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**STRATEGIC ORIENTATIONS AS A DRIVER
OF INNOVATIONS IN RUSSIAN FIRMS**

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Abstract: Product innovation is vital for developing competitiveness of firms from emerging economies. Being recognized as one of emerging economies, Russia however is rather loosing positions in competing on innovative offerings in comparison to other BRIC economies. Moreover, the re-search on drivers of success or failure of product innovations in Russian economy is underrepresented in academic literature. Current paper aims at adding to existing theory on the role of market orientation vs. orientation to the new market segments in driving firm performance with the focus on product innovation capabilities. As suggested by Sawhney et al (2006), we study the role of key innovative offering dimensions – platform and solution innovation – in influencing firm performance outcomes. Our study aims to close the gap by studying the mediating effect of product innovation dimensions on market orientation – performance link on example of Russian economy. The study is based on a quantitative survey of 207 Russian innovative firms with multiple respondents approach, resulting in 331 qualified respondents. Our results demonstrate the difference in effect of orientation towards existing market vs. new customer segments in shaping platform and solution innovation and influencing firm performance

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Introduction

Development of emerging markets has attracted substantial attention of both researchers and practitioners (McKinsey, 2013; Economist, 2010; Sheth, 2011). The miracle of emerging markets development contributed to rising hopes for new sources of growth, successful business models and best innovation practices (Burgess and Steenkamp, 2006). While «emerging giants» demonstrate the ability of firms from emerging economies to create value innovations (Williamson and Zeng, 2009), existing research is still formulating research questions on the drivers of sustainable innovation development in emerging markets, rather than answering them.

Diversity and heterogeneity of emerging markets creates unique opportunities for generation of sources for new product development. Not occasionally numerous Fortune 500 companies have moved their R&D facilities to emerging markets locations; some of them are even establishing more than one headquarter to face the challenges and chances of emerging markets, and improve coordination by combining reality of developed and emerging markets (McKinsey, 2013).

In spite of the fact that the ability to develop and bring to the market new products and services is considered one of the main dimensions of firm capabilities (Lau et al, 2010), there is still lack of understanding of how this ability is driving firm performance. Even more valid this question is in the context of emerging markets. While rather institutional and macro-level factors are attracting attention of researchers, there is hardly a substantial empirical evidence on re-assessment the way market orientation and product innovations in influencing firm performance (Human and Naudé, 2010). Specifically, there is still an open question whether market orientation and innovation are providing opportunities for synergy or conflict (Berthon et al, 1999).

Current paper aims at adding to existing theory on the role of product innovation as a “missing link” (Han et al, 1998) between market orientation and firm performance in the context of Russian economy. Both product platform and customer solution dimensions of product innovation are addressed in the study (Sawhney et al, 2006). Particular attention is being paid to the role of orientation towards the existing market vs. orientation towards developing the market by focusing on new customer segments (Sheth, 2011).

Russian context provides an interesting research setting for multiple reasons. Despite insufficient academic research on innovations in Russian economy, researchers agree that Russia stays behind many other emerging economies, also within the BRICS countries, in terms of innovation performance. Unlike other emerging markets, Russia is rather losing its competitive positions in comparison to other BRIC economies (Kaartemo, 2009). Having beneficial starting positions at the initiation of transition towards market economy, Russian firms seem not to fail in fulfilling the agenda of developing sustainable product innovation capabilities. This falling behind trend requires research investigation; however existing research on product innovations by Russian firms does not provide sufficient evidence for explaining the drivers and performance outcomes of product innovations in Russian firms.

Our study is addressing this gap. The study is based on empirical survey of 207 Russian innovative firms with multiple respondents approach, resulting in 331 qualified respondents. We aim to contribute in a three-fold manner: firstly, by adding to existing theory on the role of market orientation factors in driving product innovation and firm performance by firms from emerging economies. Secondly, we contribute by testing the mediating effect of platform and solution innovation. Thus, following existing theory on market orientation - innovation - performance relationship, direct and indirect effects of market orientation on firm performance are tested. Finally, our study contributes by investigating the role of market knowledge in driving product innovation and more specifically by differentiating between orientation towards existing and new customer segments. The latter aspect has been high-

lighted as a particular issue featuring the focus of marketing in emerging economies (Sheth, 2011).

The remainder of this paper is divided into 5 sections and includes literature review on innovations in Russia, hypothesis development, methods and sample description, results overview, conclusion and discussion and references.

1. Literature Review on Innovation in Russia

Learning from emerging economies is on agenda of researchers, practitioners and consultants (Sheth, 2011; Economist, 2010; McKinsey, 2013). As one of BRIC countries, Russia has stimulated substantial hopes for strong and sustainable economic development and implementation of countries' and firms' innovation potential. During the last 20 years Russia has undertaken «an amazingly complex set of tasks while moving from a planned economy to a market economy» (Medvedeva, 2012, p. 261). Indeed, as Filippov (2011) globalization has increased opportunities and pressures for domestic firms in emerging market economies, such as Russia, to innovate and improve their competitive position.

However, despite the strong need for «establishing internal sources of growth» and moving from «market romanticism» 1990s to current «innovation-based growth» priorities in innovation policy, Russia is staying behind many emerging markets on innovation performance on a number of indicators (Gokhberg and Roud, 2012). Researchers highlight that current innovation policy and strategies of Russian firms result in a rather «imitative nature» of Russian economy (Sokolov, 2013) and the worst positioning among the other BRIC countries (Kaartemo, 2009). Not occasionally Russian examples of successful product launches or value innovations are not discussed among best practices of emerging giants from India and China (Williamson and Zeng, 2009). Product innovation performance is questionable with 87% of Russian companies aiming just at improving existing products and services instead of creating new ones (Kuznetsov et al., 2011)

Chadee and Roxas (2013) confirm that the sources of success or failure of Russian firms remain insufficiently studied, despite some obvious positive pre-requisites as number of patents per million people, established national innovation system, etc. As Prazdanichnykh and Liuhto (2010), Russian executives perform substantially worse compared to other countries. These findings are supported by the recent WEF ranking on global competitiveness, highlighting positive impact of such factors as domestic market size and patent numbers for Russian economies and much weaker business excellence and sophistication indicators (WEF, 2013). This result is commented by other researchers: «Interestingly, the major point here is not that Russia – a country with huge creative potential, large population and ample natural resources – so unsuccessfully struggles to build a new economy based on knowledge and innovation» (Klochikhin, 2012, p. 1620).

Lacking performance outcomes of innovations in Russia required in-depth investigation. Yet, existing research does not seem to provide comprehensive insights into the drivers of innovation output by Russian firms, and there are several reasons for that.

Firstly, research on Russian firms is substantially underrepresented in comparison to other emerging markets. There have been in total 116 publications on innovation in Russia over the period from 1995 until 2014 (based on Scopus reference base inquiry). It is far below similar results for China (2172 publications), India (546 publications) and Brazil (311 publications) (based on Scopus reference base inquiry).

Secondly, most research on Russia is referring to the nature of transition and is rather focused on institutional and policy-related factors (Puffer and McCarthy, 2011; Klochikhin, 2012; Prazdanichnykh and Liuhto, 2010), while firm-level factors have been not studied sufficiently. As Smirnova et al (2012) points out: «The reasons for the underperformance of innovation strategies in Russia have mostly been studied at the institutional and macro level, while the drivers and barriers at the firm level are insufficiently presented in existing research».

Among the firm-level factors, one of the missed directions of research is the role of firm's ability to listen to the market in shaping its innovation strategy. Transition to market economy lead to assumptions that market orientation will be shaped and will be driving firms' strategies (Farley and Deshpande, 2005). Farley and Deshpande (2005) anticipated that market knowledge, and particularly customer knowledge, will become the driving force for Russian firms, instead of previously dominated supplier orientation during the planned economy times. However, the role of such established factors as market orientation in improving innovation capabilities in the context of Russian economy has not been present in existing research at all. In other words, we know little about how transformation to market economy has been adopted by Russian firms in shaping the role of market orientation within their innovative practices.

This lack of evidence can be considered a substantial research gap. Firstly, market-sensing (Day, 1994) factors have been highlighted in research on innovation success by companies from other emerging markets (Sheth, 2011). Secondly, it is not enough to focus on the institutional level without investigating the way firms react and adapt to the changing institutional context in their strategic decisions and strategic orientations (Peng, 2003).

Research results from other emerging markets demonstrate the paramount importance of firm's market knowledge, particularly the knowledge obtained by local market players which have superior access to the diversity of local customers (Gadiesh et al, 2007). The effects of embedding with multiple knowledge sources tend to improve innovation performance in emerging markets both of local and international market players (Figueiredo, 2013). Multiple examples of successful innovations are based on exploring the market, addressing market heterogeneity (Burgess and Steenkamp, 2006) and multiplicity, resulting in providing solutions based on customer knowledge and identification of the segments not yet served by the competition (Williamson and Zeng, 2009).

It seems obvious for researchers that firms need to open up and rely on cooperation in striving for better innovation performance (Trifilova et al, 2013; Prato and Nepelski, 2013; Spiesberger, 2011). Knowledge has been claimed to improve innovation performance in Russia (Andreeva and Kianto, 2011). However, the role of the customers and market orientation in increasing «innovative consciousness» (Medvedeva, 2012), affecting goals, motives, orientations and business models of a firm have not been studied. Thus, the ability of Russian firms to leverage own innovation capabilities by creating market orientation, managing market and customer knowledge is an open question in existing research.

2. Hypotheses Development

2.1. Market orientation and innovation performance

Several studies indicate that market-driven businesses create products that transform market needs (e.g., Jaworski and Kohli 1993; Narver and Slater 1990). Market orientation is defined as the process of generating and disseminating market intelligence for the purpose of creating superior buyer value (Kohli and Jaworski 1990; Narver and Slater 1990). The concept of market orientation reflects the extent to which a company embeds the marketing concept as a primary organizing principle of the company (Day, 1994; Kohli and Jaworski, 1990). According to one of the most popular conceptualizations of market orientation (Narver and Slater, 1990), it can be defined via three components: (1) customer orientation, (2) competitor orientation, and (3) interfunctional coordination.

While market orientation concept has been widely tested in multiple markets, its validity for transforming context of emerging economies can still be seen as agenda for research. With some exceptions there is hardly enough evidence on how its components work in emerging economies, including Russia (Akimova, 2000; Greenley, 1995).

The role of market orientation in innovation performance has been extensively studied in the academic literature (e.g., Baker and Sinkula, 2005; Gotteland and Boule', 2006, Luca, Verona, Vicari, 2010; Grinstein, 2008; Zhou et al, 2005). The most relevant empirical studies on the relationship between market orientation and innovation performance were reviewed and synthesized by Luca, Verona, Vicari, 2010.

However, despite the growing body of empirical evidence on market orientation – innovation relationship, the role of market orientation in product innovation contexts is still subject to debate due to limited empirical evidence, especially on emerging markets. Existing research on the impact of the firm's market orientation (e.g., Atuahene-Gima, 2005; Imand Workman, 2004) and marketing competencies (Danneels, 2002; Dutta, Narasimhan, and Rajiv, 1999) on innovation processes indicate a positive impact of market orientation on several product innovation outcomes and across different industrial settings.

At the same time, an alternative approach opposing market orientation and innovation has been presented (Greenley, 1995; Appiah-Adu and Ranchhod, 1998; Berthon et al, 1999; Berthon et al, 2004; Kahn, 2001; Langerak, Hultink, and Robben, 2004; Zhou, Yim, and Tse, 2005). In other words, some researchers state that a strong market orientation may lead to imitations and marginally new products (e.g., Bennett and Cooper 1981). In the latter approach market orientation and innovation orientation are looked at within dichotomy “to serve or to create” (Berthon et al, 1999), discussing opportunities of firm's focus on just one of these two strategic orientations.

Moreover, other researchers claim that listening to current markets and segments can constitute a barrier to commercializing new technology and lead to reduced competitiveness (e.g., Christensen 1997; Leonard-Barton and Doyle 1996), echoing contention that a market orientation is inherently biased against radically new products. The more radical innovation strategy, the lower might be importance of market orientation. The focus of firms, “creating the market” (Berthon et al, 1999), thus is not determined by current customer needs and may neglect them in order to develop offerings, satisfying latent or future demand.

This debate results in two approaches – market-driven firms that aim to satisfy existing customer segments and their needs and market-driving firms that create new customer segments.

Although the contribution of existing studies on the market orientation–innovation performance link is substantial, there is no answer to the question if the market orientation and innovation link positively. Thus, a closer look at the development of the discussion on market-driving vs. market-driven strategies is needed. This discussion contributes to differentiat-

ing between market-driven and market-driving concepts, requiring a closer look at existing research.

2.2. Orientation towards new customer segments and product innovation

Although both market-driven and market-driving approaches are combined within the more general framework of market-orientation, existing marketing literature suggests a comparative approach to market-driving strategies as an alternative to market-driven strategies (Jaworski, Kohli, and Sahay, 2000; Kumar, Scheer, and Kotler, 2000; Carrillat, Jaramillo, and Locander, 2004). While market-driven approach relates to the company's ability to learn, understand and respond to the existing market and customer segments (Jaworski, Kohli, and Sahay 2000), market-driving approach means the company's ability to form and change the market (Kumar, Scheer, and Kotler 2000; Carrillat, Jaramillo, and Locander, 2004).

Moreover, it is considered that market-driving companies are likely to propose offerings more valued by consumers as they not only follow customers' voice; but also lead the needs of the customers in new directions by increasing the customer value proposition and improving business systems (Harris and Cai 2002; Jaworski, Kohli, and Sahay 2000; Kumar, Scheer, and Kotler 2000; Carrillat, Jaramillo, and Locander, 2004). As Jaworski, Kohli, and Sahay's (2000) point out market-driving organizations are better able to gain a sustainable competitive advantage by changing the composition of a market and behaviors of the players and by orienting towards new customer segments. Existing research literature assumes that market-driving organizations may achieve greater performance than market-driven organizations by reshaping the structure of the market according to their own competencies and by exploiting the competitors' weaknesses. In addition, driving markets allows organizations to exploit opportunities that competitors cannot (Hamel and Prahalad 1994).

As Jaworski, Kohli, and Sahay 2000 state a company can shape market behavior indirectly by creating new customer preferences and reversing existing customer preferences. Thus, new customer preferences can be formed either by introducing benefits that customers have not encountered before by introducing a new product or by introducing new benefits to existing products (product solution).

Although market-driving concept has been the object of many recent research in marketing field (Kumar, Scheer, and Kotler 2000; Jaworski, Kohli, and Sahay 2000; Tuominen, Rajala, and Moller 2004), there is only one conceptual model that integrates market-driving strategies into one framework (Carrillat, Jaramillo, and Locander, 2004) and there are no empirical tests on the influence of market-driving strategy on the innovation performance or firm performance. Moreover, it seems that the operationalization of market-driving concept still does not developed by the academic researchers.

In the context of emerging markets, Sheth (2011) is focusing on specifics of emerging markets and the role of market knowledge, highlighting the key aim of innovations in these markets: making them more affordable via design, lower cost, etc; increasing accessibility of innovations in the market, and finally using reverse innovation on the base of local knowledge and with the focus on "indigenous market-based innovations" (p.178). This market-based nature of innovation is closely linked to increase in accessibility and affordability of innovation. The requirements to review existing technology, value chain, introduce new features increases the requirement of product innovativeness in order to increase market share and profitability of the firm. This market-knowledge perspective and "market based" innovation are created

not only by listening to existing customers, but also via “inclusive growth” and market development (Sheth, 2011).

Thus, searching proactively for the new customer segments appears a requirement for successful growth and new product success for the firms from emerging economies.

2.3. Product innovation capabilities – platform and solution dimensions

Product innovation is a primary way in which firms adapt to turbulent environments and achieve sustainable competitive advantage (Eisenhardt & Tabrizi, 1995; Wo, 2014). Along with the increasing competition in the product markets, managing new product development has become a significant focus area in industrial marketing management (Hutt & Speh, 2010). Following framework developed by Sawhney et al, 2006 we explore the role of key offering dimensions – platform and solution innovations – in influencing performance outcomes. This framework has a capabilities-based perspective on product innovation. It helps shaping understanding of product innovation through the dimension of technological capability to create new products based on existing technology base and ability to create and deliver complex customer solutions. For the firms from emerging markets, gaining comparable to competitors’ technology base might be crucial for reaching out to the market by introducing new products. Solution perspective is well reflecting the ability of many firms from emerging economies to focus on complex customer needs or underserved segments by offering them desired variety.

Platform innovation

Product development processes are closely integrated with the technological development (Jugend et al, 2013). Technology base can be developed by the firm or adopted from external suppliers via technology transfer. This technology development can be either oriented at the market needs or can precede market expectations, aiming to shape the market. Existing studies mention that technology base can be both factor of success and source of difficulty - an effect that has been confirmed during studies on emerging economies (Perks et al, 2009).

Technology base can be considered a platform for new product development. As Sawhney et al (2006) platform innovation exploits the “power of commonality” — using the modularity principle for creation of derivative offerings and product in a faster and cheaper way. Authors claim that this type of innovation is frequently overlooked by companies despite their potential value and leverage of firm’s profitability by extending the offering line of the firm.

In a traditional sense, a platform represents a set of common components, assembly methods or technologies that serve as building blocks for a portfolio of derivative products or services (Sawhney and Chen, 2011). For successful application of product platform strategy and creation of platform innovation firms needs to understand core and differentiated customer needs and be aware of firm’s target group (Stone et al, 2008). Platforms are based on technological advancements and understanding customer expectations and represent both a requirement and opportunity for developing new products and services (Kumar and Allada, 2007).

Sawhney et al (2006) see platform as a “set of common components, assembly methods or technologies that serve as building blocks of portfolio of products and services” (p. 77). We imply that platform principle can help firms see further opportunities to use their technology base for developing new products and services.

Kumar and Allada (2007) point out that platform are based on technological advancements and understanding customer expectations and represent both a requirement and opportunity for developing new products and services. They also can foster faster response to competitive actions (Stone et al, 2008)

Platform principle is aimed to increase the return on technology investment. Its application represents both a requirement and opportunity for developing new products and services (Kumar & Allada, 2007). Platform innovation depends on good knowledge of customers, competitors and ability to integrate internal functions (e.g. marketing and R&D):

H1a: Customer orientation has positive impact on platform innovation.

H1b: Competitor orientation has positive impact on platform innovation.

H1c: Interfunctional coordination has positive impact on platform innovation.

For successful application of product platform strategy and creation of platform innovation firms needs to understand core and differentiated customer needs and be aware of firm's target group (Stone et al, 2008). From the emerging markets perspective, following propositions on market heterogeneity and diversity (Sheth, 2011; Burgess and Steenkamp, 2006), there also might be a positive effect based on identification of new segments. Not occasionally, platform innovation is assuming that there might be positive performance effects based on attracting new customers and the growth of customer base. Thus we hypothesize:

H1d: Orientation towards new customer segments has positive impact on platform innovation.

Solution innovation

Ability to develop and bring to the market new products and services is considered as one of the main capabilities of a firm (Lau et al, 2010). The history of customer solution marketing and selling can be traced to the early 1960s, with the emergence of the systems selling concept (Cova and Salle, 2007), which combined products and services to fulfill extended customer needs (Hannaford, 1974; Mathews, Wilson, and Backhaus, 1977; Mattsson, 1973; Page and Siemplenski, 1983; Biggemann et al, 2013). Solution innovation represents complex bundle of products and services that solve particular customer's problem. Solution may be successful only when a supplier truly understands customer needs, which may be achieved through collaboration between buyers and suppliers and establishing strong relationships (Roegner, Seifert and Swinford 2001).

Underlying factors of product innovations are often linked to either substantial change in value chain, product platform or development of a unique customer solution or their range. Sawhney et al (2006) consider both these factors – product platform and customer solution – as dimensions of innovations in firm offering, resulting in new products and services with added value for customers.

An increasing research discussion has arisen in the recent time concerning definition of customer solution (Liu & Hart, 2011; Evanschitzky et al, 2011; Kakabadse et al, 2004; Shepherd & Ahmed, 2000). According to Sawhney et al (2006), solution can be seen as “a customized, integrated combination of products, services and information that solves a customer problem” (p. 78). Customer solution might be created via product bundling as a combination of products and services (Shankar et al, 2009; Stremersch & Tellis, 2002; Ulaga & Reinartz, 2011), or creating customer solutions is customization and value co-creation (Payne et al, 2008; Storbaka, 2011).

As Biggemann et al, 2013 state solutions might reduce competition and also strengthen customer relationships (Nordin and Kowalkowski, 2010; Tuli et al., 2007), and enable firms to access new markets (Krishnamurthy, Johansson, and Schliissberg, 2003). Hahn and Morner (2011) argue that when entering the solutions arena, companies acquire more revenue and can better differentiate themselves from their competitors. Whereas products and basic services are easy for competitors to emulate (Vandermerwe, 2000), solutions are difficult to imitate and thus could become long-term sources of competitive advantage (Matthyssens and Vandembemt, 1998; Shepherd and Ahmed, 2000; Storbaka, 2011; Biggemann et al, 2013).

An increasing research discussion is devoted to *solution innovation* (Liu & Hart, 2011; Evanschitzky et al, 2011; Kakabadse et al, 2004; Shepherd & Ahmed, 2000). Evanschitzky et al (2011) highlight the role of competition in manufactured goods and note that services might be more attractive from the profitability perspective, thus increasing attractiveness for firms in combining products and services. Solution may be successful only when a supplier truly understands customer needs, which may be achieved through collaboration between buyers and suppliers and establishing strong relationships (Roegner, Seifert and Swinford 2001). Success of firm's ability to innovate via developing customer solutions depends on the level of market orientation:

H2a: Customer orientation has positive impact on solution innovation.

H2b: Competitor orientation has positive impact on solution innovation.

H2c: Interfunctional coordination has positive impact on solution innovation.

Existing examples from emerging markets demonstrate, that the core source of advantage and inspiration for the local firms is often the diversity of customer base and new segments, which have not been served by competition. This is a rather exploring than exploiting approach, requiring in-depth knowledge of the market and its opportunities. We thus imply that:

H2d: Orientation towards new customer segments has positive impact on solution innovation.

Adaptation of organizational capabilities and value chain are required for solution development (Sato, 2009). For integrated solutions an essential driver is creation of a solution platform, including strategy and supporting infrastructure (Storbaka, 2011). From this perspective, technology platform, based on using the communality principle in developing new products and services (Sawhney, et al, 2006; Stone et al, 2008) and combining resources and capabilities (Ulaga & Reinartz, 2011) would contribute to developing capabilities, required to develop successfully integrated solutions and thus foster solution innovation (Sato, 2009):

H3: Platform innovation is positively associated with solution innovation.

The role of firm's innovativeness on firm performance has been widely discussed in existing research literature, providing diverse results (Morgan and Berthon, 2008; Pittaway et al, 2004). Application of platform innovation can drive both the firm growth and profitability through extending the offering line and increasing return on investment (H4a and H4b). Furthermore, technology base of the firm should have impact on new product launch and performance (H4c).

Solution innovation can logically lead to higher growth rate of a firm by increasing potential market share and sales through offering customized offerings and combined products and services (H5a). By adding new options to existing offering solution innovation might also have positive impact on firm profitability (H5b). Finally, we assume that there would be a positive and significant impact on new product launch and performance (H5c). We assume that in a context of Russian emerging economy there is an even higher role of innovativeness in influencing firm's results (Paladino, 2007), thus:

H4a-c: Platform innovation has positive impact on firm performance (growth, profitability and new product launch and performance).

H5a-c: Solution innovation has positive impact on firm performance (growth, profitability and new product launch and performance).

Figure 1 represents the overall conceptual model tested in the study. The model aims to test mediating effect of two innovation capabilities – platform and solution innovation.

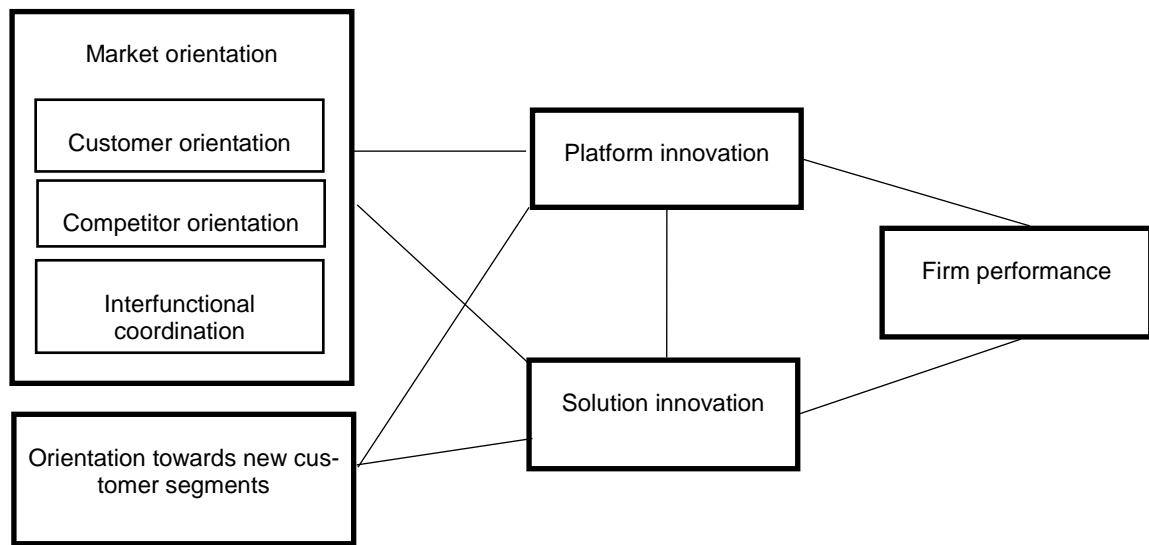


Figure 1. Conceptual model

3. Methods

3.1. Data collection process

The paper is based on empirical research that consists of two main methods. At first, the questionnaire was pilot-tested based on 15 in-depth interviews with representatives of innovative firms in Russia. Then quantitative survey was conducted in the form of personal interviews with firm respondents. The interviews lasted about 1 hour on average, starting from minimum 45 min to 1,5 hour. The final research sample includes 331 respondents from cross-sectional sample (12 industries) of 207 Russian innovative firms from 14 regions of the Russian Federation.

Based on results of the pilot test, the data collection process continued from the end of 2011 until the beginning of 2012 and resulted in 340 responses. Respondents were chosen from marketing department, firm development department or top-management of the firm to guarantee their awareness of the innovation and marketing development of the firm. We selected 331 cases from the total sample as not all the questionnaires were fulfilled in the proper way.

3.2. Sample description

The overview of the previous research in which the market orientation and product innovation performance link has been tested reveals that most empirical studies are based on cross-sectorial samples covering a mixed set of industries, including traditional manufacturing and service settings (Luca, Verona, Vicari, 2010).

Our cross-sectional sample contains 207 innovative firms (331 responses). The sample is determined in order to investigate the phenomenon of innovation creation by Russian firms. Two criteria were used to build the determined sample of Russian innovative firms: industries and regions with the highest level of innovation activities were selected according to the official statistics.

Selection of regions was conducted based on the innovative activity of firms in these regions, according to official Rosstat data for 2010. The firms were selected from 14 out of 83 regions of Russian Federation representing 6 Federal districts (all except Far Eastern Federal district which was excluded from the sample because of its remoteness and inaccessibility):

- 1) Central Federal District, including: Tula region, Moscow region and Moscow;
- 2) Northwestern Federal District, including: Leningrad region and St. Petersburg;
- 3) Southern Federal District, including: Rostov region;
- 4) Volga Federal District, including: Chuvash Republic, Perm Krai, Nizhny Novgorod region and Samara region;
- 5) Urals Federal District, including: Sverdlovsk region and Chelyabinsk region;
- 6) Siberian Federal District, including: Krasnoyarsk Krai and Omsk region.

The age of the company is varying from 1 to 307 years with an average of 41 years.

The sample is based on a *cross-sectional* approach and the choice of the industries for the sample was done using the official Rosstat data on innovation organization development by economic activities, 2010. Thus, the sample included innovative firms from 12 high and medium technology industries according to the Standard International Trade Classification — SITS (Table 1).

Table 1. Sample description by industry

№	Industry	N of companies	% of companies	N of responses	% of respondents
1	Aircraft construction	8	3	12	4
2	Chemicals production	10	5	23	7
3	Consulting and finance services	9	4	10	4
4	Electronic equipment production	18	9	31	9
5	Electronics and optics production	19	9	28	8
6	Food production	26	13	45	14
7	ICT	27	13	39	12
8	Machinery and equipment production	34	16	55	17
9	Metal processing	19	9	27	8
10	Oil and gas	6	3	11	3
11	Rubber and plastic production	12	6	20	6
12	Shipbuilding	5	2	11	3
13	Other industries	14	7	19	6

Nº	Industry	N of compa- nies	% of compa- nies	N of re- sponses	% of respon- dents
	Total	207	100	331	100

The sample includes both b2b and b2c firms producing both products and goods. The relationship between products and services in firms' portfolio is varying from 0% to 100% with an average of 85% products and 15% services. The relationship between serving industrial and consumer markets is also varying from 0% to 100% and an average of 67% firms serving industrial markets and 33% consumer markets.

3.3. Measures and operationalization

The measures for the constructs were based on existing studies (see Table 1) and were checked for reliability; construct validity and dimensionality (Anderson & Gerbing, 1988). The analysis has revealed that all the constructs used in the model meet the required level of 0,7.

CFA was applied to test the measures for unidimensionality. During the adjustment process in CFA several items were deleted following modification indices. Scale purification resulted in a good fit for the full model CFA (CFA were calculated for different performance models accordingly): growth - CMIN/df =1,362 (0,002), GFI = 0,942, CFI = 0,985, RMSEA = 0,034 (0,994); profitability - CMIN/df =1,392 (0,001), GFI = 0,937, CFI = 0,983, RMSEA = 0,035 (0,990); new product launch and performance - CMIN/df =1,237 (0,026), GFI = 0,946, CFI = 0,990, RMSEA = 0,027 (1,000).

Table 2. Constructs reliability measures overview

Construct	Cronbach's alpha	Construct reliability	AVE	Factor load- ings
Customer solution (Sawhney et al, 2006)	0,894	0,89	0,74	0,822-0,882
Technology-based platform (Sawhney et al, 2006)	0,830	0,83	0,62	0,727-0,821
Market orientation				
Customer orientation (Narver & Slater, 1990)	0,857	0,86	0,67	0,790-0,860
Competitor orientation (Narver & Slater, 1990)	0,804	0,80	0,58	0,742-0,775
Interfunctional coordination (Narver & Slater, 1990)	0,866	0,87	0,76	0,872-0,877
Orientation towards new segments (Sawhney et al, 2006)	0,862	0,87	0,69	0,783-0,913
Performance dimensions				
Growth (Venkatraman (1989); Vorhies & Harker (2000))	0,890	0,89	0,73	0,827-0,902

Profitability (Venkatraman (1989); Vorhies & Harker (2000))	0,813	0,82	0,61	0,673-0,858
New product launch and performance (Venkatraman (1989); Vorhies & Harker (2000))	0,891	0,89	0,73	0,784-0,913

Discriminant validity for all the constructs in the model was tested using Fornell-Larcker criterion (1981) (see Table 2). Diagonal of the table shows AVE for each of the constructs, below the diagonal are provided squared correlations. All the constructs have met Fornell-Larcker criterion (1981).

Table 3. Sample descriptive statistics, squared correlations and AVE

#	Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Solution innovation	4,96	1,57	0,74									
2	Platform innovation	4,68	1,57	0,44	0,62								
3	Customer orientation	6,07	0,99	0,03	0,07	0,67							
4	Competitor orientation	5,19	1,21	0,12	0,17	0,31	0,58						
5	Interfunctional coordination	5,48	1,24	0,04	0,12	0,36	0,39	0,76					
6	Orientation towards new segments	4,52	1,51	0,25	0,25	0,01	0,25	0,01	0,69				
7	Growth	5,04	1,15	0,15	0,29	0,09	0,15	0,09	0,16	0,73			
8	Profitability	4,92	1,12	0,30	0,11	0,07	0,15	0,07	0,14	0,46	0,61		
10	New products launch and performance	4,95	1,31	0,22	0,32	0,12	0,18	0,25	0,16	0,25	0,27	0,73	

4. Measurement results

Three performance models were tested using structural equation modeling methodology based on the IBM SPSS AMOS software (Version 21).

Table 3 represents results of alternative model analysis. All the models (growth, profitability and new product launch and performance models) demonstrate good model fit: CMIN /df = 1,438 (0,000), GFI = 0,936; CFI =0,980; RMSEA = 0,038 (0,972) (growth), CMIN /df = 1,473 (0,000), GFI = 0,933; CFI =0,979; RMSEA = 0,038 (0,968) (profitability) and CMIN /df = 1,299 (0,008), GFI = 0,942; CFI =0,987; RMSEA = 0,031 (0,998) (new product launch and performance).

All the models provide similar results for testing market orientation and orientation towards new customer segments on platform and solution innovation.

Market orientation has positive impact on platform innovation with exception of customer orientation. Thus competitor orientation and interfunctional coordination do positively influence platform innovation (with coefficients 0,192-0,200 and 0,236-0,255 correspondingly). Notwithstanding, customer orientation – counter intuitively – does not affect significantly neither platform innovation, nor customer solution development. This result contradicts existing theory and assumptions on researchers about dominating role of customer orientation in transition markets (Farley & Deshpande, 2005).

Unlike customer orientation, orientation towards new customer segments on the contrary has a positive and significant impact on platform innovation (coefficients varying from 0,366 to 0,369). Moreover, the impact of orientation towards new customer segments has stronger effect on platform innovation than any market orientation dimension. This result makes sense. Indeed, according to the definition by Sawhney et al (2006), platform innovation creates superior value with increasing number of customers. In other words, companies are motivated to increase their customer base to benefit more from the platform innovation and generated new products and services based on this platform.

Solution, on the contrary, is not directly influenced by the market orientation dimensions. Two factors have the strongest effects on solution: platform innovation and orientation towards the new segments. The role of platform innovation in driving customer solutions development means that the companies are trying to achieve better performance by leveraging their platform resources, resulting in new products and services combinations (Meyer and Mugge, 2001). The role of orientation towards new segments implies that market development is positively motivating new solutions to cover unmet needs of the customers in the new segments. In other words, firms following both platform and solution strategy tend rather to neglect orientation towards existing customer base, potentially looking for market share growth and acquisition of new customers in line with existing research on emerging markets (Sheth, 2011).

It is interesting, the effect of platform innovation and orientation towards new segments on solution is comparable, in other words, their combination is driving customer solution development.

However, the main differences between the models can be identified in the analysis of the performance effects. Platform innovation has significant and positive strong effect on all the performance dimensions – growth, profitability and new product launch and performance. However, customer solution differs in influencing performance dimensions: it has no impact on profitability, and differs in impact on growth and new product launch and performance. It has a stronger effect on new products launch (0,239) and a weaker effect on market growth (0,147).

The performance models do also differ slightly in terms of explaining the dependent variables – thus the new product launch and performance model has the highest performance

variance explained (37,2%), while growth and profitability models have comparable explanation of performance variables (32,1% and 31,8% accordingly).

Table 4. Models comparison

Independent – dependent variables	Model 1 Growth model		Model 2 Profitability model		Model 3 New product launch and performance model	
	Stand. coefficients	Result of hypotheses test	Stand. coefficients	Result of hypotheses test	Stand. coefficients	Result of hypotheses test
Platform innovation (DV)						
Customer orientation (H1a)	-0,092	No	-0,093	No	-0,094	No
Competitor orientation (H1b)	0,200*	Yes	0,206*	Yes	0,192*	Yes
Interfunctional coordination (H1c)	0,241**	Yes	0,236*	Yes	0,255**	Yes
Orientation towards new customer segments (H1d)	0,369***	Yes	0,368***	Yes	0,366***	Yes
Solution innovation (DV)						
Customer orientation (H2a)	0,103	No	0,100	No	0,105	No
Competitor orientation (H2b)	0,052	No	0,048	No	0,053	No
Interfunctional coordination (H2c)	0,023	No	0,027	No	0,020	No
Orientation towards new customer segments (H2d)	0,306***	Yes	0,303***	Yes	0,306***	Yes
Platform innovation (H3)	0,309***	Yes	0,313***	Yes	0,310***	Yes
Performance (DV)						
Platform innovation (H4a-c)	0,476***	Yes	0,531***	Yes	0,453***	Yes
Solution innovation (H5a-c)	0,147*	Yes	0,060	No	0,237***	Yes
R ² : Platform innovation, %	35,8 %		35,6 %		35,8 %	
R ² : Solution innovation, %	36,6 %		36,5 %		36,8 %	
R ² : Performance, %	32,1 %		31,8 %		37,2 %	
	CMIN /df = 1,438 (0,000), GFI = 0,936; CFI =0,980; RMSEA = 0,038 (0,972)		CMIN /df = 1,473 (0,000), GFI = 0,933; CFI =0,979; RMSEA = 0,038 (0,968)		CMIN /df = 1,299 (0,008), GFI = 0,942; CFI =0,987; RMSEA = 0,031 (0,998)	

*** $p < 0,001$; ** $p < 0,005$; * $p < 0,05$ † $p < 0,01$

5. Discussion and conclusions

Product innovation demonstrates firms' ability to succeed in transforming resources into offerings, accepted by the market or generating new growth opportunities, not yet met by competition. We have focused our research on product innovation in Russian firms, which are claimed to lag behind other emerging markets. Moreover, Russian firms seem not to have used the frontrunner advantages in the form of inherited from the Soviet time innovation resources, knowledge and knowhow. This lagging behind requires multidimensional investigation on the reasons, drivers and barriers to successful innovation implementation. However, as claimed above, most research is biased towards institutional and macro-level factors, diminishing the role of firm-level decisions and strategic choices. As Peng (2003), firms adapt to changing institutional environment and «rules of the game» by making certain strategic choices. These choices can be «smart» or can rather detect lack of competences and business sophistication (WEF, 2013). The aim of the current study has been to investigate potential drivers of product innovation in Russian firms. Among the drivers we have focused on market knowledge creating factors as market orientation and orientation towards new market segments. The results of analysis in the context of transition economy are providing a new angle to previously confirmed results on the way MO and innovative capabilities engage and create an effect on firm performance.

Previous research claims that market knowledge does positive affect new product performance (Li and Calantone, 1998). One of the most representative concepts of gaining market knowledge, developing the «market sensing» capability (Day, 1994) is market orientation (Narver and Slater, 1994; Kohli and Jaworski, 1990).

Our study has been based on Narver's and Slater's (1990) approach to conceptualizing market orientation, separately assessing the role of three market orientation subcomponents in driving product innovation - both platform and customer solution development. Additionally to this classic approach, we have extended the list of potential drivers by including firm's orientation towards market development or reaching out to new customer segments. This market development dimension has been highlighted by existing research (e.g., Sheth, 2011) as one of the key features of marketing in emerging markets.

Our model has been centered around the central role of product innovation dimensions - product platform and customer solution - reflecting two perspective of creating value for customers via either benefiting from technology platform or ability to understand customer preferences for the product-service bundle. These two dimensions imply different focus and different level of market knowledge by the firms. While product platform requires understanding of mainstream customers and rather mass market focus, customer solution is accentuating the ability to combine products and service, addressing customer problem in an integrated way.

While testing our research model on a sample of Russian companies, several results were received. First of all, the role of market orientation dimensions has not been confirmed as a equally strong: thus competitor and interfunctional coordination seem to matter more than customer orientation. A counterintuitive result on one hand, and a confirmation to the «to serve or to create» dilemma (Berthon et al, 1999). On the contrary, the role of orientation towards new customer segments, i.e., market development, has a strong and stable effect on both platform and solution innovation.

Our three performance models have proved that platform innovation - in other words - technological ability to produce new products and service based on existing platform, has the strongest effect on all the three performance dimensions. Customer solution has rather effect on the growth and new product launch and performance aspects of firm performance. It seems that customer solutions are not used by the firms to leverage profitability, but rather to cover the market and thus to grow.

Our results confirm the role of market development for the firms in Russia as emerging economy - thus in line with Sheth's (2011) assumption, firm's ability to identify and serve unserved market segments is the strongest driver for innovation and, in the end, firm performance.

This dimension of firm's strategic orientation has not been well established in existing literature. While practitioners are looking for the emerging market opportunities presented by these unmet segments, existing research is rather suggesting that traditional customer orientation has to be the driving strategic orientation of Russian firms (Farley and Deshpande, 2005). Our results reveal the difference between these types of orientation, which seem to be parts of different mechanisms for Russian firms. A combination of competitors knowledge, ability to combine resources to produce better customer value and looking out for new segments seem to reflect the most successful strategy for the emerging Russian economy.

In current research we have focused on two product innovation capabilities dimensions - platform and solution innovation (Sawhney et al, 2006). The results demonstrate the dominating role of technology base. Existing research mentions that technology impact on product development will be only successful in case of marketing and R&D integration, which stayed out of scope of current study. However, we see that competitor orientation and inter functional coordination have impact on technology base application for product development. Solutions, in their turn, are either developed because there are technological conditions for that, or if there are new untapped customer segments to be addressed. It seems that existing customers are not a significant factor driving solution innovation.

There are several managerial implications to be derived from our results. Our model is based on the central role of product innovation capabilities dimensions, linking the market orientation factors and firm and new product performance. Empirical results from sample firms suggest that firms need to balance their market orientation and orientation towards new customer segments. The role of the latter factor confirms assumptions from the milestone Sheth's publication (2011) on the impact of emerging markets on marketing - thus the role of market development is higher than the role of existing customer orientation. These two dimensions reflect the market-driven vs. market-driving directions of firm orientation. In the synergy case, the support interactive learning is a two way process: first, the firm learns from the market, and latter, the market learns from the firm. Interactive learning reduces the chances of failure of innovations and increases payoff. Through interactive learning, market-driving firms are successful at launching radically new products because they are able to educate consumers about the existence and value of the innovations (Kumar, Scheer, and Kotler 2000). Once a firm has improved its capacity to innovate, important changes occur during a transitory phase toward market-driving - thus, as our results demonstrate, driving innovation and firm performance.

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