnelles mais dynamiques.

Mots clés: orientation entrepreneuriale; performances de croissance; petites et moyennes entreprises

Introduction

Recognizing the importance of small and medium enterprises (SMEs) in economic development, many countries have instituted enterprise support measures to fuel the development of these enterprises. Nigeria is no exception. At various times since the period of the Third Development Plan of the 1970s, the Federal Government of Nigeria (FGN) has

*Email: remialarape@yahoo.com

designed and introduced measures to promote SMEs' development (Yusuf and Schindehutte 2000). These measures included fiscal, monetary, and export incentives. The fiscal incentives were largely in the form of tax holidays and tariff concessions. For instance, small businesses were given a tax holiday for the first six years of their operations. In terms of monetary support, the Central Bank of Nigeria introduced credit guidelines requiring commercial and merchant banks to allocate a portion of their loanable funds to small businesses. Several developmental financial institutions and schemes were established to aid small businesses. There were also export incentives from the Nigerian Export-Import Bank (NEXIM) to stimulate export loan facilities to small businesses as well as export duty exemptions administered by the Nigeria Export Promotion Council (NEPC).

Other more recent small business incentive programs included rendering of industrial extensional services and provision of entrepreneurial/managerial training in collaboration with institutions of the organized private sector and multilateral institutions. In the last seven years, the FGN aggressively pursued policies of trade liberalization and increased the budgetary allocation for the provision of infrastructure in order to make the business environment friendlier to entrepreneurs.

Despite these efforts, the contribution of the manufacturing sector (SMEs inclusive) to the industrial output of Nigerian economy is low. For instance, during the period 1993–1998, growth in the sector was negative (Alarape 2007a). Many reasons have been adduced for the non-encouraging situation of the SMEs in Nigeria and many scholars have documented financial resources, poor infrastructure, managerial inefficiency, and unnecessary interventions by the government as factors affecting SME performance (Osotimehin, Jegede, and Olajide 2012; Udjo 2011; Akande and Ojokuku 2008; Alarape 2007b), yet only a few studies linked the firm's entrepreneurial orientation (EO) to SME performance in Nigeria. The majority of the 'EO–performance' studies were done on SMEs in America, Europe, and Asia. A far less number of studies were from South, East, and North Africa. Within the available studies, there are controversies on the nature of relationship between EO and firm performance. For examples, Ferreira and Azevedo (2007) expressed the relationship between EO and firm performance as positive, Hart (1992) described it as negative, while Rauch et al. (2004) did not find any significant relationship between EO and firm performance. Lumpkin and Dess (1996) found a positive relationship but concluded that the relationship is not a simple one but contingent upon environmental conditions. However, Brown and Kirchhoff (1997) failed to identify any direct impact of the environmental variables upon the relationship between EO and firm performance.

This study will not only reduce the precarious dearth of empirical studies on the relationship between EO and performance of SMEs in Nigeria and West Africa, but also shed light on the intricacies of the effects of EO on firm performance by X-raying the contributions of the dimensional variables to the performance of SMEs in Lagos, Southwestern Nigeria. Hence, it enriches the knowledge of the contributions of EO and its dimensional variables of innovativeness, risk-taking, and proactiveness to the growth performance of SMEs. To achieve these goals, the study examines the relationships between the firm's overall EO and EO's dimensional variables and subvariables and their effects on the growth performance of firms.

Hypotheses

***H1*:** EO's dimensional variables of innovativeness, risk-taking, and proactiveness are positively correlated to the overall EO of the firm.

***H2*:** EO and its dimensional variables significantly affect the growth performance of SMEs.

Theoretical background and conceptual framework

Review of literature

The diversity in the EO in terms of content and research scope demands that a thorough exploration of the EO as held by scholars of entrepreneurship be undertaken in order to reduce ambiguities and aid proper understanding of the term in the context of the present research study. Scholars have described the term EO differently: EO has been used to describe the set of personal psychological traits, values, attributes, and attitudes strongly associated with a motivation to engage in entrepreneurial activities (McClelland 1962; Dunkelberg and Cooper 1982; Hornaday and Aboud 1971; Timmons 1978); EO is a firm-level construct (Covin and Slevin 1991) that is closely linked to strategic management and the strategic decision-making process (Birkinshaw 1997; Burgelman 1983; Lumpkin and Dess 1996; Naman and Slevin 1993); EO is a process construct that concerns 'the processes, practices, and decision-making activities that lead to new entry' (Dess and Lumpkin 2001); Wiklund and Shepherd 2003 conceptualized EO as a firm-level strategy-making process that firms use to enact their organizational purpose, sustain their vision, and create competitive advantages. Hence, EO involves the intentions and actions of individual business owners and/or key management decision makers functioning in the complex process of making strategic choices aimed at the achievement of desired business objectives (financial and non-financial).

Therefore, EO is not only an individual phenomenon, but also a firm-level phenomenon or construct. The firm objectives are an extension of the individual entrepreneurial-manager objectives. Consequently, firm-level behavior is but a reflection of the underlying business posture of the owner/manager.

A popular measure for operationalizing EO in both the entrepreneurship and the strategic management literature was developed by Covin and Slevin (1989), based on the earlier work of Khandwalla (1977) and Miller and Friesen (1982). This measure is known as the three dimensions of EO (3D of EO). In developing this measure, Covin and Slevin theorized that the 3D of EO – innovation, proactiveness, and risk-taking – acted together to 'comprise a basic uni-dimensional strategic orientation' and should be aggregated together when conducting research in the field of entrepreneurship (Covin and Slevin 1989). Drawing on the previous research, Lumpkin and Dess (1996) developed another popular model that explained EO in five dimensions: autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness. These five dimensions of EO construct vary independently and firms can have different combinations of these five dimensions. Lumpkin and Dess (2001) found that the EO dimensions of proactiveness and competitive aggressiveness are only conceptually distinct, but they do not vary with each other.

Each of the models takes into consideration the internal structure of the firm and the external environment within which the firm operates; however, the representations of these factors and relationships are all different. The Covin and Slevin (1991) model presents a less generic view of corporate entrepreneurship, focusing on the concept of EO defined as firm-level behavior. The key points of the model are that external variables, strategic variables. and internal variables all have a strong effect on EO. Entrepreneurial orientation affects the three categories of variables, although weakly. EO also strongly affects firm performance, and in the reverse, firm performance has a weaker effect on EO.

Another key feature of the Covin and Slevin (1991) model is that it indicates that the three categories of variables (internal, strategic, and external) have a moderating effect on the relationship between EO and firm performance.

In comparison, Lumpkin and Dess (1996) present an alternative model for EO. They describe EO in terms of the five dimensions (autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness). The Lumpkin and Dess (1996) model differs from Covin and Slevin (1991) model because the former does not examine the direct effect of environmental and organizational factors on EO, and there is no recognition that firm performance affects EO. This implies that the model presented by Lumpkin and Dess (1996) represents a static view of the firm with no feedback between performance, EO, and the environmental and organizational factors. The Covin and Slevin (1991) model incorporates feedback between the different relationships, implying that EO itself is a dynamic concept functioning in a dynamic system, which continually changes and updates itself based on the categories of variables and the firm's performance, and it takes into consideration that not all the factors affect the EO and firm performance in the same magnitude – some are weaker than others in certain situations. These two models formed the bases upon which the conceptual framework is developed and the relevant assumptions are presented and discussed.

Conceptual framework

EO is a behavioral construct at firm level that is closely linked to strategic management and explains the *processes, practices, and decision activities that lead to new entry in the quest of exploiting opportunities in the marketplace or shape its environment* is a three-dimensional construct of (1) innovativeness, (2) risk-taking, and (3) proactiveness. This is in line with other studies (Covin and Slevin 1991; Lumpkin and Dess 1996; Miller 1983; Venkatraman 1989) on the relationship between EO and performance of SMEs.

Therefore, the EO of a firm reveals itself by the evidence of how innovative is the firm, the firm's attitude to risk-taking, how proactive (i.e. alert) is it to business opportunities, and how responsive is it to trends and developments in the marketplace. Hence, the subvariables or parameters explaining the firm innovativeness are new product development, emphasis on Research and Development (R&D), and reorganization; risk-taking is explained by proclivity for risky projects, risk-handling, and reward style. Proactiveness is described by environmental scanning, opportunity identification methods, and firms alertness to competition in the marketplace. How the firms reflect these parameters determines the firm's orientation with respect to innovativeness, risk-taking, and proactiveness, and the aggregation of these three dimensional variables explains the firm's EO. Thus, they individually and collectively affect the EO, and the EO affects the firm performance that is explained in terms of 'growth in assets'. A diagrammatic explanation of the variables and their conceptual relationship is shown in Figure 1.

Methodology

Data collection

This study is co-relational in nature. It analyses the relational effect of EO on firm performance. Both primary and secondary data are used for the study. Primary data were collected through questionnaires administered to 279 owners/managers of SMEs in Southwestern Nigeria. The SMEs of interest are enterprises with a labor size of 11–300

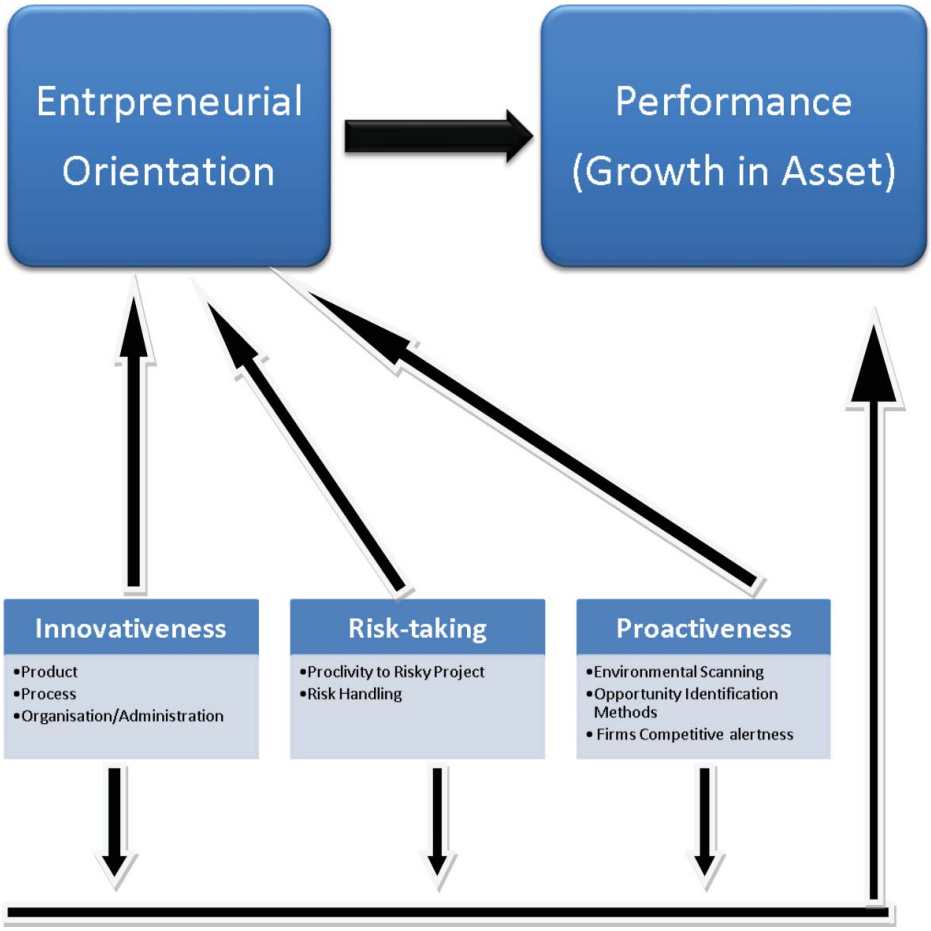

Figure 1. The conceptual framework of the relationship between EO and firm performance.

or a total asset of not more than N200 million (equivalent to 1.25 million US Dollar), including working capital and excluding the cost of land engaged in any form of extraction, transformation, conversion, fabrication, and assemblage of production inputs and/or final products for consumption. The data generated were analysed using descriptive and inferential statistics.

Data analysis – measurement of variables

The firm's EO and its dimensional variables

The overall EO of the firm was evaluated using an EO index (EO_i). The dimensional variables (i.e. *innovativeness*, *risk-taking*, *and proactiveness*) of EO were evaluated by calculating the innovativeness index (II_i), risk-taking index (RTK_i), and proactiveness index ($PROACT_i$). To calculate the EO index, an 18-item entrepreneurial measurement scale is drawn. All the 18 questions measure the EO of the firm. The dimensional variables are explained by the subvariables of innovativeness in terms of product, process, and reorganization. Risk-taking is explained in terms of proclivity to risk-taking and risk-handling.

Proactiveness is operationalized with respect to knowledge of competitors, environmental scanning practices of the firm, and opportunity identification and utilization method. Seven of the questions were drawn from the Covin and Slevin (1989) nine-item EO measurement scale, seven questions from Wiklund (1998), three are reconstructed from Dess and Lumpkin (2005), and one is self-constructed. The EO scale is constructed in 'two-word' format on a Likert scale of '1–5' with the level of EO increasing as one moves up the scale.

The EO index (EO_i) is calculated as

$$EO_i = \frac{\text{respondent's responses score (RRS)}}{\text{total possible score (TPS)}} \times 100,$$

where respondent's responses score (RRS) = sum of the actual scores for items on EO's scale and total possible score (TPS) = the total possible score obtainable by a respondent (i.e. the sum of the highest possible scores of all the items on the scale).

The EO_i, equivalent EO class, and interpretations are given in Table 1.

As done for the EO index (EO_i), the indexes of the EO dimensional variables innovativeness (II_i), risk-taking (RKT_i), and proactiveness ($PROACT_i$) were calculated using the same methodology. However, rather than computing for all 18 items, the item(s) that explained each of the dimensional constructs were applied. For example, items 1, 2, 3, 4, 5, and 7 test the innovativeness of the firm. The innovativeness index (II_i) is calculated using

$$II_i = \frac{\text{respondent's responses score (RRS)}}{\text{total possible score (TPS)}} \times 100,$$

where RRS = the sum of the respondent's actual scores to items 1, 2, 3, 4, 5, and 7, and TPS = the total possible score based on items 1, 2, 3, 4, 5, and 7.

Likewise, to calculate for other dimensional variables of EO, the acronyms of the variables of interest would be substituted for EO_i, as done for the innovativeness index (II_i). Items 6, 8, 9, 10, 11, and 12 comprised the 'proactiveness index ($PROACT_i$)', while items 13–18 comprised the 'risk-taking index (RKT_i)'.

Firm performance – growth in assets

To evaluate the performance of SMEs, both the (1) general objective and (2) subjective approaches were adopted. This becomes necessary because performance is

Table 1. Classes of EO and interpretation scale.

Likert scores	Percentage (EO_i) equivalent	EO classes	Interpretation
1	20	$EO_i < 60$	*Low entrepreneurial orientation*
2	40		
3	60	$60 \leq EO_i < 80$	*Moderate entrepreneurial orientation*
4	80	$80 \leq EO_i < 100$	*High entrepreneurial orientation*
5	100		

multidimensional in nature and it is advantageous to integrate different dimensions of performance in empirical studies. The 'annual growth rate in total assets' is calculated in accordance with Gibrat's rule of proportionate growth of like companies irrespective of their original size (Weinzimme, Nystrom and Freeman 1998). Gibrat's approach is preferred because it removes the undue advantage that may arise due to variance in the initial sizes of the firms. Mathematically, the growth rate is expressed as

$$X_{t_1} = X_{t_0}(1+g)^{t_1-t_0},$$

$$X_{t_0}(1+g)^{t_1-t_0} = X_{t_1},$$

$$(1+g)^{t_1-t_0} = X_{t_1}/X_{t_0},$$

$$1+g = (X_{t_1}/X_{t_0})^{1/t_1-t_0},$$

$$\text{then } g = \left(\frac{X_{t_1}}{X_{t_0}}\right)^{1/t_1-t_0} - 1,$$

where g refers to the growth rate, i.e. the annual growth rate, X_{t_1} refers to the value of the unit of measure (i.e. assets as at inception), andX_{t_0} refers to the value of the unit of measure (i.e. assets at present).

Data reduction and reliability tests

The EO scale is refined in order to make it more manageable and to identify those factors that principally measure EO among the firms in Southwestern Nigeria. A data reduction method using principal component analysis and varimax rotation was employed to reduce the factors into a manageable size and ensure that only factors that contributed to the construct were employed in the explanation of the construct. Gerbings and Anderson's (1988) approach that considered items having component loading of at least 0.4 as significant was adopted: based on this, 11 factors were extracted and adopted in the evaluation and explanation of the EO construct. For details of the factors' loadings and their percentage variance, see Tables 2 and 3.

A statistical validation test of whether the scale still measured the construct it was expected to measure after the minor refinement was carried out using the communality test under factor analysis. The communality test showed that more that 95% of the elements of the EO extracted high values of at least 0.80. This indicated that the scale actually measured the construct it is expected to measure. Also, the Keiser–Meyer–Olkin (KMO) measure of sampling adequacy is 57.1% and Cronbach's alpha (α) = 0.633 (Table 4).

Results and discussion

The entrepreneurial posture of SMEs in Southwestern Nigeria

There were 275 valid responses. Four firms did not respond to this section measuring EO. Hence, they were not included in the analysis. Almost two-thirds of respondents (62.6%) were *moderately entrepreneurial* oriented, close to a third (26.9%) were *lowly entrepreneurial* oriented, and only 10.5% were *highly entrepreneurial* oriented. The minimum EO index EO_i among the firms is 33%, and the maximum value is 97%. The mean EO

Table 2. The result of the principal component analysis of the EO scale based on Gerbings and Anderson's criterion.

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Component	Total	% of variance	Cumulative (%)	Total	% of variance	Cumulative (%)	Total	% of variance	Cumulative %
1	3.448	19.158	19.158	3.448	19.158	19.158	2.442	13.567	13.567
2	2.500	13.888	33.046	2.500	13.888	33.046	1.796	9.980	23.547
3	1.989	11.052	44.098	1.989	11.052	44.098	1.613	8.962	32.509
4	1.706	9.476	53.575	1.706	9.476	53.575	1.528	8.489	40.997
5	1.336	7.422	60.997	1.336	7.422	60.997	1.422	7.901	48.898
6	1.197	6.647	67.644	1.197	6.647	67.644	1.359	7.549	56.447
7	1.065	5.919	73.563	1.065	5.919	73.563	1.336	7.423	63.871
8	1.007	5.596	79.159	1.007	5.596	79.159	1.259	6.993	70.864
9	.739	4.107	83.266	.739	4.107	83.266	1.239	6.883	77.747
10	.565	3.139	86.405	.565	3.139	86.405	1.116	6.198	83.945
11	.536	2.976	89.381	.536	2.976	89.381	.979	5.436	89.381
12	.388	2.153	91.534						
13	.344	1.911	93.445						
14	.324	1.800	95.246						
15	.265	1.475	96.721						
16	.259	1.437	98.158						
17	.183	1.019	99.176						
18	.148	.824	100.000						

Note: Extraction method: principal component analysis.

Table 3. The principal components of the EO based on Gerbing and Anderson's criterion.

Component number	Naming factor/item	Loadings
Component 1	* Item (13): Risk-taking: proclivity for high-risk projects	0.845
Component 2	* Item (8): Proactiveness: undoing the competitor's strategy	0.847
Component 3	*** Item (11): Proactiveness: scanning of business environment	−.938*
Component 4	*** Item (17): Risk-taking: taking calculated risk	0.832
Component 5	** Item (5): Innovativeness: uniqueness of methods	0.919
Component 6	* Item (1): Innovativeness: product(s)	0.927
Component 7	**Item(10): Proactiveness: firm aggressiveness and competitiveness	0.886
Component 8	* Item (3): Innovativeness: product lines	0.897
Component 9	* Item (4): Innovativeness: product lines rapidity	0.837
Component 10	*** Item (7): Innovativeness: engaging in Research and Development	0.921
Component 11	* Item (2): Innovativeness: methods of production	0.698

Notes: *The questions are adapted from Covin and Slevin (1989) and reconstructed to the 5-point scale from 7.
**The questions are from Wiklund (1998).
***The questions are from Dess and Lumpkin (2005).

index (EO_i) among the SMEs is 67.54% and the modal EO_i is 67%. This implies that SMEs in Southwestern Nigeria are moderately entrepreneurial oriented on average (see Tables 5 and 6 for further details).

With respect to the dimensional variables of innovativeness, risk-taking, and proactiveness, the Jonckheere–Terpstra (J–T) test showed that the value of the observed J–T statistics and standardized (Std.) J–T statistics for risk-taking is significantly higher than the value for proactiveness or innovativeness. This implies that SMEs in Southwestern Nigeria are more risk-taking than proactive and more proactive than innovative (see Table 6).

Table 4. Communalities and KMO and Bartlett's tests of the EO factors.

	Initial	Extraction
Item (1): Innovativeness: product	1.000	.944
Item (2): Innovativeness: methods	1.000	.897
Item (3): Innovativeness: product lines	1.000	.894
Item (4): Innovativeness: product lines rapidity	1.000	.890
Item (5): Innovativeness: uniqueness of methods	1.000	.924
Item (6): Proactiveness: initiating actions	1.000	.889
Item (7): Innovativeness: engaging in Research and Development	1.000	.939
Item (8): Proactiveness: undo the competitor's strategy	1.000	.919
Item (9): Proactiveness: ahead of other competitors	1.000	.929
Item (10): proactiveness: firm aggressive and intensely competitive	1.000	.895
Item (11): Proactiveness: scanning of business environment	1.000	.918
Item (12): Proactiveness: opportunities are deliberately searched	1.000	.890
Item (13): Risk-taking: proclivity for high-risk projects	1.000	.875
Item (14): Risk-taking: the propensity of handling risk	1.000	.893
Item (15): Risk-taking: boldness	1.000	.838
Item (16): Risk-taking: aggressiveness	1.000	.823
Item (17): Risk-taking: calculating risk	1.000	.876
Item (18): Risk-taking: encouraging risk-taking culture within firms	1.000	.858

Notes: Extraction method: principal component analysis.
KMO and Bartlett's test – KMO measure of sampling adequacy is 0.571.
Bartlett's test of sphericity – approx. *Chi-Square* is 1872.08, $df = 153$, $Sig = .000$.

Table 5. Percentage distribution of the SMEs based on levels of EO.

		Frequency	%	Valid %	Cumulative %
Valid	Lowly entrepreneurial oriented	74	26.6	26.9	26.9
	Moderately entrepreneurial oriented	172	61.6	62.6	89.5
	Highly entrepreneurial oriented	29	10.4	10.5	100.0
	Total	275	98.6	100.0	
Missing	No response	4	1.4		
Total		279	100.0		

Table 6. J–T test[a] of the occurrence of the EO's dimensional variables among SMEs in Southwestern Nigeria.

	Innovativeness	Proactiveness	Risk-taking
Number of levels in EO's levels	3	3	3
N	275	275	275
Observed J–T statistics	14322.000	16314.000	17061.500
Mean J–T statistics	9931.000	9931.000	9931.000
Standard deviation of J–T statistics	647.657	647.627	650.749
Standard J–T statistics	6.780	9.856	10.957
Asymp. Sig. (two-tailed)	.000	.000	.000

Note: [a]Grouping variable: EO's levels.
Source: Field Survey 2008.

Furthermore, not all highly entrepreneurial oriented firms are highly innovative, proactive, and risk-taking in all factors of the dimensional variables; the same applies to lowly entrepreneurial oriented firms. Therefore, to examine the pattern of occurrences of innovativeness, proactiveness, and risk-taking as it applied to the components of the EO, item-by-item assessment of the EO was carried out, and the following results were found:

(1) The SMEs are not innovative in terms of product development and production process/method because they market true tried products and imitate the method of production of other firms in their business environment. They are moderately innovative in the aspect of marketing new product lines or introducing changes into the product lines or service lines marketed by them. This implied that the SMEs are innovative to some reasonable extent in developing strategies for the creation and servicing of their product lines, but they have problems with product and process development. This is further exemplified by moderate importance attached to R&D by the firms. (Items 1–6 in Table 7 give further details.)
(2) The SMEs are not proactively oriented in terms of gaining competitive advantage over rivals in the market. The SMEs do not have strong tendency to be ahead of competitors and thus do not have an aggressive posture towards their market or periodically monitoring the development in their business environment (see items 7–9 in Table 7).
(3) The SMEs' risk-taking orientation is moderate; the firms have a measured proclivity for high-risk projects. Actions taken by the firm are neither extensively forethought nor powered by intuition before implementation (see items 10 and 11 in Table 7).

Table 7. Factor-by-factor assessment of the components of EO of SMEs in Southwestern Nigeria.

Components of EO	*N*	Mean score	Standard deviation	Variance	Interpretation of mean score based on 5-point Likert scale (two-word format)
Item (1): Innovativeness of product: emphasis on Research and Development (R&D), and technological leadership	275	2.63	1.644	2.702	The firms are *not innovative* in terms of product development. They market a standard product
Item (2): Innovativeness of methods based on experimentation and original approaches to problem solving	275	2.93	1.686	2.841	Firms are *not innovative* in terms of production methods: they imitate the methods of production of other firms
Item (3): Innovativeness in product lines – many new lines of product in the last three years	275	3.50	1.493	2.229	Firms have introduced a limited number of new product lines in the last three years
Item (4): Innovativeness – dramatic change in product lines	275	3.41	1.448	2.098	On average, there have been limited changes in product lines
Item (5): Innovativeness – uniqueness of method of production	275	3.86	1.249	1.560	On average, the firms' production methods are moderately unique
Item (6): Innovativeness – investment in R&D is safeguarded during difficult economic periods	275	3.43	1.266	1.603	On average, R&D is of moderate importance
Item (7): Proactiveness – typically adopts undoing the competitors' strategy	275	3.27	1.351	1.825	The firms tend to adopt competitors' strategies – qualifying as moderately proactive
Item (8): Proactiveness – strong tendency to be ahead of competitors	275	2.92	1.333	1.778	The firms are not market leaders or pioneers; they are *laggards* and, thus, *not proactive*
Item (9): Proactiveness – environmental scanning is a continuous exercise	275	2.87	1.660	2.757	Firms do not periodically or continuously monitor the business environment and are, thus, *not proactive*
Item (10): Risk-taking – strong proclivity for high-risk projects	275	3.44	1.439	2.072	The firms have a measured proclivity for high-risk projects, exhibiting a *moderate-risk-taking profile*
Item (11): Risk-taking is powered by intuition; actions are taken without recourse to forethought and research	275	3.23	1.214	1.475	Actions taking by the firm are neither extensively planned nor powered by intuition before implementation. They are *moderate risk takers*
Valid *N* (listwise)	275				

Table 8. Statistical results of Pearson's correlation test of the bivariate relationship between EO and the dimensional variables.

		EO index	Innovativeness	Proactiveness	Risk-taking
EO index	Pearson correlation	1	.747(**)	.561(**)	.335(**)
	Sig. (one-tailed)		.000	.000	.000
	N	275	275	275	275
Innovativeness	Pearson correlation	.747(**)	1	−.023	−.180(**)
	Sig. (one-tailed)	.000		.355	.001
	N	275	275	275	275
Proactiveness	Pearson correlation	.561(**)	−.023	1	.279(**)
	Sig. (one-tailed)	.000	.355		.000
	N	275	275	275	275
Risk-taking	Pearson correlation	.335(**)	−.180(**)	.279(**)	1
	Sig. (one-tailed)	.000	.001	.000	
	N	275	275	275	275

Note: **Correlation is significant at the 0.01 level ($p < 0.001$).

Analysis of the relationship between EO and its dimensional variables

The coefficient of correlation between EO and the dimensional variables of innovativeness ($r_1 = 0.747$), proactiveness ($r_2 = 0.561$), and risk-taking ($r_3 = 0.335$) is positive and significant at the 99% confidence level (Table 8). Inasmuch as the values of r_1, r_2, and r_3 are not equal to zero and the directional values are not negative, it implies that the dimensional variables of innovativeness, proactiveness, and risk-taking are positively related to the overall EO of the firm. H1 upheld that the EO dimensional variables of innovativeness, proactiveness, and risk-taking are positive correlates of the firm's overall orientation. In addition, this result showed that the relationship between EO and risk-taking is low, moderate with proactiveness, and strong with innovativeness. The strength of the relationship between EO and innovativeness doubles that of risk-taking, while proactiveness also had a stronger relationship with EO than risk-taking. However, this is not the case among the dimensional variables of EO. Innovativeness and risk-taking are negatively related ($r = -.18$), proactiveness and risk-taking are positively related ($r = 0.28$) at the 99% level of confidence, and the relationship between proactiveness and innovativeness is also positive ($r = .02$) but not significant (see Table 8).

The finding is further confirmed by the result of the stepwise linear regression in Tables 9 and 10. The dimensional variable innovativeness is the first of the three variables to enter into the model equation and the one with the highest R^2 change, the

Table 9. Result of the linear regression test of effect of the three dimensional variables of EO on the overall EO.

Model	*R*	R^2	Adjusted R^2	Standard error of the estimate	Change statistics				
					R^2 change	*F* change	*df1*	*df2*	Sig. *F* change
1	.747[a]	.558	.556	6.676	.558	344.623	1	273	.000
2	.944[b]	.892	.891	3.308	.334	840.020	1	272	.000
3	1.000[c]	1.000	1.000	.000	.108		1	271	

Notes: [a]Predictors: (constant), innovativeness.
[b]Predictors: (constant), innovativeness, proactiveness.
[c]Predictors: (constant), innovativeness, proactiveness, risk-taking.

Table 10. Statistical significance test of the relative contributions of the dimensional variables on the overall EO.

Model		Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
		B	Standard error	*β*	*T*	Sig.	Tolerance	VIF
1	(Constant)	31.799	1.807		17.600	.000		
	Innovativeness	.497	.027	.747	18.564	.000	1.000	1.000
2	(Constant)	11.496	1.137		10.113	.000		
	Innovativeness	.505	.013	.760	38.111	.000	.999	1.001
	Proactiveness	.327	.011	.578	28.983	.000	.999	1.001
3	(Constant)	–8.88E – 015	.000					
	Innovativeness	.545	.000	.820			.967	1.034
	Proactiveness	.273	.000	.482			.921	1.085
	Risk-taking	.182	.000	.348			.892	1.121

Note: [a]Dependent variable: EO index.

highest unstandardized and standardized beta (β) value (0.82), followed by proactiveness (0.44) and risk-taking (0.35). This confirmed that of the three dimensional variables of EO, innovativeness had the greatest effect on the overall EO of SMEs in Southwestern Nigeria. The contributory effect of innovativeness to EO is double that of risk-taking and almost twice that of proactiveness. Thus, an improvement in the firm's innovativeness would have the strongest positive impact on EO than proactiveness or risk-taking.

The theoretical importance attached to innovativeness as the centerpiece of entrepreneurship in literature is justified. Our findings agree with those of Covin and Slevin (1991), who found that the dimensional variables of innovativeness, proactiveness, and risk-taking are positively related to the firm's EO, and Lumpkin and Dess (1996), who found unequal co-variation among the dimensional variables, and, hence, an unequal effect on the EO. Therefore, equal importance should not be attached to the three variables since they have differential effects on EO.

Entrepreneurial orientation and the growth performance of SMEs

Four-fifths (80%) of the SMEs had negative growth, about 2% had zero growth, and about 15% exhibited positive growth**.** Of those with negative growth, 23.3% are low entrepreneurially oriented, 71.8% are moderate entrepreneurially oriented, and 5% are high entrepreneurially oriented. All those that registered zero growth are low entrepreneurially oriented. Of those SMEs that are growth oriented, about 60% are moderate entrepreneurially oriented, close to 20% are low entrepreneurially oriented, and a little above 10% are high entrepreneurially oriented (see Tables 11 and 12 for more details).

These observations suggest the following:

(1) Not all growth-oriented firms (i.e. firms with positive growth) display high EO.
(2) Some growth-oriented firms exhibit low EO.
(3) The majority of the growth-oriented firms are moderately entrepreneurially oriented.
(4) Most responding firms reported negative growth. The majority of firms in this group are moderately entrepreneurially oriented. A large minority registered low EO and only a few are highly entrepreneurially oriented.
(5) All firms with zero growth registered low EO (for more details, see Table 11).

Further examination of the relationship between the three dimensional variables of EO to the growth performance of a firm showed the following:

(1) Low entrepreneurially oriented firms achieved an average growth rate of 20%, moderate entrepreneurially oriented firms achieved a growth rate of 14%, and high entrepreneurially oriented firms achieved a 22% growth rate.
(2) Innovativeness had the strongest significant relationship with performance among moderate entrepreneurially oriented firms, whereas proactiveness and risk-taking had significant relationships with performance in low and high entrepreneurially oriented firms.
(3) When the relationship between innovativeness and growth performance of firms is positive, the relationship of performance with other EO's variables, particularly risk-taking, is negative and the average growth rate of the firm is relatively higher (Table 12).

Table 11. The distribution of the firms based on EO and annual growth rate.

			Growth pattern			
			Non-growth-oriented firms		Growth-oriented firms	
			Negative growth rate	Zero growth rate	Positive growth rate	Total
EO's levels	Low entrepreneurially oriented	Count	47	6	12	65
		% within EO's levels	72.3%	9.2%	18.5%	100.0%
		% within growth pattern	23.3%	100.0%	28.6%	26.0%
		% of total	18.8%	2.4%	4.8%	26.0%
	Moderate entrepreneurially oriented	Count	145	0	25	170
		% within EO's levels	85.3%	.0%	14.7%	100.0%
		% within growth pattern	71.8%	.0%	59.5%	68.0%
		% of total	58.0%	.0%	10.0%	68.0%
	High entrepreneurially oriented	Count	10	0	5	15
		% within EO's levels	66.7%	.0%	33.3%	100.0%
		% within growth pattern	5.0%	.0%	11.9%	6.0%
		% of total	4.0%	.0%	2.0%	6.0%
Total		Count	202	6	42	250
		% within EO's levels	80.8%	2.4%	16.8%	100.0%
		% within growth pattern	100.0%	100.0%	100.0%	100.0%
		% of total	80.8%	2.4%	16.8%	100.0%

Table 12. Statistical results of EO variables and growth performance of firms based on levels of EO.

	Low entrepreneurially oriented				Moderate entrepreneurially oriented				High entrepreneurially oriented			
	Growth performance	Innovativeness	Risk-taking	Proactiveness	Growth performance	Innovativeness	Risk-taking	Proactiveness	Growth performance	innovativeness	Risk-taking	Proactiveness
Mean	.20	63.03	44.77	53.09	.1421	64.39	70.20	65.22	.22	99.56	72.00	84.67
SD	.21	11.63	17.22	8.97	.1113	13.55	12.80	12.16	.05	1.72	6.15	8.71
Correlation (*r*)												
Growth performance	1.00	.064	−.01	−.264	1.00	−,35	.08	.04	1.00	.21	−.37	.14
Innovativeness	.06	1.00	−.65	.41	−.35	1.00	−.37	−.32	.21	1.00	−.96	.99
Risk-taking	−.01	−.65	1.00	−.54	.08	−.37	1.00	−.05	−.37	−.96	1.00	−.93
Proactiveness	−.26	.408	−.54	1.00	.04	−.32	−.05	1.00	.14	.99	−.93	1.00
Significance												
Growth performance		.31	.47	.017		.00	.16	.29		.23	.09	.30
Innovativeness	.31		.00	.000	.00		.00	.00	.23		.00	.00
Risk-taking	.47	.00		.000	.18	.00		.28	.09	.00		.00
Proactiveness	.02	.00	.00		.29	.00	.28		.30	.00	.00	
Number of cases (*n*)	65	65	65	65	170	170	170	170	15	15	15	15

The dynamics of the relationships between EO and firm performance

In general, the result of the correlation test ($r = -.135$; $p < 0.05$) showed that EO and the performance indicator (growth in total assets) are significantly negatively related at the 95% confidence level (Table 13). These results implied that EO is inversely related to performance among SMEs operating in Southwestern Nigeria. This result supports Hart (1992) who found possible negative consequences of EO on performance because EO is a resource-consuming strategic orientation requiring extensive investment by the firm (Covin and Slevin 1991). Thus, rather than positively influencing the growth in the assets of the firm, the costs of undertaking the EO's practices may consume firms' assets and may reduce any funds available for expansion.

However, among the SMEs (as shown in Table 14), those that exhibited positive growth, the relationship is significantly positive ($r = .459^{**}$). This implies that EO is positively related to performance among SMEs that exhibit positive growth in Southwestern Nigeria. This supports the findings of Covin and Sleven (1989), Lumpkin and Dess (1996), and Ferreira and Azevedo (2007) that EO and firm performance are positively related. Hence, one way of improving the growth performance of SMEs is by improving their EO.

The following are the results of the regression analyses:

(1) Among firms that are low entrepreneurially oriented (LEO), the EO's variables of proactiveness, risk-taking, and innovativeness are responsible for between 6.9% (adjusted $R^2 = 0.069$) and 11.3% (R^2) of the variations or changes in the growth performance of the firms (see Table 15). Proactiveness has a β value of .39 and the highest t-value = 2.719 that are significant at the 99% confidence level, but

Table 13. Correlation test of relationship between EO and growth performance of SMEs in Southwestern Nigeria.

		Growth in assets	EO index	Innovativeness	Proactiveness	Risk-taking
Growth in assets	Correlation coefficient	1.000	−.135(*)	−.159(**)	−.040	.063
	Sig. (one-tailed)	.	.017	.006	.265	.162
EO index	Correlation coefficient	−.135(*)	1.000	.685(**)	.591(**)	.305(**)
	Sig. (one-tailed)	.017	.	.000	.000	.000
Innovativeness index	Correlation coefficient	−.159(**)	.685(**)	1.000	−.053	−.224(**)
	Sig. (one-tailed)	.006	.000	.	.204	.000
Proactiveness index	Correlation coefficient	−.040	.591(**)	−.053	1.000	.303(**)
	Sig. (one-tailed)	.265	.000	.204	.	.000
Risk-taking index	Correlation coefficient	.063	.305(**)	−.224(**)	.303(**)	1.000
	Sig. (one-tailed)	.162	.000	.000	.000	.

Notes: *Correlation is significant at the 0.05 level (two-tailed).
**Correlation is significant at the 0.01 level (two-tailed).
[a]Listwise $N = 250$.

Table 14. Results of non-parametric correlation tests of the relationship between EO and performance of firms with a positive growth rate.

		Growth in assets	EO index	Innovativeness index	Proactiveness	Risk-taking
Growth in assets	Correlation coefficient	1.000	.459(**)	.128	.272(*)	.193
	Sig. (one-tailed)	.	.001	.209	.041	.111
	N	42	42	42	42	42
EO index	Correlation coefficient	.459(**)	1.000	.638(**)	.399(**)	.257(*)
	Sig. (one-tailed)	.001	.	.000	.004	.050
	N	42	42	42	42	42
Innovativeness index	Correlation coefficient	.128	.638(**)	1.000	–.266(*)	–.341(*)
	Sig. (one-tailed)	.209	.000	.	.044	.013
	N	42	42	42	42	42
Proactiveness index	Correlation coefficient	.272(*)	.399(**)	–.266(*)	1.000	.473(**)
	Sig. (one-tailed)	.041	.004	.044	.	.001
	N	42	42	42	42	42
Risk-taking index	Correlation coefficient	.193	.257(*)	–.341(*)	.473(**)	1.000
	Sig. (one-tailed)	.111	.050	.013	.001	.
	N	42	42	42	42	42

Notes: *Correlation is significant at the 0.05 level (one-tailed).
**Correlation is significant at the 0.01 level (one-tailed).

innovativeness and risk-taking do not have any significant contributory effect on the growth performance of the firms (see Table 16).

(2) Among firms that are moderately entrepreneurially oriented (MEO), the variables making up the EO construct are responsible for between 11% and 13% of the variations in growth performance of firms. $R^2 = 13.1$ and adjusted $R^2 = 11.5$, respectively, as shown on Table 17. The coefficient table for the regression analysis (Table 18) showed innovativeness with the only significant effect and the highest impact on the growth performance of the firms with $\beta = -.403$ and t-value $= -4.841$ at the 99% confidence level. All the EO's variables have negative β values.

(3) In firms with high entrepreneurial orientation (HEO), two variables (proactiveness and risk-taking) out of the three EO's variables entered into the model (see Table 19). These two variables are significantly responsible for about 44% of variations or changes in the growth rate of the assets of the firms. However, the trend of this effect is negative as seen in other classes of EO previously discussed. As shown in Table 20, proactiveness and risk-taking pooled a β value of -1.471 and -1.738, respectively, with proactiveness having precedence over risk-taking.

The results of the regression analysis of the effects of EO's dimensional variables (innovativeness, proactiveness, and risk-taking) on the growth performance of the firms based on classes or levels of EO suggest the following:

Table 15. Regression model summary[b,c].

Model	R		R^2	Adjusted R^2	Standard error of the estimate	Change statistics				
	Levels of EO = low EO (selected)	Levels of EO ~ = low EO (unselected)				R^2 change	F change	df1	df2	Sig. F change
1	.336[a]		.113	.069	.20011	.113	2.593	3	61	.051

Notes: [a]Predictors: (constant), Risk-taking_Index, Proact_Index, Innovativeness_Index.
[b]Unless noted otherwise, statistics are based only on cases for which levels of EO = low EO.
[c]Dependent variable: growth in assets.

Table 16. Coefficients[a,b].

Model		Unstandardized coefficients		Standardized coefficients		
		B	Standard error	*β*	*T*	Sig.
1	(Constant)	.602	.317		1.900	.062
	Innovativeness	.002	.003	.139	.872	.387
	Proactiveness	−.009	.003	390	2.714	.009
	Risk-taking	−.002	.002	−.128	−.739	.462

Notes: [a]Dependent variable: growth in assets.
[b]Selecting only cases for which levels of EO = low EO.

Table 17. Regression model summary[b,c].

Model	*R*		R^2	Adjusted R^2	Standard error of the estimate	Change statistics				
	Levels of EO = moderate EO (selected)	Levels of EO ~ = moderate EO (unselected)				R^2 change	*F* change	df1	df2	Sig. *F* change
1	.362[a]	.	.131	.115	.10454	.131	8.323	3	166	.000

Notes: [a]Predictors: (constant), Risk-taking_Index, Proactive_Index, Innovativeness_Index.
[b]Unless noted otherwise, statistics are based only on cases for which levels of EO = moderate EO.
[c]Dependent variable: growth in assets.

Table 18. Coefficients[a,b].

Model		Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
		B	Standard error	*β*	*T*	Sig.	Tolerance	VIF
1	(Constant)	.454	.102		4.444	.000		
	Innovativeness_Index	−.003	.001	−.403	−4.841	.000	.754	1.326
	Proactive_Index	−.001	.001	−.090	−1.161	.247	.870	1.149
	Risk-taking_Index	−.001	.001	−.074	−.939	.349	.837	1.195

[a]Dependent variable: growth in assets.
[b]Selecting only cases for which levels of EO = moderate EO.
VIF = variance inflation factors.

(1) As the levels of EO of the firms increases from 'LOW' to 'HIGH', the more is the impact of EO on the growth performance of firms. (It is about 11% at Class *LEO*; 13% at Class *MEO*, and 43% at Class *HEO*.) This further confirms the relevance of EO to the growth performance of a firm.
(2) The growth performance of the firms is not uniformly explained by EO's variables. The most important EO variables that explained the variation in the growth performance of a firm among LEO firms is proactiveness. In contrast, innovativeness is the most important variable for explaining variations in the growth performance of MEO firms, while risk-taking serves the same function for the HEO firm.

Table 19. Model summary[b,c].

Model	*R*		R^2	Adjusted R^2	Standard error of the estimate	Change statistics				
	Levels of EO = high EO (selected)	Levels of EO ~ = high EO (unselected)				R^2 change	*F* change	df1	df2	Sig. *F* change
1	.663[a]	.127	.439	.346	.04230	.439	4.700	2	12	.031

Notes: [a]Predictors: (Constant), Risktaking_Index, Proactive_Index.
[b]Unless noted otherwise, statistics are based only on cases for which levels of EO = high EO.
[c]Dependent variable: growth in assets.

Table 20. Coefficients[a,b].

Model		Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
		B	Standard error	*β*	*t*	Sig.	Tolerance	VIF
1	(Constant)	2.027	.639		3.174	.008		
	Proactive_Index	−.009	.003	−1.471	−2.536	.026	.139	7.203
	Risk-taking_Index	−.015	.005	−1.738	−2.995	.011	.139	7.203

Notes: [a]Dependent variable: growth in assets.
[b]Selecting only cases for which levels of EO = high EO.

Conclusion

EO is a multidimensional construct and its dimensional variables of innovativeness, proactiveness, and risk-taking should be jointly considered. Most owners/managers of SMEs in Southwestern Nigeria display moderate EO. They are proactive, innovative, and risk-taking. However, the risk-taking orientation of the firms is significantly higher than the other dimensional variables and lowest in innovativeness, which is the major dimensional variable determining EO. This profile explains the moderate overall level of the firms in the study region.

EO has a significant effect on the growth performance of firms, but the direction of the relationship is not static. In some situations, it is positive, particularly among firms that exhibited growth, although the strength of the relationship is moderate. The relationship is negative among firms that have a decline or no growth in assets. Further, the non-uniformity of the effects of the EO's dimensional variables of risk-taking, innovativeness, and proactiveness on the performance of firms does not mean that one of EO's variables is more important than the others, but is indicative of the complexity in the relationships among the firm's overall EO, EO's dimensional variables, and the firm's growth performance. It does not erode the importance of EO as a positive contributor to SME performance but brings forward the question of the dimensional variables an entrepreneur should possess to achieve the 'best mix' that will result into high growth performance. Nevertheless, a good way of improving the performance of SMEs is to enhance the EO by improving the three-dimensional orientations of innovativeness, proactiveness, and risk-taking.

Notes on contributor

Dr Aderemi Ayinla Alarape is a senior lecturer and industrial management consultant, and a certified trainer of entrepreneurs at the Institute for Entrepreneurship and Development Studies, (formerly Centre for Industrial Research and Development), Obafemi Awolowo University, Ile-Ife, Nigeria. His works have been within the nexus of entrepreneurship, small business management and entrepreneurship education, and he has designed and coordinated training programs/workshops on start-up and management of business for entrepreneurs, cooperative members and officials of government ministries and agencies in Nigeria.

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Appendix 1. The instrument for evaluating the EO of a firm

Background Information
The following questions uses opposite statements in order to gauge your firm entrepreneurial orientation. **It does not reflect a superiority of response or a better option of one over the other**.
Here is an example of how one answers an opposite statement:

The firm has very many routines and rules. 1 [2] 3 4 5 The firm has few routines and rules.

The person who answered above felt that the firm has quite many rules and routines, thus the left statement was more applicable to him than the right one. If you were to totally agree with the right statement, you would ***"box in" or "circle in"5***.

Questions: 1, 3, 4, 6, 8, 13 and 15 Covin and Slevin (1989); 2, 5, 9, 10, 11, 14 and16 Wiklund J (1998); 7, and 17 are adapted from Dess and Lumpkin (2005); 12 and 18 are self-constructed

Generally in our firm, we favour. . .

(1)	A strong emphasis on the marketing of true tried products and services	1	2	3	4	5	A strong emphasis on R&D and technological leadership and innovation.
(2)	Imitating methods other firms have used for solving their problems	1	2	3	4	5	Experimentation and original approaches to problem solving
(3)	How many new lines of product or services has your firm marketed during the past 3 years?						
	No new lines of product or services	1	2	3	4	5	Very many new lines of product services
(4)	Changes in product or service lines have been mostly of minor nature	1	2	3	4	5	Changes in product or service have usually have been dramatic.
(5)	My firm prefers to adapt for our own use methods and techniques that others have developed and proven.	1	2	3	4	5	My firm prefers to design its own unique new Processes and methods of production

(6)	In dealing with its competitors my firm. . .						
	Typically respond to action which competitors initiate.	1	2	3	4	5	Typically initiate actions to which competitors then respond.
(7)	In our firm,						
	Investment in R&D is the first area where significant cut are made during difficult economic periods.	1	2	3	4	5	Investment in R&D is safeguard during difficult economic periods
(8)	Typically seeks to avoid competitive clashes, preferring a "live and let live"	1	2	3	4	5	Typically adopts a competitive undo the Competitors posture.
(9)	A strong tendency to follow the leader in introducing new products or ideas.	1	2	3	4	5	A strong tendency to be ahead of other competitors in introducing novel ideas or products.
(10)	My firm makes no special effort to take business from the competition.	1	2	3	4	5	My firm is very aggressive and intensely competitive.
(11)	*In our firm,*						
	We research into the business environment when there is an indication of problem in our operation	1	2	3	4	5	we continuously monitor our business environment at all times
(12)	*In our firm*,						
	Business opportunities are recognise through chance	1	2	3	4	5	Business opportunity are recognise through deliberate scanning of environment
(13)	*Generally, in our firm we prefer. . .*						
	A strong proclivity for low risk project with normal and certain rate of return	1	2	3	4	5	A strong proclivity for high risk project with chances of high return
(14)	Prefer to study a problem thoroughly before deploying resources to solve it.	1	2	3	4	5	Are quick to spend money on potential solutions if problems are holding us back.
(15)	Owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behaviour	1	2	3	4	5	Owing to the nature of the bold wide ranging acts are necessary to achieve the firm objectives.
(16)	When confronted with decision-making situations involving uncertainty, my firm. . .						
	Adopts a cautious, 'wait and-see' posture in order to minimize the probability of potential making costly decisions.	1	2	3	4	5	Adopts a bold, aggressive posture in order to maximize the probability of exploiting opportunities.
(17)	*In our firm. . .*						
	Risk taking is powered by intuition and actions are taking without recourse to forethought and research	1	2	3	4	5	Avoid taking action without recourse to forethought and research
(18)	In our firm. . .						
	If an employee takes a risk and fails, he or she will be punished	1	2	3	4	5	An employee that takes a risk and fail is encouraged as the one that makes success of it.