

# Research on the Impact of Entrepreneurial Orientation on Internationalization Capabilities and Firm Performance — Based on the Empirical Evidence of Russian Small and Medium-sized Enterprises

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## Abstract:

**Background:** Since the 1990s, the internationalization of small and medium-sized enterprises (SMEs) has become the focus of modern market economy in Russia. For those Russian SMEs, that are willing to expand its business internationally and adhere to the development, how to improve their own performance has become a hot topic of academic research around the world. In the Russian academic world, realizing internationalization is still a new and under-researched topic.

**Purpose:** This study empirically examined the relationship between innovation, proactiveness and risk-taking and performance of internationalized small and medium enterprises in Russia. And also, the study sought to determine the mediating role of the internationalization capabilities in the relationship between entrepreneurial orientation (EO) and performance of these SMEs. Build a theoretical model of these relationships and put forward the theoretical hypotheses.

**Design/methodology/approach:** In this study, combined with the original questionnaires and the internationalized Russian enterprises features, the questionnaire was redesigned. 241 valid copies of questionnaire were collected from the SMEs in two most populated cities in Russia - Moscow and St. Petersburg. To analyze the data study uses SPSS and Amos as statistical tools in order to conduct descriptive statistics, to check the reliability and validity of the questionnaire, to use correlation, structural equation modeling and other analyses on the data to verify the hypotheses and discuss the results.

**Results:** The research shows that relationships of variables in theoretical model have different results. For example, analysis indicates positive impact of EO (proactiveness and risk-taking) on performance of small and medium-sized enterprises in Russia. Among the dimension of EO, the research found that only proactiveness and risk-taking were the statistically significant predictors of SMEs, while innovation found to be not having a positive impact on performance. Besides, internationalization capabilities (information acquisition and adaptive capabilities) have different effect on firm's international performance. The implications of these findings for theoretical development and future research are discussed at the end.

**Key Word:** Russian Small and Medium-sized Enterprises; Entrepreneurial Orientation; Internationalization Capabilities; SMEs Performance.

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## I. Introduction

In today's world, internationalization has become an urgent direction of the development of small and medium-sized enterprises. As a result of technological developments and the expansion of international economic relations, SMEs have the opportunity to implement an internationalization strategy by initiating business relationships abroad and expanding its activities beyond their domestic markets. Internationalization is a strategic behavior of running an enterprise, which is conducive to its growth and reaching a new level of development.

Since the 1990s, the internationalization of small and medium-sized enterprises has become the focus of modern market economy in Russia. As Russia's SMEs internationalization level has gradually improved, for those enterprises, that are willing to expand their business and adhere to the development, how to improve their own performance has not only become the strategic and practical significance issue under discussion, but also become a hot topic of academic research in various countries. Although foreign scholars have studied the

relationship between internationalization and business performance for decades (Oviatt & McDougall, 1999; Liesch & Knight, 1990; Lu & Beamish, 2001), most of their research are focused on the internationalization phenomenon of developed countries or transnational corporations, which is obviously different from the internationalization strategy of SMEs in Russia as a developing country. Going internationalization is a new and under-researched topic in Russian academic world. Therefore, foreign theories of internationalization are also appropriate for applying to Russian enterprises.

In addition to the existing studies, this paper discusses the impact of entrepreneurial orientation on international performance for Russian SMEs, and also it makes major contributions to international business literature by adding the mediating effect of two internationalization capabilities to further reveal the influencing factors of SMEs international performance. It is very meaningful to study this kind of relationship, as every enterprise needs internationalization theories to guide practice work, this enables enterprises to understand the relevant influencing factors corresponding to the degree of internationalization, so, on the basis of theories and the existing research results, this paper put forward the corresponding hypotheses, and through this empirical research to prove the validity of the theories, also the development of SMEs internationalization theories, will provide a new perspective for further research.

## **II. Literature review**

The study of enterprise internationalization has always been an important research field of international business. In this process, scholars have explained the behavior of enterprise internationalization from different theoretical perspectives, such as economics, strategic management and behavioral science. The review of existing theoretical literature is helpful to understand the scientific achievements of this subject, which provides a strong theoretical basis for the research work of this paper, and can also clarify the research direction of this paper.

Enterprise internationalization began to be researched in the 1860s, but there hasn't been a consistent or widely accepted definition of Internationalization during a long period of research. Vernon (1966) believed that enterprise internationalization was a gradual expansion process from the domestic market to the foreign market. Johanson & Wiedersheim (1975) and Johanson & Vahlne (1977) see enterprise internationalization as a progressive overseas business process to acquire overseas market knowledge and gradually increase market commitment. Although the definition of internationalization is not exactly the same in most scholars' studies, however, they all agree that internationalization is a kind of corporate behavior to develop firm's various business operations abroad.

### **Current Situation and Capability of Russian SMEs' Internationalization**

Export is one of the main strategies for the internationalization of SMEs. It is seen as an extremely important economic activity for business success and as a strategy to access foreign markets, is conducive to increase sales and improve financial performance. The internationalization of a company is not only about exports, it includes entering new markets, establishing joint ventures, acquiring new technologies, products, services, joint business projects, adapting products to the needs of new markets, foreign experts' participation, and risk reduction. However, for SMEs, the share of internationalization forms other than export is negligible, and almost all SMEs start their internationalization from export.

Russia now faces a massive task of modernizing its economy and diversifying its exports to reduce its dependence on raw materials. Raw materials already account for more than 70% of Russia's total exports. However, in Russia, only 1 out of 120 companies is engaged in export activities, while in Germany, it is 1 out of 3. The main importers of Russian SME products are CIS countries (about 40%), European countries (about 30%) and Asian countries (about 22 %). The largest foreign demand is for wood products (the country is rich in forest resources), equipment, vehicles and spare parts (with a strong space and defense industry), mineral fertilizers, food and agricultural raw materials and intellectual services (as software development).

For Russia's economy, developing SMEs and their international activities is one of the ways to solve the problem of economic modernization and diversification. Unfortunately, the competitiveness of Russian exports outside the natural resources sector is still limited. According to the World Economic Forum's annual Global Competitiveness Index, Russia still ranks 43rd out of 141 countries in 2019. The level of participation of SMEs in international activities is extremely low.

The desire of SMEs to supply products abroad is hindered by ignorance of the market where they are sold, a lack of knowledge and skills in working with foreign consumers, and the complex procedures for obtaining some certificates such as licenses in order to promote goods to a particular market. Economic experts noted the need to help SMEs understand markets, logistics, the legal aspects of international trade, and to provide support for obtaining the necessary certificates.

Export Support Centers have been set up in various regions of Russia in accordance with the project of the "SMEs and support for individual entrepreneurial initiatives" launched by the State to encourage firms

participate in export activities, promote their access to foreign markets for goods, services and technologies, and help them to improve their competitiveness and performance. In Export Support Centers, entrepreneurs can get financial and non-financial support, allowing them to expand their supply areas. The center assists enterprises to conduct business on the international electronic trading platform, participate in international exhibitions, provide legal and language support for export contracts, logistics support and other services.

The theory of SME internationalization is still in the developing stage. Before the 1980s, there were small-scale technology theory, technology localization theory and comparative advantage theory. After the 1980s, there appeared the stage model theory, the network model and the resource-based view theory. These theories explain the development of the internationalization of small and medium-sized enterprises from different angles and have positive reference significance to the internationalization of small and medium-sized enterprises in Russia.

### **Entrepreneurial Orientation Research Review**

Entrepreneurial Orientation (EO), a concept derived from the field of enterprise strategic management, has gradually received attention. In fact, EO starts from the process of strategic decision-making at the enterprise level and defines the entrepreneurial behavior of a company by describing some important characteristics in the process of formulating strategy.

Although researchers have reached a consensus on the role of EO in enterprises, different scholars have different opinions on the characteristics of entrepreneurial enterprises. According to Miller's (1983) research on EO, this research shows entrepreneurial enterprises should have three characteristics: innovation, proactivity and risk-taking. Innovation reflects the basic characteristics of entrepreneurial activities. The willingness, effort, and action of a business to introduce new products, services, processes, technologies, and to support creative activities and experimentation. Proactivity is an important factor affecting the survival of entrepreneurial enterprises, which reflects the forward-looking strategic perspective of enterprises to pursue new opportunities. Showing a forward-looking attitude is an organizational characteristic defined as being willing to experiment. Risk-taking is an important part of the entrepreneurial culture. The willingness and actions to bear the uncertainties and risks brought by entrepreneurial behaviors such as developing new products, entering new markets and making new decisions. Specifically, in the face of environmental changes or unknown fields, whether enterprises tend to enter an unfamiliar market, invest a large amount of funds and resources into projects with high risks, or even borrow a large amount in order to pursue market opportunities with high returns. These characteristics have a critical impact on achieving the goals of the organization, realizing the vision of the enterprise, and creating competitive advantage of the enterprise (Rauch, Wiklund, Lumpkin et al., 2009).

### **Firm Performance Research Review**

Internationalization performance is the measure of the operation status of international enterprises. The economic significance of internationalization performance refers to the result of exporting products or services to foreign markets. Cavusgil, Zou, et al. (1993) define export performance as a category of enterprise economic and strategic goals. When an enterprise exports, it often has a number of goals, that can be strategic (market expansion, such as responding to competition, gaining a foothold in foreign markets, or increasing the competitive awareness of the product or enterprise, etc.) or economic (sales, cost, profit).

In terms of the measurement dimension of firm performance, scholars generally classify it from different perspectives. By sorting out the existing literature, it can be found that scholars' performance measures are generally divided into financial indicators and non-financial indicators, strategic indicators and economic indicators. Financial performance measures usually look at a company's financial ratios (derived from its financial statements), such as liquidity ratios, activity ratios, profitability ratios, and debt ratios. Non-financial performance measures are more subjective and may look at customer service, employee satisfaction, market share growth, and sales growth (Haber & Reichel, 2005). Strategic indicators focus on the achievement of strategic goals such as market share, competitiveness and strategic position, while economic indicators focus on the growth rate of export sales, profitability and return on investment (Zou & Cavusgil, 2002). In this study, the scale proposed by Zou and Cavusgil was adopted to measure the international performance of enterprises.

### **Internationalization Capabilities Research Review**

Based on the RBV theory and the dynamic capability theory, this study defines the internationalization capability of an enterprise as the ability to integrate internal and external resources to adapt to the dynamic changes of the environment, realize the internationalization strategy and improve the internationalization performance. In the process of internationalization, SMEs need to master the international market information, such as the entering the market, market supply and demand situation, industrial competition degree, and the supply of production factors. In the increasingly fierce competition in the international market, SMEs' mastery of information determines the success or failure of their business. At the same time, the SMEs need more

research on the international market demand changes, the demand characteristics of all countries and regions, study the condition of strong competitors, research how to adapt to the needs of international market diversification, also should study how to make effective use of world resources and advanced technology, to enhance their own strength, improve the performance of the internationalization. In this study, the scale proposed by Lu, Zhou et al. (2010) was used to measure the capabilities of SMEs to internationalize (market information acquisition and adaptive capabilities):

**1. Information acquisition capability.** Information about foreign market conditions, customer needs, and regulatory requirements (such as tariffs) is important for startups to make strategic decisions about international operations (Belich & Dubinsky, 1995; Yeoh, 2000). Scholars have recognized that information acquisition is a key capability to influence enterprises' choice of foreign markets and for enterprises to enter the market and develop products or services to meet foreign customers (Belich & Dubinsky, 1995; Liesch & Knight, 1999). Information acquisition capability refers to an enterprise' ability to collect, absorb and integrate information to understand customer needs and market opportunities.

**2. Adaptive capability.** This capability refers to the ability of an enterprise to respond to changes in the international market environment and adjust its own resources to respond to external changes. Many studies have investigated the adaptive capability of firms (Cavusgil et al., 1993; Hultman, 2009; Ahn, 2014). It is mainly divided into product adaptation, price adaptation (the ability to adapt pricing to different geographical regions and customer needs) and response agility (the ability to quickly react to changes in market environment that threaten the existing export market). In this paper, the variable was measured based on the measurements of Hultman (2009), Lages & Montgomery (2004) and Ahn (2014).

## **THEORETICAL BACKGROUND AND HYPOTHESES**

The theoretical background in this paper consists of international entrepreneurship theory, resource-based view theory and dynamic capability theory. The theoretical framework for this analysis represents the relationship between EO, information acquisition capability, adaptive capability and firm performance. The theoretical framework will be explained below and illustrated in Figure 1.

### **Entrepreneurial Orientation and SMEs Performance**

Theories related to international entrepreneurship have been widely used in international business, management, economics and other research fields. International entrepreneurship theory emphasizes that the key factor affecting the process of internationalization is the entrepreneur's ability (McDougall & Oviatt, 2000). Entrepreneurs are the people who are most sensitive to market opportunities. The key to the success of enterprise internationalization is that entrepreneurs can quickly and accurately seek market opportunities, avoid business risks and make appropriate policies. According to the research on international entrepreneurship theory, EO belongs to the strategic decision-making level of enterprises. It includes three factors, namely innovation, proactivity and risk-taking, and affects the company's industry selection, international business model selection, resource acquisition selection and more.

Small and medium-sized enterprises with higher international EO will perform better in foreign markets. For an international enterprise, strong innovation autonomy and high innovation willingness help the enterprise gain advantages in foreign markets. Many scholars' studies have confirmed that international EO plays a direct and indirect role in promoting international performance. Among them, Thanos et al. (2016) took 208 Greek SMEs as samples and found that international EO had a strong positive impact on firm performance. The constant search for new opportunities, the adoption of innovative ideas, and the willingness to take risks in international markets are the main factors that drive internationalized SMEs to improve their overseas performance.

However, there are also opposite views. Some scholars' studies pointed that EO has no correlation or weak correlation with performance (Sapienza & Grimm, 1997). Their research points out that such a direction may lead to faster corporate growth, but not necessarily to other goals. In this paper, the following research hypotheses are made:

H1: SMEs' EO has a significant positive impact on their performance.

H1a: SMEs' innovativeness has a significant positive impact on their performance

H1b: SMEs' proactiveness has a significant positive impact on their performance.

H1c: SMEs' risk-taking has a significant positive impact on their performance.

### **Entrepreneurial Orientation and Internationalization Capabilities**

Johnson and Kuehn (1987) found that owners or managers of SMEs spend a lot of time searching for market information. EO increases a firm's access to information in innovative, proactive, and risky ways. In most cases, obtaining information is often risky because it requires a lot of effort. Only SMEs with a high

entrepreneurial orientation are likely to actively obtain information (Keh & Nguyen, 2007). Adaptability is a crucial part of the dynamic capabilities of enterprises. Enterprises with a high entrepreneurial orientation are more likely to create, discover and utilize opportunities, overcome their own limitations, and make strategic decisions to improve their core capabilities (Wang, 2007). For example, companies that pursue innovative, proactive and risky entry into new markets are more likely to understand the market environment and use their knowledge, skills and resources to enter a new market in order to cope with the dynamic environment. A study by Lages & Montgomery (2004) shows that SMEs with an international EO are more likely to develop their adaptive capability. According to the literature, the following hypotheses are made:

H2: SMEs' EO has a significant positive impact on their internationalization capabilities.

H2a: SMEs' innovativeness has a significant positive impact on their information acquisition capability.

H2b: SMEs' innovativeness has a significant positive impact on their adaptive capability.

H2c: SMEs' proactiveness has a significant positive influence on their information acquisition capability.

H2d: SMEs' proactiveness has a significant positive impact on their adaptive capability.

H2e: SMEs' risk-taking has a significant positive impact on their information acquisition capability.

H2f: SMEs' risk-taking has a significant positive impact on their adaptive capability.

### **Internationalization Capabilities and SMEs Performance**

Resource-based view (RBV) theory emphasizes that the cause of enterprise profits lies in the unique rare resources existing in enterprises (Penrose, 1959). Only rare, valuable, imitable and irreplaceable resources, especially intangible resources such as information, can bring sustainable competitive advantages and high performance to enterprises (Barney, 1991). At the same time, this theory shows that, as an intangible resource, obtaining external information plays an important role in the development and growth of enterprises enterprise (Wu L.-Y, 2007), while the accumulation and dissemination of internal information of enterprises helps to improve the reliability of information, and therefore, improve the performance. Especially in the high-tech industry, the access to information determines the success or failure of enterprises to a certain extent. In general, businesses that search for more information tend to have higher performance.

Dynamic capability theory emphasizes that enterprises constantly trying to update resources and capabilities, and cope with the rapidly changing environment through the process of using resources, so that enterprises can gain new competitive advantages, thus improving firm performance (Teece et al., 1997). Adaptability refers to the firm's capability to respond to changes in the international market environment and adjust its own resources. RBV theory ignores the dynamic influence of market, while dynamic capability theory makes up for the deficiency of RBV, which includes the evolution of resources and capabilities. Many studies on internationalized enterprise have shown the positive impact of adaptability on its performance. For instance, Ahn (2017) took 152 small and medium-sized export enterprises in South Korea as samples and found that adaptability, as a mediating variable between market information management and enterprises' export performance, had a positive impact on export performance. Based on the above analyses, the following hypotheses are proposed:

H3: Internationalization capabilities have a significant positive impact on firm performance.

H3a: SMEs' information acquisition capability has a significant positive impact on firm performance.

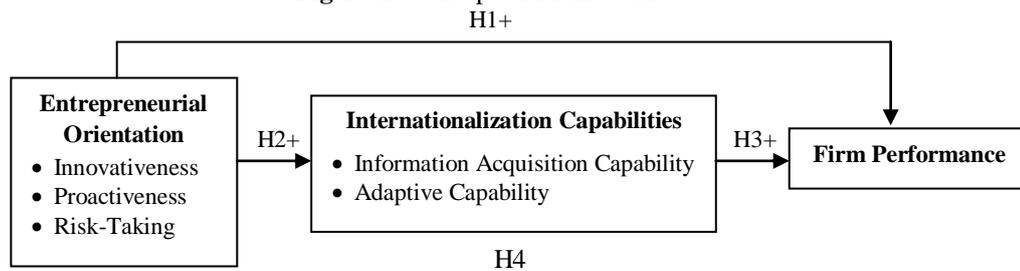
H3b: SMEs' adaptive capability has a significant positive impact on firm performance.

### **The Mediating Role of Internationalization Capabilities**

Changes in the international market are characterized by instability and unpredictability. SMEs are required to adjust and improve their ability to obtain information and adapt to market changes. Focusing on these two capabilities identified in the existing literature is fundamental to integrating and transforming resources into international competitive advantage. EO is a strategic decision process of an enterprise, which affects the internationalization capability, and the choice of internationalization capability may affect the impact of EO on international performance, that is, EO may affect the international performance of an enterprise through the internationalization of two capabilities. Based on the above analysis, the following hypothesis is:

H4: Internationalization capabilities are the mediating variable between entrepreneurial orientation and firm performance.

Figure 1: Conceptual Framework



### III. Research Methodology

The main purpose of this study was to examine the relationship between entrepreneurial orientation (innovation, proactivity and risk-taking) and performance of internationalized SMEs in Russia. And also, the mediating role of the internationalization capabilities.

#### Sample and Data Collection

The research object of this paper are small and medium-sized enterprises based in Moscow and St. Petersburg, Russia. This paper used Russian websites to search for SMEs of two cities, and then, sample firms were selected on the basis of the following criteria:

- (1) the number of employees should not exceed 250 (according to the standard number of employees in Russian SMEs);
- (2) firms engaged in production and processing or manufacturing, industry and products are not limited;
- (3) firms with operations involving exports and/or other forms of cross-border activities.

This sampling procedure resulted in a total of 980 firms, to which the writer sent questionnaires. The questionnaire was required to be filled out by the entrepreneur or general manager or, in the absence, by the department head or senior manager who knows the sales situation in their company. Through both formal and informal contact with the selected firms, 241 completed questionnaires were received from both selected cities, representing a response rate of 25%.

#### Variables and Measurement

**Dependent variable - Firm Performance.** According to the definition of international performance and previous studies on international performance, it can be seen that there are many ways to measure the international performance of enterprises. In this study, the measurement of international performance refers to the mature research on international performance by Cavusgil & Zou (2002) and Rose & Shoham (2002), and will use the five subjective evaluation indicators commonly used by predecessors. This paper measures the international performance of SMEs from the perspectives of “strategic indicators” (related to the strategic goals of enterprises) and “economic indicators” (related to the profits and sales of enterprises). A seven-point Likert scale ranging from one (“strongly disagree”) to seven (“strongly agree”) was used. The survey asked respondents how much they agree with:

- (1) overseas market share increased;
- (2) sales revenue in overseas markets increased;
- (3) overseas sales profit increased;
- (4) rate of return on overseas investment increased;
- (5) satisfaction of overseas customers was improved.

**Independent variable – Entrepreneurial Orientation.** In this study, Miller (1983) and Covin & Slevin (1989), whose measurement is widely used in the academic field, was adopted to divide entrepreneurial orientation into innovation, proactivity and risk-taking. The EO measurement item used in this paper is based on the scale that has been widely used by predecessors. In particular, with reference to Covin & Slevin (1989) and Green, Covin & Slevin (2008) researches, 9 questions for measuring EO are determined and graded by seven-point Likert scale ranging from one (“strongly disagree”) to seven (“strongly agree”). The survey asked respondents how much they agree with:

- (1) enterprise put more emphasis on research and development, technological leadership and innovation;
- (2) in the last three years, enterprise has launched many new products/services;
- (3) the improvement of the enterprise’s products/services is a substantial innovation.
- (4) in competition with peers, it is usually the enterprise that takes the first action, and then the competitors follow up or respond;

- (5) enterprise tends to be a “leader”, and often takes the lead in launching new products, entering new markets, or introducing new management modes and new technologies.
- (6) enterprise often review industry development trends, take the lead in seizing opportunities, and take early actions to respond to changes.
- (7) enterprise tends to choose projects with high returns but high risks;
- (8) in daily operation, enterprise tends to achieve goals through bold and rapid actions;
- (9) in the face of uncertain environment, enterprise tends to take a bold and positive attitude to take advantage of potential opportunities.

#### **Mediating variable – Internationalization Capabilities.**

Information about international markets and operations, especially products and competition, is one of the most important determinants of the performance results of internationalized enterprises. Previous research on information acquisition by export firms has emphasized the ability to understand customer needs, market opportunities and the needs of business partners (Belich & Dubinsky, 1995; Yeoh, 2000). Based on these studies, this paper refers to the three items proposed by Lu, Zhou et al. (2010), and uses seven-point Likert scale to measure the degree to which enterprises agree on the ability to acquire and utilize foreign market information:

- (1) information required to understand foreign customers’ needs;
- (2) information required to identify opportunities in overseas markets;
- (3) information required to meet the requirements and expectations of the foreign trading partner.

Adaptation refers to enterprise ability to respond to changes in the international market environment and adjust its own resources to respond to external changes. The scale of adaptive capability in this paper mainly refers to the scales of Hultman (2009), Sousa and Bradley (2008) and Garret et al. (2009), and after proper adjustment gets the scale of 11 items, uses three basic indicators: product adaptation, price adaptation, and response agility. All items below are measured by seven-point Likert scale, ranging from “very low adaptation – 1” to “very high adaptation – 7”.

Product adaptation is defined as the degree to which physical products differ in foreign markets (Cavusgil et al., 1993). The four-item comprehensive scale proposed by (Hultman, 2009) is used to measure the degree of product adaptation. Compared with the domestic market, the degree of standardization or adaptation of the following product strategy elements in the selected export enterprise market:

- (1) product quality;
- (2) product design and style;
- (3) product attributes;
- (4) product brand.

Price adaptation is one of the key factors to determine the positioning of a product in the target market. The four-item comprehensive scale proposed by (Lages & Montgomery, 2002) is used to measure the degree of price adaptation. Compared with the domestic market, the degree of adaptation of the following price strategy elements in the selected export enterprise market:

- (1) determination of pricing strategy;
- (2) concession credit;
- (3) preferential price policies;
- (4) profit margin.

Response agility refers to the ability of a firm to respond quickly to changing market conditions that threaten the existing export market (Garret et al., 2009). It is measured by three-item comprehensive scales (Ahn, 2014). The survey asked respondents the degree of their response agility to following elements:

- (1) timeliness in response to competitors’ activities;
- (2) quick response to changing market demands;
- (3) rapidity to unscheduled export deliveries.

**Control variable.** In addition to EO and internationalization capabilities to be discussed in this study, the factors affecting the international performance of SMEs also include several control variables. This paper uses the method of foreign scholars, such as Hitt, Hoskisson & Kim (1997), Delios and Beamish (1999), regards the following factors as control variables:

- (1) firm age;
- (2) number of employees;
- (3) industry;
- (4) international experience, such as the number of countries in which enterprises conduct foreign economic activities.

**IV. Analyses and Results**

The data was analyzed using SPSS 27.0 (2020) and AMOS 26.0 (2019), the world’s leading statistical analysis software.

**The Reliability Analysis**

In this paper, SPSS 27.0 software was used to analyze Cronbach’s alpha coefficient of variables (entrepreneurial orientation, internationalization capability and firm international performance), the results are 0.862, 0.864, 0.812, and the coefficients are all greater than 0.7. It shows that the questionnaire is reliable for the design and results of variables have good reliability.

**Correlation Analysis**

The correlation analysis was used to indicate the strength of the correlations between pairs of variables. The following table shows Spearman correlation coefficients for six variables.

**Table 1:** Means, standard deviations and correlations for variables (n=241)

Variables	Means	S.D.	1	2	3	4	5	6
1 Innovation	4.20	1.597	1.000					
2 Proactivity	4.94	1.383	0.535**	1.000				
3 Risk-Taking	4.08	1.513	0.468**	0.339**	1.000			
4 Information Acquisition Capability	4.72	1.504	0.563**	0.491**	<b>0.047</b>	1.000		
5 Adaptive Capability	4.83	1.480	0.520**	0.471**	0.445**	0.465**	1.000	
6 Firm Performance	4.58	1.231	0.334**	0.230**	0.177**	0.205**	0.384**	1.000

\*\* Correlation is significant at 0.01; \* Correlation is significant at 0.05.

The measures of entrepreneurial orientation (innovation, proactivity, risk-taking) were positively correlated with information acquisition capability, adaptive capability, and firm performance (correlation coefficients ranging from 0.177 to 0.563), except for the relationship between risk-taking with information acquisition capability (0.047) which is relatively weak.

**Testing Hypotheses using SEM**

**1. The overall model test.** AMOS 26.0 software was used to verify the hypothesis model. The structural equation model approach was adopted, and the fit indices of the overall model are shown in Table 2. It reports the overall fitting degree of the theoretical model proposed in this study is good (all of the fit indices indicated a good fit), which can be used to test the theoretical hypotheses.

**Table 2:** Overall model fit indices

	Fit index	Values	Desired range of values for a good fit
	$\chi^2$	1362.557	
Absolute fit indices	GFI	0.85	>0.80
	AGFI	0.82	>0.80
	RMSEA	0.07	<0.08
	CFI	0.91	>0.90
Relative fit indices	IFI	0.91	>0.90
	NFI	0.90	>0.90
	RFI	0.89	>0.80
Simple fit indices	PGFI	0.72	>0.50
	$\chi^2/df$	3.191	$1 < \chi^2/df < 5$

Through the path coefficient analysis of the whole model, the relationship between EO - internationalization capabilities - firm performance was studied. The Critical Ratio (CR) value simply describes the statistics formed by dividing an Estimate by its Standard Error. If the absolute value of CR is greater than 1.96, then the parameter estimation reached the significance level of 0.05, and if the absolute value of CR is greater than 2.58, the parameter estimation reached the significance level of 0.01. The results of hypothesis testing are shown in Table 3.

**Table 3:** Overall model path coefficient and hypothesis testing

Path	Relationship between variables			Path coefficient	CR	Hypothesis	Result
1	Innovation	→	Firm performance	-0.05	-0.452	H1a	not supported
2	Proactivity	→	Firm performance	0.21	3.430	H1b	supported

3	Risk-taking	→	Firm performance	0.12	1.962	H1c	supported
4	Innovation	→	Information acquisition capability	0.74	11.441	H2a	supported
5	Innovation	→	Adaptive capability	0.48	6.147	H2b	supported
6	Proactivity	→	Information acquisition capability	0.22	4.352	H2c	supported
7	Proactivity	→	Adaptive capability	0.02	0.384	H2d	not supported
8	Risk-taking	→	Information acquisition capability	-0.24	-4.889	H2e	not supported
9	Risk-taking	→	Adaptive capability	0.42	5.722	H2f	supported
10	Information acquisition capability	→	Firm performance	-0.11	-0.999	H3a	not supported
11	Adaptive capability	→	Firm performance	0.19	2.400	H3b	supported

C.R. equal to or greater than 1.96 is considered significant, n=241

According to the result of path coefficient in the above table, based on the relationship between variables, if CR value is less than 1.96, means that the hypothesis is not significant. From the table we can see that seven of the eleven paths listed here are supported. As for the other four paths, the relationship between innovation and firm performance, the path coefficient is -0.05 (CR = - 0.452), therefore, it is shown that the hypothesis H1a is not supported. The relationship between proactivity and adaptive capability, risk-taking and information acquisition capability, and information acquisition capability and firm performance are not significant. Therefore, it is assumed that hypotheses H2d, H2e and H3a are also not supported.

**2. The second-order structural equation model test.** Through path coefficient analysis of second-order structural equation model, the relationship between EO and internationalization capabilities, between internationalization capabilities and firm performance, and between EO and firm performance are been studied. Amos 26.0 was used to verify the relationships. The results are shown in Table 4.

**Table 4:** Theoretical hypothesis path and verification of the relationship between EO, internationalization capabilities and firm performance

Path	Relationship between variables			CR	Hypothesis	Result
1	EO	→	Firm Performance	1.981	H1	supported
2	EO	→	Internationalization Capabilities	8.990	H2	supported
3	Internationalization Capabilities	→	Firm Performance	0.262	H3	not supported

C.R. equal to or greater than 1.96 is considered significant, n=241

**3. The mediating effect test.** In this study, Bootstrap method was used to verify the mediating effect of internationalization capability. The test results are shown in Table 5.

**Table 5:** Bootstrap test result of mediating effect

Model	Result	c Full	a*b Indirect effect	c' Direct effect	Formula	Effect
1. EO → Information acquisition capability → Firm Performance	not significant	0.383	0.001	0.218	-	0%
2. EO → Adaptive capability → Firm Performance	partial mediation	0.383	0.164	0.218	a*b/c	43%
3. EO → Internationalization capabilities → Firm Performance	partial mediation	0.383	0.168	0.215	a*b/c	44%

It can be seen from the table above that Model 1 shows that entrepreneurial orientation has no significant mediating effect on the firm performance through information acquisition capability, and the effect proportion is 0%. However, the test result of EO's effect on the firm performance through adaptation capability shown in Model 2, it shows a partial mediating effect. Finally, Model 3 summarized two models mentioned above. The full effect of EO on firm performance is 0.383, which has a significant effect. The direct effect is 0.215 and the indirect effect is 0.168, which are significant. Finally, with international capabilities have partial mediation effect as a result, and it accounted for 44% of the total effect.

## **V. Discussion**

From the findings of the study, the main conclusions of this paper are as follows:

1. The dimensions of SMEs' entrepreneurial orientation (innovation, proactive, risk-taking) have different influences on firm performance. The impact is mainly realized through two dimensions: proactivity and risk-taking: this study confirms that proactivity can promote the improvement of corporate performance, and it has a significant impact on both corporate financial and strategic performance; firms with risk-taking characteristics have a stronger tendency to obtain opportunities, thus obtaining higher enterprise performance.
2. The SMEs' EO has different influences on their internationalization capabilities (information acquisition and adaptive capability). The EO impact on information acquisition ability is mainly realized through innovation and proactivity: the innovative firms' behavior encourages positive exchange of ideas, increases the flow of information and novelty of new product development; proactive entrepreneurs act quickly to take advantage of surrounding resources to take opportunities. The EO impact on adaptive capability is mainly realized through innovation and risk-taking: innovative SMEs are more inclined to continuously introduce new products into the market and constantly improve management methods, which enables them to meet the needs of most foreign markets, which reflects on their strong adaptation; the higher the risk-taking, the more capable SMEs are to cultivate and form stronger adaptability. Constantly entering new markets, expanding the scope of the market activity makes the enterprise to obtain a large number of market information and work experience, it can improve the understanding of the market, change management strategy, product structure, pricing policies in order to meet changing customer preferences, so that enterprises can form a strong ability to adapt.
3. SMEs' information acquisition and adaptive capabilities have different influences on their international performance. The influence of internationalization capabilities on firms' performance are mainly realized through adaptive capability. SMEs with high adaptive capability can operate in different international markets, which improves the market competitiveness of enterprises and enables them to obtain high international performance.
4. This study examined the mediating effect of information acquisition and adaptive capabilities on the relationship between EO and firm performance. The results indicated that adaptive capability played a partially mediating role, acting as a significant intermediate variable between EO and international performance. According to the characteristics of the market, enterprises adjust their export products, pricing ability, and have a good response agility to meet the different requirements of foreign markets, and quickly respond to the changes in the international market environment, which will affect the international performance of enterprises.

### **Contributions**

Overall, two specific contributions emerge from the present research.

1. The internationalization of SMEs has always been a research topic that foreign scholars pay close attention to, but there are very few researches about Russia, and the history of SMEs' internationalization in this country is not long. Therefore, it is necessary to continue to explore the conclusions of previous studies in the new context. This paper tries to enrich and supplement in this research field with the empirical study of Russian SMEs and conclusions of this study provide a new theoretical basis for the research on the internationalization.
2. From the previous studies, foreign researchers have done a lot of research on the relationship between EO and firm performance. This study expands the theoretical basis of firm internationalization. In the existing literature, the study on the relationship "EO - Internationalization capabilities - Firm performance" has not been carried out. Therefore, it is a new theoretical attempt to introduce the research on this relationship into the study on the SMEs' internationalization to increase the perspective of the research.

The findings of this paper increase the importance of these capabilities for SMEs, which rely on internal and external resources to achieve superior performance in the international market. Therefore, this paper can expand the theoretical basis of the literature on strategic management and international entrepreneurship, which is conducive to promoting the RBV theory. In practice, it also answers the question of the international growth of Russian SMEs, and has a positive significance for the practice of the its internationalization.

### **Limitations and Future Research**

This study has a few limitations that future research should address. The survey scope of this study focuses on the two cities with the largest population in Russia, which is not considered in other regions of Russia. Moreover, the data sources are not diversified enough and the results cannot represent the development of the internationalization in the whole Russia. It is hoped that future researchers can make up for these deficiencies and expand the research area to achieve more research results. In addition, this study only examines information acquisition and adaptation as a firms' internationalization capability, but there are still many other factors, such as marketing strategy factor, political factor and product strategy factors, future research may introduce more measures of internationalization capabilities.

Future research on the internationalization of Russian small and medium-sized enterprises can be improved by expanding the sample areas, for example, investigate the local enterprises in different regions in Russia, in addition, and by adding more sample quantity, which can further improve the accuracy of the research conclusion. Besides, this paper does not distinguish the internationalization of SMEs in different industries and regions. According to previous literature, different industries and regions have an impact on the internationalization performance of SMEs. Therefore, on the basis of this study, comparative research can be conducted on internationalized enterprises in different industries and regions.

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