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Explaining the "Ilya Muromets Syndrome" of Business Innovations in Russian Industries

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This article provides an explanation of the reasons for the low intensity of innovative behavior in the vast majority of Russian industrial companies found in a survey of corporate executives administered in 2011. I found two major causes for the situation when companies possess sufficient innovative capabilities but lack the motivation to use such capabilities for real innovative actions: the positive perception of the CEOs about the already achieved competitive positions of their companies and the unwillingness of shareholders who act as dominant stakeholders of most Russian industrial companies to bear additional risks associated with innovations. I labeled this "Ilya Muromets syndrome": Like the youth of the Russian hero Ilya Murmonets, Russian industrial firms seem to be trapped in their bed of complacency, and only exceptional circumstances can stir them to heroic innovative actions.

KEYWORDS competitive positioning, innovations in Russia, stakeholders, surveys

INTRODUCTION

For more than a decade, we have monitored the innovation activities of Russian industrial companies. Gradually, the longer and deeper we studied Russian business innovations, the greater has been our astonishment at the

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rationale behind the decision-making process with regard to innovation. We have attempted to explain our finding in terms of the following business conditions:

- Russian executives work long hard hours; their average working week lasts for 60 hours (Gurkov 2003);
- Russian manufacturing companies have demonstrated a strong capacity for imitation of products and processes (even in forms of intellectual piracy and product forgery; Gurkov 2011b);
- During the 2000s, many thousands of Russian managers received their MBAs, and nearly 40,000 private sector managers passed through state-sponsored retraining programs that included prolonged international placements. The courses in innovation management and observation of innovation activities of foreign companies were the central parts of those programs (Gurkov, Avraamova, and Mikhaluk 2004);
- Continuous foreign trade surplus of Russia during the 2000s allows massive imports of advanced technologies and know-how;
- Considerable capital outflows from Russia signify the existence of vast retained profits that may be used for additional investments into innovative products and processes; and
- Finally, during the 2000s, Russian companies accumulated considerable innovation capabilities; the majority of corporate CEOs indicated in 2010 that many types of actions requested for industrial innovation (from "getting access to new technology" to "reaching the desired level of quality") are challenging but not extremely difficult tasks. Moreover, the absolute majority of Russian CEOs consider innovations as a "master key" to solve most of the company's problems—from increasing profitability to "reaching the new quality of business" and "escaping the boredom of business routines" (Gurkov and Morgunov 2011).

At the same time, the level of innovation behavior of Russian industrial companies remains low over the 2000s. Our observations indicate that in the 2000s, less than one-fourth of industrial companies have been systematically involved in process or product innovations; again only one-fourth of the observed companies spend more than 10% of annual sales on innovations of any types (Gurkov 2011a). State statistics also reveals that on average Russian companies spend 1.1% to 1.9% of their total sales on technological innovations and that figure decreased in successful years (2005–2007) while increasing in times of economic crisis in 2008–2009 (Gokhberg and Agamerzyan 2011). We call this phenomenon the "Ilya Muromets syndrome"—referring to a popular Russian tale that tells the story of the strongest Middle Ages Russian warrior (bogatyr) who was crippled until the age of 33 and possessed no motivation to use his incomparable strength and bravery.

Why are there impediments to innovative behavior in Russian industrial companies? The answer to this question rests deep in the specific conditions relating to the implementation of business innovations in Russian industries. A focused examination of the institutional framework for innovations, a topic rarely touched in innovation studies, provides a clearer picture of the situation in Russia. Thus, this study is organized in the following manner. The first section presents a rather unorthodox view on business innovation, challenging some prevailing assumptions and revealing a unique configuration of the institutional framework that in part explains the constraints for innovation in Russian companies. In the second part, a quantitative assessment of some of institutional factors using the data from the survey of 150 CEOs of Russian industrial companies, implemented in June to July 2011, is conducted. The last section of the article includes the conclusions of the analysis, suggestions for further studies, and policy recommendations.

NEO-INSTITUTIONAL THEORY OF BUSINESS INNOVATIONS: INCORPORATING A STAKEHOLDER APPROACH INTO INNOVATION THEORY

Business innovation from a firm's point of view is either making different things or making things differently. What forces a firm to change an existing way of doing business? "Conventional" innovation theory too readily uses invention and innovation as interchangeable terms and merely considers the value of innovations without qualification. At the same time, any innovation, even copying the established management techniques or launching a replica of a known product, represents real costs to the firm and only the potential of future benefits. In addition, unlike for human beings, the firm as entity has no intrinsic motives to innovate such as curiosity or interest to try something new; in contrast the firm through inertia is motivated to keep its major technological and business routines unchanged to ensure operational continuity. As the firm has no internal motives to changes its routines, the only plausible reason for the firm to innovate is the pressure of those who are entitled to demand change (i.e., the firm's stakeholders).

In a re-conceptualization of the traditional Freeman's definition of stakeholder as "those groups and individuals who can affect (or be affected by) [firms'] activities" (Freeman, Wicks, and Parmar 2004, 365), I consider stakeholders as a limited set of suppliers of key resources necessary to the very existence of the firm. Thus, shareholders supply initial and additional capital and thus are entitled to consider residual returns and associated risks. Employees supply human capital, and thus, routinely compare efforts and remuneration at the current workplace to the existing opportunities on job market. Suppliers of energy, raw materials, ideas, and technological solutions also compare the demanded quality of supplies with the offered prices.

Customers (suppliers of firms' working capital) do the same but in the opposite manner: At time of purchase, they compare the perceived use value of the firm's goods and services with the demanded price. Finally, authorities consider social benefits and social costs of firm's actions such as corrupt authorities consider their appropriated benefits from the firm to the costs of patronage. Stakeholders act as suppliers and often lenders of particular resources for the firm (for example, financial capital and human capital are leased by the firm and are entitled to demand from the firm an adequate return on their resources).

We have demonstrated (Gurkov and Settles 2011) that a stable relationship between the firm and its stakeholders is possible within a rather tiny "mutually accepted zone" (see figure 1).

In figure 1, the system of relationships between the firm and its stake-holders is presented in a two-dimensional matrix. The axes of the matrix are, respectively, the benefits and costs of a particular supplier of resources to the firm. The bisecting line of the matrix that extends to the upper right hand corner reflects the situation where the stakeholder receives the adequate return for its supply of resources to the firm. The line above the equilibrium line depends on the switching costs that the firm faces in its relationship with a particular type of suppliers. As long as the rent-seeking claims of the supplier do not reach the boundary-of-acceptance zone, the firm will prefer to keep the relationship with this particular supplier. Similarly, the line below

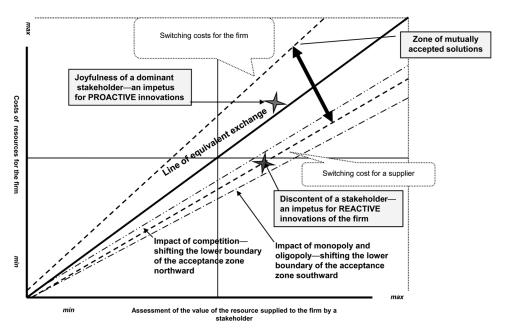


FIGURE 1 The general framework for analysis of the relationship between the firm and its stakeholders.

the equilibrium represents the switching costs of the supplier. As far as contractual terms of the firm and suppliers remain between these two lines, the relationship is considered as perhaps not optimal but rational. However, beyond rationality, all stakeholders wish to move to the upper left corner even higher the line of the switching costs of the firm. Thus, the intensity and directions of innovation efforts of the firm depend on the overall intensity of pressure of stakeholders and the perceived importance of particular stakeholders.

This model also allows us to distinguish between reactive and proactive innovations. If stakeholders find themselves on the line or even below the "line of equivalent exchange," the firm is forced to improve firm performance (i.e., return to the stakeholders) in a reactive manner. However, even if the stakeholder is located above the line of equivalent exchange, it may demand innovations to bring its return to the upper boundary of the acceptance zone. In such situations, the firm is forced to master proactive innovations. It should be noted that in the real world, a firm rarely masters proactive innovations demanded by stakeholders other than those of "dominant" stakeholders since the firm has no clear alternative to the resource supplied by that stakeholders or switching costs are unacceptable. This means that dominant shareholders drive the proactive innovation process. Thus, we may formulate even a stronger lemma of innovation processes that innovations of the firm aim to satisfy the claims of the dominant stakeholders while not allowing other stakeholders to move below the acceptance zone.

In this approach, competitors cannot be labeled as stakeholders unless they serve as (rather involuntary and not properly paid) suppliers of new ideas, technologies, and experienced employees for the firm. However, competitors are important actors of innovation processes. New technologies and new products, developed by existing direct competitors, new entrants to the markets, or providers of substitutes, shift the axes of the "customer matrix" representing the relationship between the firm and its customers, as both the initial point (minimal accepted quality) and the upper point (the best quality available on the market) of the quality line are shifted upward. The same is applicable to competitors for human resources and capital and for "political patronage" in their respective markets. Thus, under competitive pressure, the firm may leave the acceptance zone as the lower boundary of the acceptance zone moves upward (see figure 1). So the firm is forced to implement not just reactive but "catch-up" innovations just to return to the acceptance zone and to reassert the supply of key resources.

The opposite effects may be observed in monopolistic and, especially, oligopolistic markets as firms orchestrate their efforts to expand the acceptance zone by shifting the low boundary southward. Thus, customers are forced to accept previously unaccepted quality of goods and services at rising prices, shareholders are accepting lower returns at higher risks, and employees are required to work longer and harder for less payment.

Now we may proceed to exploration of the data collected in June to July 2011 through the survey of CEOs of Russian. More precisely, we need to assess

- The level of business environmental pressure on Russian companies (the speed of changes in particular markets);
- The role of competitors as actors and possible suppliers of resources for innovations; and
- Opinion of CEOs about innovative demands of specific stakeholders.

We also will strive to find possible interrelations among the aforementioned parameters.

FACTORS AFFECTING INNOVATIONS IN RUSSIAN INDUSTRIES

The Speed of Technological and Market Changes

In June to July 2011, we implemented a survey of "ordinary" industrial companies selected by the following criteria: to be neither national champions (largest corporations qualified for state aid) nor subsidiaries of foreign companies. As a result, we got data from 155 companies from Central Russia representing 10 major industries.

The number of employees of the surveyed companies ranged from 150 to 11,000 with a median size of 510 employees. More important, the assessment by CEOs of a relative size of their companies followed exactly the normal distribution.

The assessment by CEOs of the recent changes of the situation demonstrated the gradual recovery from the economic recession of 2008–2009; 45% of CEOs have seen some improvement, 29% have not seen any changes in current performance of their companies, and a worsening of the situation was stressed by 25% of the respondents. These and other statistical tests assured us that our sample, albeit modest in size, may be used for our purpose to make a quantitative assessment of the factors may affect innovation (in)activity of ordinary Russian companies.

The next step of our analysis was to see the perceived environmental pressure on Russian companies (table 1).

The data presented in table 1 were not surprising as, in our earlier surveys, about one-fourth of ordinary Russian industrial companies routinely mastered innovations, so this was translated into changes of the same magnitude at the industry level.

An interesting result concerned the ability of companies to adapt to the changes in governmental regulations. Despite usual complaints in Russian industry about the arbitrary and unpredictable changes in Russian business legislation and specific regulatory structure, ordinary Russian companies

TABLE 1 Assessment of the Speed of Changes in Business Environment (Percentage of CEOs)

	Speed of change				
Factor	No change	Slow change	Intensive change	Impetuous changes	
Production technologies	19	56	21	4	
New products	26	42	30	0	
Marketing techniques (promotion, marketing channels, advertising methods)	25	52	16	4	

Note. The sum in rows not exactly sums up to 100% due to 2% to 3% of answers marked as "other."

demonstrated good capacities to adapt to such conditions as 12% of CEOs stressed that they are able to foresee changes in regulatory requirements, and a further 48% reported that they easily adapted to changes in the regulatory requirements and that this adaptation causes no difficulties. Serious and very serious difficulties in coping with changes in regulatory requirements were reported by only 39% of the surveyed CEOs.

So far, the majority of ordinary Russian companies assess their business environment as rather stable and predictable. It may add that even the impact of the economic recession of 2008–2009 seemed minor with the recession of 2008–2009 being assessed as "deep" by only 21% of the surveyed CEOs while a further 63% of CEOs reported the recession was not severe, and 16% of the surveyed reported no impact of the general economic recession on their line of business. In such a stable and predictable environment, companies superficially engage in long-term strategic planning. More than half of the CEOs reported the existence of long-term strategic plans in their companies. Therefore, one might mistakenly conclude that the business environment face by Russian industrial does provide the motivation for proactive innovations. To better understand the situation, I have deepened the analysis and found extremely strong statistically significant relationship between the higher the perceived speed of technological and marketing changes to a higher probability that the firm will intensify almost all kinds of business innovations (table 2).

The discovered relationships between the types of environmental turbulence and the types of business innovations are quite logical. The perception of rapid technological changes associated with the higher regularity of

- Development of new products in established lines of activities and entering new markets;
- Purchase and installation of necessary equipment;
- Exchange of patents and licenses;
- Mastering new methods of quality control;
- An active search for new personnel; and

TABLE 2 Significance of Linear Relationship between the Perceived Speed of Changes in		
Business Environment and the Intensity of Particular Innovations		

	Type of changes		
Types of company actions	New technologies	New products	New marketing and sales techniques
New business ideas	0.009	0.372	0.082
New products in the existing sphere of activities	0.001	0.000	0.002
New products in a new sphere of activities	0.002	0.070	0.006
New sales channels	0.314	0.242	0.004
Purchase of patents and licenses	0.006	0.756	0.016
Sales of own patents, licenses and know-how	0.004	0.730	0.598
Purchase and installation of new equipment	0.000	0.052	0.215
New methods of quality control	0.005	0.414	0.088
New methods of project financing	0.049	0.426	0.082
Active recruitment of new personnel	0.343	0.011	0.007
New methods and sources of recruitment	0.004	0.006	0.063
New methods of personnel assessment	0.032	0.138	0.019
New remuneration schemes	0.018	0.001	0.190
New organizational structures	0.002	0.022	0.024
Spin-off of subsidiaries	0.387	0.593	0.215
Acquisition of other companies	0.022	0.830	0.004

 Transformation of internal organizational structure and acquisition of new companies that are holders of advanced technologies.

Perceived rapid changes in industry product portfolios are associated with fewer innovations. Nevertheless, they provoke

- Accelerated development of new products in the established sphere of activities in order to catch-up with market changes and
- A search for new personnel and especially mastering new remuneration schemes to facilitate processes of launching new products.

Finally, the perceived rapid marketing changes provoke

- Mastering new marketing channels;
- Acquisitions of other companies that hold unique marketing assets; and
- Active recruitment of new personnel and the creation of new remuneration schemes.

Thus, the results fit well to both "mainstream innovation theory" and our model. In mainstream innovation theory, volatility of business environment stimulates innovations. In our model, rapid technological and market change quickly push the firms toward the low boundary of the acceptance zone. In the case of Russian industrial firms, the zone of rapid environmental changes, as we have seen in table 1, pertains to the minority of firms.

The Impact of Competition

Under conditions of limited business environmental changes, competitive pressure would be a "substitute drive" for innovations. The situation in Russian industry turned to be much more complicated. At the first glance, only one-fourth of the surveyed CEOs reported the absence of competition while 30% of companies experience "fierce competition." At the same time, two-thirds of the surveyed companies testified that they coordinate at least some of their actions with their direct competitors. Almost 34% of all the surveyed companies regularly coordinate most of their actions with their competitors. What is most unusual is that fierce competition does not exclude inter-firm coordination, as 34% of companies that experience fierce competition reported regular coordination of their activities with competitors, which is exactly the same share as in the overall response. We see here the phenomenon of co-opetition. The most interesting part of the analysis was to clarify on which actions Russian firms coordinated with their competitors. It was found that firms are more inclined (at significance level of .100) to coordinate regularly their activities if they are more often involved in

- · Mastering new methods of project financing; or
- Using new methods of personnel assessment; or
- Selling intellectual property such as licenses, patents, and know-how.

We see that competitors are transforming themselves into stakeholders as cooperation creates a commonly used pool of key strategic resources, including technological solutions, human capital, and financial resources. From the other side, there is no statistically significant linear relationship between the level of competition and the intensity of innovations.

So far, we have depicted a rather familiar picture that the perception of rapid technological and market change is associated with the acceleration of business innovations. In turn, the efforts to master new schemes of project financing, to implement new methods of personnel assessment, and to accumulate technological resources are partially made by the collective actions of firms that continue to compete for customers on the marketplace.

However, we cannot postulate any causal relationship and thus to explain this so-called Ilya Muromets syndrome. Indeed, a limited faction of firms those regularly master business innovations (25% of the total sample) see the motive to innovate as being related to the perception of a high speed of changes in technologies and markets. Again, a third of such innovative firms (8% of the total sample) actively collaborate between themselves in assembling necessary resources for innovations. At the same time, the absolute majority of Russian CEOs of industrial companies do not wish to acknowledge the rapid changes in technologies and markets or to draft long-term strategic plans with even a minimal content related to innovation.

Claims and Restraints of Stakeholders

As rapid change and competitive pressure have only a marginal impact on the innovation processes in Russian industries, I should address the issue of relationships between the ordinary Russian firm and its stakeholders. Through the analysis of the survey data, it was possible to develop insights into relationships of the surveyed firms with their shareholders and other stakeholders.

So far, shareholders proved to be most powerful ("dominant") stakeholders for ordinary Russian companies as shareholders have very tight control over these firms through concentrated ownership and active participation. Only 22% of CEOs reported that shareholders merely monitor the financial performance of their companies; 24% of CEOs reported that shareholders have tight control over all strategic issues; and a further 31% of CEOs see that shareholders control both strategic and operating issues. Finally, in 23% of companies, controlling shareholders perform operating management tasks on a regular basis.

Now we may properly understand why 38% of the surveyed CEOs assessed finding financing for an innovative project as "extremely difficult," and for a further 48% of CEOs, this was just "difficult." What this means is that shareholders believe the position of the company in the risk-return matrix is near or just on the lower boundary of the acceptance zone. As business innovations always increase risks during the stages of development and implementation, shareholders consider such increased innovative activity as unacceptable financially and do not allow the firm to embark on these regular innovation activities. This corresponds well with the statistics on innovations in the surveyed firms (table 3). Also it may be seen that capital-intensive innovations are either not considered or postponed by long-lasting discussions, preparation of numerous variants of the projects proposal, or implemented as small pilot projects.

It seems that we discovered the first real cause of the Ilya Muromets effect: that the risks associated with innovations when added to country and industry risks surpass the level of acceptance of the majority of shareholder of Russian industrial firms.

Reluctance of shareholders to bear additional risks related to innovations pertains not only to unwillingness to approve innovative actions of the firms but to modesty of firms' demands for investments in the case where the innovation projects have been approved and are currently under implementation. Only 21% of the firm are currently implementing projects that require investments of more than 20% of annual sales (i.e., that roughly correspond to the amount of annual profits). We emphasize firms' profits as retained profits were mentioned as the major source of investments.

The pressure of other stakeholders cannot overcome the reluctance of shareholders to bear additional risks. Top Russian officials like to talk about technological innovations, but after the survey of 2010, we excluded the

TABLE 3 Innovation Processes in the Surveyed Companies (Percentage of CEOs)

	Status of actions			
Types of company actions	Not considered	Discussed	Under implementation as pilot projects	Implemented regularly
New products in the existing sphere of activities	16	26	34	24
New products in a new sphere of activities	43	30	19	8
Purchase of patents and licenses	40	20	28	12
Purchase and installation of new equipment	10	24	32	34
New methods of quality control	12	26	28	34
Spin-off of subsidiaries	61	21	14	4
Acquisition of other companies	76	12	9	3

answer "government funds" from the list of the major sources of investments, as merely one firm indicated that source.

The situation with customers is more complicated. We may depict the opinions of CEOs on the positioning of customers on a matrix "perceived use value versus perceived price" (table 4).

These values signify the distribution of the parameter "quality minus price," and the distribution of the results is far from the normal distribution. Exactly 60% of Russian CEOs believe that their companies offer goods and services at especially beneficial terms as the assessment of quality exceeds the assessment of prices. This means that the majority of Russian CEOs see improvements in products in processes as proactive innovations. As we have noted, a firm rarely masters proactive innovations to satisfy stakeholders other than dominant stakeholders. Thus, we discovered the second cause of the Ilya Muromets syndrome: The majority of CEOs see improvements of goods and services as purely benevolent actions, as they view the competitive positions of their firms as already very favorable.

TABLE 4 Assessment Differences among CEOs Regarding Quality and Prices of Goods and Services of Their Companies versus Direct Competitors

Value of the parameter "quality minus price"	Percentage of companies
-2	2
-1	7
0	31
+1	39
+2 and more	21

Note. Quality and prices were assessed on a 5-point scale ranging from *much lower* than competitors through no difference to much higher than competitors.

INVITATION TO DISCUSSION AND SUGGESTIONS FOR FURTHER RESEARCH

I have presented a short overview of innovation processes in ordinary Russian companies. I feel that it has been proved that positive perception of the majority of CEOs on competitive position of their companies coupled with unwillingness of shareholders who act as dominant stakeholders of most Russian industrial companies to bear additional risks associated to innovations are the two major causes of not intensive and predominantly non-regular innovation efforts in Russian industries.

Further research is needed to find the plausible remedies against the Ilya Muromets syndrome when companies that possess innovative capabilities lack motive to use such capabilities for real actions.

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