Small Business Risks—Entrepreneurs' Assessments

Yuri. I. Treschevsky
Voronezh State University
Voronezh, Russia
E-mail: utreshevski@yandex.ru

Elena V. Nikishkina
Tekhmontazh-Sentr LLC
Voronezh, Russia
E-maol: nev36@mail.ru

Nikita A Klimov
Voronezh State University
Voronezh, Russia
E-mail: klimnik1999@mail.ru

Pavel D Nikulnikov
Voronezh State University
Voronezh, Russia
E-mail: nikulnikov.pavel99@mail.ru

Abstract—**The article is devoted to the study of small enterprises' risks in Russia. The surveyed enterprises incorporated at Voronezh region. However, the territorial scope of their activities is diversified; they have business relations with a wide range of domestic enterprises. This allows us to consider the enterprises as representatives of not only regional, but also Russian business. The research was conducted in a form of expert survey, in which 23 heads of small enterprises participated. Questionnaires were treated using the fuzzy set method, which allows calculating not only average values and their statistical significance, but also presenting results in the range from optimistic to pessimistic vision of risks. As a result, we got the opportunity to see the risks not only as an objective characteristic of the external environment, but also their perception by small business. The results obtained indicate a high level of risk for small businesses and a strong differentiation of expert opinions.**

Keywords—small business; business risks; risk evaluation; expert appraisement

I. INTRODUCTION

The problems of entrepreneurial activity development have been the focus of researchers' and practical men' attention in Russia for at least three hundred years. One of the first works devoted to the solution of the problem is "The Book on Poverty and Wealth" written by I.T. Pososhkov [1]. It should be noted that, in contrast to research conducted by academic world representatives, the work reflects a view of the entrepreneur himself. This, in our opinion, is an important aspect of the study – an approach to the problems of entrepreneurship "from inside out"; it is not only an assessment of an objective situation, but also an awareness of it by an entrepreneur who is aware of the need for certain conditions in which he can effectively conduct business. Present-day developments have radically restructured views of an economy as a system. Its rapidly changing parameters require changes not in technology management as much as in the actual economic processes management. Currently, as rightly been noted by S.D. Bodrunov, transition from adaptation to economic processes to their management is required [2]. The situation as it has developed disadvantages

significantly to small businesses, since, on the one hand, it is a system with its own characteristics [3, 4, and 5], and on the other hand, it is highly differentiated by economic status, vision of economic problems and problem solving techniques. It should be noted that small business represents one of the most pessimistic institutional group of the population [4].

II. RISK AS AN ECONOMIC PHENOMENON

There are different definitions of risks in the research literature. O.I. Degtyareva considers risk as a possible danger, acting in order to attract the luck in the positive anticipation [6]. A.G. Ivasenko believes that a risk is an event or a group of related random events that damage the object that bears this risk [7]. L.G. Matveeva believes that a risk is a potential, numerically measurable possibility of situations unfavorable for the project and the consequences associated with them [8]. V.F. Ershov notes that a risk is an uncertainty that has a probabilistic basis. This is an uncertainty that can be changed, which means it is probabilistic to anticipate and protect against losses [9].

The American Project Management Institute (PMI) [10] defines a risk as an uncertain event (condition) that, if it occurs, has a positive or negative impact on the project's goals. PMI considers a risk on the aspects of threat and possibility of uncertain project implementation. This is due to the fact that during the project implementation conditions may arise that lead to favorable unplanned results (for example obtaining new, previously unplanned properties of the project product being created, gaining experience and its application in project management) and, accordingly, unplanned acceleration of the project (that is very rarely). We believe that this is not about risks, but uncertainty. A.I. Ukolov defines an economic risk as a possibility of an accidental occurrence of undesirable losses, expressed in monetary terms [11].

Probably one should distinguish between pure and speculative risk. A pure risk is mainly associated with undesirable deviations from the planned results; it applies to any phenomena and processes in nature and society. A

speculative risk, in fact, is an aspect of a market economy and may result in both loss and additional profit.

L.N. Tepman believes that risks should be divided into dynamic and static. Dynamic risks result from managerial decisions or unforeseen changes in market or political circumstances. Static risks arise out of damage to property, as well as loss of income due to the failure of the organization [12].

Experience has shown that risks can be divided into many groups according to various criteria: objects and exposure sources, location relative to the object of influence, generation mechanism, incidence, insurance possibility, negative consequences intensity, nature of activity, time of occurrence, etc. [13]. In this regard, we believe it necessary to take into consideration such signs of risk as: a threat of undesirable consequences in the activity of an economic entity, a threat of non-implementation or incomplete implementation of the organization's plans, a threat related to changes in the external environment of the organization, a threat related to insufficient meaningful participation of concerned parties in the organization activities, probability of risk.

III. RESEARCH METHODOLOGY

An expert method was employed to study the opinions of small business representatives. A questionnaire containing 15 groups of questions was offered to owners and managers of small enterprises. A group of questions is devoted to the risks of small enterprises. The group consists of seven risk options; every risk should be evaluated on a five-point scale. The risks are lack of new orders and sales markets, insolvency of buyers and customers, crooked personnel actions, on-site documentary tax audit, on-site inspections of other regulatory authorities, changes in the global economic situation, and changes in domestic public policy.

Analysis of the questionnaire results was carried out using fuzzy sets according to the method of L.K. Konysheva, D.M. Nazarova [14], [15]. This method was tried out in estimation of risks and opportunities of the Voronezh region development in relation with various institutional population groups [3], [4].

The scoring was the following: the most relevant risk is 5 points; quite relevant - 4; relevant - 3; less relevant - 2; not relevant - 1; no answer - 1 point. Fuzziness indices for each risk were used to adjust average values to identify an optimistic and pessimistic scenario.

The calculations were carried out using the Excel program according to the following formulas:

Adjusted average value (optimistic scenario) - formula 1:

$$Xico = \frac{\underline{x}i}{1 + \underline{x}i \times Ki} \qquad (1)$$

Where

$Xico$ – Adjusted average value (optimistic scenario)

$\underline{x}i$ – Average value of the parameter i

Ki – Fuzziness index of the parameter i

Adjusted average value (pessimistic scenario) - formula 2:

$$Xic\text{п} = \underline{x}i + \underline{x}i \times Ki \qquad (2)$$

Where

$Xic\text{п}$ – Adjusted average value (pessimistic scenario)

Risk Assessment Index (optimistic scenario) – formula 3:

$$Lo = \frac{\underline{x}ico}{\underline{x}max} \qquad (3)$$

Where

Lo – Risk assessment index (optimistic scenario)

$\underline{x}ico$ – Adjusted average value (optimistic scenario)

$\underline{x}max$ – Maximum score, provided by the scale (in this case - 5)

Risk Assessment Index (pessimistic scenario) - formula 4:

$$L\text{п} = \frac{\underline{x}ic\text{п}}{\underline{x}max} \qquad (4)$$

Where

$L\text{п}$ – Risk assessment index (pessimistic scenario)

$\underline{x}ic\text{п}$ – Adjusted average value (pessimistic scenario)

$\underline{x}max$ – Maximum score, provided by the scale (in this case - 5).

The calculation results rounded to two decimal places.

IV. SMALL BUSINESS RISK VALUATION

The following results were obtained in accordance with the accepted calculation procedure.

The risk of lack of new orders and sales markets received the following appraisals: average value (points) 2.74; coefficient of variation (%) 63.89; fuzziness index (unit) 0.26; adjusted average, optimistic scenario (points) 1.61; risk assessment index, optimistic scenario (units) 0.32; adjusted average, pessimistic scenario (points) 3.44; risk assessment index, pessimistic scenario (units) 0.69. As is obvious, the coefficient of variation is very high, due to the very strong differences in its assessment by representatives of small businesses. Accordingly, the average values of the risk assessment fluctuate quite strongly: the risk is rated as less relevant in an optimistic scenario, and as quite relevant in a pessimistic one. That is, for various representatives of small business the risks coming from the market situation are evaluated in various ways. This can be explained both by the objective state of market niches and by the businessmen' attitude to the prospects of interaction with counterparties.

The risk of buyers and customers insolvency is assessed as follows: average value (points) 3.74; coefficient of variation (%) 39.60; fuzziness index (unit) 0.31; adjusted average, optimistic scenario (points) 1.73; risk assessment index, optimistic scenario (units) 0.35; adjusted average, pessimistic scenario (points) 4.90; risk assessment index, pessimistic scenario (units) 0.98. The presented values of the calculated indicators characterizing the risk of buyers and customers insolvency allow us to rate it as extremely high. The coefficient of variation, although it exceeds the value, indicating the necessary significance level of average (25.0), is much lower than in the case of risks of market loss. A pessimistic version of the average risk value adjusted for the fuzziness index, and risk assessment index come close to the maximum possible values. At the same time, an optimistic version of the risk assessment demonstrates its low importance for small businesses. The average risk value without taking into account fuzziness indices is the highest in the presented information array.

The value of crooked personnel actions risk is intermediate between relevant and less relevant - 2.39 points as estimated by small business representatives. The coefficient of variation is very high - 63.77 %, which indicates a high inconsistency of opinions of representatives of small businesses regarding this risk. There is a completely objective reason for this – this is the internal risk, not related to environmental changes. In any case, the external environment affects the actions of company personnel to a much lesser extent than the buyers' solvency or the market situation. The optimistic scenario for assessing this risk is 1.266 points only (higher than not relevant, but lower than less relevant). The risk assessment index in optimistic scenario is 0.25 only. According to the pessimistic scenario, the risk exceeds "relevant" (3.279 points), and the risk assessment index reaches 0.66 of the maximum possible.

Contrary to popular belief about the risk coming from the actions of tax authorities, small businesses did not rate it highly. The average value was only 1.78 points out of 5 possible. The coefficient of variation is high (66.08%), the fuzziness index is not large (0.15 units). As a result, in the optimistic version of assessment, the risk is lower than less relevant (1.41 points), in the pessimistic one it is slightly higher (2.05 points). Risk assessment indices are 0.28 and 0.41 respectively.

The same applies to on-site inspections of other public regulatory authorities. The average value is 2.17 points; coefficient of variation (%) 63.12; fuzziness index (unit) 0.31; adjusted average, optimistic scenario (points) 11.98; risk assessment index, optimistic scenario (units) 0.26; adjusted average, pessimistic scenario (points) 2.85; risk assessment index, pessimistic scenario (units) 0.57. In this case, the risk assessment is slightly higher than the risk of inspections of the tax authorities, but the risk, even in the pessimistic scenario, does not reach the value "relevant".

Changes in the global economic situation is seen by small businesses as not carrying significant risks. The average value (points) is 2.17; coefficient of variation (%) 56.99; fuzziness index (unit) 0.18; adjusted average, optimistic scenario (points) 1.56; risk assessment index, optimistic scenario (units) 0.31; adjusted average, pessimistic scenario (points) 2.57; risk assessment index, pessimistic scenario (units) 0.51.

Risks related to changes in domestic public policy are assessed on average at the same level as on the global stage. An average score is 2.26 points (does not reach "relevant"). The coefficient of variation is high (64.19). The fuzziness index is 0.31 (higher than in the case of changes in the global economic situation). Accordingly, there is a higher discrepancy in risk assessment between the optimistic scenario (1.32 points) and the pessimistic one (2.97 points).

V. CONCLUSION

A generalization of the above allows us to draw the following conclusions.

Representatives of small businesses consider the highest risks of interaction with customers and clients. Moreover, this applies primarily to their solvency. In other words, the problem resides in the financial condition of entrepreneurial activity.

The risks arising due to changes in market situation are quite relevant.

The third place in terms of risk in general is occupied by frauds of personnel.

Representatives of small businesses consider the risks related to state and regulatory bodies' actions, changes in world and national politics insignificant.

The opinions of small business representatives are poorly agreed upon; differences in risk assessments go beyond the limits acceptable for evaluating homogeneous systems. As a result, we can conclude that small business is very heterogeneous in its views on the risks of the external and internal environment.

The difference in assessments of the buyers and customers' insolvency risk is the highest. Evaluations are from less relevant to the most relevant. The least differentiated are the views of small business representatives on changes in the global economic situation and state domestic policy. These risks are rated as less related or slightly higher. In any case, their assessment does not reach the "related risk" value, even in the pessimistic scenario.

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