

**CENTER FOR GENDER IN ORGANIZATIONS**

**WORKING PAPER, NO. 21**

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**PERSONAL AND ORGANIZATIONAL SUCCESS FACTORS OF  
WOMEN SMALL AND MEDIUM ENTERPRISES (SMES) IN  
RUSSIA**

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October 2006

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*Working Paper Series Editor: Tara D. Hudson*

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While the growth in the number of women-led businesses worldwide has contributed to the global economy and to the surrounding communities that they serve, there is a lack of knowledge on female entrepreneurs. The purpose of this study is to add new theoretical and empirical insights into the success factors of small firms owned and run by women and currently operating within the turbulent Russian economy. We present a conceptual framework exploring personal and organizational factors that are linked to four key elements that facilitate firm success. In utilizing a very large sample of women entrepreneurs in Russia, this research contributes to our understanding of how the strategic advantage, based on entrepreneurial orientation, acts as a critical link between different types of individual and firm-level resources to influence firm performance. Based on our findings, it is possible to conclude that the ability of female entrepreneurs to identify opportunities, the richness of growth opportunities in the environment, and the entrepreneurial behavior of the firm, as well as the availability of financial resources and personal commitment to keeping the business going, are crucial factors associated with superior firm performance. Results point to the conclusion that the performance of Russian female enterprises can be explained with the help of Western theories. These findings open the way for researchers in former Soviet-based economies to facilitate the research on phenomena like entrepreneurship, phenomena which are so important for the development of any economy.

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## I. INTRODUCTION

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The growth in the number of women-led businesses worldwide has contributed to the global economy and to the surrounding communities that they serve. The presence of women around the world driving small and entrepreneurial organizations has had a tremendous impact on employment and on business environments worldwide. Plenty of studies identifying women's small and medium enterprise (SME) success factors have been carried out in advanced countries (Chaganti and Parasuraman, 1997; Lerner and Almor, 2002). Economic research on entrepreneurship in transition economies is less developed and only a few studies have used a rigorous scientific approach (Tkachev and Kolvereid, 1999). The lack of knowledge on female entrepreneurs is especially apparent. According to Ylinenpää and Chechurina (2000), Russian women have only limited options to achieve a leading position in industry, politics, or other spheres of social production. Those difficulties serve as "push" factors for women to enter the entrepreneurial sector, where starting new, smaller firms serves the double purpose of generating an additional family income and creating an arena for self-fulfillment. It is important to clarify what factors contribute to the superior performance and growth of women-owned businesses. The purpose of this study is to add new theoretical and empirical insights into the success factors of small firms owned and run by women and currently operating within the turbulent Russian economy.

Our research presents a conceptual framework exploring personal and organizational factors that are linked to four key elements that facilitate firm success, including: (1) individual factors, (2) organizational factors, (3) external environment, and (4) the entrepreneurial orientation of the firm (EO). Based on a review of the literature and our model, hypotheses were developed and tested.

### A. CONTEXT OF STUDY

The history of modern entrepreneurship in Russia began nearly 20 years ago, when in 1987 entrepreneurship was first legally allowed. Until then, private enterprises were prohibited in the Soviet Union. By the end of Gorbachev's presidency of the Soviet Union in 1991, most forms of private business had become legal (Tkachev and Kolvereid, 1999). As early as 2000, over 891,000 small entrepreneurs were operating in Russia (Russian SME Resource Centre). Over 25% of the population of Russia is employed in SMEs today, which account for 12-15% of the GDP of the country.

During the first years of development toward a market economy, the emerging entrepreneurial sector in Russia could be characterized by what Ageev et al. (1995) labelled as "speculative" or even "predatory" entrepreneurship. The dominant mode of entrepreneurship focused on creating value and making profit from trade and financial operations, exploiting weaknesses in state legislation and the taxation system, and even utilizing illegal or unethical measures (Bezgodov, 1999). However, over the passing decade the situation has changed and modern entrepreneurship in Russia is oriented toward longitudinal value and job creation (Ylinenpää and Chechurina, 2000).

Little is known about entrepreneurship in Russia. Based on the previous research in this area in Russia it is possible to draw a “portrait” of the typical entrepreneur. It should be kept in mind that almost all research on entrepreneurs previously done in Russia was taken from a sociological point of view and data were gathered from urban areas. The average age of Russian entrepreneurs is between 30 and 50 years, with a one-third share of young people (Turen, 1993). Usually about 70-80% of entrepreneurs from the samples have a high educational level (Babaeva, 1998). The share of women entrepreneurs is between 10% (Turen, 1993) and 30%, which is the lowest share of women among all social groups of the population except for the military (Bezkodov, 1999). The characteristics of entrepreneurs working in small trade marketplaces are different. They are mostly women (70%), and the large majority of them are either pensioners or students (Babaeva, 1998). This social group has previously not been investigated at all. Some of these marketplace workers are registered as sole proprietors, while others are not. In the present study over 90% of respondents are registered as sole proprietors, which allows us to open a “black box” concerning this phenomenon.

Based on previous research it is possible to conclude that most entrepreneurs perceive the external environment as highly unfriendly. High taxes, an inconsistent legislation system, high dependence of economic life upon political turbulence, and inflation were mentioned as factors prohibiting business in Russia (Iakovleva, 2001; Ylinenpää and Chechurina, 2000). Other barriers mentioned by Russian female entrepreneurs in Ylinenpää and Chechurina’s study as prohibiting entrepreneurship development in Russia include high taxes (90% of respondents); legal inconsistencies (81%); availability of capital (67%); bank instability (66%); inflation (66%); corruption (55%); and criminality (39%). This is quite different from the problems of American women entrepreneurs, who are more concerned about the functional sides of business – profitability of business, management and growth, and innovation (Babaeva, 1998). The motivation to start a business varies, but in comparison with Western studies, Russian women have more tangible motives such as the search for income or striving for financial rewards. In Ylinenpää and Chechurina’s study, this is explained by the problematic economic situation in Russia, where the ambition to secure an acceptable standard of living is a high-priority issue.

While the profile of Russian entrepreneurs as well as their motivation to start businesses has been explored in some studies during the last decade, there is an absence of studies looking at the combination of different factors in an attempt to explain the performance of those Russian SMEs driven by women especially. This study addresses this research gap by testing a model explaining the performance of women SMEs in Russia.

As Aldrich and Martinez (2001) argue, "understanding how and why some entrepreneurs succeed remains a major challenge for the entrepreneurship research community. In entrepreneurship, as in the biblical story, many are called but few are chosen" (p. 41). While the performance of new ventures has been studied widely (see, for example, Cooper and Gascon, 1992; Wiklund, 1998), there is no consensus regarding the basic constructs that affect a new venture's performance. This can be explained by the presence of different theoretical imperatives, which concern firm/entrepreneur performance from different viewpoints. Many variables are used to produce predictive models for survival and growth, but results from prior studies are heterogeneous and findings are often contradictory. Most authors classify success factors in three categories – the entrepreneur, the firm, and the socio-economic environment. The last decade has shown a tendency to combine these constructs in one model (Wiklund, 1999). The problem with these models is their relatively low explanatory power. One possible reason for this is the mediation and moderation effects that are not taken into consideration when explaining results. In this study we address this research gap by applying SEM, which allows us to explore interrelationships between the dependent variables as well as their direct and indirect effects on a firm's success.

### **A. THE ENTREPRENEUR'S PERSONALITY AND COMPETENCIES**

The personality of the entrepreneur is often perceived by practitioners as one of the most fascinating topics in the field of entrepreneurship (Delmar and Davidsson, 2000). The psychological perspective in entrepreneurship research has, until recently, concentrated on discovering stable individual characteristics such as personality traits, including risk-taking propensity, need for achievement, and locus of control (Brockhaus, 1982). However, studies focusing on entrepreneurs' personalities, backgrounds, early experiences, and traits have been widely criticized and have generally produced disappointing findings (Gartner 1990). Recently there has been a shift from studying the personality of the entrepreneur toward the behavioral aspects of entrepreneurs (Gartner et al. 1992; Lumpkin and Dess, 1996). Two groups of models can be defined: "attitude-based" models and "motivation-based" models.

Attitude models explain how attitudes to entrepreneurship shape people's behavior. Attitudes are considered to be important determinants of behavior if certain conditions are met (Bagozzi et al., 1992). Entrepreneurial intensity represents the founder's attitude toward early business performance or the founder's degree of commitment to the business. While commitment to the entrepreneurial endeavor can be described as the passion required for the success of the enterprise, the degree of commitment exhibited by the entrepreneur is identified here as entrepreneurial intensity. It is characterized in this study as a single-minded focus to work toward the growth of the venture, often at the expense of other worthy goals. The difference between general personality traits and indicators of entrepreneurial intensity was highlighted by Baum (1995), whose study indicated that while measures of general traits and personality were a poor indicator of venture growth, more specific applications of these traits such as "growth-specific motivation" showed far stronger relationships with growth performance (Pistrui et al., 1998; Welsch and Pistrui, 1993).

The second group is the cognitive motivation models. The cognitive motivation models explain both highly complex behavior and differences in choices and performance through entrepreneur competencies. Self-assessed competencies are the core of individuals' beliefs about their personal "capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives" (Wood and Bandura, 1989, p. 364; Chandler and Hanks, 1994a). One of the core entrepreneurial competencies is opportunity competence: the ability to recognize and develop market opportunities through various means.

We begin our examination with the fundamental hypothesis that people with strong entrepreneurial characteristics, including opportunity competence and entrepreneurial intensity, are more likely to have successful and higher performance ventures than are entrepreneurs who do not have these characteristics (Covin and Miles, 1999; Stewart et al., 1999). Therefore,

*Hypothesis 1a: There will be a positive relationship between opportunity competence and firm performance.*

*Hypothesis 1b: There will be a positive relationship between entrepreneurial intensity and firm performance.*

## **B. THE ENTREPRENEURIAL FIRM'S RESOURCES**

Internal firm resources are seen as the basic input into the production process. Firm-specific resources include items of capital equipment, skills of individual employees, patents, brand names, finance, and social capital (Barney, 1991). The resource-based view (RBV) suggests that differences in performance among firms may be best explained through differences in firm resources and their accumulation and usage (*Ibid.*; Grant, 1991). A wider range of both resources and resource-based capabilities are assumed to contribute to the higher performance of a firm (Chandler and Hanks, 1998). Lumpkin and Dess (2001) argue that the type of resources available will influence the type of strategic processes firms employ to gain advantage. Some resources can be exploited primarily through cost advantages and thus are more likely to be employed within a competitive aggressiveness approach. Other firms might lack the unique and valuable resources needed for low-cost leadership, but have developed elements of valuable structural capital (Stewart, 1997) such as structures and processes that enable them to create new resources more quickly and cheaply than their rivals. A wider range of resource capabilities enhances firms' strategies, as firms should select their strategies based upon resource capabilities (Castrogiovanni, 1991). Empirical studies show the existence of a relationship between organizational resources and performance, including resources such as availability of financial capital (Cooper and Gascon, 1992; Wiklund, 1999) and social capital – organizational or individual networks (Donckels and Lambrecht, 1995; Hansen, 1995). Financial capital provides a buffer against unforeseen difficulties that may arise due to a variety of different reasons (Castrogiovanni, 1991). By using social relationships, entrepreneurs "cash in" on the patterns of expectations, norms, governance structures, and social resources built into these previous interactions. The costs and the risks of start-ups can be reduced by using social assets such as friendship, trust, gratitude, and obligation (Starr and MacMillan, 1990). Thus,

*Hypothesis 2a: There will be a positive relationship between financial capital and firm performance.*

*Hypothesis 2b: There will be a positive relationship between social capital and firm performance.*

### **C. THE ENVIRONMENTAL CONTEXT**

The environment undoubtedly impacts venture survival and growth as well as the likelihood of additional start-ups in that environment (Covin and Slevin, 1989). It has been found that resource availability, including venture capital, technical labor force, loans, support services, and a favorable entrepreneurial subculture also have a major influence on performance (Bamford, 1997; Kolvereid, 1992). This can be broadly named “environmental munificence.”

Environmental munificence is the scarcity or abundance of critical resources needed by one or more firms operating within an environment (Castrogiovanni, 1991).

*Hypothesis 3. There will be a positive relationship between environmental munificence and firm performance.*

### **D. THE ENTREPRENEURIAL STRATEGY OF THE FIRM**

A significant stream of research has examined the concept of entrepreneurial orientation (EO). EO is a term that addresses the mindset of firms engaged in the pursuit of new ventures and provides a useful framework for researching entrepreneurial activity. Such activities include planning, analysis, decision making, and many aspects of an organization’s culture, value system, and mission (Hart, 1992). Thus, an entrepreneurial orientation may be viewed as a firm-level strategy-making process that firms use to enact their organizational purpose, sustain their vision, and create competitive advantage(s) (Rauch et al., 2004). The EO of the firm is assumed to positively influence the firm growth and performance (Lumpkin and Dess, 2001; Wiklund, 1998). The salient dimensions of EO have been derived from a review and integration of the strategy-making process and the entrepreneurship literature (e.g. Covin and Slevin, 1992; Miller and Friesen, 1982). Based on Miller and Toulouse’s (1986) conceptualization, three dimensions of EO have been identified and used consistently in the literature: innovativeness, risk-taking, and proactiveness. Innovativeness reflects a firm’s tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes (Lumpkin and Dess, 1996). Risk-taking involves taking bold actions by venturing into the unknown, borrowing heavily, and/or committing significant resources to ventures in uncertain environments. Proactiveness suggests a forward-looking perspective characteristic of a marketplace leader that has the foresight to act in anticipation of future demand and shape the environment (Lumpkin and Dess, 2001). Proactive firms can introduce new goods and services ahead of their competitors. A first-mover can control access to the market by dominating distribution channels. By introducing new products and services, firms can establish industry standards. All this can positively influence the performance of the firm, and some empirical findings support this proposition (Zahra and Covin, 1995). Recent studies have shown the contingency effect that EO has toward firm knowledge-based resources and performance (Wiklund and Shepherd, 2003). Following the call by Wiklund and Shepherd (2003) for further research on the moderating effect of EO and internal firm resources, as well as entrepreneurial competencies toward firm performance, these effects were investigated in this study. Thus,

*Hypothesis 4a: There will be a positive relationship between entrepreneurial orientation and firm performance.*

*Hypothesis 4b: The relationship between entrepreneurial competence and firm performance will be mediated by entrepreneurial orientation.*

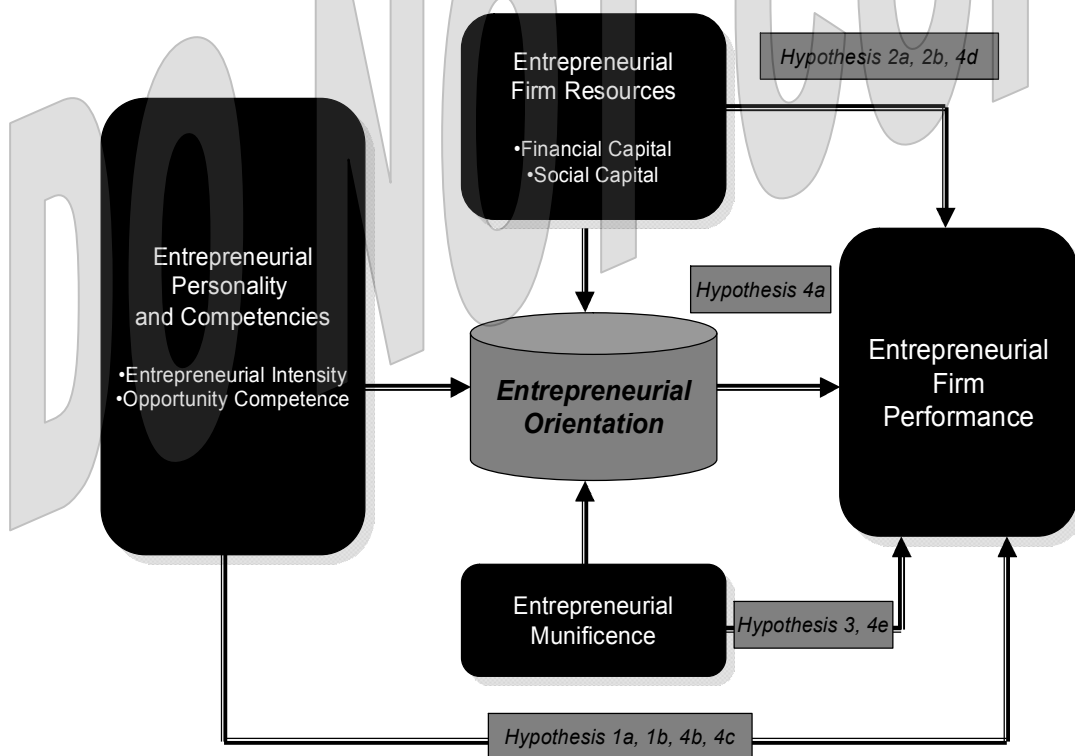
*Hypothesis 4c: The relationship between entrepreneurial intensity and firm performance will be mediated by entrepreneurial orientation.*

*Hypothesis 4d: The relationship between entrepreneurial firm resources and firm performance will be mediated by entrepreneurial orientation.*

*Hypothesis 4e: The relationship between environmental munificence and firm performance will be mediated by entrepreneurial orientation.*

Summarizing, we propose the following model:

**Figure 1. Conceptual Model Explaining Firm Performance.**



### III. METHODOLOGY

#### A. OVERVIEW AND PARTICIPANTS

To test the hypotheses, the sample of Russian women-led SMEs was used. The objective of the survey was to collect data from women entrepreneurs in Russia. Data were obtained from the Russian Women's Microfinancial Network (RWMN). The mission of the RWMN is to support the development of sustainable, women-focused, locally managed microfinance institutions (MFIs) throughout Russia by creating an effective financial and technical structure that provides high-quality services to partner MFIs over the long term. With assistance from Women's World Banking (WWB), which has been active in Russia since 1994, several women-led organizations and local microlending institutions formed RWMN, which was registered as a local non-profit organization in October 1998. Today RWMN operates in six regions in Russia: Kostroma, Tver, Kaluga, Belgorod, Vidnoe, and Tula, with the head office in Moscow. Each division is an independent local organization that provides microloans for clients, with no less than 51% of clients being women.

*Table 1. Sample Characteristics.*

Variables	Number	Percent
<b>Respondents</b>		
Respondent status		
Founders or (and) owners (shareholders)	525	95%
Directors or (and) managers (just employees)	30	5%
Average respondent age	40 years	
Higher education		
Yes	252	49
No	271	51
Entrepreneurial experience of relatives		
Yes	76	14
No	469	85
<b>Enterprises</b>		
Subsidiary of another business		
Yes	24	4
No	525	95
Family business		
Yes	310	56
No	242	44
Average firm age	8	

Average number of employees	4	
Legal form		
Limited liability companies	33	6
Closed joint-stock companies	3	0.5
Open joint-stock companies	2	0.4
Sole proprietorships	514	93
Industry		
Manufacturing	28	5
Trade and catering consumption	442	80
Service	81	15

After the questionnaire was compiled and pre-tested with the help of seven Russian women entrepreneurs who commented on each question, it was sent in electronic form to Moscow. RWMN was responsible for printing it out and distributing it to its divisions. Data were collected by the workers of local divisions during face-to-face interviews with respondents. As a result, we received 601 completed questionnaires. Five of them were discounted due to lack of data, and the sample was then filtered according to two controls: 1) only women should be included (five male responses were found) and 2) only decision-makers should be considered (those with a positive answer to the question, “Are you the responsible for the main decisions taken in the enterprise?”). These exclusions resulted in a set of 555 questionnaires. Some descriptive statistics are presented in Table 1 above. The sample mainly consists of sole proprietorships with 94% of businesses having no more than 10 employees (and 60% having just two employees), being woman-led and woman-owned (95%), operating mainly in the service industry (80%), and with 56% of the enterprises being family businesses. One more interesting finding is that only 49% of the respondents had a higher education, in comparison to 80% from previous findings. As expected, this profile differs from the typical Russian SME profile with regard to industry structure, legal form, number of employees, and family business issues (see, for example, Iakovleva, 2006; Bezkodov, 1999).

While the sample is not representative as a general profile of Russian entrepreneurs, its particular value is in providing a specific portrait of women-led small enterprises. While governmental efforts are on stimulating entrepreneurial growth in the country, especially for women-led enterprises, it is important to understand the specific issues that pertain to such enterprises.

## **B. MEASURES**

### ***1. Dependent variable: Firm performance***

Performance is a multidimensional concept. There is little consistency in what is meant by the term “performance” in different studies. Three different measures are most often associated with the concept of performance: survival of the firm, firm growth, and firm profitability (Delmar and Davidsson, 2000). It is advised that studies should include the multiple dimensions of performance and use multiple measures of those dimensions (Murphy et al., 1996). In this study

only existing firms were considered, and questions related to both growth and profitability were applied. A measurement of performance is extremely complex for young and small firms. Such traditional financial measures as return on investments or net profits are problematic when studying new ventures, since even successful start-ups often do not reach profitability for a considerable period of time (Weiss, 1981). Traditional financial measures are especially unreliable in the Russian context. Due to heavy taxation rates, small enterprises seldom report true economic results in their accounts. The other specific reason for not applying such direct measures in the Russian context is that Russian statutory accounting norms and practices differ greatly from international accounting norms and practices. Researchers interested in the performance of emerging businesses must acquire data that meet the criteria of relevance, availability, reliability, and validity when the only attainable source of data is a self-administrated evaluative questionnaire (Chandler and Hanks, 1993).

Performance is measured with the help of questions about importance and satisfaction concerning certain points. Respondents were asked to indicate the degree of importance their enterprise has attached to the following items over the past three years: sales level, sales growth, turnover, profitability, net profit, gross profit, and the ability to fund enterprise growth from profits. Then they were asked how satisfied they have been with the same indicators over the past three years. A slightly modified version of questions used by Iakovleva (2006) was applied. Originally, questions were taken partly from Chandler and Hanks (1993) and partly from Westhead, Ucbasaran, and Wright (2005), and were transformed after the consultation with Russian entrepreneurs. The questionnaire we used for this study was pre-tested with seven Russian women business owners, and some questions were subsequently reformulated. Based on these 14 questions, the Composite performance index was constructed following the principle used in expectancy theory and later in Theory of Planned Behavior (Ajzen, 1991). First, questions about importance were rescaled from a 7-point Likert scale (1 to 7) to a -3 to 3 scale and then satisfaction and importance scores were multiplied. A principal component analysis was then done, which resulted in one factor that we called performance ( $\alpha = 0.95$ ).

## **2. Independent variables**

### **a. The environmental context**

In order to concentrate on narrowly defined parts of the environment rather than on overall industry parameters, the perceived environments should be chosen (Miller and Toulouse, 1986). Evaluating task environment by implementing subjective measures allows us to gain necessary insights and expertise.

The perceived external environment was operationalized with the help of the munificence item. Respondents were asked to rate disagreement/agreement with statements using a 7-point Likert scale (1 = strongly disagree, 5 = strongly agree). Three items are taken from Brown and Kirchoff (1997): “the business’s industry may be characterized by high growth”; “banks and other suppliers of loan capital are generally very interested in financing businesses like mine”; and “investors are generally very interested in financing businesses like mine.” One item was taken from Isaksen and Kolvereid (2005): “investors would generally understand the technology used in my business quite easily.” Cronbach’s alpha for this component is 0.64.

**Table 2. PCA for Composite Performance.**

<b>Variables</b>	<b>Factor loadings</b>	<b>Commun-ality</b>
<b>Composite Performance</b>		
Sales level satisfaction*importance	0.87	0.76
Sales growth satisfaction*importance	0.89	0.80
Turnover satisfaction*importance	0.87	0.75
Profitability satisfaction*importance	0.90	0.81
Net profit satisfaction*importance	0.88	0.78
Gross profit satisfaction*importance	0.88	0.78
Ability to fund business from the profit satisfaction*importance	0.80	0.64
Eigenvalue	5.31	
Percent variance explained	75.85	
Cronbach's alpha	0.95	

*Notes*

Factor loadings 0.3 or smaller are suppressed. KMO = 0.925, Bartlett's test of Sphericity App. Chi-Sq 3392.079; df = 21, Sig. 000.

b. The entrepreneurial firm's resources

Firm resources were operationalized with the help of two components: financial capital and social capital. Several studies show that access to financial capital influences the performance and growth of the small firm (Cooper and Gascon, 1992; Wiklund, 1999). Financial capital was operationalized with the help of four questions. The first three questions are taken from Shane and Kolvereid (1995): availability of bank loans; availability of capital from suppliers; and

availability of capital from family and friends. The last item is taken from Borch et al. (1999): availability of financial resources relative to competitors. Cronbach's alpha for this component is 0.77.

Social capital was operationalized with the help of four questions: employee's network as an informational source; firm network as an instrument to influence the environment; network as the way to broader opportunities and manager's network as an important firm resource. Questions are taken from Borch et al. (1999). Cronbach's alpha for this component is 0.88.

#### c. Entrepreneurial orientation

EO was measured with the help of nine items. Three items are taken from Chandler and Hanks (1994b): "we strive to be the first to have new products available"; "we stress new product development"; and "we engage in novel and innovative marketing techniques." Three items are taken from Covin and Slevin (1989): "we emphasize a policy of growth primarily through external financing (borrowing, capital issues, etc.)"; "in dealing with competitors we typically initiate actions which competitors then respond to"; and "we are very often the first business to introduce new products/services, administrative techniques, operating technologies." Two items are taken from Miller and Friesen (1982); they were rescaled to a 7-point, one-side Likert scale so that they would be in the same format as the other questions: "owing to the nature of the environment, bold, wide-ranging acts are viewed as useful and common practice" and "we have a strong proclivity for profitable, but risky, projects." One item is taken from Lumpkin and Dess (2001): "we have a strong tendency to be ahead of other competitors in introducing new products or ideas." Cronbach's alpha for this component is 0.87.

#### d. Entrepreneurial intensity

Respondents were asked to rate disagreement/agreement with eight statements using a 7-point Likert scale (1 = strongly disagree, 5 = strongly agree). Seven items are taken from Gundry and Welsch (2001): "I would rather own my own business than earn a higher salary employed by someone else"; "I would rather own my own business than pursue another promising career"; "I am willing to make significant personal sacrifices in order to stay in business"; "I would work somewhere else only long enough to make another attempt to establish my business"; "my business is the most important activity in my life"; "I would do whatever it takes to make my business a success"; and "there is no limit to how long I would make the maximum effort to establish my business." One item is taken from Isaksen and Kolvereid (2005): "I am willing to work more for the same salary in my own business than as an employee in an organization." Cronbach's alpha for this component is 0.89.

#### e. The entrepreneur's competencies

Entrepreneurial competencies were operationalized with the help of opportunity competence. Items were measured according to recommendations by Bandura (2001) and Betz and Hackett (1998). The respondents were asked to indicate their degree of confidence in performing the tasks successfully. The scale ranged from 0 = "no confidence at all," to 5 = "some confidence," to 10 = "complete confidence." Six items were taken from De Noble et al. (1999): ability to see

new market opportunities for new products; ability to discover new ways to improve existing products; ability to design products that solve current problems; ability to create products that fulfill customers' unmet needs; ability to identify new areas for potential growth; and ability to bring a product concept to market in a timely manner. Cronbach's alpha for this component is 0.89.

### **3. Control variables**

Firm age, firm legal form, industry, respondent age, education, respondent status, and external firm environment are suggested as control variables. Firm age was measured on a metric scale as the number of years an enterprise has existed from the moment of establishment (official registration). It was recommended that age of the business be used as a control variable in business performance studies (Murphy et al., 1996). For example, it is reasonable to expect that new firms will have a lower performance than older firms. Industry differences are widely used as a variable in performance studies (Cooper et al., 1994; Wiklund and Shepherd, 2003). Industry was taken into consideration by entering two dummy variables for three possible industries: manufacturing, service, and sales/distribution. Manufacturing was used as a reference category. Respondent age was entered into regression to check the hypotheses where individual-level independent variables were used. Age was measured as a metric variable.

The respondent's education level can be related to the enterprise outcome. Education was entered as a dummy variable (1 = with higher education, 0 = without higher education). Moreover, an important control variable is whether a respondent is an owner or founder of the business as opposed to an employee (director or key manager).

In our subsequent structural model analyzes, we included all measures (including control variables). Although some relationships were not proposed directly in our hypotheses, we included all measures to assess the overall model fit and to examine the unique contribution of each of our proposed relationships.

#### IV. ANALYTIC APPROACH

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We tested our hypotheses using structural equation modeling (SEM) since it effectively estimates parameters of our model. A covariance matrix was used as input for estimation of the structural models. Lisrel VIII (Jöreskog and Sörbom, 1993) was utilized to analyze the structural relationships. Aggregation was conducted for each common construct in order to have unidimensional composite scales for the structural models (Anderson and Gerbing, 1988). In order to adjust for measurement error in the scale scores, the path from the latent variable to its indicator was set equal to the product of the square root of the scale's internal reliability. The error variance was set equal to the variance of the scale score multiplied by one minus the reliability. This approach has been explained by Williams and Hazer (1986) and Jöreskog and Sörbom (1993) and has been demonstrated as a reasonable approximation in determining error variance (Netemeyer et al., 1990).

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## V. RESULTS

The zero-order correlations between all potential dependent, independent, and control variables are presented in Appendix A.

In order to determine the structural relationships proposed in our model (see Figure 1), a series of models was evaluated by comparing the change in chi-square associated with the restriction of certain paths to zero (Bentler and Bonett, 1980). The proposed structural model, which contains all potential paths to entrepreneurial intentions (a fully saturated model as shown in Figure 1), was first evaluated. This first model assessed the direct relationships that were proposed in Hypotheses 1-4a. With the exception of the relationship between social capital and firm performance, all direct relationships were significant at the 0.05 level. Thus, Hypotheses 1a, 1b, 2a, 3, and 4a were supported (see Table 3).

From the initial individual relationship findings from this saturated model, four nested models were evaluated to test the mediational hypotheses of entrepreneurial orientation (Hypotheses 4b, 4c, 4d, and 4e). For each of the relationships and hypotheses, we restricted the paths from the direct relationship to firm performance (e.g., for Hypothesis 4b we restricted the relationship between entrepreneurial competence and firm performance; for Hypothesis 4c we restricted the relationship between entrepreneurial intensity and firm performance; etc.).

**Table 3. Summary of Hypotheses, SEM, and Lisrel Estimates.**

<b>Overall Model Analyses</b> <b>(Figure 1)</b>		<b><u>Fit Indices = Chi-Square = 6.05, p&gt;0.05</u></b>	
		<b><u>RMSEA = 0.029</u></b>	
		<b><u>CFI = 0.99</u></b>	
		<b><u>NNFI = 0.98</u></b>	
Hypothesis	Description	Standardized Lisrel Estimate	Hypothesis Conclusion
<b>Hypothesis 1a:</b> There will be a positive relationship between opportunity competence and firm performance.	<b>Entrepreneurial Competence→ Firm Performance</b>	<b>0.21*</b>	Supported
<b>Hypothesis 1b:</b> There will be a positive relationship between entrepreneurial intensity and firm performance.	<b>Entrepreneurial Intensity→ Firm Performance</b>	<b>0.08*</b>	Supported
<b>Hypothesis 2a:</b> There will be a positive relationship between financial capital and firm performance.	<b>Financial Capital→ Firm Performance</b>	<b>0.10*</b>	Supported
<b>Hypothesis 2b:</b> There will be a positive relationship between social capital and firm performance.	<b>Social Capital→ Firm Performance</b>	<b>-0.05</b>	<b>Not Supported</b>
<b>Hypothesis 3:</b> There will be a positive relationship between environmental munificence and firm performance.	<b>Environmental Munificence→ Firm Performance</b>	<b>0.22*</b>	Supported
<b>Hypothesis 4a:</b> There will be a positive relationship between entrepreneurial orientation and firm performance.	<b>Entrepreneurial Orientation→ Firm Performance</b>	<b>0.12*</b>	Supported

\*p<.05

**Table 4. Summary of Hypotheses, SEM, and Lisrel Estimates, continued.**

<b>Tests for Mediation</b>			
<b>Hypothesis 4b:</b> The relationship between entrepreneurial competence and firm performance will be mediated by entrepreneurial orientation.	<b>Restriction of path from Entrepreneurial Competence→ Firm Performance</b>	<b><u>Fit Indices = Chi-Square = 28.25,</u></b> <b><u>p&lt;0.05</u></b> <b><u>RMSEA = 0.089</u></b> <b><u>CFI = 0.98</u></b> <b><u>NNFI = 0.86</u></b>	<b>Chi-Square Difference (Difference from Figure 1) = 2.20,</b> <b>p&lt;0.05</b> Partial Mediation Not Supported
<b>Hypothesis 4c:</b> The relationship between entrepreneurial intensity and firm performance will be mediated by entrepreneurial orientation.	<b>Restriction of path from Entrepreneurial Intensity→ Firm Performance</b>	<b><u>Fit Indices = Chi-Square = 10.31,</u></b> <b><u>p&gt;0.05</u></b> <b><u>RMSEA = 0.042</u></b> <b><u>CFI = 0.99</u></b> <b><u>NNFI = 0.97</u></b>	<b>Chi-Square Difference (Difference from Figure 1) = 4.26</b> <b>p&lt;0.05</b> Partial Mediation Not Supported
<b>Hypothesis 4d:</b> The relationship between entrepreneurial firm resources and firm performance will be mediated by entrepreneurial orientation.	<b>Restriction of path from Entrepreneurial Firm Resources→ Firm Performance</b>	<b><u>Fit Indices = Chi-Square = 11.66,</u></b> <b><u>p&gt;0.05</u></b> <b><u>RMSEA = 0.040</u></b> <b><u>CFI = 0.99</u></b> <b><u>NNFI = 0.97</u></b>	<b>Chi-Square Difference (Difference from Figure 1) = 5.61,</b> <b>p&gt;0.05</b> Partial Mediation Supported
<b>Hypothesis 4e:</b> The relationship between environmental munificence and firm performance will be mediated by entrepreneurial orientation.	<b>Restriction of path from Environmental Munificence→ Firm Performance</b>	<b><u>Fit Indices = Chi-Square = 28.76,</u></b> <b><u>p&lt;0.05</u></b> <b><u>RMSEA = 0.090</u></b> <b><u>CFI = 0.98</u></b> <b><u>NNFI = 0.85</u></b>	<b>Chi-Square Difference (Difference from Figure 1) = 22.71</b> <b>p&lt;0.05</b> Partial Mediation Not Supported

Table 4 summarizes the description of these models. Significant changes in the chi-square of these models from the saturated model (first model tested) indicate support for the reinstatement of the restricted paths and therefore support for the direct influence of the variables on firm performance (i.e., not full mediation of entrepreneurial orientation). As shown in Table 4, to test Hypothesis 4b we restricted the path from entrepreneurial competence to firm performance and found that by deleting this path/relationship, the chi-square difference between this model and

the saturated model was significant. Thus, the path/relationship between entrepreneurial competence and firm performance should not be omitted (Hypothesis 4a was not supported). Similar results were found for Hypotheses 4c and 4e (i.e., the relationships between entrepreneurial intensity and firm performance and environmental munificence and firm performance, as mediated by entrepreneurial orientation, were not supported). However, for Hypothesis 4d we found mediational support. That is, when we restricted the paths/relationships between firm resources (financial and social capital), we found that the relationship between these resources and firm performance was mediated by entrepreneurial orientation. (As shown in Table 4, the chi-square difference was not significant at two degrees of freedom).

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## VI. DISCUSSION AND CONCLUSIONS

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While the process by which women-led entrepreneurial firms plan and achieve continual growth often reflects a complex set of resources and motivators, our findings take an important initial step toward identifying the factors that support this strategic path. Identifying constructs facilitating firm performance and growth has added value for practitioners, scholars, and policy makers as they formulate and implement new strategies and programs that support women entrepreneurs as they continue to identify market opportunities, confront industry and environmental changes, and seek new innovations for their businesses.

In conducting this research, a unified framework for new firm performance was proposed and tested, giving scholars and policy decision-makers a better understanding of the critical resources, inputs, and external environmental conditions that influence the growth and performance of women-owned firms. Based on our findings, it is possible to conclude that the ability of female entrepreneurs to identify opportunities, the richness of growth opportunities in the environment, and the entrepreneurial behavior of the firm, as well as the availability of financial resources and personal commitment to keeping the business going, are crucial factors associated with superior firm performance. In our analysis we also found support for the mediation effect of EO toward the firm resources. Studying the mediating effect of EO complements those studies that have found a contingent relationship between EO and knowledge-based resources (Wiklund and Shepherd, 2003) and EO and external environment (Covin and Slevin, 1989; Zahra and Covin, 1995). This finding has important theoretical implications, as it partly explains the problem with relatively low explanatory power in combined models where this mediation effect was ignored. Through our analyses examining the mediation effect of EO toward firm growth, we have added new insights and perspectives that explain the key drivers as well as the complex interplay of several of our factors in explaining the firm's success.

One more contribution of this study is that data were collected in a novel context and new, reliable measures were constructed. Results point to the conclusion that the performance of Russian female enterprises can be explained with the help of Western theories. Finding a positive main-effect-only between firm resources and firm performance as well as of firm EO and firm performance confirms this conclusion. These findings open the way for researchers in former Soviet-based economies to facilitate the research on phenomena like entrepreneurship, phenomena which are so important for the development of any economy.

The emergence and growth of women-owned businesses have contributed to the global economy and to their surrounding communities. The presence of women around the world driving small and entrepreneurial organizations has had a tremendous impact on employment and on business environments worldwide. Scholars of strategic management have noted that firm and organizational resources (including the competency and intensity of the owner) are key elements in highly successful firms. However, little work has been done concerning the impact of structural components in the context of entrepreneurial ventures. Given the significant differences between large, established firms and entrepreneurial ventures, uncovering which resources and capabilities are necessary for success takes on added importance in facilitating the

performance of smaller, women-led organizations. As in many entrepreneurial firms, accumulating valuable resources is not enough to support a sustainable strategic and competitive advantage (Teece et al., 1997). The ever-changing competitive environments render a seemingly sustainable strategic advantage obsolete. Instead, competitive advantages arise from a firm's capability to constantly redeploy, reconfigure, rejuvenate, and innovate its capabilities in responding to the changing environmental conditions. In utilizing a very large sample of women entrepreneurs in Russia, this research contributes to our understanding of how the strategic advantage, based on entrepreneurial orientation, acts as a critical link between different types of individual and firm-level resources to influence firm performance. It is these collective activities as well as the process that may give women-led ventures the increased capacity and foundation for continual growth, renewal, and sustainability of their firms, their markets, and the broader communities they serve.

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## VII. DIRECTIONS FOR FUTURE RESEARCH

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The differences between high-growth enterprises and low-growth enterprises have been attributed to factors such as the previous experience of the founder, the ability to establish goals for staff, and the ability to effectively handle conflict (Brush and Hisrich, 1988). Research has also focused on the entrepreneur's willingness to grow and on strategic activities. The presence of good working relationships with customers, financiers, and other constituents to the business has also been reportedly related to effective growth strategies (Kamau et al., 1999). While motivations to undertake business ownership have become more generally understood through research, more work is needed to examine the factors that contribute to sustained entrepreneurship, especially in the stages beyond start-up (Bhave, 1994).

Cliff (1998) proposed that women entrepreneurs prefer a managed approach to business growth as opposed to following more risky growth strategies. Growth orientation has been found to relate significantly to actual firm performance. More research on strategies for managing and sustaining growth in women-owned businesses would increase our understanding of how growth needs differ across the stages of the firm's life cycle (Gundry et al., 2002).

A challenge for many business owners lies in obtaining the appropriate assistance and information needed to take the business to the next level of growth (*Ibid.*). Additional research should examine how women entrepreneurs across cultures utilize these resources and leverage the importance of these activities, including information-seeking and training and education, to further develop and grow their businesses.

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Means, Standard Deviations, and Correlations 1-6

Variables (n = 457)	Mean	S.D.	1	2	3	4	5	6
1 Firm age	6.7	3.42	1					
2 Legal status	3.8	0.74	-0.042	1				
3 Industry	2.1	0.44	-0.115 <sup>a</sup>	0.065	1			
4 Respondent age	39.6	8.4	0.376 <sup>b</sup>	-0.035	-0.115 <sup>a</sup>	1		
5 Education	0.49	0.5	0.022	-0.153 <sup>b</sup>	0.087	0.012	1	
6 Owner/manager	0.94	0.23	0.029	0.263 <sup>b</sup>	0.012	-0.100 <sup>a</sup>	-0.047	1
7 Munificence	0.0128	1.01	0.062	-0.162 <sup>b</sup>	-0.144 <sup>b</sup>	0.102 <sup>a</sup>	0.059	-0.026
8 Entrepreneurial intensity	0.0086	0.98	0.045	0.011	0.018	0.048	0.103 <sup>a</sup>	0.043
9 Opportunity competence	0.0091	0.99	0.041	-0.054	-0.029	0.100 <sup>a</sup>	0.085	-0.031
10 Financial capital	0.0581	0.99	0.177 <sup>b</sup>	-0.067	-0.150 <sup>b</sup>	0.124 <sup>b</sup>	0.008	-0.015
11 Social capital	0.0192	0.97	0.036	-0.158 <sup>b</sup>	-0.002	0.049	-0.144 <sup>b</sup>	-0.038
12 EO	0.0332	0.98	0.135 <sup>b</sup>	-0.074	-0.167 <sup>b</sup>	0.062	0.103 <sup>a</sup>	-0.017
13 Performance	0.0393	0.98	-0.001	0.012	-0.109 <sup>a</sup>	-0.047	0.043	0.023

Notes:

- a. Correlation significant at the 0.05 level (2-tailed).
- b. Correlation significant at the 0.01 level (2-tailed).

**Means, Standard Deviations, and Correlations 7-13**

Variables (n = 457)	Mean	S.D.	7	8	9	10	11	12	13
1 Firm age	6.7	3.42							
2 Legal status	3.8	0.74							
3 Industry	2.1	0.44							
4 Respondent age	39.6	8.4							
5 Education	0.49	0.5							
6 Owner/manager	0.94	0.23							
7 Munificence	0.0128	1.01	1						
8 Entrepreneurial intensity	0.0086	0.98	0.190 <sup>b</sup>	1					
9 Opportunity competence	0.0091	0.99	0.351 <sup>b</sup>	0.314 <sup>b</sup>	1				
10 Financial capital	0.0581	0.99	0.475 <sup>b</sup>	0.229 <sup>b</sup>	0.384 <sup>b</sup>	1			
11 Social capital	0.0192	0.97	0.346 <sup>b</sup>	0.252 <sup>b</sup>	0.438 <sup>b</sup>	0.420 <sup>b</sup>	1		
12 EO	0.0332	0.98	0.408 <sup>b</sup>	0.271 <sup>b</sup>	0.466 <sup>b</sup>	0.521 <sup>b</sup>	0.474 <sup>b</sup>	1	
13 Performance	0.0393	0.98	0.353 <sup>b</sup>	0.249 <sup>b</sup>	0.349 <sup>b</sup>	0.321 <sup>b</sup>	0.228 <sup>b</sup>	0.343 <sup>b</sup>	1

Notes:

b. Correlation significant at the 0.01 level (2-tailed).