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What Determines Entrepreneurial Orientation of Polish Internationalized Firms?¹

ABSTRACT

This article focuses on entrepreneurial orientation during the internationalisation process of the firm, which is one of the main research streams within international entrepreneurship. The main goal of the article is to discuss and elaborate on the basics of international entrepreneurial orientation, its fundamentals and principles and to answer the question what determines entrepreneurial orientation of Polish internationalized firms. The paper presents the results of the survey based on stratified random sampling of 355 Polish internationalized firms. Applying t statistics, the following results were observed. Firms having foreign branches or subsidiaries abroad are more entrepreneurial. Firms based on the local business domain are more entrepreneurial. High-tech firms are more entrepreneurial. High-growth firms are more entrepreneurial than firms which note traditional growth

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dynamics. Hyper-growth firms are more entrepreneurial than other firms, also than high-growth companies. Innovative firms are more entrepreneurial. Strategically-orientated firms are more entrepreneurial. Firms cooperating in any networks are more entrepreneurial.

Keywords: entrepreneurial orientation, international entrepreneurship, internationalization of the firm, international entrepreneurship culture

JEL Codes: F23, M16, L26

1. Introduction

This article focuses on entrepreneurial orientation during the internationalisation process of the firm, which is one of the main research streams within international entrepreneurship, which applies the entrepreneurship theory within international business studies. While internationalisation generally refers to any type of cross-border activities of firms² and entrepreneurship is about the “identification and exploitation of entrepreneurial opportunities” focusing on innovation, novelty and value creation³, thus international entrepreneurship has been conceptualised as “the discovery, enactment, evaluation and exploitation of opportunities – across national borders – to create future goods and services”⁴. Determinants and factors contributing to fostering and blooming of international entrepreneurship are varied and multifaceted. International entrepreneurial culture or international entrepreneurial orientation is part of the multidimensional structure supporting and influencing international entrepreneurship from the cross-country and cross-culture perspective⁵.

² Autio E., Sapienza H.J., Almeida J.G., *Effects of age at entry, knowledge intensity, and imitability on international growth*. “Academy of Management Journal” 2000, 43(5), pp. 909–924.

³ Volkmann C.K., Tokarski K.O., Grunhagen M., *Entrepreneurship in a European Perspective*, Gabler Verlag, Berlin 2010, p. 4.

⁴ Oviatt B.M., McDougall P.P., *Defining international entrepreneurship and modeling the speed of internationalization*, “Entrepreneurship Theory and Practice” 2005, 29(5), pp. 537–553.

⁵ Obloj K., Weinstein M., Zhang Sh., *Self-Limiting Dominant Logic: An Exploratory Study of Chinese Entrepreneurial Firms*, “Journal of East-West Business” 2013, 19(4), pp. 291–316; Wach K., *Impact of Cultural and Social Norms on Entrepreneurship in the EU: Cross-Country Evidence Based on GEM Survey Results*, “Zarządzanie w Kulturze” 2015, 16(1), pp. 15–29; Kowalik I., Danik L., Král P., Řezanková H., *Antecedents of Accelerated Internationalisation of Polish and Czech Small and Medium-Sized Enterprises*, “Entrepreneurial Business and Economics Review” 2017, 5(3), pp. 31–48; Wach K., *Orientacja przedsiębiorcza a wiedza w początkowym i dojrzałym etapie procesu internacjonalizacji przedsiębiorstw*, “Studia Ekonomiczne – Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach” 2017, no 319, pp. 268–292;

The main goal of the article is to discuss and elaborate on the basics of international entrepreneurial orientation, its fundamentals and principles and to answer the question what determines entrepreneurial orientation of Polish internationalized firms.

2. Theoretical Background

In recent decades, both the theory of internationalisation of the firm and/or the theory of international business have developed. Recent developments in international business studies prove that entrepreneurial orientation (EO) emerges as one of the most important potential factors contributing to the intensification of the processes of internationalisation of the firm. Thus, the notion of international entrepreneurship (IE) has been flourishing as well. The general theory of entrepreneurship indicates that market opportunities are a common and dominant link of all entrepreneurial activities. The entrepreneurship theory refers to the identification or creation opportunities, their evaluation and exploitation. The expansion into new geographic markets is undoubtedly an important market opportunity for growth and development. Internationalisation as a response to the market opportunity takes diverse paths. Based on the in-depth literature search, this study aims to determine whether, why and how, in the context of diverse environmental conditions, the pursuit of market opportunities contributes to increasing the internationalisation of firms.

The literature review and the above-mentioned facts reveal that investigating the internationalisation process of firms from the perspective of the entrepreneurship theory, in terms of making use of entrepreneurial and innovation processes (stimulating the firm-level internationalisation), constitutes a new and blooming research domain for international entrepreneurship. It is crucial, from the perspective of entrepreneurship, to focus on entrepreneurial processes while studying business internationalisation⁶.

Wach K., *Entrepreneurial Orientation and Business Internationalisation Process: The Theoretical Foundations of International Entrepreneurship*, "Entrepreneurial Business and Economics Review" 2015, 3(2), pp. 9–24.

⁶ Wach K., *Exploring the Role of Ownership in International Entrepreneurship: How does Ownership Affect Internationalisation of Polish Firms?*, "Entrepreneurial Business and Economics Review" 2017, 5(4), pp. 205–223.

2.1. Conceptualisation of Entrepreneurial Orientation

Entrepreneurship is an ambiguous and multi-faceted term⁷, however, entrepreneurship in its broad sense is understood as entrepreneurial orientation⁸, which first of all helps us to conceptualise entrepreneurship itself, and what is more, it also helps us apply the theory of entrepreneurship in the internationalisation and business studies much easier. Żur and Wałęga⁹ notice that two parallel terms coexist in academic writing regarding firm-level entrepreneurship, namely entrepreneurial orientation (EO) and corporate entrepreneurship (CE). Zahra¹⁰ as well as Dess and Lumpkin¹¹ suggest that EO represents potential entrepreneurial intentions and attitudes of a firm, while CE represents actual entrepreneurial activities of a firm. Antoncic and Hisrich¹² and many other authors believe that these two constructs complement each other.

There are many attempts to define EO, and various researchers offer their own insights on this issue, however they have one thing in common: they treat entrepreneurship as a firm-level phenomenon. Basso, Fayolle and Bouchard¹³ found that EO can be traced to the pioneering writings of Khandwalla¹⁴, and Miller¹⁵.

Miller¹⁶ and later Covin and Slevin¹⁷ introduced a three-dimensional concept of EO (a composite construct), represented by such qualities as (i) proactive, (ii) innovative, and (iii) risk taking behaviours of a firm. Lumpkin and Dess¹⁸ proposed a multidimensional construct in which (i) proactiveness, (ii) innovativeness, (iii) risk taking, (iv) competitive aggressiveness, and (v) autonomy are treated as independent

⁷ Gawęł A., *Entrepreneurship – A Theoretical Approach* (chapter 1), [in:] M. Rekowski (Ed.), *Entrepreneurial Tissue and Regional Economy: Case Studies of Selected Polish and Spanish Regions*, The Poznan University of Economics Publishing House, Poznań 2008, p. 21.

⁸ Gawęł A., *Proces przedsiębiorczy: tworzenie nowych przedsiębiorstw*, Difin, Warszawa 2013, p. 17.

⁹ Żur A., Wałęga A., *Routines do matter: role of internal communication in firm-level entrepreneurship*, "Baltic Journal of Management" 2015, 10(1), p. 120.

¹⁰ Zahra S.A., *Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technical opportunities*, "The Academy of Management Journal" 1996, 39(6), pp. 1713–1735.

¹¹ Dess G.G., Lumpkin G.T., *The role of entrepreneurial orientation in stimulating corporate entrepreneurship: research briefs*, "Academy of Management Executive" 2005, 19(1), pp. 147–156.

¹² Antoncic B., Hisrich R.D., *Intrapreneurship: Construct refinement and crosscultural validation*, "Journal of Business Venturing" 2001, 16(5), pp. 495–527.

¹³ Basso O., Fayolle A., Bouchard V., *Entrepreneurial orientation: The making of a concept*, "Entrepreneurship and Innovation" 2009, 10(4), pp. 313–321.

¹⁴ Khandwalla P., *The Design of Organizations*. Harcourt Brace Jovanovich, New York 1977.

¹⁵ Miller D., *The correlates of entrepreneurship in three types of firms*, "Management Science" 1983, 29(7), pp. 770–791.

¹⁶ Ibidem.

¹⁷ Covin J., Slevin D., *Strategic management of small firms in hostile and benign environments*, "Strategic Management Journal" 1989, 10(1), pp. 75–87.

¹⁸ Lumpkin G.T., Dess G.G., *Clarifying the entrepreneurial orientation construct and linking it to performance*, "Academy of Management Review" 1996, 21(1), pp. 135–172.

behavioural dimensions. Moreover, Covin and Lumpkin¹⁹ noted that these two concepts should be considered as different and separate perspectives, yet not competitive ones. However, most researchers apply the three-dimensional concept of EO (Table 1).

Table 1. The construct of EO: three- and multi-dimensional concept

No.	Basic Dimensions	Composite Qualities
Three-dimensional Construct of EO		
1	Proactiveness	<ul style="list-style-type: none"> – predicting future market changes (Rauch <i>et al.</i>, 2009) – opportunity creation vs. opportunity identification (Sundqvist, Kylaheiko & Kuivalainen, 2012; Covin & Slevin, 1989)
2	Innovativeness	<ul style="list-style-type: none"> – openness to new ideas (Frishammar & Horte, 2007) – process and product creativity (Dess & Lumpkin, 2005) – pursuit of creative or novel solutions (Knight, 2001)
3	Risk taking	<ul style="list-style-type: none"> – decisions in uncertainty (Dess & Lumpkin, 2005) – implementation of projects entailing significant chances of costly failure (Davis <i>et al.</i>, 1991; Khandwalla, 1977; Miller & Friesen, 1984)
Multi-dimensional Construct of EO		
4	Competitive aggressiveness	<ul style="list-style-type: none"> – competitive advantage over competitors (Dess & Lumpkin, 2005) – aggressive posturing relative to competitors (Knight, 2001)
5	Autonomy	<ul style="list-style-type: none"> – independent human activities (Dess & Lumpkin, 2005) – self-acting (Lumpkin & Dess, 1996)

Source: the author’s own study.

Most of the empirical research applies the EO scale proposed by Miller²⁰ as well as Covin and Slevin²¹ measuring three dimensions of EO by nine items and using the 7-point Likert scale.

While discussing the theoretical construct of Entrepreneurial Orientation based on three dimensions, it is worth noting that the strict requirement of exhibiting high levels of each dimension in order to be recognized as an EO firm was significantly relaxed. Kreiser *et al.*²² as well as Lumpkin and Dess²³ found that various levels of the three dimensions can equally shape EO of a given firm.

¹⁹ Covin J. G., Lumpkin G. T., *Entrepreneurial Orientation Theory and Research: Reflections on a Needed Construct*, “Entrepreneurship Theory and Practice” 2011, 35(5), pp. 855–872.

²⁰ Miller D., *The correlates of entrepreneurship in three types of firms*, “Management Science” 1983, 29(7), pp. 770–791.

²¹ Covin J., Slevin D., *Strategic management of small firms in hostile and benign environments*, “Strategic Management Journal” 1989, 10(1), pp. 75–87.

²² Kreiser *et al.* 2002.

²³ Lumpkin G. T., Dess G. G., *Clarifying the entrepreneurial orientation construct and linking it to performance*, “Academy of Management Review” 1996, 21(1), pp. 135–172.

2.2. International Entrepreneurial Orientation in International Firms

Covin and Miller²⁴ hold that discussing the issue of international entrepreneurial orientation (IEO), it should be investigated with the relation to EO and IE. These definitional matters resulted in the in-depth study of the phenomenon of IEO by Covin and Miller²⁵. EO has been one of the main research themes within entrepreneurship for more than three decades, while its usage in international business studies is much younger. Kuivalainen, Sundqvist and Servais²⁶ notice that “both home-country and an international entrepreneurial orientation (EO and IEO, correspondingly) could be seen as antecedents that explain growth strategy and performance differences in firms” in the international context.

As one of the first researchers, Knight²⁷ tried to explore EO of firms operating across different cultures. While defining IE, McDougall and Oviatt²⁸ focused on three elements, namely (i) innovative, (ii) proactive and (iii) risk taking behaviours, which applied the concept of EO. Covin and Miller²⁹ (2014) stress that more recent definitions focus less explicitly on EO (Table 4). Most of the authors believe that IEO makes use of the three-dimensional concept of EO³⁰ supplementing the international context of entrepreneurship and international business (Table 2).

Knight³¹ is convinced that the three-dimensional international entrepreneurial orientation is the major success factor determining the international performance of a firm (Table 3). The strategic behaviour theory is especially important for a firm operating in international markets where various environmental parameters

²⁴ Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, “Entrepreneurship Theory and Practice” 2014, 38(1), pp. 11–44. doi: 10.1111/etap.12027.

²⁵ Ibidem.

²⁶ Kuivalainen O., Sundqvist S., Servais P., *Firms’ degree of born-globalness, international entrepreneurial orientation and expert performance*, “Journal of World Business” 2007, 42(3), p. 253.

²⁷ Knight G.A., *Emerging paradigm for international marketing: The born-global firm*, Doctoral dissertation, Michigan State University, East Lansing MI 1997.

²⁸ McDougall P.P., Oviatt B.M., *International entrepreneurship: The intersection of two research paths*, “Academy of Management Journal” 2000, 43(5), pp. 902–909.

²⁹ Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, “Entrepreneurship Theory and Practice” 2014, 38(1), pp. 11–44. doi: 10.1111/etap.12027.

³⁰ Covin J.G., Slevin D.P., *Strategic management of small firms in hostile and benign environments*, “Strategic Management Journal” 1989, 10(1), pp. 75–87; Etemad H., *Entrepreneurial Orientation – Performance Relationship in the International Context*, “Journal of International Entrepreneurship” 2015, 13(1), pp. 1–6; Gupta V. K., Gupta A., *Relationship between Entrepreneurial Orientation and Firm Performance in Large Organizations over Time*, “Journal of International Entrepreneurship” 2015, 13(1), pp. 7–27.

³¹ Knight G.A., *Entrepreneurship and strategy in the international SME*, “Journal of International Management” 2001, 7(3), pp. 155–171.

pose special challenges to the entering firm. Two additional factors supporting international performance of firms are (i) internationalisation preparation entailing market research conducting or resources commitment to international operations and (ii) technology acquisition enabling a firm to acquire technologies that will augment its ability to compete in international markets by implementing innovative products and behaviours.

Table 2. A chronicle development of selected definitions of IEO

IEO "reflects the firm's overall pro-activeness and aggressiveness in its pursuit of international markets." (Knight, 2001, p. 159)
IEO reflects "the firm's overall innovativeness and proactiveness in the pursuit of international markets. It is associated with innovativeness, managerial vision and proactive competitive posture." (Knight & Cavusgil, 2004, p. 129)
IOE is "a set of attributes commonly acknowledged as helpful for overcoming obstacles in the internationalization process." (Jones & Coviello, 2005)
IOE "refers to the behavior elements of a global orientation and captures top management's propensity for risk taking, innovativeness, and proactiveness." (Freeman & Cavusgil, 2007, p. 3)
IOE is "a set of behaviors associated with the potential creation of value, which manifest themselves as proactive and innovative methods, risk taking activity, autonomous actions, and an emphasis on outperforming rivals, all variously aimed at discovering, enacting, evaluating, and exploiting opportunities across national borders." (Sundqvist, Kyläheiko & Kuivalainen, 2012, p. 205)
"IOE is not treated as a construct distinct from EO. Rather, 'international' is simply a context in which the EO phenomenon is explored." (Covin & Miller, 2013, p. 14)

Source: the author's own study.

Table 3. The three-dimensional construct of IEO

Dimensions	Composite Qualities
Proactiveness	<ul style="list-style-type: none"> – aggressive positioning relative to competitors in pursuit of a firm's international market objectives (Knight, 2001) – capitalising on new and existing international business opportunities (Wiklund & Shepherd, 2005)
Innovativeness	<ul style="list-style-type: none"> – a firm's tendency to enter experimentation, support new international ideas and depart from established practices (Lumpkin & Dess, 1996; Miller, 1983; Wiklund & Shepherd, 2005). – the development or enhancement of products and services (Knight, 2001)
Risk taking	<ul style="list-style-type: none"> – willingness of the international entrepreneur to make investments and commit resources to projects that have uncertain outcomes or unusually high profits and/or losses (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005)

Source: the author's own study based on Glavas Ch., Mathews Sh., *How international entrepreneurship characteristics influence Internet capabilities for the international business processes of the firm*, "International Business Review" 2014, 23(1), p. 230.

International entrepreneurial culture (IEC) can be considered as a parallel and complimentary concept to IEO. Dimitratos and Plakoyiannaki³² suggest that international entrepreneurial culture embodies six dimensions, namely (i) the market orientation towards international activities, (ii) the learning orientation focused on foreign markets and the alertness to opportunities that exist in these markets, (iii) the innovation propensity, (iv) the risk attitudes in pursuit of new opportunities in foreign markets, (v) the networking orientation, (vi) the motivation orientation in order to explore and exploit opportunities in foreign markets. Zahra³³ claims it would be instructive to apply these six dimensions while explaining international new ventures or born globals.

3. Research Methodology

3.1. Sample Selection and Characteristics

To select the sample, we used a list of companies registered in Poland according to the REGON register, and 7100 companies were drawn to the survey, out of only 355 positively took part in the survey (5%). The stratified random sampling was applied according to the following criteria:

- 1) only internationalised businesses (at least exporting);
- 2) businesses of all sizes, however, with a small share of microenterprises as the least internationalised as well as large companies as being the smallest group in the population, both amounting to 10–15%, while small and medium-sized companies should be amounting to 25–45% of the final sample.

The reasons while the rest of the drawn companies were not engaged in the final sample are as follows:

- 28.1% (1991) not being an internationalised firm;
- 25.3% (1796) wrong phone number or nobody answers the phone;
- 22.9% (1627) refusal to take part in the survey;
- 18.7% (1331) difficulties in getting answers due to various reasons.

A total of 355 questionnaires were gathered using a CATI (computer-assisted telephone interviewing) technique (Table 4). The questionnaire was divided into four thematic parts, namely: (i) the characteristics of the firm, (ii) entry modes and

³² Dimitratos P., Plakoyiannaki E., *Theoretical foundations of an international entrepreneurial culture*, “Journal of International Entrepreneurship” 2003, 1(2), pp. 187–215.

³³ Zahra S.A., *Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technical opportunities*, “The Academy of Management Journal” 1996, 39(6), pp. 1713–1735.

scope of internationalization, (iii) patterns and strategies of internationalization, (iv) resources and competences, (v) domestic and foreign business environment, (vi) entrepreneurial orientation, (vi) the characteristics of the entrepreneur.

Table 4. Characteristics of the research sample

Size of the Firms (in %)		Sector of the Economy (in %)	
micro	14.1	agriculture	1.7
small	43.1	manufacturing	56.4
medium-sized	29.8	construction	1.9
large	13.0	trade	22.4
		service	17.6
Foreign Ownership (in %)		Age of the Firms (in years)	
Average	28	Average	24
Min	0	Min	1
Q1	0	Q1	14
Median	0	Median	20
Q3	68.5	Q3	25
Max	100	Max	183

Source: the author’s own study based on the survey results of 2015 (n=355).

3.2. Measurement of Variables

In this study, the concept of ‘entrepreneurial orientation’ (IEO) defined by Miller (1983) and extended by Covin and Slevin³⁴ as well as Covin and Miller³⁵ was applied. Thus, the EIO uses three dimensions, namely innovation, proactiveness and risk-taking (see Appendix 1). Each of these three dimensions was constructed based on three basic variables, and the EIO indicator was designed by using nine variables altogether. Certainly the EIO indicator is autocorrelated with nine basic variables and three dimensions (Figure 2) measured by linear Pearson’s correlation (p = 0.00).

The internationalization was measured by four different measures, namely transnationality index (TNI), internationalisation scope (INT_SCOPE), internationalization speed (INT_SCOPE) and internationalization degree (INT_DEGREE).

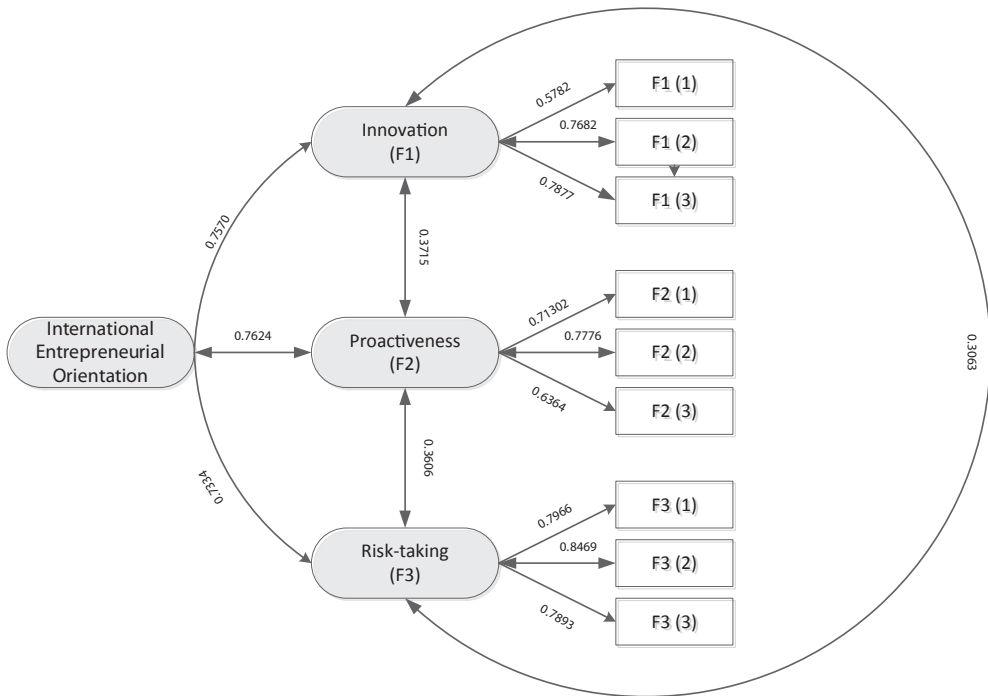
TNI is one of the universal measures applicable for both small and medium-sized enterprises (SMEs) and large companies. It is calculated as a weighted average of the three shares, taking into account the relationship of foreign assets (A_F) to total

³⁴ Covin J.G., Slevin D.P., *Strategic management of small firms in hostile and benign environments*, “Strategic Management Journal” 1989, 10(1), pp. 75–87.

³⁵ Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, “Entrepreneurship Theory and Practice” 2014, 38(1), pp. 11–44. doi: 10.1111/etap.12027.

assets (A_T), foreign sales (S_F) to total sales (S_T) and foreign employment (E_F) to total employment (E_T), being expressed as a percentage (from 0 to 100%). Internationalization scope is measured as the number of countries where a firm operates. Internationalization speed is measured as the number of years that passed from the first internationalization, and as a dummy variable is divided into two ranges – up to three years and above using the solid concept of born globals from the literature. Internationalization degree was applied in the way as it was defined by Ripolles-Melia, Menguzzato-Boulard and Sanchez-Peinado³⁶ and it “takes a value of 1 if the percentage of foreign sales oscillates between 25 and 50% of total sales, a value of 2 if foreign sales oscillates between 50 and 75%, and a value of 3 if it is higher than 75% of total sales”.

Figure 2. Autocorrelation among nine variables of IEO



$p = 0.00$

Source: the author's own study based on the survey results of 2015 ($n=355$).

³⁶ Ripollés-Meliá M., Menguzzato-Boulard M., Sánchez-Peinado, L., *Entrepreneurial orientation and international commitment*, “Journal of International Entrepreneurship” 2007, 5 (3-4), pp. 65.

This study also uses various control variables, among them: being a family firm (0/1), international experience (INT_EXP), international vulnerability (INT_VULNER), employment (measured by the average annual numbers of employees), foreign ownership (in percentage from 0 to 100%), sector (0/1), operating in high-tech industries (0/1), being a high-growth and hyper-growth company (both 0/1) measured by the sales growth exceeding 20 or 500%, respectively, introducing any innovations within the previous 3 years (0/1) as well as the innovation index. International experience is measured as the number of years elapsed since the first internationalization. The internationalization index (INNO_INDEX) was constructed according to the type of applied innovation multiplied by its range (inner for a firm, local, national-wide and global – having the multiple from 1 to 4, respectively) and finally being divided by the maximum number of points, which resulted in the final indicator ranging from 0 to 1 (or expressed as a percentage from 0 to 100%).

3.3. Statistical Tests

The statistical calculations were made by the use of the statistical software Statistica® PL v. 10. In the empirical study, the level of the statistical significance (alpha or α) for statistical hypotheses testing was considered as 0.05. Apart from the well-known basic descriptive statistics, in order to verify the assumed hypothesis, the following inferential statistical tests were applied: linear Pearson correlation, Pearson Chi-square, *t*-test, the regression analysis, as well as the ANOVA analysis.

3.4. Testing Research Hypotheses

The research hypotheses, based on the literature review and own intuition, to be tested in this research study were as follows:

- H1: Firms applying more advanced entry modes, defined as investment modes, have more entrepreneurial orientation than firms applying exporting and contractual entry modes.
- H2: Firms operating in industries being sensitive to internationalization have more entrepreneurial orientation than firms operating in local industries strictly based on their location.
- H3: Firms operating in high-tech industries have more entrepreneurial orientation during their internationalization process than firms operating in low-tech industries.
- H4: High-growth and hyper-growth firms have more entrepreneurial orientation than firms noting traditional pace of their growth during their internationalization process.

- H5:** Firms having applied any innovation for the previous three years have more entrepreneurial orientation during their internationalization process than firms not having applied any innovations.
- H6:** Firms having an international strategy have more entrepreneurial orientation during their internationalization process than firms not having a strategy of internationalization.
- H7:** Firms cooperating with other business partners within either formal or even informal networks have more entrepreneurial orientation during their internationalization process than firms not operating within any networks.

4. Results and Discussion

As discussed above, the IEO indicator was constructed by applying nine different variables, all of them based on the 7-point Likert scale, thus the IEO indicator can take continuous values from 1 to 7, however, the average noted value was 4.07 (Table 5). In order to reveal the correlation among different variables describing internationalisation results, the correlation matrix was applied (Table 6).

Table 5. Descriptive statistics for the IEO variable

Min	Q1	Me	Q3	Max
1.000000	3.444444	4.111111	4.777778	6.666667
Mean	SD	S ²	Mo (20 out of 355)	V (%)
4.069484	0.976875	0.954285	4.333333	24.00489

Source: the author's own study based on the survey results of 2015 ($n=355$).

Table 6. Correlation matrix of IEO and main internationalization indicators

		1	2	3	4	5
		IEO	INT_SPEED	INT_SCOPE	INT_DEGREE	TNI
1	IEO	1.0000				
2	INT_SPEED	-0.0595	1.0000			
3	INT_SCOPE	0.1939***	0.2697***	1.0000		
4	INT_DEGREE	0.0253	-0.1273*	0.1446*	1.0000	
5	TNI	0.0394	-0.1567**	0.0819	0.6980***	1.0000

*** $p < 0.000$, ** $p < 0.005$, * $p < 0.05$

Source: the author's own study based on the survey results of 2015 ($n=355$).

The *t* statistics were calculated to test the hypotheses of equal means for 13 different control variables and 7 of them, expressed in the given hypotheses were supported. Based on the calculations, we can reject the null hypotheses of equal means at a 0.05 level of significance. As a result, the Student's *t* test supports the existence of significant differences in mean values of entrepreneurial orientation (IEO) for seven different two-dimensional groups of firms. The conducted analysis of the mean value for the entrepreneurial orientation in the given above groups reveals that:

- 1) IEO value is higher for firms which applied investment entry modes than those which applied exporting and/or contractual entry modes. Firms having foreign branches or subsidies abroad are more entrepreneurial.
- 2) IEO value is lower for firms operating in industries sensitive to internationalization than in those strongly based on the territorial localization. Firms based on the local business domain are more entrepreneurial.
- 3) IEO value is higher for firms operating in high-tech industries than in low-tech industries. It allows assuming that high-tech firms are more entrepreneurial.
- 4) IEO value is higher for high-growth firms. Such firms are more entrepreneurial than firms which note traditional growth dynamics.
- 5) IEO value is higher for hyper-growth firms. Hyper-growth firms are more entrepreneurial than other firms, also than high-growth companies (hyper-growth: 4.98 versus high-growth: 4.25 and normal growth: 3.91 using the 7-point Likert scale).
- 6) IEO value is higher for innovators than for firms which have not implemented innovations. Innovative firms are more entrepreneurial.
- 7) IEO value is higher for firms having any international strategy than those not thinking strategically. Strategically-oriented firms are more entrepreneurial.
- 8) IEO value is higher for firms operating in formal and/or informal networks than for those not operating with other entities. Firms cooperating in any networks are more entrepreneurial.

The results discussed above support all seven hypotheses assumed prior to the calculations (Table 7).

In order to find specific features of entrepreneurial firms, the multivariate regression model was applied (Table 8), however, the determination coefficient is rather low as it is much below 50%, so the interpretation of the results is difficult to follow. Being an innovative firm accelerates the probability that a firm is more entrepreneurial (positive coef.), as does the innovativeness scale of the applied innovations.

Table 7. Results of the t-test for the dependent variable IEO

Grouping Variables	Mean 0	Mean 1	t-value	df	p	Std.Dev. 0	Std.Dev. 1
Advanced modes (0=no, 1=yes)	3.996357	4.515556	3.539770	353	0.000454	0.972821	0.886834
INT_SPEED (0=early, 1=slow)	4.087719	4.038399	-0.456752	343	0.648138	0.968973	0.997058
INT_VULNER (0=no, 1=yes)	4.325137	3.935622	-3.62883	353	0.000327	0.973600	0.953606
Sector (1=manufacturing)	4.048746	4.093802	0.431127	352	0.666640	1.016150	0.942749
High-Tech Industry (0=no, 1=yes)	3.637227	4.281979	-6.14114	353	0.000000	1.044802	0.868050
Family firms (0=no, 1=yes)	4.060399	4.080556	-0.193176	353	0.846933	0.958752	1.001432
Hidden champions (0=no, 1=yes)	4.056806	4.159091	0.649546	353	0.516408	0.968474	1.041598
High-Growth (0=no, 1=yes)	3.914620	4.256595	3.132671	327	0.001889	1.018985	0.919058
Hyper-Growth (0=no, 1=yes)	4.025832	4.981481	-2.34784	318	0.019495	1.185127	0.984157
Innovators (0=no, 1=yes)	2.585185	4.134967	6.337008	353	0.000000	0.727958	0.934259
Strategy (0=no, 1=yes)	3.902998	4.259036	3.479662	353	0.000565	1.031133	0.876376
Cooperation (0=no, 1=yes)	4.007663	4.241135	-1.99520	353	0.046789	0.994781	0.908482
Border (0=no, 1=yes)	4.118104	4.036688	0.769742	353	0.441968	1.023138	0.945439

Source: the author's own study based on the survey results of 2015 ($n=355$).

Table 8. Results of multivariate regression of the dependent variable "international entrepreneurial orientation" (IEO)

R= 0.57981734 R ² = 0.33618815 Corrected R2= 0.30058139 F(14,261) = 9.4417 p < 0.00000 Est.Std. Err.: 0.82674						
n=276	b*	St. Err. b*	b	St. Err. b	t (261)	p-value
< absolute value >			4.690041	0.873848	5.36712	0.000000
INT_SPEED	-0.007434	0.056093	-0.000503	0.003795	-0.13253	0.894670
INT_SCOPE	0.085658	0.060844	0.008177	0.005808	1.40781	0.160376
INT_DEGREE	0.036820	0.082755	0.030146	0.067755	0.44493	0.656739
INT_EXP	-0.057398	0.055976	-0.004977	0.004854	-1.02539	0.306130

R = 0.57981734 R ² = 0.33618815 Corrected R ² = 0.30058139 F(14,261) = 9.4417 p < 0.00000 Est.Std. Err.: 0.82674						
n=276	b*	St. Err. b*	b	St. Err. b	t (261)	p-value
INT_VULNER	0.083730	0.055364	0.132036	0.087306	1.51234	0.131658
TNI	-0.042513	0.106325	-0.002105	0.005263	-0.39984	0.689602
Employment	-0.032839	0.057152	-0.000116	0.000202	-0.57458	0.566067
Foreign Ownership	0.069096	0.076962	0.001627	0.001813	0.89779	0.370124
Sector (0/1)	-0.120186	0.057837	-0.239985	0.115489	-2.07799	0.038688
High/Low-Tech	-0.266364	0.055096	-0.332353	0.068745	-4.83456	0.000002
High-Growth	-0.020210	0.053370	-0.040672	0.107403	-0.37868	0.705232
Hyper-Growth	-0.089429	0.051804	-0.661656	0.383284	-1.72628	0.085480
Innovators	0.208125	0.054141	0.969387	0.252176	3.84409	0.000152
INNO_INDEX	0.281183	0.062069	0.012584	0.002778	4.53015	0.000009

Source: the author’s own study based on the survey results of 2015 (n=355).

5. Conclusion

International entrepreneurship focuses on the entrepreneur as well as on innovation and entrepreneurial processes concerning recognition and exploitation of international opportunities in the context of institutional environment and entrepreneurship culture³⁷. Therefore, international entrepreneurial orientation “can be meaningfully extended into the field of IE as a way of examining and explaining the cross-border internationalisation of firms”³⁸. It seems that creating a solid and unique methodology for international entrepreneurship is essential to recognise international entrepreneurship as a separate research discipline, as it is true currently in the case of international business. Taking into account the interdisciplinary character of entrepreneurship, it is possible that international entrepreneurship will fully become ‘a hub and a spoke’³⁹ and a binder for all the internationalisation theories and

³⁷ Bruton G.D., Lau C–M., Obloj K., *Institutions, resources and firm strategies: a comparative analysis of entrepreneurial firms in three transitional economies*, “European Journal of International Management” 2014, 8(6), pp. 697–720.

³⁸ Glavas Ch., Mathews Sh., *How international entrepreneurship characteristics influence Internet capabilities for the international business processes of the firm*, “International Business Review” 2014, 23(1), p. 230.

³⁹ Mtigwe B., *Theoretical Milestones in International Business: The Journey to International Entrepreneurship Theory*, “Journal of International Entrepreneurship” 2006, 4(1), p. 19.

approaches constituting the base for the integrative models. While summarising the issue of international entrepreneurial orientation, Glavas and Mathews⁴⁰ stress that:

- IEO is a multi-dimensional concept⁴¹;
- IEO can be considered both an individual and firm-level construct⁴²;
- IEO enables business to identify and exploit internationalisation opportunities⁴³;
- IEO reflects the firms overall proactiveness and aggressiveness in its pursuit of international markets⁴⁴;
- IEO involves taking advantage of international market offerings and taking risks in international environments⁴⁵.

All in all, it is apparent from the foregoing arguments that international entrepreneurship is becoming the major approach towards business internationalisation, exploring numerous aspects of international business from the entrepreneurship perspective. The fact of the matter is that many aspects of international business, even those well-grounded in the theory of entrepreneurship, are still unexplored in the international context (international entrepreneurship). Therefore, this study was designed to explore some links between entrepreneurial orientation and international business in Poland, which can be considered a kind of novelty. Six out of seven assumed hypotheses were confirmed, while one was rejected:

H1: Firms applying more advanced entry modes, defined as investment modes, have more entrepreneurial orientation than firms applying exporting and contractual entry modes.	confirmed
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⁴⁰ Glavas Ch., Mathews Sh., *How international entrepreneurship characteristics influence Internet capabilities for the international business processes of the firm*, "International Business Review" 2014, 23(1), p. 230.

⁴¹ Covin J.G., Slevin D.P., *A conceptual model of entrepreneurship as firm behaviour*, "Entrepreneurship Theory and Practice" 1991, 16(1), pp. 7–25.

⁴² Knight G.A., *Entrepreneurship and strategy in the international SME*, "Journal of International Management" 2001, 7(3), pp. 155–171.

⁴³ Mostafa R.H.A., Wheeler C., Jones M.V., *Entrepreneurial orientation, commitment to the Internet and export performance in small and medium sized exporting firms*, "Journal of International Entrepreneurship" 2006, 3(1), pp. 291–302; Slevin D., Terjesen P.S.A., *Entrepreneurial orientation: Reviewing three papers and implications for further theoretical and methodological development*, "Entrepreneurship Theory and Practice" 2011, 35(5), pp. 973–987.

⁴⁴ (Knight G.A., *Entrepreneurship and strategy in the international SME*, "Journal of International Management" 2001, 7(3), pp. 155–171.

⁴⁵ Jantunen A., Puumalainen K., Saarenketo S., Kylaheiko K., *Entrepreneurial orientation, dynamic capabilities and international performance*, "Journal of International Entrepreneurship" 2005, 3(3), pp. 232–243; Wang C.L., *Entrepreneurial orientation, learning orientation, and firm performance*, "Entrepreneurship Theory and Practice" 2015, 32(4), pp. 635–657.

H2:	Firms operating in industries being sensitive to internationalization have more entrepreneurial orientation than firms operating in local industries strictly based on their location.	rejected
H3:	Firms operating in high-tech industries have more entrepreneurial orientation during their internationalization process than firms operating in low-tech industries.	confirmed
H4:	High-growth and hyper-growth firms have more entrepreneurial orientation than firms noting traditional pace of their growth during their internationalization process.	confirmed
H5:	Firms having applied any innovation for the previous three years have more entrepreneurial orientation during their internationalization process than firms not having applied any innovations.	confirmed
H6:	Firms having an international strategy have more entrepreneurial orientation during their internationalization process than firms not having a strategy of internationalization.	confirmed
H7:	Firms cooperating with other business partners within either formal or even informal networks have more entrepreneurial orientation during their internationalization process than firms not operating within any networks.	confirmed

Like all research, this study is not without some notable limitations. First of all, the research sample is not representative, thus, it is not possible to absolutise the result over the whole population of Polish businesses. Secondly, future studies should seek to develop longitudinal research designs. Thirdly, as for the owner characteristics, a particularly interesting study should examine entrepreneurial intentions and their antecedents at one point in time. In addition, it would be useful to investigate into international entrepreneurial orientation⁴⁶, not only entrepreneurial orientation.

⁴⁶ Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, "Entrepreneurship Theory and Practice" 2014, 38(1), pp. 11–44.

Bibliography

1. Antoncic B., Hisrich R.D., *Intrapreneurship: Construct refinement and crosscultural validation*, "Journal of Business Venturing" 2001, 16(5), pp. 495–527.
2. Autio E., Sapienza H.J., Almeida J.G., *Effects of age at entry, knowledge intensity, and imitability on international growth*, "Academy of Management Journal" 2000, 43(5), pp. 909–924.
3. Basso O., Fayolle A., Bouchard V., *Entrepreneurial orientation: The making of a concept*, "Entrepreneurship and Innovation" 2009, 10(4), pp. 313–321.
4. Bruton G.D., Lau C.-M., Obloj K., *Institutions, resources and firm strategies: a comparative analysis of entrepreneurial firms in three transitional economies*, "European Journal of International Management" 2014, 8(6), pp. 697–720.
5. Covin J.G., Slevin D.P., *Strategic management of small firms in hostile and benign environments*, "Strategic Management Journal" 1989, 10(1), pp. 75–87.
6. Covin J.G., Slevin D.P., *A conceptual model of entrepreneurship as firm behaviour*, "Entrepreneurship Theory and Practice" 1991, 16(1), pp. 7–25.
7. Covin J. G., Lumpkin G.T., *Entrepreneurial Orientation Theory and Research: Reflections on a Needed Construct*, "Entrepreneurship Theory and Practice" 2011, 35(5), pp. 855–872.
8. Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, "Entrepreneurship Theory and Practice" 2014, 38(1), pp. 11–44, doi: 10.1111/etap.12027.
9. Dai L., Maksimov V., Gilbert B.A., Fernhaber S.A., *Entrepreneurial orientation and international scope: The differential roles of innovativeness, proactiveness, and risk-taking*, "Journal of Business Venturing" 2014, 29(4), pp. 511–524.
10. Davis D., Morris M., Allen J., *Perceived environmental turbulence and its effect on selected entrepreneurship, marketing, and organizational characteristics in industrial firms*, "Journal of the Academy of Marketing Science" 1991, 19(1), pp. 43–51.
11. Dess G.G., Lumpkin G.T., *The role of entrepreneurial orientation in stimulating corporate entrepreneurship: research briefs*, "Academy of Management Executive" 2005, 19(1), pp. 147–156.
12. Dimitratos P., Plakoyiannaki E., *Theoretical foundations of an international entrepreneurial culture*, "Journal of International Entrepreneurship" 2003, 1(2), pp. 187–215.
13. Etemad H., *Entrepreneurial Orientation – Performance Relationship in the International Context*, "Journal of International Entrepreneurship" 2015, 13(1), pp. 1–6.

14. Freeman S., Cavusgil S.T., *Toward a typology of commitment states among managers of born global firms: A study of accelerated internationalization*, "Journal of International Marketing" 2007, 15(4), pp. 1–40.
15. Frishammar J., Andersson S. *The overestimated role of strategic orientations for international performance in smaller firms*, "Journal of International Entrepreneurship" 2009, 7(1), pp. 57–77.
16. Gawęł A., *Proces przedsiębiorczy: tworzenie nowych przedsiębiorstw*, Difin, Warszawa 2013.
17. Gawęł A., *Entrepreneurship – A Theoretical Approach* (chapter 1), [in:] M. Rekowski (Ed.), *Entrepreneurial Tissue and Regional Economy: Case Studies of Selected Polish and Spanish Regions*, The Poznan University of Economics Publishing House, Poznań 2008, pp. 11–25.
18. Glavas Ch., Mathews Sh., *How international entrepreneurship characteristics influence Internet capabilities for the international business processes of the firm*, "International Business Review" 2014, 23(1), pp. 228–245, doi: 10.1016/j.ibusrev.2013.04.001.
19. Gupta V. K, Gupta A., *Relationship between Entrepreneurial Orientation and Firm Performance in Large Organizations over Time*, "Journal of International Entrepreneurship" 2015, 13(1), pp. 7–27.
20. Jantunen A., Puumalainen K., Saarenketo S., Kyläheiko K., *Entrepreneurial orientation, dynamic capabilities and international performance*, "Journal of International Entrepreneurship" 2005, 3(3), pp. 232–243.
21. Jones M., Coviello N.E., *Internationalization: Conceptualising an Entrepreneurial Process of Behaviour in Time*, "Journal of International Business Studies" 2005, 36(3), pp. 284–303.
22. Khandwalla P., *The Design of Organizations*, Harcourt Brace Jovanovich, New York 1977.
23. Knight G.A., *Emerging paradigm for international marketing: The born-global firm*, Doctoral dissertation, Michigan State University, East Lansing MI 1997.
24. Knight G.A., *Entrepreneurship and strategy in the international SME*, "Journal of International Management" 2001, 7(3), pp. 155–171.
25. Knight G.A., Cavusgil S.T., *Innovation, organizational capabilities, and the born global firm*, "Journal of International Business Studies" 2004, 35(2), pp. 124–141.
26. Kowalik I., Danik L., Král P., Řezanková H., *Antecedents of Accelerated Internationalisation of Polish and Czech Small and Medium-Sized Enterprises*, "Entrepreneurial Business and Economics Review" 2017, 5(3), pp. 31–48, <https://doi.org/10.15678/EBER.2017.050302>.

27. Kuivalainen O., Sundqvist S., Servais P., *Firms' degree of born-globalness, international entrepreneurial orientation and expert performance*, "Journal of World Business" 2007, 42(3), pp. 253–267.
28. Lumpkin G.T., Dess G.G., *Clarifying the entrepreneurial orientation construct and linking it to performance*, "Academy of Management Review" 1996, 21(1), pp. 135–172.
29. Lumpkin G.T., Dess, G.G., *Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle*, "Journal of Business Venturing" 2001, 16(5), pp. 429–451.
30. McDougall P.P., Ovatt B.M., *International entrepreneurship: The intersection of two research paths*, "Academy of Management Journal" 2000, 43(5), pp. 902–909.
31. Miller D., *The correlates of entrepreneurship in three types of firms*, "Management Science" 1983, 29(7), pp. 770–791.
32. Mostafa R.H.A., Wheeler C., Jones M.V., *Entrepreneurial orientation, commitment to the Internet and export performance in small and medium sized exporting firms*, "Journal of International Entrepreneurship" 2006, 3(1), pp. 291–302.
33. Mtigwe B., *Theoretical Milestones in International Business: The Journey to International Entrepreneurship Theory*, "Journal of International Entrepreneurship" 2006, 4(1), pp. 5–25.
34. Obloj K., Weinstein M., Zhang Sh., *Self-Limiting Dominant Logic: An Exploratory Study of Chinese Entrepreneurial Firms*, "Journal of East-West Business" 2013, 19(4), pp. 291–316, doi: 10.1080/10669868.2013.847888.
35. Oviatt B.M., McDougall P.P., *Defining international entrepreneurship and modeling the speed of internationalization*, "Entrepreneurship Theory and Practice" 2005, 29(5), pp. 537–553.
36. Rauch A., Wiklund J., Lumpkin G.T., Frese M., *Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future*, "Entrepreneurship Theory and Practice" 2009, 33(3), pp. 761–787.
37. Ripollés-Meliá M., Menguzzato-Boulard M., Sánchez-Peinado, L., *Entrepreneurial orientation and international commitment*, "Journal of International Entrepreneurship" 2007, 5 (3-4), pp. 65–83, <https://doi.org/10.1007/s10843-007-0016-0>.
38. Slevin D., Terjesen P.S.A., *Entrepreneurial orientation: Reviewing three papers and implications for further theoretical and methodological development*, "Entrepreneurship Theory and Practice" 2011, 35(5), pp. 973–987.
39. Sundqvist S., Kylaheiko K., Kuivalainen O., *Kirznerian and Schumpeterian entrepreneurial oriented behavior in turbulent export markets*, "International Marketing Review" 2012, 29(2), pp. 203–219.
40. Volkmann C.K., Tokarski K.O., Grunhagen M., *Entrepreneurship in a European Perspective*, Gabler Verlag, Berlin 2010.

41. Wach K., *Orientacja przedsiębiorcza a wiedza w początkowym i dojrzałym etapie procesu internacjonalizacji przedsiębiorstw*, "Studia Ekonomiczne – Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach" 2017, no. 319, pp. 268–292.
42. Wach K., *Entrepreneurial Orientation and Business Internationalisation Process: The Theoretical Foundations of International Entrepreneurship*, "Entrepreneurial Business and Economics Review" 2015, 3(2), pp. 9–24, doi: 10.15678/EBER.2015.030202.
43. Wach K., *Exploring the Role of Ownership in International Entrepreneurship: How does Ownership Affect Internationalisation of Polish Firms?*, "Entrepreneurial Business and Economics Review" 2017, 5(4), pp. 205–223, <https://doi.org/10.15678/EBER.2017.050410>.
44. Wach K., *Impact of Cultural and Social Norms on Entrepreneurship in the EU: Cross-Country Evidence based on GEM Survey Results*, "Zarządzanie w Kulturze" 2015, 16(1), pp. 15–29, doi: 10.4467/20843976ZK.15.002.3037.
45. Wang C.L., *Entrepreneurial orientation, learning orientation, and firm performance*, "Entrepreneurship Theory and Practice" 2015, 32(4), pp. 635–657.
46. Wiklund J., Shepherd D., *Entrepreneurial orientation and small business performance: a configurational approach*, "Journal of Business Venturing" 2015, 20(1), pp. 71–91.
47. Zahra S.A., *Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technical opportunities*, "The Academy of Management Journal" 1996, 39(6), pp. 1713–1735, doi: 10.2307/257076.
48. Żur A., Wałęga A., *Routines do matter: role of internal communication in firm-level entrepreneurship*, "Baltic Journal of Management" 2015, 10(1), pp. 119–139, doi: 10.1108/BJM-11-2013-0166.

Appendix 1. The Miller / Covin and Slevin EO Scale (M/C&S Scale)

Innovativeness items		
E01: In general, the top managers of my firm favour		
... a strong emphasis on the marketing of tried-and-true products and services.	1 2 3 4 5 6 7	... a strong emphasis on R&D, technological leadership and innovations.
(Item originally proposed by Khandwalla [1976/977])		
E02: How many new lines of products or services have been marketed in the past 5 years (or since its establishment)?		
No new lines of products or services.	1 2 3 4 5 6 7	Very many new lines of products or services.
[Item originally proposed by Miller and Friesen (1982)]		
E03: Changes in products or services lines ...		
... have been mostly of a minor nature.	1 2 3 4 5 6 7	... have usually been quite dramatic.
[Item originally proposed by Miller and Friesen (1982)]		
Proactiveness items		
E04: In dealing with its competitors, my firm ...		
... typically responds to actions that competitors initiate.	1 2 3 4 5 6 7	... typically initiate actions to which competitors then respond.
[Item originally proposed by Covin and Slevin (1989)]		
E05: In dealing with its competitors, my firm ...		
... is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1 2 3 4 5 6 7	... is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.
[Item originally proposed by Covin and Slevin (1989)]		
E06: In dealing with its competitors, my firm ...		
... typically seeks to avoid competitive clashes, performing a "live-and-let-live" posture.	1 2 3 4 5 6 7	... typically adopts a very competitive, "undo-the-competitors" posture.
(Item originally proposed by Covin and Slevin [1989])		
Risk-taking items		
E07: In general, the top managers of my firm have		
... a strong proclivity for low-risk projects (with normal and certain rates of return).	1 2 3 4 5 6 7	... a strong proclivity for high-risk projects (with chances of very high returns).
[Item originally proposed by Khandwalla (1976/1977)]		
E08: In general, the top managers of my firm believe that		
... owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behaviour.	1 2 3 4 5 6 7	... owing to the nature of the environment, bold wide-ranging acts are necessary to achieve the firm's objective.
[Item originally proposed by Miller and Friesen (1982)]		

E09: When confronted with decision-making situations involving uncertainty, my firm ...		
...typically adopts a cautious "wait-and-see" posture in order to minimize the probability of making costly decisions.	1 2 3 4 5 6 7	...typically adopts a bold aggressive posture in order to maximize the probability of exploiting potential opportunities.
[Item originally proposed by Covin and Slevin (1989)]		

Source: Covin J.G., Miller D., *International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions*, "Entrepreneurship Theory and Practice" 2014, 38(1), p. 36.

