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**ANTECEDENTS AND PERFORMANCE OUTCOMES OF
ENTREPRENEURIAL ORIENTATION:
A COMPARATIVE CROSS-COUNTRY STUDY**

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ABSTRACT

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Development of entrepreneurial orientation (EO) within a company is considered to be significant for firm performance in a contemporary market society with constantly changing environment. Considered as entrepreneurial, the firm is able to innovate, make risky investments and be proactive. The purpose of the thesis is to investigate factors which influence EO, the impact of EO on firm performance, and a mediating role of EO in developed and emerging market contexts. The empirical research is conducted quantitatively in a form of a survey in Russia and Finland. The results of the thesis have shown that the relationship between antecedents, EO and firm performance outcomes is different in developed and emerging contexts and can be explained by cultural differences and institutional development. The empirical research has both theoretical and practical novelty. It contributes to the existing literature on EO by the usage of comparative cross-country approach and a broader three-way interaction model between the variables. A general practical implication of the research is that managers may benefit from developing entrepreneurial strategic posture in particular contexts.

АННОТАЦИЯ

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Развитие предпринимательской ориентации (ПО) считается значимым для деятельности фирмы в современном рыночном обществе с постоянно меняющейся внешней средой. Предпринимательская фирма способна создавать инновации, брать на себя риск и быть проактивной. Целью диссертации является исследовать факторы ПО и влияние ПО на результаты деятельности фирмы, рассматривая ПО в роли медиатора на примере компаний развитого и развивающегося рынков. Эмпирическое исследование проведено в форме опроса в России и Финляндии. Результаты исследования показывают, что взаимосвязь между антецедентами, ПО и результатами деятельности фирмы разная в развитом и развивающемся контекстах, и может быть объяснена культурными и институциональными различиями. Исследование имеет как теоретическую, так и практическую значимость. Использование сравнительного подхода и модели трёхсторонней взаимосвязи между переменными вносит теоретический вклад в литературу по ПО. Общее практическое значение исследования заключается в том, что менеджерам компаний следует уделять большее внимание развитию ПО в определенных контекстах.

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1. INTRODUCTION

1.1. Research background

The emergence of knowledge economy, development of information technologies and intense global competition that is observable in a contemporary world lead firms to the development of new methods and techniques to compete with each other and maintain the market share. In the contemporary economy firms tend to be more entrepreneurial, innovative and competitive. They seek for competitive advantage which will differentiate them from their competitors, create and maintain sustainable position on the market (Rothaermel 2008).

There is an increasing interest towards entrepreneurship today. A strong indicator of such interest is a rise in establishment of new businesses, and intention to behave more entrepreneurially in already established firms. Based on the Global Entrepreneurship Monitor results, it is estimated that approximately 100 million new businesses are opening each year worldwide (Mason 2014). But in fact, as many new businesses in the developing world are hardly covered by statistics, this figure might even be higher (Mason 2014).

At the same time, managers of already established firms tend to promote and introduce entrepreneurial spirit in their organizations (Minter 2012). One of the illustrative examples is Scott Cook, an entrepreneurial CEO and co-founder of software company Intuit, who encourages employees to be more entrepreneurial with his own example of “constantly peppering the worlds with questions like what was surprising and what was unexpected” in whatever he has been just experienced (Minter 2012).

Following this rise in new business formation and firm’s intension to be more entrepreneurial, there is a practical interest and importance of studying entrepreneurship on a company level.

In academic literature, the strategic process which provides organizations with innovative activities and decisions is known as entrepreneurial orientation, the main components of which are innovativeness, risk-taking and proactiveness (Covin and Slevin 1989; Lumpkin and Dess 1996). The firm which is considered

as entrepreneurial makes constant innovations, risky investments and performs proactively on the market.

With increased firm's entrepreneurial intentions, it is important to investigate how firms may benefit from adopting entrepreneurial behavior. Previous studies have shown that the development of entrepreneurial orientation within a company is considered to be beneficial for firm performance (Lumpkin and Dess 2001; Wiklund and Shepherd 2005; Rauch et al. 2009). However, the relationship between entrepreneurial orientation and firm performance is dependent on different contexts and environments in which the firm operates (Lumpkin and Dess 1996; Wiklund and Shepherd 2005). What is more, entrepreneurial orientation may influence firm performance in different ways: it can be successful in some circumstances and useless in other (Rauch et al. 2009). Therefore, a deeper study of entrepreneurial orientation in different contexts is important for investigating its effect on firm performance.

At the same time, entrepreneurial orientation is a costly strategy and its implementation requires large investments from firms. Thus, it is important to investigate what factors may influence firm entrepreneurial behavior, either facilitating or complicating it. In the environments where entrepreneurial orientation is positively related to firm performance, it is beneficial for a firm to increase EO level in order to perform better on the market (Wales et al. 2011). Therefore, a deeper understanding of EO genesis will help to identify the drivers of EO, which firm managers may develop and use in order to facilitate EO formation and improve firm performance indicators.

The study of entrepreneurship on a firm level and existence of different conditions, which influence EO and firm performance, is closely connected with business practice and provides opportunities for a researcher to discover new aspects of the issue. These strategic and practical implications, and not sufficient investigations of the topic are among the reasons of the choice of Master's thesis topic.

1.2. Research gaps in entrepreneurial orientation studies

The analysis of existing literature on entrepreneurship has shown that many researchers pay attention to the concept of entrepreneurial orientation (Dess and Lumpkin 2005; Certo et al. 2009; Miller 2011; Lee and Chu 2011; Covin and Wales 2012; Clausen and Korneliusen 2012; Pratono et al. 2013; Saeed et al. 2014). This concept is important for the effective performance of businesses and under certain conditions entrepreneurial orientation influences firm growth and performance indicators. Although many empirical studies of entrepreneurial orientation were conducted during the last several decades, there are some research gaps that are needed to be filled in (Miller 2011; Wales et al. 2011).

First, the research models were originally tested in the developed economies and did not get much attention in developing countries and emerging markets with exception of China (Lan and Wu 2010; Shirokova 2012). Thus, further research on entrepreneurial orientation should investigate the entrepreneurial orientation in developing contexts such as Russia, India, Latin America, Sub-Saharan Africa and other countries and regions. Furthermore, most studies investigate the entrepreneurial orientation concept in one country, either developed or developing, whereas comparative research of different country contexts have not been much conducted (Wales et al. 2011).

Second, many studies have investigated different variables and contexts in which entrepreneurial orientation influences firm performance (Rauch et al. 2009; Miller 2011). However, antecedent variables of entrepreneurial orientation are less studied. There is still little understanding of genesis of entrepreneurial orientation and mediators that connect entrepreneurial orientation with firm performance (Wales et al. 2011). What is more, there are very few studies that consider entrepreneurial orientation as a mediator itself, which connects antecedents to the performance of a firm and may enhance performance indicators (Rosenbusch et al. 2013).

Third, the impact of entrepreneurial orientation on firm international performance is less studied and there are few empirical research on the degree of internationalization and international impact of entrepreneurial orientation

compared to the research of the firm domestic performance (Jantunen et al. 2005; Lan and Wu 2010).

Thus, despite the fact that entrepreneurial orientation is broadly studied nowadays, there are still many unexplored areas within this concept, and this thesis on entrepreneurial orientation fills in some of the research gaps stated above and makes contribution to the existing knowledge.

1.3. Research problem, objectives and delimitation

In the constantly changing business environment companies tend to seek for new opportunities on the market where they can develop and sustain their competitive advantage and outperform competitors. In some environments entrepreneurial orientation of a firm leads to higher firm performance, and, thus, firms tend to be more entrepreneurial in order to improve their position on the market (Rauch et al. 2009).

However, the development of entrepreneurial orientation in the company is a complicated issue. There are different internal and external factors that drive entrepreneurial orientation, some of which may have more impact on entrepreneurial orientation than others. At the same time, the companies cannot develop all drivers of entrepreneurial orientation due to constraints of internal resources and capabilities, but should concentrate on those factors which are more efficient in enhancing entrepreneurial orientation of the firm. This creates the problem of identification of antecedents and their impact on entrepreneurial orientation.

The thesis aims to answer the following research question: What are the antecedents and performance outcomes of entrepreneurial orientation in different contexts?

The research examines the impact of both internal and external antecedents on entrepreneurial orientation. The research question can be divided into several sub-questions:

- 1) How does entrepreneurial orientation influence firm performance in different country contexts?
- 2) How are external and internal business environment related to entrepreneurial orientation formation, and what are the differences in these relationships in developed and emerging market contexts?
- 3) Does entrepreneurial orientation play a role of a mediator between its antecedents and firm performance, improving firm performance indicators?

The aim of the thesis is to investigate the “antecedents – entrepreneurial orientation – performance” relationship on the example of two different contexts: developed and emerging market firms. In the framework of the research, entrepreneurial orientation is considered as a mediator in the “antecedent – performance” relationship. The empirical research tries to investigate the impact of external and internal environment on entrepreneurial orientation, the connection of entrepreneurial orientation with firm performance, and to identify between which antecedents and performance indicators EO may play a mediating role. Besides this, the research develops a comparative cross-country study in Russia and Finland and provides the different impacts of antecedents on entrepreneurial orientation and firm performance due to the differences in country contexts.

The scope of the study is restricted to the number of antecedent variables and performance indicators. Several antecedents have been chosen as the examples of two main types of antecedents: external and internal. External antecedents include environmental dynamism, hostility, and heterogeneity, competition intensity in business environment of a firm, and demand growth in industry. Organizational environment, including formalization of operating procedures and centralization of authority, represent internal antecedents of entrepreneurial orientation in the research. The usage of both external industry perspective and internal resources perspective is important for investigation of which type of antecedents has more impact on entrepreneurial orientation.

Besides this, entrepreneurial orientation is measured by three dimensions of innovativeness, proactiveness and risk-taking (Covin and Slevin 1989), which explain the essence of the concept to the full extent, and, at the same time, are enough for this study, as entrepreneurial orientation is considered as a whole notion, which is influenced by external and internal factors, and has impact on firm performance. However, future studies may consider including other dimensions of entrepreneurial orientation, notably competitive aggressiveness and autonomy (Lumpkin and Dess 1996).

Finally, the research is conducted in two countries (Finland and Russia) with developed and developing economies, and the research results are applicable to these contexts.

The research contributes both to theoretical knowledge and managerial practice. It adds value to the existing literature on entrepreneurial orientation as it studies a more complex three-way relationship and verifies a mediating role of entrepreneurial orientation between its antecedents and firm performance. Furthermore, a comparative cross-country approach is used, which helps to examine the relationships between variables in developed and emerging market contexts. Additionally, the research results can be used in managerial practice when making strategic decisions in a company.

1.4. Research strategy and organization of the study

The research uses deductive approach, which starts with the theoretical framework of entrepreneurial orientation and main approaches to its studies, and leads to the specific hypotheses which are developed and tested empirically in the study. The main concept used in the research is the concept of entrepreneurial orientation. The hypotheses about the impact of environmental and organizational antecedents on entrepreneurial orientation, the influence of entrepreneurial orientation on firm performance, and the mediating role of entrepreneurial orientation are tested. It is supposed that entrepreneurial orientation is positively associated with firm performance, influenced by both external and internal environment, and the

antecedent variables have different impacts on entrepreneurial orientation depending on different country contexts.

The strategy used in the research is a survey. The information about firms is collected with a questionnaire. In order to evaluate the level of entrepreneurial orientation of the firms, a scale of Covin and Slevin (1989) is used. Also, antecedents and outcomes are operationalized to be able to be measured in the research. The relationship between antecedents, entrepreneurial orientation and firm performance outcomes is examined using statistical quantitative methods and techniques.

The structure of the thesis is the following. First, it analyzes theoretical framework of entrepreneurial orientation concept, including history and definitions of entrepreneurial orientation, and the analysis of main approaches to its study. After this, the hypotheses are formulated and the research model is developed. Second, the empirical study of entrepreneurial orientation in Russian and Finnish firms is conducted. In this part of the study methodology, data collection and measurement of variables are described, the hypotheses are tested, and the research results are analyzed. Finally, discussion of the findings, theoretical and practical contributions of the research, and limitations and directions for further research are given.

2. THEORETICAL FRAMEWORK

2.1. The concept of entrepreneurial orientation

2.1.1. Definitions and history of EO

Nowadays entrepreneurial orientation (EO) is one of the most popular concepts within the studies of entrepreneurship. It refers to the strategy making process which provides organizations with entrepreneurial activities and decisions. This concept captures different practices, activities and processes that help firms to create value and perform effectively (Lumpkin and Dess 1996).

The concept of entrepreneurial orientation takes its origin in the works of Mitzberg (1973). However, the recognition and scholarly attention of the notion of entrepreneurial firms and the most popular components of EO were known from the publication of Miller (1983). Miller made a distinction between entrepreneurial and conservative firms and suggested that entrepreneurial firm is one that “engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch” (Miller 1983, 771). Conservative firms are those in which the style of top-management is characterized by risk avoidance, absence of innovations, passiveness and imitation of competitor’s actions instead of being first in the industry. Many researchers have adopted an approach based on Miller’s conceptualization and three dimensions of EO – “innovativeness”, “risk taking” and “proactiveness” (Rauch et al. 2009).

The definition of entrepreneurial firm proposed by Miller (1983) formed the basis of EO concept which appeared in the publication of Covin and Slevin (1989). This article became the starting point of numerous empirical researches on firm-level entrepreneurship and its influence on firm performance in different environmental conditions. Covin and Slevin (1989) have developed a scale (strategic posture scale) for the measurement of EO, and this scale became one of the most popular instruments used to measure the level of EO in organizations (Rauch et al. 2009). In order to be entrepreneurial, a firm must have high levels of all three dimensions - “innovativeness”, “risk taking” and “proactiveness” – together. Another contribution of Covin and Slevin (1989) to EO concept is their study of firm’s

behavior in different environments. They studied the performance of entrepreneurial small and medium firms in hostile and benign environments and found out that being in hostile environment, the firm becomes more entrepreneurial oriented and develop organizational structures for creativeness, innovativeness and competitive advantages in order to achieve high performance (Covin and Slevin 1989).

Another classical work within EO concept is an article written by Lumpkin and Dess (1996) who added two additional dimensions to EO – “autonomy” and “competitive aggressiveness”, – the scales of which were developed later. EO is defined by them as the processes, practices and decision-making styles that lead to the new result and are characterized by the presence of one or several components, such as autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness (Lumpkin and Dess 1996, 136-137). Lumpkin and Dess (1996) suggested considering EO as a multidimensional concept. They supposed that a firm, in order to be entrepreneurial, may not have all the dimensions at the same time and that the dimensions may not relate to each other. This new view and radical rethinking of the EO concept was opposite to the previous one and marked the beginning of theoretical division within EO concept.

Nowadays, there are many different definitions of EO and entrepreneurial firms (Table 1). Some of the definitions are shortened and others are extended compared to the classical definition with three dimensions.

Table 1. Definitions of entrepreneurial orientation and entrepreneurial firms (based on [Covin and Wales 2012] and added by the author).

Authors	Definitions
Mintzberg (1973, 45)	“In the entrepreneurial mode, strategy-making is dominated by the active search for new opportunities” as well as “dramatic leaps forward in the face of uncertainty”.
Miller (1983,771)	“An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch”.

Merz and Sauber (1995, 554)	“. . . entrepreneurial orientation is defined as the firm’s degree of proactiveness (aggressiveness) in its chosen product-market unit (PMU) and its willingness to innovate and create new offerings”
Lumpkin and Dess (1996, 136-137)	“EO refers to the processes, practices, and decision-making activities that lead to new entry” as characterized by one, or more of the following dimensions: “a propensity to act autonomously, a willingness to innovate and take-risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities”.
Covin and Slevin (1989, 77)	“Entrepreneurial firms are those in which the top managers have entrepreneurial management styles, as evidenced by the firms’ strategic decisions and operating management philosophies. Non-entrepreneurial or conservative firms are those in which the top management style is decidedly risk-averse, non-innovative, and passive or reactive”.
Walter, Auer, and Ritter (2006, 549).	“Generally, entrepreneurial orientation refers to the propensities, processes and behaviors that lead to entry into new or established markets with new or existing goods or services”.
Avlonitis and Salavou (2007, 567)	“EO constitutes an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage”.
Rauch, Wirklund, Lumpkin, and Frese (2009, 762)	“EO refers to the strategy making processes that provide organizations with a basis for entrepreneurial decisions and actions”.
Chen, Li, and Evans (2012, 1021)	“... entrepreneurial orientation is imperative in a firm's entrepreneurial process, including opportunity recognition, innovation and opportunity exploitation”.

The example of shortened definition is Merz and Sauber's (1995, 554) definition of EO, in which EO is presented as the degree of firm's proactiveness and its intention to be innovative for the creation of new market products. Another example is the shortened definition proposed by Avlonitis and Salavou (2007, 567) who describe EO as an organizational phenomenon that reflects managerial capability with the help of which firms start proactive and aggressive initiatives in order to change the competition in their advantage. The extended definition is, for example, that, provided by Lumpkin and Dess (1996) with five dimensions of EO. This concept along with three dimensions approach is also broadly used in the empirical research.

The choice of the definition made by researchers depends on the purpose and objectives of the research. If it is intended to study the whole unified notion of EO, the classical definition with three dimensions is usually used. In the research which aims to concentrate on some dimensions of EO, for instance, innovativeness or risk-taking, and to show the influence of different factors on them and their impact on firm performance, the shortened definitions are usually applied with concentration on specific dimensions. Finally, if the research aim is to investigate EO in greater detail, the extended definition which includes different aspects of entrepreneurial orientation is used by the researchers.

The definition of entrepreneurial orientation used in the Master's thesis is the classical definition proposed by Covin and Slevin (1989), in which entrepreneurial orientation has the dimensions of innovativeness, risk-taking and proactiveness. These three dimensions explain the essence of entrepreneurial orientation to the full extent, and it is important to cover all these sides of the construct while conducting the empirical research. At the same time, three dimensions are enough for this study, as entrepreneurial orientation is considered as a whole notion, which is influenced by the external and internal antecedents, and has impact on the firm performance indicators, and, thus, the usage of additional and more detailed dimensions of EO is not necessary for the purposes of the study.

2.1.2. Measurement approaches

There are different scales for the measurement of EO. They are related to the two main approaches of EO conceptualization: unidimensional and multidimensional approach.

One of the most popular scales within unidimensional concept is the one developed by Covin and Slevin (1989). Unidimensional approach considers EO as a concept composed by three elements: innovativeness, risk-taking and procativeness.

- Innovativeness is the proclivity and tendency of the firm to engage in and support new ideas, novelty, experimentations and creativity which lead to the creation of new products, services or technological processes (Lumpkin and Dess 1996). Innovativeness reflects the firm's willingness to depart from existing practices and technologies, and open its organizational culture to new ideas and combinations.
- Risk-taking refers to firm's tendency to be engaged in risky projects in order to achieve firm's objectives (Miller 1983). Risk-taking reflects the degree of readiness of top management to invest in projects with high level of uncertainty when the result is not obvious and the possibility of success is not known. The range of firm's risk-taking behavior differs from nominal level-"safe" risks, which include money deposits in banks, investments in T-Bills, to highly risky actions, such as borrowing big sums of money, investing in unexplored technologies or creating new products for the new markets (Lumpkin and Dess 1996).
- Proactiveness can be defined as a process of acting on future needs by "seeking new opportunities which may or may not be related to the present line of operations, introduction of new products and brands ahead of competition, strategically eliminating operations which are in the mature or declining stages of the lifecycle" (Venkatraman, 1989, 949). Proactiveness is often associated with striving for the first-mover advantage. It refers to the firm's ability to anticipate future consumer

problems and needs and to make necessary changes ahead competitors (Dess and Lumpkin 2005). Proactive firm is a leader rather than a follower because proactiveness involves forward-looking perspectives and new opportunities which are accompanied by innovative activities (Lumpkin and Dess 1996).

Unidimensional approach suggests that three dimensions of EO – innovativeness, risk-taking and procativeness – work in combination rather than each of the dimensions individually to enable a firm to be entrepreneurial. Only firms that have high levels of all three dimensions can be regarded as entrepreneurial firms (Covin and Slevin 1989, 79). Also, according to unidimensional approach, three dimensions of EO are highly intercorrelated with each other and related to firm performance in similar ways, and, thus, can be combined into one single factor when deterring their influence on firm performance (Rauch et al. 2009).

In order to measure each of EO dimensions, Covin and Slevin (1989) developed a nine-item scale which is often used in entrepreneurship research. The type of this scale is seven-point Likert scale. The scale consists of three variables, and each variable is measured by three items. In terms of innovativeness, the scale measures the emphasis of the firm on research and development, creation of new products and services, and its changes. The proactiveness variable is measured by the firm's response to the actions of competitors, introduction of new products of services before the competitors, and adoption of competitive posture. Risk-taking items include firm's attitude towards risk, actions to achieve firm's objectives, and the behavior of the firm in decision-making situations which involve uncertainty (Covin and Slevin 1989).

The alternative perspective to unidimensional approach is the consideration of EO as a multidimensional phenomenon. Lumpkin and Dess (1996) reviewed the concept of EO and suggested that the dimensions may vary independently of each other due to different external factors and internal contexts, and firm may have high levels of some of them and low levels of others. Except of three dimensions of EO concept described above, Lumpkin and Dess (1996) have also added two additional dimensions – autonomy and competitive aggressiveness.

- Autonomy describes firm's independence, freedom and self-direction which are necessary to develop new ideas and opportunities. It refers to independent actions performed by individuals or teams to bring forth ideas or vision and carry them through to completion (Lumpkin and Dess 1996).
- Competitive aggressiveness can be defined as firm's tendency to outperform its rivals in the marketplace and is more often referred to new firms which tend to behave more aggressively in order to gain the market share, achieve entry or improve position. In contrast to proactiveness which refers to firm's relation to market opportunities, competitive aggressiveness refers to the relation to competitors and response to market trends that already exist (Lumpkin and Dess 1996).

Multidimensional approach suggests that all EO dimensions are not necessarily present at the same level in an entrepreneurial firm. Moreover, a firm may be considered entrepreneurial when only several of these dimensions are operating. As the dimensions of EO are independent, they may relate differently to firm performance (Rauch et al. 2009).

Multidimensional approach adds autonomy and competitive aggressiveness to the dimensions of EO. The definitions of these dimensions were proposed by Lumpkin and Dess (1996) but measurement scales appeared later (Lumpkin and Dess 2001; Lumpkin, Cogliser, and Schneider 2009). The type of these scales is seven-point Likert scale. The recommended autonomy measurement scale consists of four items. They include autonomous work of individuals and teams, decision making process made by the employees, top manager's view on the conditions of work results, and the role of CEO and top management team in identification and selection of entrepreneurial opportunities of the firm (Lumpkin, Cogliser, and Schneider 2009). Competitive aggressiveness of a firm is measured by two items, which are firm's intention to behave aggressively, and adoption of "undo-the-competitors" posture (Lumpkin and Dess 2001). In multidimensional approach five dimensions are central for understanding of EO, but they may appear in different combinations in correspondence to firm purposes.

The concept of entrepreneurial orientation is becoming broadly used in different countries, and in EO literature there is a discussion about implication of EO measurement to different countries and contexts (Arbaugh et al.2009; Runyan et al. 2012). Researchers verified the usage of EO measures in various cultural contexts and confirmed the validity of both unidimensional (Arbaugh et al.2009) and multidimensional (Kreiser et al. 2002a) approaches to EO measurement. EO concept appears to be generalizable to developed countries and it has a big potential for explaining company's behavior in developing economies (Arbaugh et al.2009).

The approach to the measurement of EO used in this research is unidimensional approach, in which EO is considered as the whole and unified notion. The usage of this approach is explained by the purpose and objectives of the research which is aimed to investigate the relationship between external and internal environment, EO and performance outcomes, where EO is considered to be a whole notion, rather than to study different dimensions of EO separately.

Figure 1 summarizes the theoretical concept of entrepreneurial orientation and classifies EO definitions and measurement scales.

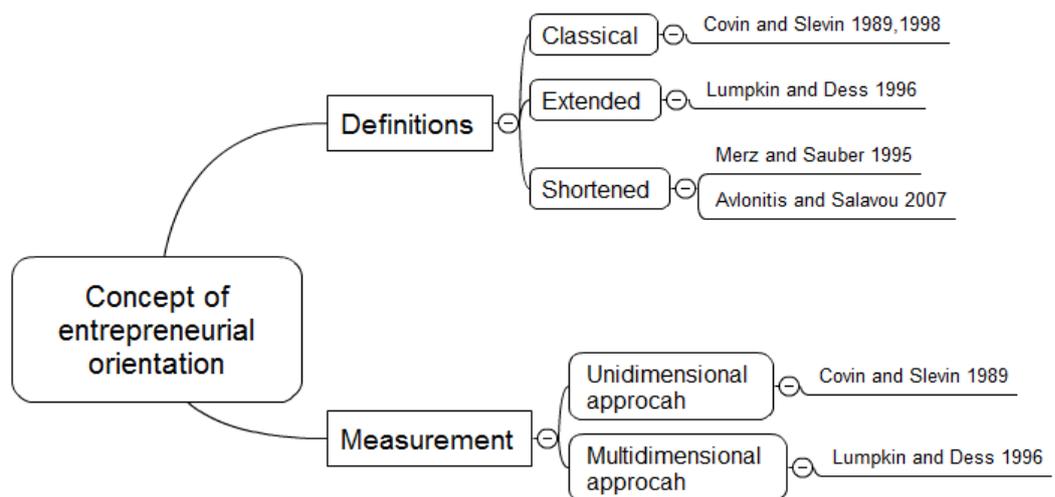


Figure 1. The concept of entrepreneurial orientation

Before conducting empirical study, researchers determine the definition of the main concepts which they are planning to use in their study, and the approaches to measure them. The choice between classical, extended, or shortened definitions,

and unidimensional or multidimensional approaches depends on the question and objectives set in the research.

2.2. Analysis of the main approaches to EO research

Since the development of EO concept and measuring scales, there have been conducted many empirical research which investigated several antecedents and consequences of EO. Each study examines rather a small part of the variables of antecedents and performance indicators, and verifies them in different external and internal contexts (Wales et al. 2001).

All empirical research can be classified according to several criteria: thematic areas, application of theory to the research, and classification by countries where research was conducted. Thematic areas, theory and country applied are the attributes of any empirical research of EO, and any research can be included in each of these three groups. In this empirical research classification by thematic areas is considered as the principal classification, because it fully reflects the state-of-the-art within EO concept and shows research approaches more clearly and accurately. According to the thematic criteria, all empirical studies can be classified into three main directions of the research:

- 1) The first approach investigates relationships between EO and firm performance.
- 2) The second approach focuses on the influence of different antecedents on EO.
- 3) Finally, the third approach includes both antecedents and outcomes of EO and concentrates on three-way relationships between antecedents, EO and firm performance, where EO is sometimes tested for the mediating role between antecedents and performance outcomes.

2.2.1. Performance outcomes of EO

Entrepreneurial orientation is a firm strategic posture which enables firms to innovate, take risky activities and be proactive (Covin and Slevin 1989). In the contemporary business environment, which is characterized by constant changes

and shortened product lifecycles, the future sources of revenue are uncertain and organizations need to constantly search for new opportunities on the market and maintain their competitive advantage. Entrepreneurial orientation let firms to create and commercialize ideas into new products and services, be involved in risky projects, apply forward-looking perspective and seek for new business opportunities. These characteristics of entrepreneurial firm may be beneficial when the firm is facing different environmental challenges. Therefore, firms may benefit from adopting entrepreneurial orientation to their strategy (Rauch et al. 2009).

Most of empirical studies are related to the investigation of EO influence on firm performance. In this case EO is considered as an independent variable which influences firm performance.

EO may influence the performance in both direct and indirect ways. The studies of the direct influence investigate “EO-performance” relationship in different contexts, using moderating variables, whereas studies of indirect relationships use mediating variables through which they connect EO with firm performance.

Moderating variables

Very often empirical studies demonstrate that EO is beneficial and leads to better firm performance which is expressed in an increase of revenue and firm growth (Rauch et al. 2009). However, there is variation in the size of reported relationships between EO and firm performance (Rauch et al. 2009). Hence, Lumpkin and Dess (1996) suggested that EO-performance relationship is context dependent. “That is, the strength of the relationship between EO and performance depends on the characteristics of the external environment as well as internal organizational characteristics” (Wiklund and Shepherd 2005, 73). This context is represented by moderating variables (Figure 2). The relationship between the variables of EO and performance depends on the level of the third variable (Rauch et al. 2009).

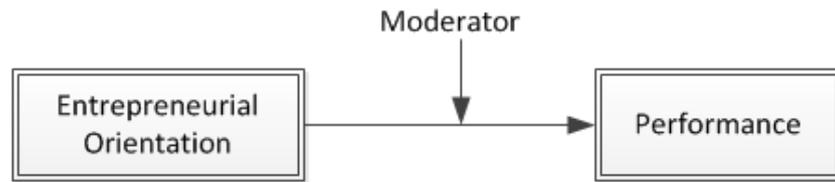


Figure 2. Moderating variables of “EO-Performance” relationship

Moderators represent conditions under which EO is influential (Wales et al. 2011). In the appropriate conditions EO leads to better firm performance and superior outcomes, but when the context is not appropriate, EO may be a wasteful strategy for a firm as it requires substantial investments.

Within the studies of “EO-performance” relationship through moderating variables there can be identified two approaches: contingency and configurational.

Contingency approach describes two-way interactions: the interaction between EO and characteristics of external environment, or between EO and internal contexts, and the influence of EO and these factors on firm performance (Wiklund and Shepherd 2005). For example, EO had positive effects on firm performance in hostile than in benign environments (Covin and Slevin 1989; Zahra and Covin 1995). Also, access to financial resources allows pursuing new opportunities and encourages experimentations and, thus, positively influences EO and performance (Zahra 1991). Contingency theory suggests that fit among key variables (environment, structure, strategy, managerial style) is crucial for optimal performance and influence on how EO will be configured in order to be beneficial (Lumpkin and Dess 1996).

Configurational approach describes a three-way interaction model: the interaction between EO and both external and internal contexts. It is suggested that in organizations several elements of structure, strategy, process and environment are formed into clusters and configurations (Wiklund and Shepherd 2005). Performance results from both external and internal factors, and this joint performance contributed to the empirical studies of EO.

The empirical studies investigated both external and internal moderating variables within EO-performance relationship. External variables include environmental dynamism and hostility (Covin and Slevin 1989), environmental uncertainty (Lan and Wu 2010), national culture, networking (Stam and Elfring 2008), and other variables. Internal variables which moderate “EO-performance” relationship include firm’s age, managerial teams, knowledge based resources, entrepreneurship style (Avlotinitis and Salavou 2007), educational level (Lan and Wu 2010), reconfiguring capabilities (Jantunen et al. 2005), organizational structure and strategy pursued by the firm (Rauch et al. 2009; Wales et al. 2011; Soininen et al. 2012).

Mediating variables

Mediating variables, in contrast to moderating variables, show indirect relationship between EO and firm performance and address to the issue not of when the specific events occur, but why they take place and why the relationship is possible (Baron and Kenny 1986). Mediators help to reveal the mechanism through which EO influences firm performance and the causal chain between two related variables (Wales et al. 2011). When testing the hypotheses about mediating variables, the researches test both the direct relationship between EO and firm performance, and indirect relationship through mediator, and check whether the mediator enhance the relationship or not (Figure 3).

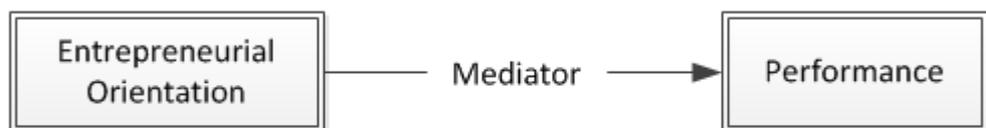


Figure 3. Mediating variables of “EO-Performance” relationship

The examples of mediating variables used in the empirical research are organizational learning, strategy, knowledge management (Li et al. 2009; Madhoushi et al. 2011), entrepreneurial behavior (Kollmann and Stöckmann 2012), marketing orientation (Idar and Mahmood 2011), internal resource attributes (Lee and Chu 2011), networking and other groups of variables.

Compared to moderating variables, in contemporary science there are fewer studies with mediating variables which attempt to investigate the causal path through which EO impacts firm performance.

The previous studies, which examined the influence of entrepreneurial orientation on firm performance, have demonstrated that, in general, the consequence of entrepreneurial orientation is its positive impact on the performance indicators of a firm (Covin and Slevin 1989; Zahra 1991; Zahra and Covin 1995; Caruana 2002; Wiklund and Shepherd 2003, 2005; Rauch et al., 2009).

Firm performance is a multidimensional concept, and different indicators have been used in the literature in order to measure the performance. Researchers examined both financial and non-financial measures as well as domestic and international firm performance. Financial measures are more often used in EO research and they include different growth measures and measures of profitability. Non-financial indicators include such company's measures as owner satisfaction, global success ratings, goals achievement, and other indicators (Rauch et al., 2009).

One example of the positive relationship between entrepreneurial orientation and firm performance is the study of Finnish small private companies of multiple industries. The results of the study have shown that entrepreneurial orientation is positively related to the firm's growth rate over the last five years. Additionally, risk-taking dimension of EO generates higher profitability for firms, and it was also shown that the higher level of EO the firm has, the better are the firm's chances to go out of economic recession (Soininen et al. 2012). Another study of US firms has demonstrated that in the early stages of industry development the performance of firms is stronger when their strategy is proactively oriented, whereas in the mature stages of industry development the competitive aggressiveness is more beneficial for firm performance (Lumpkin and Dess 2001). Furthermore, entrepreneurial orientation may also have a positive effect on the speed to the market, i.e. on the firm's ability to quickly bring new technologies, products and services to the market (Clausen and Korneliussen 2012).

Besides the measurement of firm performance on the domestic market, several studies have also examined the influence of entrepreneurial orientation on international firm performance and its ability to discover and exploit opportunities that lie on the international markets. For example, the results of the study of Chinese small and medium-sized manufacturing enterprises have shown that entrepreneurial orientation is positively related to the degree of internationalization. The success of a firm on the international markets depends on the firm's attitude towards risk-taking and firm's ability to diversify and successfully compete with already established companies on the market (Lan and Wu 2010). Another study has shown the positive and significant effect of firm's entrepreneurial orientation on international performance which is measured by subjective assessments of the company's success in international operations (Jantunen et al. 2005).

The above examples of empirical research show that entrepreneurial orientation in many cases and contexts may become beneficial for companies and improve their performance on both domestic and international markets. Therefore, it is supposed that, in general, entrepreneurial orientation drives the organization to achieve better performance, and the first hypothesis of the study can be formulated as the following statement:

Hypothesis 1: EO is positively associated with both (a) domestic and (b) international firm performance.

2.2.2. Antecedents of EO

In the empirical research of antecedents of EO, EO is presented as the dependent variable, whereas different antecedents are independent variables. Compared to the studies of "EO-performance" relationship, the studies of EO antecedents are less numerous. When investigating antecedents of OE, researchers try to answer the question of why some firms are more entrepreneurial than others and what are the drivers of EO of the firm. All antecedents of EO investigated in empirical research can be divided into two groups: external and internal antecedents (Figure 4).

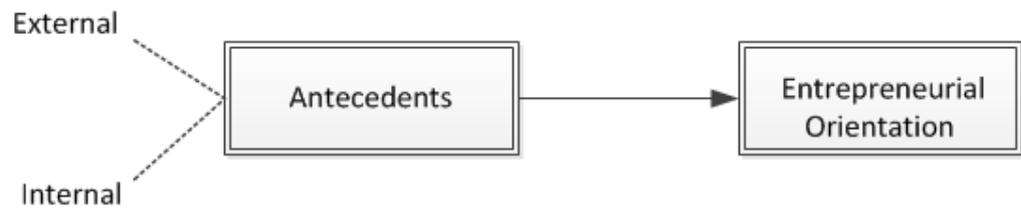


Figure 4. “Antecedents-EO” relationship

External antecedents

Among external antecedents of EO, studied in the previous research, there are business environment (Alexandrova 2004), national culture (Kreiser et al. 2010), regulatory institutions (Shirokova and Sokolova 2013), governance and other factors that affect the level of EO.

External antecedents, studied in this research, are the business environment of the firm which includes environmental dynamism, hostility, and heterogeneity (Miller and Friesen 1982), competition intensity, and demand growth. Firms operate in external business environment, and have to adapt to it and respond to its challenges by changing their actions and strategies.

Environmental dynamism. Environmental dynamism shows the level, speed, and predictability of the changes in the industry in which the company operates. The notion of dynamism describes the rate of unpredictable environmental changes and uncertainty of external environment (Miller and Friesen 1983; Alexandrova 2004). These environmental changes include volatility of the firm’s market, innovations in the industry, shifts in demand and consumer’s preferences, production and service technologies as well as uncertainty and unpredictability of competitors’ behavior in the firm’s main industry (Miller and Friesen 1982; Caruana, Ewing, and Ramaseshan 2002; Aloulou and Fayolle 2005). The company has to respond to these changes by modifying its marketing practices and strategy.

On the one hand, environmental dynamism, characterized with the shifts in demand, technological and competitive environments, creates difficulties for the firms which are operated in the conditions of uncertainty and unpredictability of

environmental changes. On the other hand, dynamic external environment creates new opportunities for the companies to expand their businesses, develop and create competitive advantage (Ruiz-Ortega et al. 2013).

Firms operate in external business environment which influences their strategic orientations. Several researches examine the relationship between environmental dynamism and entrepreneurial orientation of the firm (Miller 1983; Miller and Friesen 1983; Alexandrova 2004; Rauch et al. 2009; Ruiz-Ortega et al. 2013).

In general, dynamic environments have been found to encourage the entrepreneurial behavior on the organizational level (Miller, Droge, and Toulouse 1988). Organizations tend to respond to unpredictable changes, which characterize dynamic environments, by modifying its strategies, innovating and taking more risky and proactive actions. High level of environmental dynamism may foster the implementation of entrepreneurial orientation in the firm in order to be more efficient in searching for the new opportunities which appear on the market (Rauch et al. 2009).

One study investigated the impact of environmental variables, including dynamism, on different dimensions of entrepreneurial orientation on the sample of Bulgarian micro-firms (Alexandrova 2004). The results of the study have shown that dynamism perception has the highest impact on entrepreneurial orientation dimensions. Dynamic external environment with unpredictable changes in technologies, consumer and competitor behaviors, creates new business opportunities on the market, and the companies start searching for these opportunities and acting in a more proactive way (Alexandrova 2004).

Another research investigated the effect of environmental dynamism on firm entrepreneurial orientation (Ruiz-Ortega et al. 2013). The research has shown that dynamic environment encourage innovativeness, and forces firms to adapt to the external environment by changing products or markets in order to be competitive. Except innovative behavior, environmental dynamism encourages firms to act proactively. Proactive behavior helps firms to minimize the threats of obsolescence of products and services, and be ahead of its competitors on the market. As for the risk-taking behavior, environmental dynamism may also push

firms to take more risky decisions as the firms are faced with higher risks and involved in uncertain actions (Zahra 1991; Ruiz-Ortega et al. 2013).

Overall, taking into account the previous discussions and research on the relationship between environmental dynamism and firm entrepreneurial orientation, it may be supposed that entrepreneurial orientation increases when the firm operates in dynamic business environment. Therefore, the Hypothesis 2a is formulated as the following:

Hypothesis 2a: Dynamic external business environment is positively associated with EO.

Environmental hostility, competition intensity, and demand growth.

Environmental hostility is another element of external business environment. It shows the level of competitiveness of the industry where the company operates. The scale of hostility measures whether or not the business environment is the threat to the survival of the firm (Miller and Friesen 1982).

The level of environmental hostility describes the assessment of such challenges as intensive price, product, technological and distributional competition within the industry, dwindling markets for products, company's access to necessary inputs, scarcity of labor and material resources, governmental intervention, severe regulatory restrictions, unfavorable demographic trends, and other challenges (Miller and Friesen 1983; Caruana, Ewing, and Ramaseshan 2002; Alexandrova 2004). In general, environmental hostility is defined as the degree of threat of these challenges to the firm (Miller and Friesen 1983). It is an encompassing construct which includes the elements of threat and lack of control over the agents and events in firm external environment (Alexandrova 2004).

Previous research investigated the relationship between environmental hostility and entrepreneurial orientation of the firm (Miller 1983; Miller and Friesen 1982; Miller and Friesen 1983; Covin and Slevin 1989; Alexandrova 2004). Generally, the findings of the studies indicate that hostile business environment is positively associated with different dimensions of firm entrepreneurial orientation, and that

entrepreneurial strategic posture is more positively related to performance among firms operating in hostile contexts (Covin and Slevin 1989).

In one study, which investigated the impact of external environment on firm entrepreneurial behavior in a sample of large Canadian firms, it was hypothesized that the more hostile the environment is, the more entrepreneurial firms will be (Miller 1983). Hostile business environment requires from the firms to behave entrepreneurially, as this behavior helps firms to effectively cope with environmental challenges which they face. Firms in hostile business environments try to respond to external challenges and stay profitable. They become more innovative by modifying their products and services in order to better respond to customer needs and take more risky and proactive actions on the market. The findings of the study indicate positive correlation between environmental hostility and entrepreneurial orientation (Miller 1983).

One of the characteristics of hostile business environment is competition intensity. Direct competition is a form of competition between companies, which products or services perform the same function and serve the same customer needs. In order to respond to competitors' actions, firm may choose competitive aggressive behavior. Competitive aggressiveness, proposed by Lumpkin and Dess (1996), refers to way of dealing with competitors, which changes from "making no efforts to take business from the competition" to "being very aggressive and intensely competitive" (Limpkin and Dess 2001, 451).

When firms are operating in highly competitive external environments, which decrease their market share and create fewer opportunities, entrepreneurial orientation may be a beneficial strategic orientation. In order to compete aggressively on the market, managers of the firm are "inclined to take business-related risks, to favor change and innovation" (Covin and Slevin 1979, 218). Therefore, it may be supposed that in order to gain and maintain competitive advantage and respond to actions of competitors, small firms will manifest more proactive, innovative and risky behavior instead of passive and reactive actions (Covin and Slevin 1989).

The opposite of hostile environments are benign environments. They provide safe settings for business operations in the industry and create wide range of business opportunities for the firms (Covin and Slevin 1989).

One of the examples of benign business environment is the environment with demand growth for firm's products or services. In the industry where demand is growing, consumers are willing and able to purchase more goods and services, and market for a firm is expanding. In the favorable external environment with growing demand, there is no need for firms to become highly entrepreneurial. Previous studies have shown that in benign environments, firms with conservative strategic posture achieve better performance indicators, and the relationship between entrepreneurial orientation and firm performance may be much weaker or even negative (Covin and Slevin 1989). The study has shown that firms with low level of entrepreneurial orientation, or conservative firms, perform better in the context of benign external environment (Covin and Slevin 1989).

It can be retrieved from the studies above that environmental hostility and intense competition, when considered as antecedent variables, may cause higher levels of entrepreneurial orientation of the firm. There is more need for innovations and it is more likely that firms will be innovative in more hostile than benign environments (Miller and Friesen 1982).

On the contrary, in benign business environments, where there are favorable conditions for firm operations and demand growth in industry, the level of entrepreneurial orientation is lower. Entrepreneurial firms are less often found in benign environments compared to hostile contexts, which create high risks and high rewards for managers who prefer rapid growth and new opportunities (Miller and Friesen 1982).

Therefore, having analyzed the previous research on the relationships between environmental hostility, competition intensity, demand growth and entrepreneurial orientation, the next hypotheses of the study are the following:

Hypothesis 2b: Hostile external business environmental is positively associated with EO.

Hypothesis 2c: Competition intensity in a firm's business environment is positively associated with EO.

Hypothesis 2d: Demand growth in industry is negatively associated with EO.

Environmental heterogeneity. Environmental heterogeneity describes the level of firm's diversification, its operation in different industries and offering of different products and services with regard to different customer's buying habits, nature of competition, market dynamism and uncertainty (Miller and Friesen 1982).

Environmental heterogeneity describes the complexity of external business environment. In heterogenic environments there are differences in product lines, customer tastes, competitive tactics and other characteristics of the environment across firm's respective markets (Caruana, Ewing, and Ramaseshan 2002). These variations among the firm's markets require from the firm different administration, marketing, production or distribution strategies in different markets where the firm operates (Miller and Friesen 1983).

The level of environmental heterogeneity may have an impact on the level of entrepreneurial orientation of the firm. Previous research investigated the relationship between environmental heterogeneity and entrepreneurial activity of the firm (Miller and Friesen 1982; Miller 1983; Miller and Friesen 1983; Caruana, Ewing, and Ramaseshan 2002).

Generally, heterogenic business environments with diversity of market domains require from the firms to apply market segmentation strategies and offer different products and services in different market segments. This creates the incentives for product, service, or technological innovations, as firms which create new ideas and innovations may exploit them in different markets (Miller and Friesen 1982; 1983). Environmental heterogeneity increases the firm diversity in operation procedures, administrative practices, technologies and other strategies. Firms which operate in different markets have broader experience and are likely learn from customers and competitors in different markets. They may apply ideas and strategies from one market to another (Miller 1983). When the organization is

diversified, there is higher probability to propose and create innovations and to deliver different products and services to different markets in order to meet customer needs (Miller and Friesen 1982).

In addition to the impact of heterogeneity on firm innovativeness, heterogeneity may have an impact on proactiveness and risk-taking dimensions of entrepreneurial orientation. In the heterogenic business environment new niches of the market open up, and the firms can take risky actions and fill the niches proactively with new products and services. With these actions, the firm may be the first on the market to reach customers and serve their needs (Miller and Friesen 1983).

Taking into consideration the results of the previous research on the relationship between heterogeneity and entrepreneurial orientation, it may be supposed that, in general, the more heterogenic environment is, the higher will be the level of entrepreneurship on the organizational level. Therefore, the Hypothesis 3c is stated as the following:

Hypothesis 2e: Heterogenic external business environmental is positively associated with EO.

Internal antecedents

Except the external environment, in which a firm operates, the effectiveness and level of entrepreneurial orientation depends on the firm's internal resources (Covin and Slevin 1991).

The internal antecedents include organizational structure, leadership style and organizational culture (Engelen 2010). Socio-cultural characteristics of entrepreneurs such as education, experience and religion were found to have an impact on EO (Altinay and Wang 2011). The behavior of firm's owner (Hürzeler et al. 2013) and organizational climate (Belausteguigoitia et al. 2007) were also studied as the factors of EO development in the firm. In other studies such antecedents as top management team, leadership, HR management, organizational resources, strategic orientations and processes were considered as variables that influence EO on the firm level (Wales et al. 2011).

In this research firm's organizational environment is studied as internal antecedents of EO. Among the elements of internal environment of the company, there are formalization of operating procedures and centralization of authority (Covin and Slevin 1991; Miller, Droge, and Toulouse 1988). The levels of formalization and centralization are different among different firms and are measured on the firm level.

Formalization of operating procedures. According to Ferrell and Skinner (1988), formalization of operating procedures can be defined as standardization and recording of rules, procedures, operations and processes within a company. The level of formalization describes the extent to which decision-making processes in the firm are based on the documented plans and rules, rather than on informal policies and procedures (Clercq, Dimov, and Thongpapanl 2013). An important element of formalization is that the rules and procedures usually exist in a written form. Formalization is also connected with more control over the behavior of employees.

Formalization has both positive and negative aspects for the company. On the positive side, formalization reduces ambiguity and stabilizes the decision-making processes in the organization while making them more predictable, manageable and efficient (Clercq, Dimov, and Thongpapanl 2013). Besides this, formal systems reduce uncertainty and provide clear identification of roles and responsibilities of employees in the organization. The high level of formalization can be beneficial in the contexts where there is standardization of firm's operations.

At the same time, in organizations with high level of formalization, different rules, regulations and controls constrain the actions and behavior of organizational members. Because of the control mechanisms which regulate the behavior of managers and employees, the scope of decisions made by them may be limited (Clercq, Dimov, and Thongpapanl 2013).

The level of formalization of operating procedures may have an impact on the level of entrepreneurship within the organization. Previous research on the relationship between formalization and entrepreneurial orientation has proved

such impact, and it was found that formalization can be an obstacle to firms's entrepreneurial behaviour (Mintzberg 1979; Dougherty and Corse 1995).

Organizations with formalized operating processes are often considered to be less flexible and have more difficulties when there is a need to adapt to the changes of external environment. They are following the existing rules and usually make slow changes which can become an obstacle of being first on the market and acting proactively.

Additionally, the existence of the formal rules and procedures may reduce the level of creativity and experimentation in the organization and, thus, be unfavorable for creating innovations (Clercq, Dimov, and Thongpapanl 2013). Formalization may provoke decision-making processes in the bureaucratic way, and this may be unfavorable for the emergence of novel ideas in the company (Dougherty and Corse 1995). Furthermore, the formal policies and procedures establish hierarchical system with power concentration on the upper levels of the organization. In such system top management has the greater authority to regulate the behavior of individual managers and this limits innovation and creativity of managers and employees (Hirst et al. 2011).

Organizations with formalized strategic processes are not willing to seek for and pursuit new opportunities on the market. According to Fredrickson (1986), formalization enhances "the likelihood that strategic processes will be motivated by reactive (problem solving) as opposed to proactive (searching for opportunities) behavior" (Fredrickson 1986, 287). Organizations with high level of formalization are also not willing to take risks and participate in risky and unproven activities and projects.

As retrieved from the explanations above, formalization of operating procedures in the organization is supposed to have a negative influence on firm's innovativeness, proactiveness and risk-taking behavior, and, thus, the third hypothesis of the study can be formulated as the following:

Hypothesis 3a: Formalization of operation processes is negatively associated with EO.

Centralization of authority. Another element of company's organizational structure is centralization of authority. Centralization "refers to the hierarchical level that has authority to make a decision" (Ferrell and Skinner 1988, 104). In centralized organizations the decisions are made at the top level of the organizational structure, and there are only one or few managers who control the organization (Caruana, Ewing, and Ramaseshan 2002; Engelen 2010). The positive aspect of centralization of authority is that in the centralized organizations the control is held among few managers and, thus, the coordination of activities and decision-making processes is facilitated. Concerning to the negative aspects of centralization, in the organizations with high level of centralization the information flows are vertical and go directly from top to down, and almost all strategic decisions are made by top-managers of the company.

Several researches examine the relationship between the level of centralization and entrepreneurial orientation of the firm. In general, it was found that increased centralization limits the level of firm's entrepreneurial orientation, and decentralized structure is more beneficial for entrepreneurial firms to achieve better performance indicators (Miller, Droge, and Toulouse 1988; Caruana, Morris, and Vella 1998; Caruana, Ewing, and Ramaseshan 2002; Engelen 2010). Rigid organizational structure and internal formal controls are unfavorable for entrepreneurial behavior of firms and limit their individual performance on the market (Caruana, Ewing, and Ramaseshan 2002).

Centralization is typically associated with low flexibility and slowness of decision-making processes within the organization (Engelen 2010). There are more difficulties and challenges for the organization with high level of centralization to respond to the rapid changes in external business environment than for decentralized organization. Long and formal decision-making processes in centralized organizations also create difficulties for being first on the market, and, thus, impede the level of proactiveness in the company.

Additionally, high level of centralization restricts the freedom of employees, and leads to the lower risk-taking behavior of the organization (Engelen 2010). In order to deal with risks, employees should be equipped with necessary resources

and knowledge. Centralization does not empower employees at the lower levels of organization and discourages risk-taking activities (Moon 1999).

Centralization of authority can also have an impact on the firm's innovative behavior. It was found that there is a negative relationship between innovation and centralization (Miller, Droge, and Toulouse 1988). Concentration of the power on the high hierarchical levels of centralized organizations may prevent creativity, experimentation and imaginative solutions to problems (Caruana, Ewing, and Ramaseshan 2002). Because of the fact that generation of new ideas comes from all organizational levels, including the lower ones, centralized organizational structures, characterized by the decision-making processes at the upper hierarchical levels, may impede the acceptance of new ideas that are generated by employees at the lower levels of the organization.

In the organizations with centralized authority, the employees have less freedom and incentives to innovate and initiate new ideas. All new ideas and projects are checked carefully on the upper levels of the organization, and the decision can be made to stop the project at the initial stage of its development. Thus, centralization may be considered to be negatively associated with the level of innovativeness in the company.

On the contrary, decentralized organizations, in which the decision-making processes are extended, strategic decisions are made not only on the upper level of organization, and employees are empowered at the lower hierarchical levels, are better in creativity and bringing new ideas to the market (Engelen 2010). In these types of organizations, there is more freedom to take decisions and initiate new ideas and actions than in organizations with highly centralized authority.

Taking into consideration the previous research on the relationships between the level of centralization and firm's entrepreneurial orientation, the Hypothesis 3b can be formulated in the following way:

Hypothesis 3b: Centralization of authority is negatively associated with EO.

2.2.3. Three-way relationship and the mediating role of EO

The two-way relationship between EO and firm performance, and between antecedents and EO are the most common approaches within the empirical studies of EO. However, in the empirical research there can be also identified the third approach to EO research. This approach includes the studies which investigate both EO antecedents and outcomes, and develop the three-way interactions in some of which EO is presented as a mediating variable between antecedents and outcomes (Figure 5).



Figure 5. “Antecedents-EO-Performance” relationship

This group of empirical research contains few studies which attempt to cover both the factors which influence the development of EO of the firm, and different performance indicators, which are influenced by EO.

Three-way interactions were studied, for instance, in the research of investigation the impact of network configurations on EO and performance of new ventures and small firms (Parida et al. 2010), the research of the influence of time laps between foundation and first international market entry on the development of EO and international performance of firms (Ripollés-Meliá et al. 2007), the study of the relationship between entrepreneur’s thinking styles, EO and organizational commitment (Groves and Paunescu 2008), and the research of the influence of organizational climate on the levels of entrepreneurship and organizational performance in non-profit contexts (Morris et al. 2006).

Few studies have shown the mediating role of EO in the antecedents-performance relationship. In order to test the hypothesis about the mediating role of EO, it should be shown that a predictor variable is independently related to both mediating variable and firm performance. The relationship between mediator and outcome variables should also be tested. If the mediator plays the positive mediating role between the variables, the impact of EO antecedents on

performance increases compared to the direct relationship. The mediating role can also be proved when the regression coefficient associated with “EO antecedents – firm performance” relationship decreases and goes to zero when the mediator variable is added. Mediator variable can play the role of full mediator or be a partial mediator in the “EO-performance” relationship (Idar and Mahmood 2011).

In the contemporary research on entrepreneurship the mediating role of EO is not much investigated, and there are research gaps in the mediating approach to EO. There are empirical studies which explore three-way relationships between antecedents, EO and outcomes, but very few of them could find such relationship between factors of entrepreneurial orientation and performance indicators which are mediated and enhanced by EO. The few examples of empirical research, where EO is tested to play a mediating role between antecedents and firm performance, are presented in the Table 2.

Table 2. Examples of empirical research with a mediating role of EO

Authors	Unit of analysis	Research method	Results
Arham and Muenjohn (2012)	397 Malaysian SMEs (manufacturing and services industries)	Survey (questionnaire); web-based developed and emailed to respondents	Transformational and transactional leadership styles have an impact on EO. EO positively influences firm growth. EO plays a role of a mediator between transformational leadership and firm growth. Transformational leadership can enhance firm performance through EO.
Rosenbusch, Rauch, and Bausch (2013)	115 studies in relevant journals	Meta-analysis	EO mediates the relationship between task environment (firm interaction with stakeholders) and firm performance. The indirect effects of munificence, dynamism and complexity of task

			environment and firm performance are found to be positive and significant.
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One study has examined the relationship between leadership types, EO and organizational performance which is expressed in growth and profitability variables (Arham and Muenjohn 2012). It was shown that both transformational (directed to changes) and transactional (directed to stability) leadership styles have an impact on EO, and EO has an impact on firm growth. EO appeared to be a mediator variable between transformational leadership style and firm growth, and firm performance is enhanced through EO (Arham and Muenjohn 2012).

Another study (Rosenbusch, Rauch, and Bausch 2013) is a meta-analysis, which has shown a mediating role of EO between the elements of task environment (environmental munificence, dynamism and complexity) and firm performance.

Entrepreneurial orientation may serve as a mediator between its different antecedent variables and firm performance indicators. This study investigates the relationships between both external and internal antecedents and entrepreneurial orientation. From the discussions above, it was hypothesized different associations of external and internal business environment with entrepreneurial orientation.

Besides having the impact on the level of entrepreneurial orientation, external and internal antecedents influence the organizational performance. Firm's strategies are dependent on the environment, especially with regard to different resources and business opportunities that can be explored and exploited by firms (Rosenbusch, Rauch, and Bausch 2013). Environmental characteristics stimulate the certain strategic behavior which, in turn, has an impact on firm performance. Firms adjust entrepreneurial orientation to the external environment and use it to transform the advantages of the business environment into the improvements of performance indicators (Rosenbusch, Rauch, and Bausch 2013). External business environment, together with internal capabilities, resources and organizational culture determine the contexts, where the firms operate, and influence the firm

success on the market. Firms with entrepreneurial strategic posture may utilize external opportunities and internal resources in order to improve its financial performance and position on the market.

As it is shown above, external and internal antecedents may have an impact on both entrepreneurial orientation and firm performance. At the same time, it was illustrated with the previous research on performance outcomes of entrepreneurial orientation that entrepreneurial orientation is supposed to have a positive effect on firm performance, and firms may benefit from the adaptation and development of entrepreneurial strategic posture (Rauch et al. 2009).

Therefore, external and internal antecedents may have impact on firm performance indirectly through entrepreneurial orientation. Entrepreneurial orientation may enhance the positive relationship between antecedents and performance, and smooth the negative relationship. In other words, entrepreneurial orientation may play a mediating role between its antecedents and firm performance, and with this role improve firm performance indicators. Therefore:

Hypothesis 4: EO plays a mediating role between its antecedents and firm performance, improving firm performance indicators.

The mediating role of entrepreneurial orientation has been very little studied in management science, and the previous research mainly used contingency view of entrepreneurial orientation and environmental variables (Wiklund and Shepherd 2005). Thus, the study of EO as a mediator will contribute to the theoretical knowledge of entrepreneurship on the firm level.

2.2.4. Application of theory and country research

Other criteria, according to which the empirical research of EO can be classified, are the criteria of theories which are applied to the empirical research, and the countries about which the research has been conducted and the data has been collected.

Connection to theories and usage of theoretical paradigms is an essential part of empirical research. There can be distinguished different groups of theories used in the empirical studies. All research papers discussed above under the criteria of research thematic areas can also be classified according to the theoretical background used in the research. The most common theories used in the research are cultural (Kreiser et al. 2010; Engelen 2010; Altinay and Wang 2011) and institutional (Shirokova and Sokolova 2013) theories, resource-based view (Lee and Chu 2011), theories of social capital and networking (Parida et al. 2010; Stam and Elfring 2008), theories of organizational change and organizational ecology, agency theory and governance, and other (Miller 2011).

Institutional theory applied to the research explores the normative and political factors as well as institutional environment which may influence EO level, or may play a moderating role in the relationship between EO and firm performance. Except formal institutions, informal values, norms, and behavior approved in the society also impact the development of entrepreneurial orientation (Miller 2011). The resource-based view explores the impact of resources on EO, identifies the resources which are required to sustain EO, and develops the methods by which the resources may be obtained in the organization (Miller 2011). Besides using of one theory or paradigm in the empirical research, many empirical studies combine different theories. They investigate the antecedents and/or context variables from different theoretical backgrounds, and connect them with EO and firm performance. This research uses antecedent variables from two different perspectives: internal or resource-based view on the organization, which includes the variables of formalization and centralization, and external or industry perspective, including environmental dynamism, hostility, and heterogeneity, competition intensity and demand growth.

According to the criteria of countries in which the empirical research has been conducted, the research can be divided into three groups. The first include studies which investigate EO in developed economies (Lumpkin and Dess 2001; Wiklund and Shepherd 2005; Stam and Elfring 2008; Clausen and Korneliussen 2012; Soininen et al. 2012), the second group deals with developing countries (Lan and

Wu 2010; Shirokova and Sokolova 2013), and the last group studies EO in different countries comparing them with each other (Kreiser et al. 2010).

Entrepreneurial activities and drivers of opportunity-based entrepreneurship are different in developed and developing countries. The markets in developing countries are not much saturated, and there are more opportunities for the entrepreneurs to start or develop their businesses (Lingelbach, Viña, and Asel 2005). Despite the broader scope of opportunities in emerging markets compared to the developed markets, there are also more risks and challenges caused by economic, political and regulatory instabilities, and less internal resources needed for business establishment and development (Lingelbach, Viña and Asel 2005).

To sum up, all approaches to the empirical study of EO concept can be presented in the visual form (Figure 6). Empirical research of EO can be divided into different groups according to the criteria of thematic areas, theory applied and country research. Concerning to the approaches within thematic areas, there are more studies of the relationship between EO and performance (both moderating and mediating), and the relationship between antecedents and EO, leaving the approach of mediating role of EO not much developed in the literature.

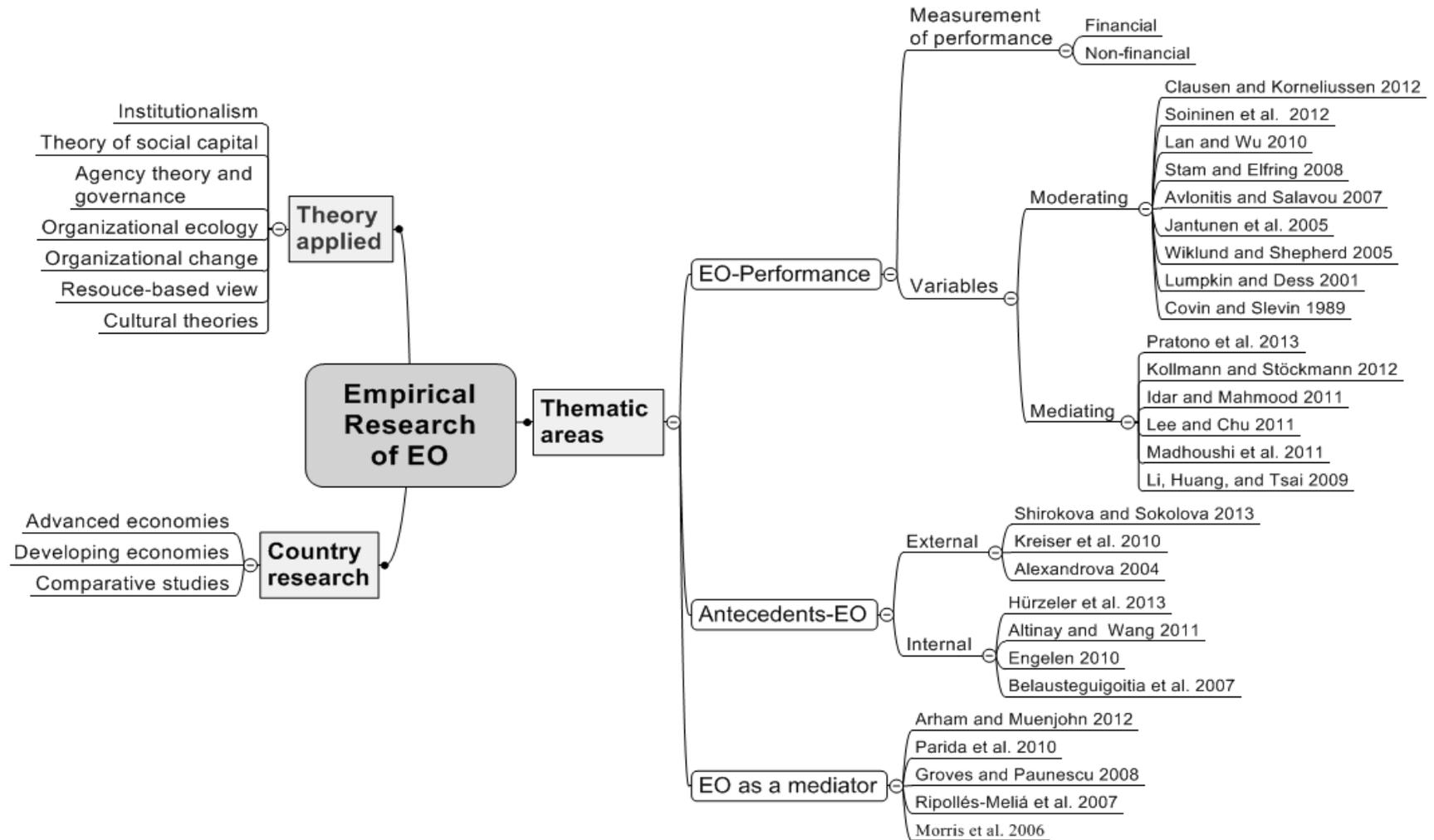


Figure 6. Map with approaches to the study of Entrepreneurial Orientation

2.3. Summary of Chapter 2

Entrepreneurial orientation is a concept that became popular during the last 30 years within entrepreneurial studies. EO is defined as a strategic process which provides the companies with innovative decisions and activities and may enhance competitive advantage of a firm and its position on the market. The main components of EO are innovativeness, risk-taking and proactiveness (Covin and Slevin 1989). These dimensions are considered as classical understanding of EO, however, some researches use shortened or extended definitions in their empirical research and the choice of definitions are determined by goal and objectives of the research.

There are two main approaches to measure entrepreneurial orientation: unidimensional and multidimensional. Unidimensional approach, proposed by Covin and Slevin (1989), considers entrepreneurial orientation as a unified notion the dimensions of which are highly correlated with each other. According to this approach, the firm is defined as entrepreneurial only if all three dimensions are presented in the firm. Multidimensional approach proposed by Lumpkin and Dess (1996) suggests that the firm may be called entrepreneurial even if only several dimensions are operating in the firm. What is more, the dimensions of EO are independent from each other and may relate differently to firm performance.

Empirical research of entrepreneurial orientation can be divided according to the several criteria, which are thematic areas, theory applied to the research, and countries in which the research has been conducted. The largest stem of the research examines the relationship between EO and firm performance, both directly under different contexts, and indirectly by various conditions (Miller 2011).

The thesis develops several hypotheses which are based on the theory and previous empirical research on EO. The hypotheses are summarized, and the research model of the study is presented below on the Figure 7.

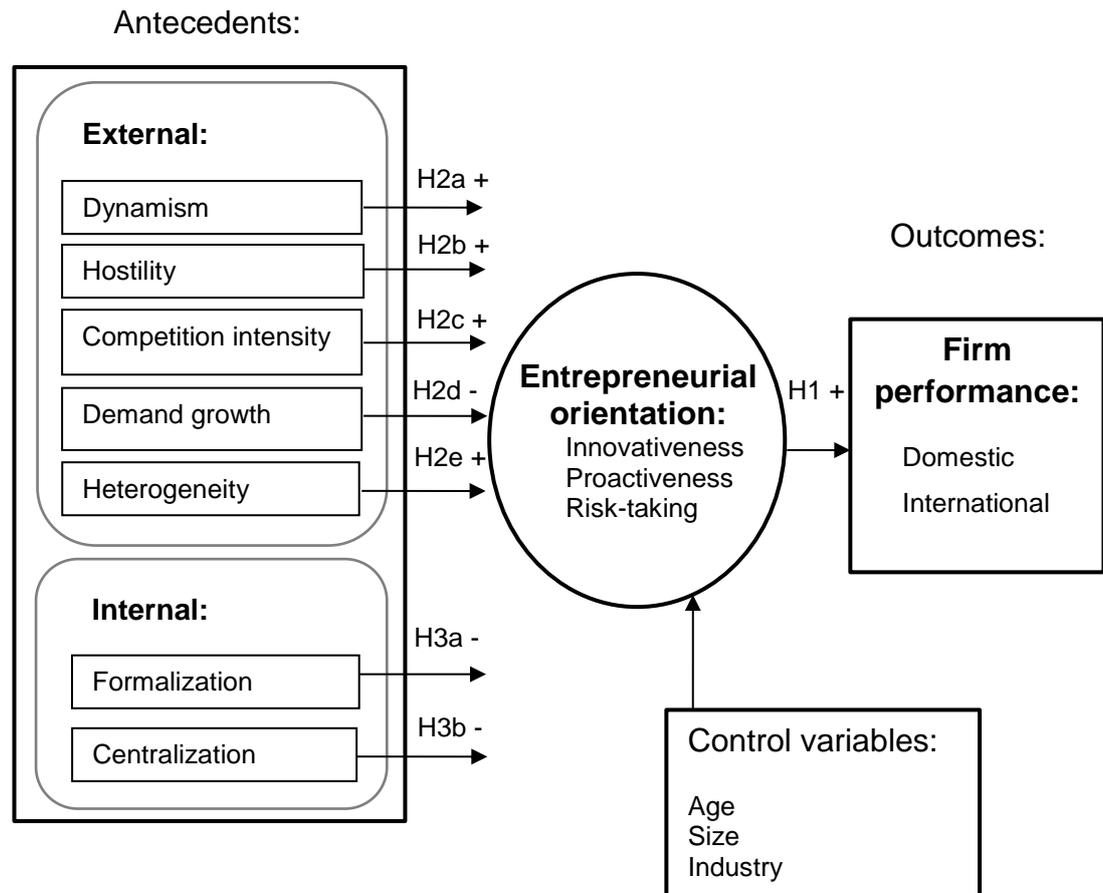


Figure 7. Research model

Note: Hypothesis 4 (H4) describes the mediating role of EO between its antecedents and firm performance.

The following hypotheses are developed and tested in the empirical part of the study:

- First, it is supposed that EO has a positive relationship with both domestic and international firm performance, and that firms with high level of EO generally perform better than firms with low level of EO (H1a,b);
- The research investigates the impact of both external and internal antecedents on EO. It is supposed that environmental dynamism, hostility, heterogeneity, and competition intensity are positively associated with EO (H2a; H2b; H2c; H2e), while demand growth, formalization of operating procedures and centralization of authority are negatively associated with EO (H2d; H3a; H3b).
- The hypothesis about mediating role of EO between its antecedents and firm performance is tested (H4).

3. EMPIRICAL STUDY OF ENTREPRENEURIAL ORIENTATOIN IN RUSSIAN AND FINNISH FIRMS

3.1. Methodology and data collection

The aim of the thesis is to distinguish the association of external and internal business environment with the level of entrepreneurial orientation, and evaluate performance outcomes of entrepreneurial orientation in developed and emerging market contexts. The results, obtained in the research, will identify the impact of EO on firm performance, and will explain the differences between EO antecedents depending on the environment and context.

The framework of the empirical study (Figure 8) shows the main steps of conducting the empirical research which leads to the obtaining of the results of the study.

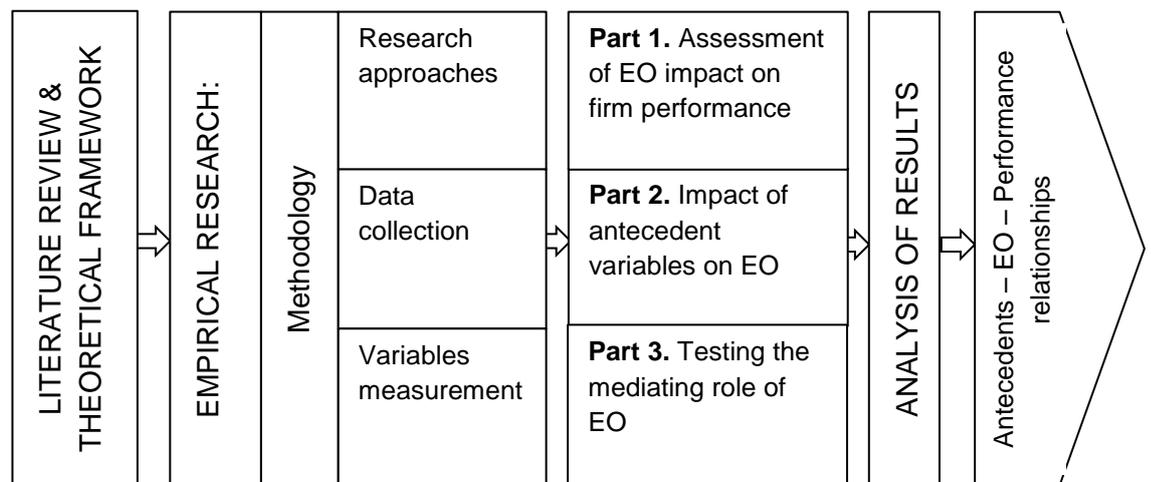


Figure 8. Framework of empirical study

Research methodology is based on the quantitative methods. The choice of quantitative methodology is dictated by the research question and aim. The research question describes the investigation of how the variables of EO antecedents, EO, and the indicators of firm performance are related to each other. In order to answer the research question and sub-questions about the relationships between the variables, the collection of big amount of data and the quantitative analysis of it are needed.

The research uses deductive approach, which begins with the general theory of entrepreneurial orientation and main approaches to its analysis, and leads to the specific ideas and hypotheses which are developed and tested in the research in different contexts. Besides this, the comparative cross-country approach is used in the research. The research is conducted in two different contexts – developed and emerging markets – which are compared with each other. Comparative approach also helps to give an answer to the sub-question about the differences of impact of antecedents on entrepreneurial orientation due to the differences in firm contexts.

In order to get the results and answer the research question, a survey is conducted. The survey is a part of a broader project on EO carried out by the Center for Entrepreneurship at Graduate School of Management of St. Petersburg State University. The questionnaire for this research has been jointly developed by the project participants.

The data for the research has been collected separately in two countries: Finland and Russia, which are the representatives of developed and developing countries, according to World Bank classification (Nielsen 2011). The data has been collected during the period from May 2013 till February 2014.

The lists of companies are included in the sample in such way that companies meet several criteria in order to be suitable for the empirical research. First of all, there is a criterion of firm location: Russian and Finnish firms have been chosen as the examples of developed and emerging market firms. In Finland most companies are located in Eastern, Southern and Western regions. In Russia, the majority of companies are from Central and Northwest regions. The second criterion includes the firm's size. The companies, included in the sample, are mostly small and medium-sized enterprises as they are considered to be more entrepreneurial and are playing an increasing role in innovation driven by changes of business environment (OECD 2010). The last criterion of the companies' choice is their legal form. All firms included in the sample are private companies which are driven by profit maximization. In addition to this, the lists of companies have been chosen in such a way that other information about the firms is also available, such as number of employees, statistical classification of economic

activities and financial indicators. This information is useful in case when respondents have not answered all questions in the questionnaire and there are missing objective data, which can be filled in from the official databases (Amadeus, SPARK-Interfax). The usage of different sources of information – subjective through questionnaire, and objective through databases – helps to eliminate the bias connected with firm performance estimation.

The population for the Finnish firms has been retrieved from the Amadeus database. It is an official database of comparable business and financial information on European private and public companies. The information in the database is updated weekly (Amadeus database). The population consists of 17638 firms which are meeting the described above criteria. From the population 8000 companies were randomly selected and included in the sample, and the questionnaire has been sent to the whole sample. Because of possible technical issues and frequent email protection in companies, the number of emails, which have directly reached respondents, is much smaller. Therefore, when estimating a response rate, it is more suitable to use effective response rate, calculated as the percentage of respondents who have answered the questionnaire among the amount of visitors of the questionnaire without answering it. Overall, 117 answers to the questionnaire were returned, and the effective response rate is 22%.

In order to collect the data about Russian companies, snowball sampling method was used. This sampling technique has been chosen because of an average low response rate among Russian companies. Snowball sampling is a useful tool for increasing the number of participants in the survey. The firms for the survey were retrieved from Amadeus database (8000 questionnaires have been sent with the effective response rate 7%) and contacted through the Alumni Association of Graduate School of Management of Saint-Petersburg State University, which is the community of people who graduated from the school over the past 20 years, and the participants of Executive MBA program of St. Petersburg University. Overall, 110 answers to the questionnaire from the representatives of the Russian companies were returned. Both Russian and Finnish samples are comparable in terms of firm size and industries of sampled firms, which enabled a meaningful comparison of two samples.

The information about the firms is collected with a questionnaire (Appendix 1). It includes the companies' profiles and information about the industry, EO dimensions, antecedents and performance outcomes of EO. The questionnaire, developed for the empirical research, consists of four main parts:

1. The first part contains the general information about the company, including firm's year of foundation, main industry, number of employees, and performance indicators. Some of the variables identified in this part are used as control variables in the empirical research;
2. The second part includes entrepreneurial orientation measurement scale (based on Covin and Slevin scale (1989));
3. The third part contains the scales of external business environment, including environmental dynamism, hostility, and heterogeneity (Miller and Friesen 1982);
4. Finally, the fourth part includes the scales of the company's internal environment: formalization and centralization (Ferrell and Skinner 1988).

The data about the companies is collected by distribution of the questionnaire via e-mail to key informants of the companies which are included in the sample. The questionnaire has been transformed into the online questionnaire using online survey and analysis software Webropol (Webropol 2.0).

As the information is gathered about Russian and Finnish companies, the questionnaire has been translated into national languages of both countries. The technique of translation and back translation allowed the questionnaire adaptation to country contexts (Brislin 1970). The aim of the translation was to make the questionnaire acceptable and conceptually equivalent in both Russia and Finland. Additionally, translation makes filling in the questionnaire more convenient for respondents, and helps to increase the response rate. In addition to the questionnaire, there has been created a cover letter which provided respondents with the general information about the goal and objectives of the research, possibility for the firms to get research results, anonymity of respondents and information they give, and the time needed to fill in the questionnaire.

In order to improve the questionnaire and avoid errors caused by misunderstanding of questions by the respondents, it is worth testing the questionnaire before sending it to the respondents. The questionnaire for this research has been tested through pilot testing technique on a small sample of industry practitioners. This helped to evaluate the questionnaire and develop it in a more effective way.

The relationship between antecedents, performance outcomes and entrepreneurial orientation is examined using statistical quantitative methods and techniques, which are performed with the usage of IBM SPSS 22 software. Descriptive statistics shows the general information about the collected data and the variables, and hierarchical multiple linear regression analysis is used to test the hypotheses and estimate the added impact of independent variables to the model (Pallant 2007). Besides this, the test for mediation is applied to test the hypothesis about the mediating role of entrepreneurial orientation (Baron and Kenny 1986).

The research is conducted in the three main parts for Russian and Finnish companies. The first part includes the assessment of the relationship between entrepreneurial orientation and firm performance indicators, the second part includes identification of association between antecedent variables and entrepreneurial orientation, and, finally, the third part verifies the mediating role of entrepreneurial orientation between antecedents and firm performance. The results of empirical study is the identification of three-way relationships between antecedents, EO and firm performance, and the difference in these relationships in developed and emerging market contexts.

3.2. Measurement of variables

In order to be able to evaluate and measure the abstract concepts such as entrepreneurial orientation, external and internal environment, and firm performance, the concepts have been operationalized. The process of operationalization involves moving from the abstract concepts to empirical level. It helps to identify the main dimensions of the concepts, which are not directly measurable, and to present them in the terms or items which the researcher is able

to observe and measure (Mueller 2004). In the research the variables are operationalized, and different scales for their measurement are used.

Entrepreneurial orientation

As the empirical research identifies different antecedents and performance outcomes of EO, EO is considered as a unified notion, the dimensions of which are combined into a single factor that enables to investigate the role of EO as a whole rather than the role of each of its three dimensions. Thus, it is more appropriate to use unidimensional approach in the empirical research.

In order to evaluate the level of entrepreneurial orientation of the firms, the composite scale developed by Covin and Slevin (1989) is applied. This scale is rather often used in empirical studies and has already confirmed its reliability. The scale of entrepreneurial orientation consists of nine items and measures three dimensions of EO: innovativeness, proactiveness and risk-taking (Covin and Slevin 1989). The items for innovativeness measure the company's emphasis on R&D, technological leadership and innovations, the quantity of new lines of products or services over the past five years, and the nature of changes in product or service lines. Proactiveness items measure the company's behavior in dealing with its competitors, including the actions initiative, the speed of bringing of new products or services to the market, and the company's posture towards competitors. Risk-taking items measure the company's proclivity for risky projects with chances of high returns, firm behavior and decision-making in the situations which involve uncertainty.

Seven-point Likert scale is used to measure EO with two statements on the opposite sides of the scale where the respondent has to choose the digit between 1 to 7 depending on which statement is more appropriate for his/her company. The measure of EO as the unified notion is calculated as the average of the values of the dimensions of innovativeness, proactiveness and risk-taking. Any company can fall somewhere along the continuum from conservative to entrepreneurial firms (Covin and Wales 2012). The reliability test has shown that the Cronbach's alpha of EO scale is 0.87, which indicates the high level of internal consistency of the scale (Pallant 2007). The mean of the scale is 3.94 for Russian firms, and 3.93

for Finnish firms, which means that the level of EO in selected countries is roughly the same. The standard deviation is 1.208 and 1.303 respectively.

Antecedents of entrepreneurial orientation

The antecedents studied in the empirical research are divided into external and internal antecedents. External antecedents represent the business environment of the firm which includes environmental dynamism, hostility, heterogeneity, direct competition, and demand growth for products/services in industry. In order to evaluate the external business environment of the company, the respondents are asked to answer the questions about the main industry in which their company operates. The scales of dynamism, hostility and heterogeneity, used for the measurement of environmental variables, are based on the items developed by Miller and Friesen (1982).

Dynamism. Dynamism is measured by five items on the seven-point Likert scale, and describes the speed of changes in the industry in which the company operates (Miller and Friesen 1982). The items of the environmental dynamism include changes in marketing practices to keep up with the market and competitors, rate of obsolescence of products and services in the industry, predictability of the actions of competitors, difficulties in forecasting demand and consumer tastes, and changes in production or service technologies. The scale is reliable as Cronbach's alpha of the scale is 0.75. The mean of the scale is overall lower than the average level of dynamism in the industries where the firms of the sample operate. For Russian firms the mean is 3.23, and for Finnish firms the mean is 3.28. The standard deviation is 1.238 and 1.173 respectively.

Hostility. Environmental hostility, which shows the level of competitiveness in the industry, is measured by six items on the seven-point Likert scale. The scale measures whether or not the business environment is the threat to the survival of the firm (Miller and Friesen 1982). The items include the assessment of such challenges by the firm as price and product competition, dwindling markets for products, scarcity of labor and material resources, and the government intervention (Miller and Friesen 1982). The Cronbach's alpha of the scale is 0.5. This is because the firm faces different challenges which may not be highly

correlated with each other, however, the variable needs to measure the whole level of environmental threats to the firm survival. The mean of the scale in Russian sample is 4.18, and in Finnish sample is 3.75, which means that Russian firms face more threats in the external business environment than Finnish firms. The standard deviation is 0.874 and 1.049 accordingly.

Heterogeneity. Heterogeneity is measured by four items on the seven-point Likert scale and describes the level of diversification of the company and offering of different products and services with regard to different customer's buying habits, nature of competition, market dynamism and uncertainty (Miller and Friesen 1982). The Cronbach's alpha of 0.74 confirms the reliability of the scale. The mean of the scale is roughly the same for Russian and Finnish firms (3.65 and 3.62). Standard deviation is 1.338 and 1.209 respectively.

Number of direct competitors. The variable of number of direct competitors of the firm is used to access the impact of competitive environment on the level of EO. In the analysis the logarithm of the number of direct competitors of the firm is used in order to estimate the increase of the level of EO when the number of competitors increases by 1 percent. The mean of the variable is 2.37 in Russian firms and 2.92 in Finnish firms. The standard deviation is 1.39 and 1.66 respectively.

Demand growth. The variable of demand growth for the products/services in the main industry, where the company operates, is measured by the percentage change of demand for the period 2010-2012. In the Russian sample, the mean of the variable is 14.82, which is more than in the Finnish sample (10.44). This means that, in general, the Russian market is the developing market where the demand for products and services is growing faster than in the developed Finnish market. The standard deviation is 15.78 in Russian sample, and 21.48 in Finnish sample.

In the research two internal antecedents of entrepreneurial orientation are studied. They represent the company's management structure and include formalization of operating procedures and centralization of authority. The scales of Ferrell and Skinner (1988) are used to measure the levels of formalization and centralization.

Formalization. Formalization scale consists of six items which are measured by five-point Likert scale. Formalization is standardization of operating procedures, control over the behavior of the employees, and obedience to the written rules in the company (Ferrell and Skinner 1988). The items of formalization variable include the existence of formal and informal rules, procedures and agreements in the company, and the nature of meetings and contacts with company and its representatives. Cronbach's alpha of the scale is 0.7 which confirms its reliability. The mean of the scale is 2.93 in Russia and 2.3 in Finland, which means that the operating procedures in Russian firms are more formal compared to Finnish. The standard deviation is 0.95 and 0.88 for Russian and Finnish firms accordingly.

Centralization. Centralization of authority describes the hierarchical level of organizational structure and the top-down information flows from high levels to low levels of the organizational structure (Ferrell and Skinner 1988, 104). Centralization scale consists of five items and is measured by five-point Likert scale. The items of centralization measure the decision-making processes in the company, and the working process of employees from the point of view of subordination. The Cronbach's alpha of 0.84 indicates the level of consistency of the scale. The mean of the scale is 3.29 for Russian companies, which is higher than the average level of centralization. For Finnish companies, the mean is 2.22, which is lower than the average level. Standard deviation is 0.95 and 0.88 for Russian and Finnish firms.

The measurement scales of EO and external and internal antecedents of EO are presented in the table below.

Table 3. Scales of entrepreneurial orientation, external and internal antecedents

Variables	Elements	Scale	Items	References
Entrepreneurial orientation	Innovativeness	7-point Likert scale	3	Covin and Slevin (1989, 86)
	Proactiveness	7-point Likert scale	3	
	Risk-taking items	7-point Likert scale	3	
External environment	Dynamism	7-point Likert scale	5	Miller and Friesen (1982)
	Hostility	7-point Likert scale	6	

	Heterogeneity	7-point Likert scale	4	
Internal environment	Formalization	5- point Likert scale	6	Ferrell and Skinner (1988)
	Centralization	5- point Likert scale	5	

Firm performance indicators

Firm performance is a multidimensional notion (Delmar, Davidsson, and Gartner 2003). There are different approaches to the measurement of firm performance indicators. In the current research, firm performance outcomes are measured by financial indicators, which assess both internal and international outcomes of firm's activities. The firm performance indicators are obtained from the questionnaire, and the missing data is filled in from the official databases (Amadeus, SPARK).

Sales growth and profit growth. Growth of sales and profit are widely used measures of firm performance in entrepreneurial research (Delmar, Davidsson, and Gartner 2003, Rauch et al. 2009). Firm's sales growth rate and profit growth rate represent the domestic performance indicators. Sales and profit growth rates are measured as percentage changes in firm's sales and profits for the period from 2010 to 2012. The relative values of performance indicators allow comparing the changes in the firm performance in comparison with the performance in the previous years. The mean of sales growth is 26.11, and profit growth is 30.21 in Russian companies, which is higher than the mean in Finnish firms (19.31 and 12.42 respectively). These figures indicate that in the developing Russian business environment the firms are growing faster than in the developed markets. Standard deviation is 39.34 for sales growth and 52.04 for profit growth in Russia, and 38.51 for sales growth and 32.91 for profit growth in Finland.

Number of foreign countries. The number of foreign countries in which the company operates represents the indicator of international firm performance. This indicator is measured for the year 2012. In the analysis, the logarithm of the number of foreign countries is used as the effect of increase of number of foreign countries by one is different for companies with low and high levels of

internationalization. The mean of the variable is 1.42 in Russian sample and 0.81 in Finnish sample. Standard deviation is 0.93 and 0.76 respectively.

Control variables

The level of entrepreneurial orientation and firm performance outcomes depend on such variables as firm's age, size, and type of industry. In the empirical research these variables are used as control variables. They refer to the variables that are not of primary interest but influence the research results and, thus, should be controlled or eliminated (Pole and Bondy 2010). Control variables in this study influence the "antecedents – EO – performance" relationships but held constant in order to test the impact of other independent variables.

Age. The age of the firm is found by the difference between the current year 2014 and the year of the firm's foundation which is obtained from the questionnaire. In order to respond to the assumption of normality of distribution, the variable has been transformed using logarithm. The mean of the variable is 2.23 for Russian firms, and 2.58 for Finnish firms. Standard deviation is 0.69 and 0.67 correspondingly.

Size. The size of the firm is estimated in the questionnaire by the number of employees in 2012. In the study the logarithm of the number of employees is taken as there are different effects of increasing the number of employees by one for firms of different size. Thus, the logarithm of the number of employees helps to estimate the impact of 1% change of employees on the firm performance indicators or level of EO (Wooldridge 2003). The mean of the variable is 3.95 in Russia and 1.77 in Finland. Standard deviation is 1.87 and 1.13 respectively.

Industry (Production and Services). Industry is also considered as a control variable as it impacts the choice of firm strategy and the level of entrepreneurial orientation. The research uses industry standard classification system according to the Statistical Classification of Economic Activities in the European Community (NACE Rev.2 2008). Based on this classification, three industry groups have been created: production, services, and intellectual and informational activities. Production group describes the primarily and secondary sectors of economy and

includes agriculture, forestry and fishing, manufacturing, and construction industries. Service activities describe the tertiary sector of economy and include such services as transportation and storage, wholesale and retail trade, accommodation and food, administrative support, human, health and social work, and arts, entertainment, and recreation. The last group, intellectual and informational activities, represents the quaternary sector and includes ICT, finance and insurance, real estate, and professional, scientific, and technical activities. (Kenessay 1987).

To control for the possible influences of industry on the dependent variable, the dummy variables “Production” and “Services” are created. The third industry group “Intellectual and informational activities” is used as the base group, and the other industry groups are compared with it.

Table 4 summarizes the firm performance indicators and control variables which are studied in the research.

Table 4 Performance indicators and control variables

Variable		Measurement
Performance outcomes	Sales growth	Relative numerical value (% , 2010 - 2012)
	Profit growth	
	Number of foreign countries	Logarithm of the number of foreign countries in which the company operates (2012)
Control variables	Age	Logarithm of the firm’s age
	Size	Logarithm of the number of employees (2012)
	Production	Dummy variables
	Services	

Concerning to the reliability and validity of the measurement scales it can be noted that the empirical research applied established scales which have already been used in the previous research and, thus, justified their reliability and validity.

Validity and reliability of the scale equal to the concepts operationalization. The validity of the scales means that the scale measures what is supposed to measure (Pallant 2007). The concepts are operationalized in a way that fully describes their essence. Reliability is internal consistency of the scales, which is measured by the Cronbach's alpha. In the research this coefficient has shown high values and confirmed the reliability of scales.

Concerning to other biases, which are peculiar to the quantitative research, such as the possible respondent errors which appear when the respondents provide untrue or incorrect information, or do not answer all questions in the questionnaire, they were also avoided or minimized. These errors may be caused by different factors including educational or language issues, misunderstanding of the question, or other factors. The translation of the questionnaire into the national languages of the countries and the conducting of pilot testing helped to eliminate and minimize the possible biases. Additionally, the missing objective information in the returned questionnaires was filled in by the indicator values from the official databases (Amadeus, SPARK databases) in order to avoid and reduce the missing data. In cases with a lot of missing data in the returned questionnaires, the observations were deleted and not used in the further research.

3.3. Descriptive information on the material

Before conducting the regression analysis, the collected data of Russian and Finnish companies has been screened, cleaned and transformed in order to meet the assumptions of multivariate techniques (Hair et al. 2010, Pallant 2007).

The data has been checked for errors, and extreme points have been deleted from the database as they may have an impact on the results. In order to detect the extreme values, the data has been examined graphically using histograms and box-plots. In addition, the impact of the extreme values on the mean has been checked with 5% trimmed mean, which is the mean value without the top and bottom 5% of cases. The data for the variables which might contain outliers has been standardized and the cases were considered as outliers if the standard deviation is ± 3 or beyond (Pallant 2007). After the extreme points were

removed, the database resulted in 101 observations of Russian firms, and 109 observations of Finnish firms.

The companies, used in the research, represent different industries and age groups. As for the company's size, mostly small and medium enterprises were included in the research. Figures 9-11 represent distribution of companies by age, size and industry.

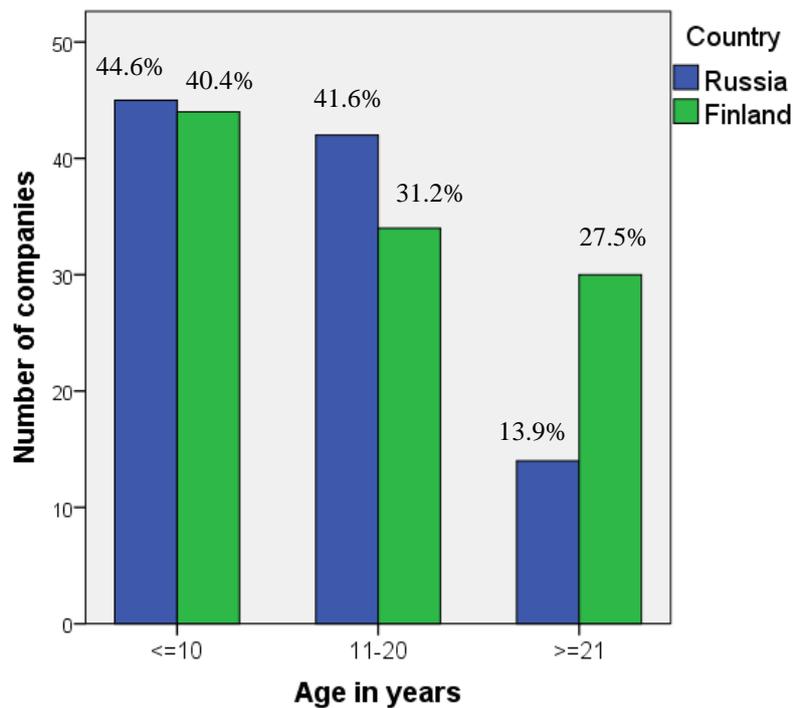


Figure 9. Distribution of companies by age

The majority of sample companies are young firms which operate less than 10 years, and the number of Russian and Finnish companies belonging to this group is roughly the same: 44 and 45 accordingly. In the age group ≥ 21 years there are twice more Finnish companies (30) than Russian firms (14), which means that in the selected sample Finnish companies were established earlier than Russian companies, and operate on the market for a longer period of time.

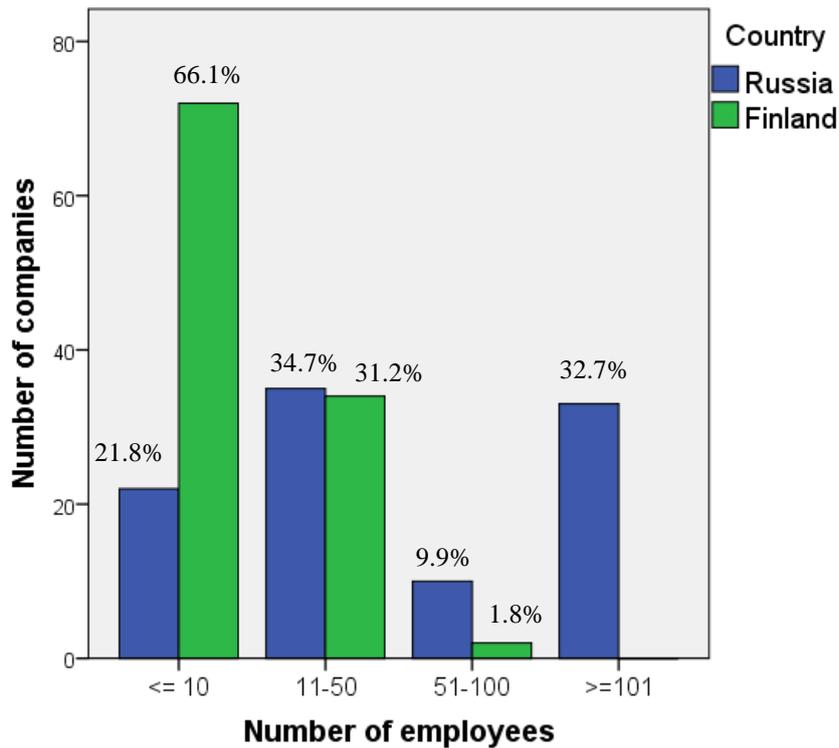


Figure 10. Distribution of companies by size

As for the firm's size, Russian and Finnish companies are more different than similar. There are much more small companies (≤ 10 employees) in Finnish database (66.1%) than in Russian (21.8%). At the same time, the number of companies with employees ranging from 11 to 50 is almost the same for both countries (35 in Russia and 34 in Finland). However, there are no Finnish companies belonging to the group with employees ≥ 101 , and 32.7% of Russian companies are included in this group.

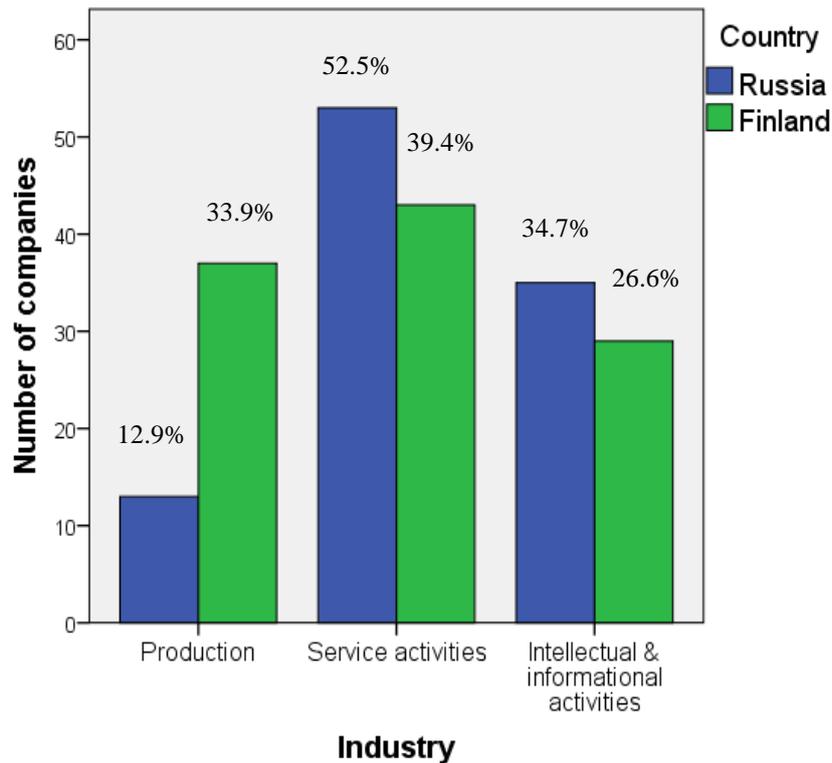


Figure 11. Distribution of companies by industry

Companies, included in the sample, are belonging to different industries, which were combined into three industry groups: production, services, and intellectual and informational activities. The majority of Russian and Finnish companies are occupied with the service activities (52.5% and 39.4% accordingly). Compared to the Russian companies, there are much more Finnish companies in the production sector (33.9% versus 12.9% in Russia). However, the group of intellectual and informational activities consists more of Russian (34.7%) than Finnish companies (26.6%).

The mean, standard deviation, minimum and maximum values of all variables used in the research for both Russian and Finnish samples are presented in the Table 5.

Table 5. Descriptive statistics of variables

Variables:	Russia				Finland			
	Mean	Std.Dev.	Min	Max	Mean	Std.Dev.	Min	Max
EO	3.94	1.21	1.11	6.33	3.93	1.30	1	7
Sales growth	26.11	39.34	-42.15	200	19.31	38.51	-50	200
Profit growth	30.21	52.04	-80	300	12.42	32.91	-50	200
Foreign countries	1.42	0.93	0	3	0.81	0.76	0	2.20
Age	2.23	0.69	0.69	3.26	2.58	0.67	0.69	4.19
Size	3.95	1.87	0	7.60	1.77	1.13	0	4.47
Production	0.13	0.34	0	1	0.34	0.48	0	1
Services	0.52	0.50	0	1	0.39	0.49	0	1
Dynamism	3.23	1.24	1	6	3.38	1.17	1	7
Hostility	4.18	0.88	2.17	6.5	3.75	1.05	1	7
Heterogeneity	3.65	1.34	1.00	7	3.62	1.21	1	6.5
Direct competitors	2.37	1.39	0	5.70	2.92	1.66	0	6.21
Demand growth	14.82	15.78	-30	50	10.44	21.48	-50	80
Formalization	2.93	0.81	1.33	4.83	2.30	0.66	1	4
Centralization	3.29	0.95	1	5	2.22	0.88	1	5

In general, Russian and Finnish companies have almost the same levels of EO (mean of 3.94 in Russia and 3.93 in Finland). The external business environment in Russia is more hostile (4.18) than in Finland (3.75), and mean of environmental heterogeneity is roughly the same in both countries (3.65 and 3.62 respectively). However, the mean of the logarithm of the number of direct competitors is larger for Finnish companies than for Russian. As for the internal antecedents, the levels of formalization and centralization are lower in Finnish companies (2.3 and 2.22) than in Russian (2.93 and 3.29), which means that the structure of Russian firms is more hierarchical, formalized and centralized. Concerning the firm performance indicators, the mean of sales growth and profit growth is larger in Russian companies (26.11 and 30.21) than in Finnish (19.31 and 12.42).

The Pearson correlation matrix of the variables used in the research is presented below for Russian and Finnish samples separately (Table 6). Correlations show the existence of significant relationships between the variables and their directions (Pallant 2007). There are several significant correlations between predictor variables, and dependent with independent variables.

Table 6. Correlation matrix

Variables		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R u s s i a	1. EO	1														
	2. Sales growth	-,036	1													
	3. Profit growth	-,012	.630**	1												
	4. Foreign countries	,322	-,100	-,035	1											
	5. Age	,110	-,387**	-,086	,334	1										
	6. Size	,169	-,280*	-,175	,296	.538**	1									
	7. Production	,074	-,156	-,108	,292	.206*	,169	1								
	8. Services	-,097	,133	,166	,038	-,040	-,116	-,404**	1							
	9. Dynamism	.247*	,074	,118	,238	-,071	-,168	-,266**	,132	1						
	10. Hostility	-,045	-,300**	-,116	.397*	,145	,058	,110	,069	,153	1					
	11. Heterogeneity	.281**	-,018	-,064	,224	,150	,159	,023	-,097	.370**	-,030	1				
	12. Direct competitors	-,138	,096	,105	-,069	-,138	-,191	-,025	-,199	,037	-,235*	-,041	1			
	13. Demand growth	,084	.394**	.273*	,303	,045	,009	-,176	,061	.240*	,015	,154	,061	1		
	14. Formalization	,010	-,080	-,084	,157	.235*	.313**	-,070	,108	-,014	,053	.247*	-,242*	.241*	1	
	15. Centralization	-,063	,017	,004	,019	,006	,106	,058	,163	-,175	,194	-,025	-,275**	,146	.389**	1
F i n l a n d	1. EO	1														
	2. Sales growth	,180	1													
	3. Profit growth	.319**	.857**	1												
	4. Foreign countries	,103	-,121	-,163	1											
	5. Age	,154	-,263**	-,121	.308*	1										
	6. Size	,123	,042	,163	.273	.283**	1									
	7. Production	,020	,047	,190	-,007	,101	,151	1								
	8. Services	-,139	-,090	-,182	,026	-,064	-,093	-,579**	1							
	9. Dynamism	,121	,118	,082	,233	.207*	,126	-,047	-,067	1						
	10. Hostility	,049	,109	,094	-,095	-,030	,102	,070	-,106	.324**	1					
	11. Heterogeneity	.278**	,006	,097	,167	.226*	,059	-,121	-,052	.323**	.226*	1				
	12. Direct competitors	-,369**	-,090	-,204	-,015	,006	-,085	,077	,085	-,235*	,065	-,043	1			
	13. Demand growth	,091	,084	,087	,006	-,225*	-,148	-,136	-,087	-,020	,013	,005	-,219*	1		
	14. Formalization	,167	,047	,077	-,129	,007	,098	-,002	-,045	,139	,076	,129	,120	-,051	1	
	15. Centralization	,138	-,016	,011	-,108	-,047	,070	,105	-,134	,106	.230*	,075	,016	,118	.488**	1

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Firm's age significantly positively correlates with size in both countries (0.538 in Russian and 0.283 in Finland, $p < 0.01$). This result was expected, and it means that with the age firms are growing and become larger in size. For the Russian sample, age is also positively correlated with production (0.206) and formalization (0.235), which means that the older firms are more formalized and are mostly in the production industry. For the Finnish companies, age is positively correlated with dynamism (0.207), heterogeneity (0.226), and foreign countries (0.308), and negatively with demand growth (-0.225).

Firm's size in the Russian sample is positively correlated with formalization (0.313, $p < 0.01$), which means that the operations in large companies tend to be more formalized than in small firms.

Formalization and centralization are significantly positively correlated with each other in both samples. This means that the levels of firm formalization and centralization are moving in one direction, and the centralized firms usually apply more formal rules and procedures.

Another observation is that EO has significant positive correlations with heterogeneity in both samples (0.281 and 0.278, $p < 0.01$), dynamism in Russian sample (0.247, $p < 0.05$), and profit growth in Finnish companies (0.319, $p=0.002$). This means that companies in the dynamic and heterogenic external environments tend to have higher levels of EO. Also, Finnish firms with high level of EO have high profit growth rate.

Sales growth is positively correlated with profit growth and negatively with age in both samples. The positive correlation between performance indicators was expected, and the negative correlation can be explained by the fact that the older companies are usually growing slower than young firms. In the Russian sample, hostility is negatively correlated with sales growth (-0.300, $p < 0.01$), and positively correlated with foreign countries (0.397, $p < 0.05$). This means that firms usually have lower sales growth rate in the hostile external business environment, and at the same time, they tend to operate more internationally to avoid the threats of the domestic environment.

3.4. Analysis of the results

In order to test the hypotheses and answer the research question about the relationships between antecedents, EO and firm performance, three econometric models have been developed: EO-Performance model, antecedents-EO model, and the model of mediation.

The hierarchical linear regression analysis is used to estimate the impact of independent variables on the dependent variable. On the first stage, control variables are included in the model, and then other predictor variables are added. The R Square change indicates the contribution of predictor variables to explain the variance of the dependent variable (Pallant 2007).

All models, used in the research, have been checked for the multivariate assumptions for the analysis. Normality has been checked with histogram and normality tests, and the non-normal variables have been transformed using logarithm in order to achieve the normality of distribution. The variables did not have high variance inflation factors, which mean that multicollinearity is insignificant in the research (Pallant 2007, Hair et al. 2010).

EO-Performance model

EO-Performance model is used to test the hypothesis about the relationship between EO and firm performance indicators, both domestic and international. In this model both samples were used together while controlling for the impacts of country, age, size and industry. In the first step the control variables were added (Model 1), and then the impact of EO on firm performance was assessed (Model 2). The regression equation of EO-Performance model is presented below.

Formula 1. Regression equation of EO-Performance model

$$Y = b_0 + b_1 \text{Age} + b_2 \text{Size} + b_3 \text{Russia} + b_4 \text{Production} + b_5 \text{Services} + b_6 \text{EO} + \varepsilon,$$

where:

Age = logarithm of company's age

Size = logarithm of number of employees in a company

Russia	= Russian companies (compared to Finnish companies as a base)
Production	= production sector of economics (compared to intellectual & informational activities as a base)
Services	= service sector of economics (compared to intellectual & informational activities as a base)
EO	= the level of entrepreneurial orientation in a company (1 – low, 7 – high)

Company's domestic performance

Table 7 summarizes the results of the regression analysis of the relationship between EO and sales growth in Russian and Finnish firms.

Table 7. Results of regression analysis: domestic performance

Dependent variable: Sales growth

Variables	Model 1	Model 2	
	Coefficients	Coefficients	Standardized coefficients
Constant	71.988***	56.111***	
Age	-20.145***	-20.662***	-0.347***
Size	-.696	-1.217	-0.057
Russia	6.202	7.013	0.087
Production	0.680	0.995	0.011
Services	-1.441	-0.188	-0.002
EO		4.446**	0.143**
R ²	0.129	0.149	
R ² _{adj}	0.104	0.119	
F	5.086***	4.962***	
R ² change		0.020**	
F change		3.909**	
Number of observations	177		

* significance on level $p < 0.1$; ** significance on level $p < 0.05$;
 ***significance on level $p < 0.01$;

The results of the regression analysis have shown that both models are statistically significant ($p < 0.01$). The control variables of age, size, country (Russia) and industry (Production and Services) explain 10.4% of the variation in the firm's sales growth. When EO has been added to the model, the adjusted R^2 increased to 11.9%. The R^2 change is significant on the 5% level, which means that the impact of EO variable is significant, and EO adds the explanation power to the model.

Concerning the coefficients of the variables, it can be observed that firms' age is significantly negatively associated with the sales growth ($p < 0.01$), which means that older firms grow slower and have lower growth rate of sales than young firms. At the same time, the variable size, measured by the logarithm of the number of employees, did not have significant influence on the sales growth rate.

The variables "Russia", "Production", and "Services" did not receive significant estimation of the coefficients. This means that firm performance, represented as sales growth rate, does not depend on fact that companies are operating in a particular country or industry.

The predictor variable of interest, which is EO, is significantly positively associated with the sales growth at 5% level of significance. This means that firms with higher levels of EO tend to have higher sales growth rate than firms with lower levels of EO. This result confirms the first hypothesis of the study (H1a) about the positive relationship between EO and domestic firm performance.

However, when testing the relationship between EO and sales growth in Russian and Finnish samples separately, the results have shown a positive relationship in Finnish context and non-significant in Russian context. This difference in EO-performance relationship may be influenced by different institutional and cultural characteristics in countries, the explanation of which is presented in the discussion section.

Company's international performance

In order to assess the impact of EO on the firm's international performance, only the companies which operate internationally were included in the analysis. The dependent variable is the logarithm of the number of foreign countries where the company operates. Table 8 summarizes the results of the regression analysis of the relationship between EO and the number of countries where the firms operate internationally.

Table 8. Results of regression analysis: international performance

Dependent variable: number of foreign countries

Variables	Model 1	Model 2	
	Coefficients	Coefficients	Standardized coefficients
Constant	-0.495	-0.916**	
Age	0.359**	0.337**	0.267**
Size	0.091	0.083	0.177
Russia	0.560**	0.567**	0.322**
Production	0.300	0.319	0.154
Services	0.184	0.224	0.127
EO		0.120*	0.171*
R ²	0.283	0.311	
R ² _{adj}	0.234	0.253	
F	5.694***	5.350***	
R ² change		0.028*	
F change		2.885*	
Number of observations	78		
* significance on level p<0.1; ** significance on level p<0.05; ***significance on level p<0.01			

The results of the regression analysis have shown that both models are significant ($p < 0.01$). The control variables explain 23.4% of the variation in the number of countries in which the company operates, while with the added EO variable, the second model explains 25.3% of the variation. The R^2 change is significant at 10% level and equal to 2.8%. This means that the impact of EO variable on the number of foreign countries is significant, and EO adds the explanation power to the model.

The variable “Age” is positively associated with the number of countries in which the company operates on 5% level of significance. The impact of age on international performance is positive, which is different from the negative impact of age on domestic performance, measured by the sales growth rate. This means that, although the older companies have lower sales growth rate, they have more time to expand their operations internationally and operate in more countries than younger companies.

The industry variables, “Production” and “Services” did not receive significant estimations of the coefficient, and their impact on international firm performance cannot be determined. However, the control variable “Russia” is significantly positively related to the dependent variable ($p < 0.05$). This means that compared to Finnish companies, Russian firms operate in bigger number of foreign countries. This result can be explained by the descriptive statistics of the variables in the samples: although there are more Finnish companies which operate internationally, more Russian firms operate in larger number of foreign countries than Finnish firms.

The independent variable EO is positively associated with the logarithm of the number of foreign countries in which the company operates which means that the higher levels of EO in a company leads to higher level of international firm performance. This result accepts the first hypothesis of the study (H1b) about the positive relationship between EO and international firm performance.

Antecedents-EO model

Antecedents-EO model is developed in order to test which independent variables are associated with EO and may be considered as antecedents of it. In this model, the analysis has been conducted for Russian and Finnish companies separately as it is important to evaluate the differences in the relationships between antecedents and EO in Russia and Finland as the examples of emerging and developed markets. In the first step, the control variables of firm's age, size, and industry were added, then the variables of external business environment were included, and, finally, the variables of internal antecedents were added to the model. The general regression equation of the model is presented below (Formula 2).

Formula 2. Regression equation of Antecedents-EO model

$$Y = b_0 + b_1 \text{ Age} + b_2 \text{ Size} + b_3 \text{ Production} + b_4 \text{ Services} + b_5 \text{ Dynamism} + b_6 \text{ Hostility} + b_7 \text{ Heterogeneity} + b_8 \text{ Direct competitors} + b_9 \text{ Demand growth} + b_{10} \text{ Formalization} + b_{11} \text{ Centralization} + \varepsilon,$$

where:

Dynamism	= the level of dynamism in external business environment (1 – low, 7 – high)
Hostility	= the level of hostility in external business environment (1 – low, 7 – high)
Heterogeneity	= the level of heterogeneity in external business environment (1 – low, 7 – high)
Direct competitors	= logarithm of the number of direct competitors of a company
Demand growth	= demand growth for the products / services in the industry where the company operates
Formalization	= the level of formalization of operating procedures in a company (1- low, 5 – high)
Centralization	= the level of centralization of authority in a company (1- low, 5 – high)

Antecedents of EO in Russian companies

The results of the regression analysis of relationship between antecedents and EO for Russian sample are summarized in the Table 9.

Table 9. Results of regression analysis: antecedents of EO in Russian companies

Dependent variable: EO

Variables	Model 1	Model 2	Model 3	
	Coefficients	Coefficients	Coefficients	Standardized coefficients
Constant	3.014***	3.193***	3.841***	
Age	0.129	0.033	-0.052	-0.029
Size	0.144	0.163*	0.199**	0.314**
Production	0.076	0.439	0.420	0.125
Services	-0.100	-0.123	0.010	0.005
Dynamism		0.409***	0.374***	0.390***
Hostility		-0.263	-0.245	-0.177
Heterogeneity		-0.003	0.005	0.006
Direct competitors		-0.095	-0.105	-0.135
Demand growth		-0.004	-0.003	-0.032
Formalization			0.090	0.061
Centralization			-0.285*	-0.228*
R ²	0.083	0.252	0.290	
R ² _{adj}	0.025	0.136	0.151	
F	1.430	2.171**	2.082**	
R ² change		0.169**	0.038	
F change		2.617**	1.512	
Number of observations	68			
* significance on level p<0.1; ** significance on level p<0.05; ***significance on level p<0.01				

The results of the analysis have shown that the second model, which contains control variables and antecedents of external business environment, and the third model, which contains all predictor variables, are significant on the level $p < 0.05$.

The adjusted R^2 in the second model is 0.136, which means that control variables together with external antecedents explain 13.6% of the variance in the level of EO. In the third model, R^2 adjusted is 0.151, which means that all independent variables, including internal antecedents, explain 15.1% of the variance in EO. The change in R^2 is significant ($p < 0.05$) in the second model, which indicates that the impact of external antecedents on EO is significant. However, the R^2 change in the third model did not receive significant results. This means that external business environment better explains the level of EO than the antecedents of internal organizational structure.

Among the control variables, firm's size is positively associated with EO on the 5% level of significance. The Russian firms with larger number of employees have higher levels of EO compared to small firms with few employees. Other control variables did not receive significant estimations of coefficients.

As for the variables of external business environment, the results have shown that dynamism is significantly positively associated with EO ($p < 0.01$). This means that highly dynamic external business environment stimulates the development of EO in the Russian companies. This result supports the hypothesis (H2a) about the positive relation between dynamism and EO, and confirms previous studies which show that dynamic environments encourage the entrepreneurial behavior of firms (Miller and Friesen 1983; Covin and Slevin 1989; Rauch et al. 2009).

The variable centralization is negatively associated with EO on 10% level of significance. This means that centralization impedes the development of EO in the Russian companies. The result supports the hypothesis (H3b) about the negative relationship between the level of centralization and EO in the firm.

Antecedents of EO in Finnish companies

Table 10 summarizes the results of the regression analysis of the relationship between antecedent variables and EO in Finnish companies.

Table 10. Results of regression analysis: antecedents of EO in Finnish companies

Dependent variable: EO

Variables	Model 1	Model 2	Model 3	
	Coefficients	Coefficients	Coefficients	Standardized coefficients
Constant	3.830***	3.255***	2.675**	
Age	0.124	0.047	0.062	0.029
Size	0.054	0.017	-0.004	-0.003
Production	-0.005	0.332	0.263	0.090
Services	-0.637*	-0.283	-0.335	-0.121
Dynamism		0.006	-0.030	-0.024
Hostility		0.045	0.022	0.016
Heterogeneity		0.313**	0.299**	0.256**
Direct competitors		-0.276***	-0.300***	-0.347***
Demand growth		0.009	0.010	0.158
Formalization			0.334	0.150
Centralization			0.081	0.046
R ²	0.067	0.266	0.293	
R ² _{adj}	0.014	0.164	0.169	
F	1.257	2.611**	2.369**	
R ² change		0.199***	0.027	
F change		3.513***	1.208	
Number of observations	75			
* significance on level p<0.1; ** significance on level p<0.05; ***significance on level p<0.01				

It can be observed from the table that the second and third models are statistically significant at $p < 0.05$. Adjusted R^2 shows that both models have almost the same explanation power: 16.4% and 16.9% of variation in the dependent variable accordingly. R^2 change is significant ($p < 0.01$) and high (19.9%) in the 2nd model, which means that variables of external business environment better explain the variance in EO, and the internal antecedents do not have much explanation power in the model. These results are similar to the Russian companies.

Control variables do not receive significant estimation of coefficients, which shows that the level of EO in Finnish companies does not depend on the firm's age, number of employees and type of industry.

The variable heterogeneity is positively associated with EO ($p < 0.05$). The high level of heterogeneity of business environment encourages EO. This result supports the hypothesis (H2e), and confirms the results of the previous studies about the positive relation between heterogeneity and entrepreneurial activity of the firm (Miller and Friesen 1982; 1983).

The number of direct competitors of the firm is significantly negatively associated with EO ($p < 0.01$), and this means that high number of competitors impedes the development of EO in the firm. This result in the Finnish sample is surprising as it was supposed that the higher level of competition encourages firms to be more entrepreneurial. Thus, the hypothesis (H2c) about the positive relation between competition intensity in a firm's environment and EO is declined.

The internal antecedents in Finnish sample, compared to Russian companies, did not receive significant estimations of coefficients. These results can be explained by the fact that Finnish firms are smaller and have lower levels of formalization and centralization than Russian firms, and these variables do not affect the level of EO.

The model of mediation

The model of mediation is developed in order to test the last hypothesis about the mediating role, which EO is supposed to play between the antecedents and firm performance indicators. The Baron and Kenny's procedure for mediation testing is used in the research (Baron and Kenny 1986).

According to Baron and Kenny (1986), there are several steps that help to test for the mediating role of the variable:

Step 1. Regression analysis with independent variable (X) significantly predicting dependent variable (Y).

Step 2. Regression analysis with independent variable (X) significantly predicting mediator variable (M).

Step 3. Multiple regression analysis with independent (X) and mediator (M) variables predicting dependent variable (Y), where there should be confirmed that M significantly predicts Y while controlling for X. In this analysis, the previously significant path between X and Y should be proved to be reduced or non-significant. In case of non-significance of X-Y path, the mediation is called full mediation. When the mediator reduces the relationship between X and Y, it is called partial mediator (Baron and Kenny 1986).

One of the assumptions for mediation is that antecedents should be related to EO. Therefore, only significant EO antecedents, which were previously found in Russian and Finish samples, were used for mediation testing. These variables are "dynamism" and "centralization" for Russian sample, and "heterogeneity" and "direct competitors" for Finnish sample. Also, control variables of age, size and industry were included in the model as they may influence firm performance.

All significant independent variables in both countries have been checked for mediation based on Baron and Kenny's method (1986), and it was found that EO mediates the relationship between the number of direct competitors of the firm and profit growth, partly accepting the Hypothesis 4. Figure 12 shows the results

of mediation analysis and indicates that the conditions for mediation are met (Baron and Kenny 1986).

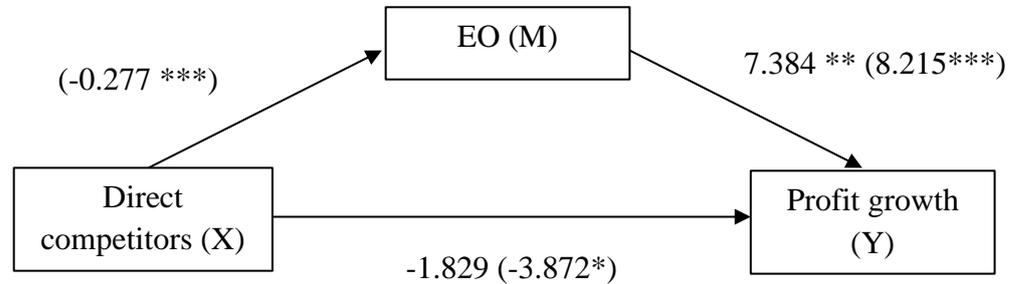


Figure 12. Results of mediation

Note: coefficients in parentheses indicate the absolute relationships between variables; coefficients without parentheses are coefficients in the multiple regression model with controlling variable X and predictor M (* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$)

The regression model at Step 1 of the analysis is significant on the 10% level. The results have shown that the variable “direct competitors” is significantly negatively associated with the variable “profit growth”. The mediation analysis uses unstandardized coefficients, which in this case is equal to -3.872 ($p < 0.1$). This is the total effect of “direct competitors” on “profit growth” without including mediator in the model.

The model at the Step 2 is significant on $p < 0.01$ level. The logarithm of the number of direct competitors is negatively associated with EO, and the path coefficient is -0.277 ($p < 0.01$).

The regression model at the Step 3, which is a combined relationship between predictor variables “direct competitors” and “EO”, and dependent variable “profit growth” is significant on the 5% level. The results of the regression analysis have shown that when controlling for the logarithm of the number of direct competitors, EO is significantly associated with the profit growth ($b = 7.384$; $p < 0.05$). At the same time, the significant absolute effect of “direct competitors” on “profit growth” becomes non-significant when EO is included in the model. This proves the full mediation effect of EO between “direct competitors” and “profit growth”.

In order to test whether the mediation effect is significant, Sobel test was used (Sobel 1982). The results have shown that Sobel test is significant on the 5% level (2-tailed), which means that the mediation effect of EO exists, and the indirect effect through mediator is significantly different from zero (Calculation for the Sobel test).

The results of mediation analysis can be interpreted in a way that direct competition in a firm's business environment negatively impacts profit growth as it decreases the level of entrepreneurial orientation, which serves to improve firm performance. It is also important to estimate the total and indirect effects of independent on dependent variables (Baron and Kenny 1986). The total negative effect of "direct competitors" on the "profit growth", when the mediator is not included in the model, is equal to -3.872. The indirect effect of predictor on the independent variable via the mediator is -2.045 (which is calculated as -0.277×7.384). It is shown that the total effect of the number of direct competitors of the firm on the profit growth is more negative than the indirect effect through EO as the mediator, which means that EO reduces the negative effect of the direct competition on the firm performance. In other words, firms with lower levels of EO stronger experience the negative impact of competition intensity on performance, than firms with high levels of EO.

3.5. Summary of Chapter 3

The empirical research about the relationships between entrepreneurial orientation, antecedents and firm performance was conducted in two countries – Russia and Finland, which are the examples of emerging and developed countries. The strategy of the research is a survey. The data about the companies was collected with the questionnaire, distributed via e-mail to respondents. The conducting of pilot testing helped to test and improve the questionnaire.

Abstract concepts were operationalized, and the established scales were applied, which have already confirmed their validity and reliability. The scales were adapted to the specific country environments by means of translation and back translation, which helps to reduce cross-country construct variances.

The data was analyzed using statistical multivariate analysis methods. With the hierarchical linear regression, the added impacts of independent variables were estimated. The mediating EO role was tested with Baron&Kenny's (1986) method for mediation and Sobel test. The results of the hypotheses testing are presented on the Figure 13 below.

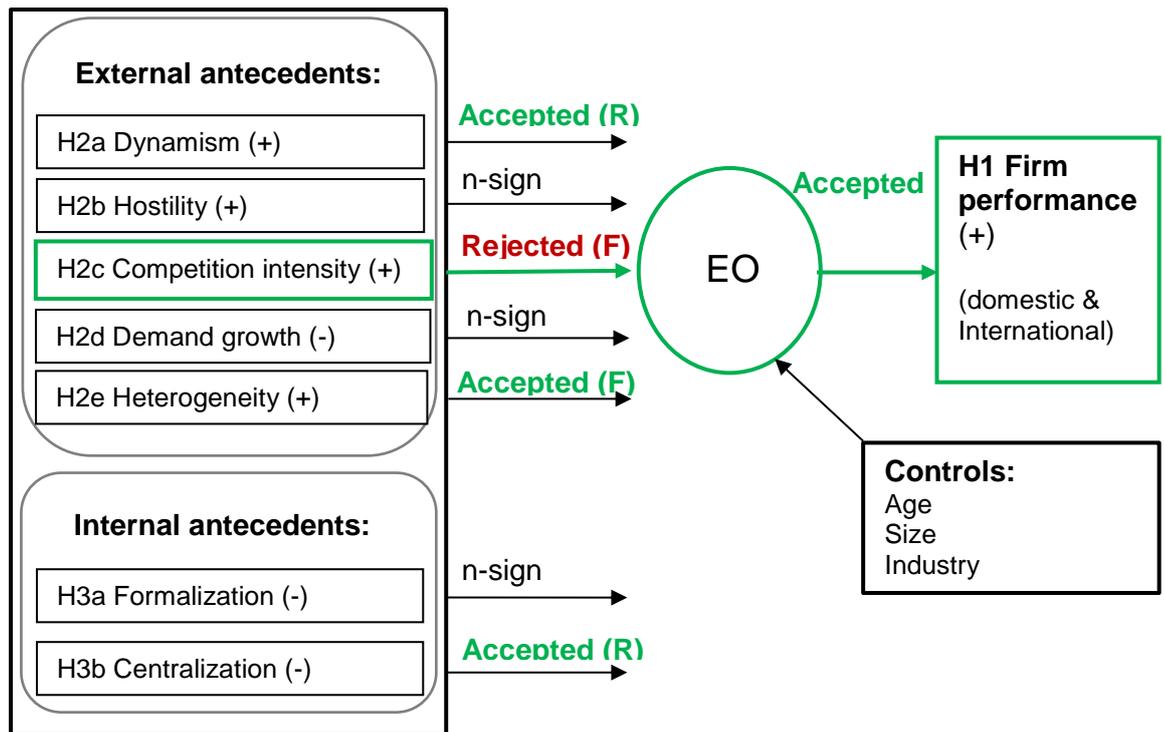


Figure 13. Results of hypotheses testing

(R=Russia, F=Finland, n-sign = non-significant)

Note: Hypothesis 4 about mediator resulted in finding the mediating role of EO between the number of direct competitors and profit growth in Finnish sample.

The following results were obtained in the research:

- EO is positively associated with sales growth and number of countries in which the company operates in combined Russian and Finnish sample.
- There are different EO antecedents in developed and emerging market contexts. In Russia, firm's size and dynamism are positively associated with EO, whereas centralization is negatively. In Finland, heterogeneity encourages the level of EO, and competition intensity impedes EO.
- EO mediates the relationship between competition intensity and profit growth in the sample of Finnish firms.

4. DISCUSSION AND CONCLUSIONS

4.1. Discussion of the findings

The aim of the research was to investigate antecedents and performance outcomes of EO in different contexts, considering EO in a mediating role. These contexts are developed and emerging markets, represented by Finland and Russia. The research question was divided into three sub-questions, the hypotheses for which have been developed and tested in the empirical part of the study. The main results of the study can be combined into three groups, which are answering each of the sub-questions.

Sub-question 1. How does EO influence firm performance in different country contexts?

In order to answer the first sub-question, the influence of EO on both domestic and international firm performance has been analyzed. The results of the analysis for the sample of combined Russian and Finnish firms have shown that EO is positively associated with sales growth, which is the indicator of domestic firm performance, and the number of countries in which the company operates, which represents firm international performance.

Some of the previous studies have found similar positive results in different samples of firms and environmental settings (Covin and Slevin 1989, Wiklund and Shepherd 2003; Rauch et al. 2009; Soininen et al. 2012). However, most studies have analyzed domestic firm performance, whereas international performance has not been studied enough, and, thus, this study, which has found a positive impact of EO on international firm performance, contributes to the existing literature on EO.

The positive relationship between EO and sales growth can be explained by the fact that firms with high level of EO are more innovative, able to take risky activities and be proactive on the market (Covin and Slevin 1989). These characteristics of entrepreneurial firm allow the company to develop different products and services, better respond to changing customer needs and preferences,

and be able to bring quickly new products and technologies to the market, which, in turn, results in the increase in sales (Clausen and Korneliussen 2012).

However, the results of testing the relationship between EO and sales growth separately in Russia and Finland have shown a significant positive relationship in Finland, while in Russia the relationship between variables was non-significant, which means that in the developing Russian context entrepreneurial orientation is not related to sales growth. Some empirical studies have also shown insignificant results of EO-performance relationship. For instance, Covin, Slevin and Schultz (1994) suggested that EO should be matched with organizational structure and strategic mission in order to get better firm performance. Following this, a more flexible organizational structure in the sample of Finnish firms better corresponds to entrepreneurial orientation than formal and centralized structure in the Russian sample.

The insignificant result can also be explained by institutional and cultural environment in the countries. Institutions are special rules and constraints which “structure economic, political and social interactions” (North 1991, 97). According to Global Competitiveness Report 2013-2014, Russia is ranked as number 121 out of 148 countries in the level of institutional development, whereas Finland is number one with highly transparent and well-functioning public institutions (GCR 2013-2014). The institution of intellectual property rights protection is important for innovativeness. When IP is properly protected, firms are more eager to create innovations and benefit from it, without being afraid that their invention will be copied and used by competitors. Besides institutional development, there is different risk and uncertainty perception in the countries. Following the Global Entrepreneurship Monitor results, 47% of adult population in Russia, which is more than in Finland (37%), indicate that fear of failure would prevent them from establishing new business (GEM 2012). Russian entrepreneurs are more risk averse, and without taking risky initiatives on the market it is difficult to get fast and large revenues from sales.

In the sample of companies, which operate internationally, EO contributes to firm international performance. It was found that firms with higher levels of EO

operate in more foreign countries than firms with lower levels of EO. This result can be explained by the fact that entrepreneurial firms better discover and exploit new opportunities on the markets, including international markets. Entrepreneurial firms are not afraid of risky actions, and as a process of internationalization is a risky process in which firm success is largely determined by the attitude towards risk, entrepreneurial firms tend to perform better than conservative firms (Lan and Wu 2010).

Sub-question 2. How are external and internal business environment related to EO formation, and what are the differences in these relationships in developed and emerging market contexts?

In order to answer the second sub-question, different external and internal antecedents have been selected, and the separate models for Russian and Finnish firms were developed and tested, which allowed a meaningful comparison between results of analysis in two countries.

The analysis has shown that external business environment has more impact (R^2 change) on entrepreneurial orientation, compared to internal environment. Having sufficient resources is not enough for acting entrepreneurially, external environment is important as it can facilitate or complicate firm entrepreneurial behavior, and firms adjust their strategies to external environment (Rosenbusch, Rauch, and Bausch 2013). There was larger number of external antecedent variables in the model as it was important to show external contextual differences applicable to all firms, while internal antecedents are more firm specific.

The analysis has revealed that the antecedents of EO are different in developed and emerging contexts. In Russia, company's size and dynamic external business environment are positively associated with EO, whereas centralization is negatively. In Finland, heterogeneity is positively associated with EO, and competition intensity in firm's business environment is negatively. The differences of EO formation in Russian and Finnish firms can be explained by the specifics of national culture and level of institutional development in the countries.

Firm's size, estimated by logarithm of the number of employees, is positively associated with EO in the Russian sample, which means that the level of EO is higher in larger firms. The result can be explained from the resource perspective (Wernerfelt 1984). Larger firms have more resources and broader operations scale. The availability of resources, in its turn, creates the basis for innovativeness, which is one of the components of entrepreneurial orientation. Resource-based view can also be an explanation of the result that size did not receive significant estimation in the Finnish sample. Finnish firms, operating in developed context, have more resources and opportunities to pursue entrepreneurial strategic posture. However, resources and access to funding are considered as the biggest challenges for Russian entrepreneurs, according to Entrepreneurship Barometer 2013 (EY G20). In the developing Russian context, firms obtain resources when growing, and this lack of sufficient resources in small Russian companies may explain the fact that only with growth Russian firms receive the opportunity to develop entrepreneurial strategic posture.

Dynamic environment encourages the development of EO in Russian firms. Previous studies have shown the positive relationship between dynamism and EO in other country settings (Alexandrova 2004; Rauch et al. 2009), and sometimes dynamism is used as a control variable by the researches (Shirokova and Sokolova 2013). Dynamism characterizes different changes including innovations in industry, shifts in technologies, uncertainty and unpredictability of markets. The dynamic environment creates new opportunities for the companies and encourages innovativeness. Firms adapt to the changes in external environment by changing existing products and services, and creating new (Ruiz-Ortega et al. 2013).

The results that dynamism received significant positive impact on EO in the developing Russian environment and was non-significant in the developed Finnish environment can be explained by the developing nature of Russian markets. The nature of market changes and instability are different in terms of scope and speed in developed and emerging markets. Firms, which operate in unstable institutional environment, try to gain fast returns on their capital, and perform risky and innovatively, whereas firms in more stable and transparent

institutional environment widely make investments for business expansion over time (Alexandrova 2004). Besides this, the level of dynamism is different across industries. The most dynamic industries in Russia are wholesale and retail trade, information and communication technologies, and hotels, restaurants and cafes (Goskomstat 2008). The fact that Russian sample firms represent more dynamic industries with only 12.9% of firms in the production sector can also influence the results.

High level of centralization impedes the development of EO in the Russian firms and did not receive significant results in Finnish sample. These results can be explained by differences in culture and managerial style in two countries. According to cultural dimensions model of Hofstede, the power distance in Russia (scored as 93) is much greater compared to Finland (scored as 33). This cultural dimension describes inequality in power and extent to which this inequality is accepted in the society (Hofstede 2010). Power is very distant in Russia compared to Finland. Applied to the organizations, high level of distance between less and more powerful people underline the importance of status and its meaning to the employees and often leads to autocratic style of management. The descriptive analysis has shown that Russian sample firms are more hierarchical and centralized compared Finnish companies. Because of formal control and hierarchical structure, centralized firms are less flexible and less efficient in decision-making processes, which impedes proactive behavior (Caruana, Ewing, and Ramaseshan 2002; Engelen 2010). Centralization restricts freedom and do not encourage employees from lower levels of organization to generate new ideas (Miller, Droge, and Toulouse 1988), which have negative influence on risk-taking and innovative behavior of employees. In addition to management styles, company's size can add explanation power to insignificant results of centralization in Finnish sample. The majority of Finnish companies in the sample are small firms with only few employees. Small firms are more flexible and easier to manage than large firms. Russian sample firms, in its turn, are larger, and centralization helps managers to coordinate decision-making processes and clearly identify roles and responsibilities of employees, but impedes entrepreneurial posture in organization (Caruana, Ewing, and Ramaseshan 2002).

The analysis of the Finnish sample resulted in the positive association between heterogenic external environment and entrepreneurial orientation. In Russian sample, heterogeneity did not receive significant estimations. Therefore, heterogeneity is an antecedent of EO in developed Finnish context and does not influence EO in the developing Russian context. These results can be explained by characteristics of the developed markets. These markets are more competitive and saturated, and firms try to diversify their operations and search for new opportunities in different markets (The Economist 2011). At the same time, the process of diversification and entering new markets is easier in the established institutional environment than in developing contexts. According to the Doing Business report (DB 2014), it is easier to do business in Finland than in Russia (Finland is ranked as number 12 and Russia as 92 out of 189 countries on the ease of doing business). This rating assesses the regulatory business environment including procedures to start and operate a company, time and costs needed to complete administrative procedures, dealing with construction permits, tax payments, documentation requirements, and other business indicators (DB 2014). Clearly identified rules and regulations in developed markets make business expansion faster and cheaper from procedural point of view. When diversification is easy, firms are eager to enter new markets, expand operations and exploit new opportunities. Firms, which serve different market segments, have various customer base, and learn from their experience in other markets (Miller and Friesen 1983). The positive effect of heterogeneity on EO can also be explained by the fact that diversified firms create different products to better serve customer needs, and try to be proactive and fill in new niches on the market before competitors (Miller and Friesen 1983).

The number of direct competitors has a negative impact on entrepreneurial orientation among Finnish firms. This is a surprising result as it was supposed that there is an opposite relationship between these variables, and the result contradicts the initially hypothesized effect. Direct competition of firm's business environment is an antecedent of EO in Finnish sample, and did not receive significant results in Russian sample. The most competitive industries, estimated by Finnish sample firms, are construction and transportation & storage, and in

Russian sample the most competitive are ICT industry and financial activities. The fact that many Finnish firms in the sample operate in the most competitive industries may have its impact on the results. At the same time, intense competition in the developed markets is regulated with competition laws, and firm innovations are protected and supported by the government (Li and Atuahene-Gima 2001). This support and proper regulatory environment is not available in the developing Russian context (Zhuplev and Shein 2008). Also, small Russian firms do not have enough resources to compete with large firms which often have established personal relationships with the government (Michailova and Worm 2003). Because of these specifics of developing Russian environment, firms may respond differently to increase in competition (Tang and Hull 2012; Shirokova and Sokolova 2013).

The result that competition intensity in business environment impedes the development of EO in Finnish firms can be explained by scarcity of resources and low levels of industry profitability caused by hostile environment (Kreiser, Marino and Weaver 2002b). When resources are scarce and limited, firms try to preserve them and not to spend on overly innovative strategic posture. Also, in extremely uncertain environments managers avoid to take high risks and, instead, they pay more attention to conservation of limited resources (Kreiser, Marino and Weaver 2002b). Additionally, when the competition increases and there are new entrants to the market, which sell the same products or provide the same services, it is more difficult for a firm to be proactive and enter the market before competitors.

Sub-question 3. Does EO play a role of a mediator between its antecedents and firm performance, improving firm performance indicators?

In order to give an answer to the third sub-question and verify which antecedents and performance indicators are mediated by EO, the mediating model has been developed and tested. In the literature on entrepreneurial orientation there are few studies on mediating role of EO (Wales at al. 2011), and this research fills in the gap in EO literature.

The results of the analysis have shown that entrepreneurial orientation mediates the relationship between competition intensity in a firm's environment and profit growth in the developed market context. However, the mediating models with other antecedent variables did not provide evidence for mediation. Previous studies have shown that it is rather difficult to find mediating effects, as there are several assumptions which have to be met, and it is natural that in some cases mediation effects may not be estimated (Baron and Kenny 1986). First, in a role of mediator entrepreneurial orientation should be related to firm performance, which was found only in Finnish sample. Institutional constraints (GCR 2013-2014), high risk perception (GEM 2012), and mismatch between EO and organizational structure (Covin, Slevin, and Schultz 1994) are possible explanations of insignificant EO-performance relationship in Russian sample, which excluded Russia from further mediation analysis.

Second, there is no mediation if antecedents are not related to EO. In Finland competition intensity and environmental heterogeneity are associated with entrepreneurial strategic posture and were used in further mediation analysis. The reasons of why other antecedents ("dynamism", "hostility", "demand growth", "centralization", and "formalization") are not associated with EO may be related to stability and transparency of institutional environment in developed market (Alexandrova 2004), small power distance (Hofstede 2010) and other elements of national culture, or sample characteristics and measures (for example, "hostility" scale contains different threats which are not highly correlated with each other, and it is rather difficult to estimate real demand growth in industry).

Third, there is no evidence for mediation if antecedents are not related to firm performance. The results on environmental heterogeneity appeared to be insignificant. According to previous research, the relationship between diversification and firm performance is mixed and complex. In some circumstances diversified firms show better performance compared to undiversified firms, whereas in other contexts the results are different (Pandya and Rao 1998). As for the competition intensity, it was found that it significantly decreases firm's profit. This can be explained by the fact that firm has to share its market and customer base with competitors and have lower returns.

A proved evidence of EO as a mediator between competition intensity in a firm's business environment and profit growth provides a confirmation of a mediating EO role in entrepreneurial research (Arham and Muenjohn 2012; Rosenbush, Rauch, and Bausch 2013). Entrepreneurial orientation gives the explanation of decrease in firm performance in highly competitive environment. The results mean that competition intensity decreases firm's profit growth, as it decreases the level of entrepreneurial orientation, which is positively associated with firm performance.

However, the positive influence of entrepreneurial orientation on firm profit growth is larger than negative impact of competition on EO, and, therefore, firms with entrepreneurial strategic posture are more likely to reduce the negative impact of intense competition on firm performance. Previous research has shown that in hostile competitive environments entrepreneurial firms perform better than conservative firms (Covin and Slevin 1989). Firms may use entrepreneurial strategic posture to deal with requirements of external business environment and transform them into better financial performance (Rosenbusch, Rauch and Bausch 2013).

4.2. Theoretical contributions

The thesis has revealed the relationships between entrepreneurial orientation, its external and internal antecedents and firm performance. Theoretical implications are discussed further in terms of contributions to different directions of EO research.

Implications for "EO-performance" and "antecedents-EO" research

The research contributes to "EO-performance" and "antecedents-EO" research empirically in verifying and testing the models of antecedents, EO and performance relationships in other business environments and country settings, different from those which have been previously tested. This verification improves the results generalizability of previous EO studies. More specifically, the research has proved that entrepreneurial orientation may be beneficial for domestic firm performance (Zahra 1991; Caruana 2002; Wiklund and Shepherd

2003; 2005), measured by sales and profit growth rates. Additionally, the thesis results complement the literature on EO by showing that adoption of entrepreneurial strategic posture is beneficial for international firm performance (Jantunen et al. 2005; Lan and Wu 2010), measured by number of foreign countries in which a company operates. However, special attention should be paid by researches to different contexts where the models may not work as it was expected. Besides this, the research supports that dynamic and heterogenic external business environments encourage entrepreneurial behavior on the organizational level (Miller 1983; Miller, Droge, and Toulouse 1988; Alexandrova 2004; Ruiz-Ortega et al. 2013), while centralized organizational structure impedes the level of firm's entrepreneurial orientation (Caruana, Ewing, and Ramaseshan 2002; Engelen 2010).

However, what is different from previous studies and new in the thesis results, is that the element of hostile business environment – competition intensity – was found to be an obstacle to entrepreneurial strategic posture rather than a facilitator of it as was shown in previous studies (Miller 1983; Miller and Friesen 1982). This result was explained by the firm's intention to preserve scarce and limited resources and difficulties in being proactive in a highly competitive hostile business environment (Kreiser, Marino and Weaver 2002b). The difference of results from previous studies suggests that the relationship between competition intensity and firm performance should be investigated in further research with other contextual and moderating variables in order to better understand the reasons for different impacts of hostile competitive environments on firm performance.

Implications for comparative EO research

The thesis results contribute to comparative EO research as it was shown that entrepreneurial orientation is a strategy which depends on country contexts, and differences in EO drivers and EO relation to firm performance can be caused by differences on a country level.

A comparative cross-country approach, applied in the thesis, allowed comparing and investigating the relationships between selected variables in two different

country contexts – developed and emerging markets. Comparative methodology also differentiates this research from previous studies on entrepreneurial orientation, as most them have been conducted in a single country environment, and there are few studies where several countries are examined (Wales et al. 2011). Additionally, entrepreneurial orientation models have been often tested in the developed economies, where EO concept has been originated, rather than in the developing countries and emerging markets (Wales et al. 2011). This study applies unidimensional EO measurement approach to the developed Finnish and developing Russian environment and confirms that this concept is valid in the developed country context and has a big potential for explaining firm entrepreneurial behavior in the developing country (Arbaugh et al. 2009).

The results of a cross-country comparison have shown that drivers of entrepreneurial orientation are not universal, but rather context dependent. What is more, it differs from previous comparative research in a way that it examines the differences in EO drivers not on the industry level, which was examined previously with moderating variables (Lumpkin and Dess 1996; Wiklund and Shepherd 2005; Rauch et al. 2009; Wales et al. 2011), but on a broader country level. Therefore, the research provides additional knowledge to EO literature and shows that the relationships between antecedents, EO and firm performance depend on macro concepts and characteristics of a particular country, such as the level of institutional development and national culture. For broader understanding of EO concept, it is important to further investigate these characteristics and their influence on entrepreneurial orientation.

The research has revealed the differences of EO drivers on the country level in developed and developing market contexts. For example, the uncertain and fast changing environment, including instability of regulatory institutions, increases firm entrepreneurial behavior in the developing context. The complex saturated business environment and firm diversification to different markets, supported by government, drives firms to behave more entrepreneurially in the developed context.

Implications for research on mediating EO role

The thesis has found and proved that entrepreneurial orientation may play a role of a mediator between variables, that is, it can explain the causal chain of why one variable influences another. A mediating role of EO has not been systematically addressed to in previous research, and, therefore, this study contributes to a few studies on mediating EO role (Arham and Muenjohn 2012; Rosenbusch, Rauch, and Bausch 2013). The majority of previous research examines two-way relationships between entrepreneurial orientation and firm performance, or/and antecedents and entrepreneurial orientation, considering EO and a dependent or independent variable (Rauch et al.). This creates an incomplete vision of the phenomenon under consideration. In the theoretical literature there is a lack of understanding of genesis of entrepreneurial orientation concept (Wales et al. 2011), and very few studies considered entrepreneurial orientation as a mediator, which connects antecedents to performance outcomes of the firm and may improve performance indicators. Thus, the study provides additional knowledge to entrepreneurial orientation research as it combines the two-way interactions and develops a more complex three-way relationship model of “antecedents – entrepreneurial orientation – performance”, in which entrepreneurial orientation has been found to play the mediating role.

Being a mediator means that EO can explain the relationship between predictor and outcome variables (Baron and Kenny 1986). Besides proving the mediating EO role, the thesis has also investigated the variables, between which the mediation occurs. These variables are competition intensity in a firm’s business environment and profit growth. The usage of different variables adds additional knowledge to previous studies on mediating EO role (Arham and Muenjohn 2012; Rosenbusch, Rauch, and Bausch 2013) and provides new insights on the reasons of negative impact of intense competition on firm performance. The decrease in firm performance in a highly competitive environment can now be explained by the fact that firms tend to act less entrepreneurially and preserve their scarce resources instead of making huge investments (Kreiser, Marino and Weaver 2002b).

4.3. Practical contributions

In addition to theoretical contributions, the thesis results can be applied to managerial practice. Nowadays managers of the firms try to encourage innovative behavior from their employees and make organizational spirit more entrepreneurial (Minter 2012). Due to the findings of how managers may benefit from adopting entrepreneurial strategic posture and what factors may facilitate or complicate this adoption, the thesis results are useful for managers in practice when making strategic decisions in a company.

The result of a positive association between entrepreneurial orientation and both domestic and international firm performance leads to the recommendation that managers should pay more attention to overall orientation of a firm towards entrepreneurship. This can be expressed with adoption of innovative initiatives and projects, prognosis of future demand and customer needs, exploration of new market opportunities, and adoption of risk behavior when pursuing the company goals.

Furthermore, as entrepreneurial orientation reduces the negative consequence of intense market competition on firm performance, it can be suggested that managers of a firm adopt entrepreneurial strategic posture in a competitive intensive business environment. This is relevant especially in the developed institutional context where transparent laws and regulations protect and support firm entrepreneurial behavior. By promoting willingness to act in an entrepreneurial way, managers can exploit the positive effects of entrepreneurial orientation and attain superior performance.

However, facilitating entrepreneurial strategic posture in a company is not enough for better firm performance. Managers should match entrepreneurial orientation with firm's external business environment, organizational structure and resources. Therefore, it should be concluded that different factors and environmental settings, which may facilitate or complicate EO formation, should be taken into account when making strategic decisions.

Market choice is an important strategic decision at the stage of firm foundation and extension of business activities. Dynamic and heterogenic business

environment increase the firm potential for adoption of entrepreneurial behavior. Managers should analyze the environment carefully and align entrepreneurial orientation to it in order to take the advantages of opportunities and show better performance. At the same time, in more standardized and routine environments with low dynamism and complexity, EO is not necessarily required, and managers should not make big efforts and investments in its development.

At the same time, managers should realize whether their firm has right resources and capabilities to adopt entrepreneurial behavior. Being a costly strategy, entrepreneurial orientation requires investments, and lack of sufficient resources is an obstacle to EO development. It may also be suggested that in order to improve entrepreneurial spirit in organization, a more flexible organizational structure should be promoted. For example, extended decision-making processes, constructive feedback, empowerment of employees to take initiatives, generate and communicate new ideas to management will create a more favorable environment for entrepreneurial behavior.

Finally, in the developing context authorities may try to create a more favorable business environment for firms and encourage entrepreneurial behavior by providing support, improving regulative institutions and access to resources.

4.4. Limitations and directions for further research

There are several limitations of the study which create new directions for further research. First, the research model includes a limited number of external and internal antecedent variables and performance indicators which are tested in the research. The future research may include and test other variables which are not covered in this research. For example, as institutional and cultural environment was shown to give possible explanations of different relationships between antecedents and EO, it is interesting to further investigate how variables of institutions and culture are related to EO. Also, other internal factors (for example, leadership style, resource availability, networking) and performance indicators (non-financial, subjective measures) may be included in a model.

Another limitation is research generalizability. The results of the research cannot be generalized to all developed and emerging market firms due to different particularities of countries. Future research may also verify the results in other countries and more fully investigate entrepreneurial orientation in developed and emerging contexts.

Finally, further research may also contribute to studies of entrepreneurial orientation in a mediating role. Till now, most EO studies have applied contingency approach, and further research may contribute to literature by considering EO as a mediator between different factors of internal and external environment.

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APPENDIX 1. Questionnaire

QUESTIONNAIRE

for the empirical research of Firm's Entrepreneurial Orientation

1. GENERAL INFORMATION ABOUT THE COMPANY

1.1. Company's name

1.2. What is the year of establishment of your firm?

1.3. What is the main industry in which your company operates?

- 1 Agriculture, forestry and fishing
- 2 Mining and quarrying
- 3 Manufacturing
- 4 Construction
- 5 Transportation and storage
- 6 Wholesale and retail trade
- 7 Accommodation and food service activities
- 8 Information and communication
- 9 Financial and insurance activities
- 10 Real estate activities
- 11 Administrative and support service activities
- 12 Professional, scientific and technical activities
- 13 Human health and social work activities
- 14 Arts, entertainment and recreation
- 15 Other

1.4. Number of direct competitors of your firm

1.5. Please, evaluate the demand growth for the products/ services in your industry (% , 2010-2012)

1.6. Please, indicate the number of employees

1.7. Please, evaluate the performance indicators of your firm:

Sales growth rate (% , 2010 - 2012)	
Profit growth rate (% , 2010 - 2012)	
Number of countries in which your company operates (2012)	

2. ENTREPRENEURIAL ORIENTATION

Please, answer to which extent the statements correspond to your company: 1 – best correspondence to the statement on the left; 7 - best correspondence to the statement on the right

Innovativeness

1. In general, the top managers of my firm favor...								
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.
2. How many new lines of products or services has your firm 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.
3. Changes in product or service lines have been mostly of a minor nature.	1	2	3	4	5	6	7	Changes in product or service lines have usually been quite dramatic.

Proactiveness

In dealing with its competitors, my firm...								
4. typically responds to actions which competitors initiate.	1	2	3	4	5	6	7	typically initiates actions to which competitors then respond.
5. 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.
6. typically seeks to avoid competitive clashes, preferring “live-and-let-live” posture.	1	2	3	4	5	6	7	typically adopts a very competitive, “undo-the-competitors” posture.

Risk-taking

7. 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).

8. In general, the top managers of my firm believe that...								
owning to the nature of the environment, it is best to explore it gradually via cautions, incremental behavior.	1	2	3	4	5	6	7	owning to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives.
9. 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.

3. EXTERNAL BUSINESS ENVIRONMENT

3.1. Environmental dynamism

Please, answer to which extent the statements correspond to your company: 1 – best correspondence to the statement on the left; 7 - best correspondence to the statement on the right

1. My firm must rarely change its marketing practices to keep up with the market and competitors.	1	2	3	4	5	6	7	My firm must change its marketing practices to extremely frequently (e.g. semiannually).
2. The rate at which products/services are getting obsolete in the industry is very low.	1	2	3	4	5	6	7	The rate of obsolescence is very high.
3. Actions of competitors are quite easy to predict.	1	2	3	4	5	6	7	Actions of competitors are unpredictable.
4. Demand and consumer tastes are fairly easy to forecast.	1	2	3	4	5	6	7	Demand and tastes are almost unpredictable.

5. The production/service technology is not subject to very much change and is easy established.	1	2	3	4	5	6	7	The modes of production/service change often and in a major way.
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3.2. Environmental hostility

1. The environment causes a great deal of threat to the survival of my firm.	1	2	3	4	5	6	7	There is very little threat to survival.
2. How severe are the following challenges? (1– this is not a great threat; 7 – this is a very substantial threat)								
Tough price competition	1	2	3	4	5	6	7	
Competition in product quality or novelty	1	2	3	4	5	6	7	
Dwindling markets for products	1	2	3	4	5	6	7	
Scarcity of labor and material resources	1	2	3	4	5	6	7	
Government intervention	1	2	3	4	5	6	7	

3.3. Environmental heterogeneity

1. We are a very undiversified firm and cater to the same buyers.	1	2	3	4	5	6	7	We are highly diversified conglomerate and operate in unrelated industries.
2. Are there great differences amongst the products/services you offer, which regard to (1 – about the same for all our products; 7 – varies a great deal from one line to another):								
customer’s buying habits	1	2	3	4	5	6	7	
the nature of the competition	1	2	3	4	5	6	7	
market dynamism and uncertainty	1	2	3	4	5	6	7	

4. COMPANY'S ORGANIZATIONAL STRUCTURE

4.1. Formalization

Please, answer to which extent the statements correspond to your company: 1 – absolutely does not correspond; 5 – absolutely corresponds

1. If a written rule does not cover some situation, we make up informal rules for doing things as we go along	1	2	3	4	5
2. There are many things in my business that are not covered by some formal procedure for doing it	1	2	3	4	5
3. Usually, my contact with my company and its representatives involves doing things "by the rule book"	1	2	3	4	5
4. Contact with my company and its representatives are on a formal preplanned basis	1	2	3	4	5
5. I ignore the rules and reach informal agreements to handle some situations	1	2	3	4	5
6. When rules and procedures exist in my company, they are usually written agreements	1	2	3	4	5

4.2. Centralization

1. Any major decision that I make has to have this company's approval	1	2	3	4	5
2. In my dealings with this company, even quite small matters have to be referred to someone higher up for a final answer	1	2	3	4	5
3. My dealings with this company are subject to a lot of rules and procedures stating how various aspects of my job are to be done	1	2	3	4	5
4. I have to ask company reps before I do almost anything in my business	1	2	3	4	5
5. I can take very little action on my own until this company or its reps approve it	1	2	3	4	5