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Innovation Processes in the Russian Manufacturing Subsidiaries of Multinational Corporations: An Integrated View from Case Studies

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The extant literature acknowledges the role of overseas subsidiaries in the growth and development of multinational companies (MNCs). Such subsidiaries are viewed as critical players in the innovation process at MNCs. This topic remains largely under-researched in the Russian context. This study aims to fill this gap by examining the dynamics of the innovation process in Russian-based subsidiaries of global MNCs. We present qualitative findings that indicate Russian subsidiaries are not only recipients of knowledge and technology developed elsewhere in the MNCs but are active developers of innovative products and solutions.

KEYWORDS multinational corporations, Russia, subsidiaries, innovations

INTRODUCTION

The extant literature acknowledges the role of overseas subsidiaries in the growth and development of multinational companies (MNCs). Such subsidiaries are viewed as critical players in the innovation process at MNCs. Although this topic has gained importance, it remains largely under-researched in the

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Russian context. This study aims to fill this gap by examining the dynamics of the innovation process in Russian-based subsidiaries of global MNCs. More specifically, the goal of this article is to present a series of snapshots of innovations currently carried out in the Russian manufacturing subsidiaries of several leading MNCs and to produce a "general scene" from individual portraits against the backdrop of the current development of the Russian economy.

The article is organized as follows. The next sections are devoted to a literature review, the research methodology, and the methods of data collection. Then, we present individual cases and a synthesis of the cases, including reflections on the similarities and differences between the observed activities and organizational settings in the Russian subsidiaries of MNCs and those in "genuine" Russian industrial companies. The discussion section contains a consideration of three major aspects of subsidiary functioning—the role of headquarters (HQ) in innovation creation and transfer in and between subsidiaries; intra-company competition; and the relationship between the innovativeness of subsidiaries and capital allocation. The conclusion contains a summary and suggestions for further study.

LITERATURE OVERVIEW

Innovation processes, that is, the development and transfer of innovative solutions within the organization, are considered crucial activities for contemporary MNCs (Cantwell and Molero 2003; Castellani and Zanfei 2006; Ciabuschi, Dellestrand, and Martín Martín 2011; Pearce 1999; Narula and Zanfei 2005). It has also been pointed out, however, that because of the specific characteristics of the MNC as a geographically and functionally dispersed organization, innovation processes, especially the two core processes of development and market launch of new products and development and implementation of new methods of production, are largely carried out at the subsidiary level (Boehe 2007; Pearce and Papanastassiou 2009). This is especially true in manufacturing subsidiaries in the BRIC countries (Brazil, Russia, India, and China; Consoni and Quadros 2006; Govindarajan and Trimble 2012; McKinsey 2012). Even if the products to be marketed or technological processes to be implemented in these countries are identical to those in developed countries, the methods used to implement them efficiently and effectively differ significantly, as they depend on:

- The inevitable differences in preferences, income distribution, and purchasing habits of customers in different countries, which result in country-specific market segmentation techniques (Wilson and Mukhina 2012).
- The different local working, engineering, and business cultures across countries, which require unique ways of achieving efficiency of operations (Belderbos and Zou 2007; Dunning 2001; Fisch and Zschoche 2011).

- The different national conditions in terms of physical and business infrastructure that create inevitable differences in production facility design, installation, and modes of operations (Morgan 2007; Meyer, Mudambi, and Narula 2011). Deficiencies of physical and business infrastructure in BRIC countries/emerging economies also usually lead to substantial site-specific investments and, subsequently, high sunk costs of idle production lines that remain after unsuccessful projects (Meyer et al. 2008; Peng, Wang, and Jiang 2008).
- The different configurations and intensity of pressure from local stakeholders (Holtbrugge and Puck 2009; Reimann et al. 2012).

The above-mentioned factors explain the steady stream of studies dedicated to innovation processes at the subsidiary level in specific countries and to cross-country comparisons (Almeida and Phene 2004; Phene and Almeida 2008; Manolopoulos, Söderquist, and Pearce 2011). Unfortunately, there is almost a complete lack of such research regarding Russian subsidiaries of MNCs. There is only one book devoted to the early entry experience of a particular MNC (Proctor and Gamble) in Russia, which was published by the company itself (Pepper 2012); one book on the cross-cultural problems of German companies operating in Russia (Anghel 2012); and a few research studies based on limited case studies (Johanson and Johanson 2006; Golikova, Karhunen, and Kosonen 2011; Koveshnikov 2011). This paucity of research is confirmed by reviews of both foreign and local literature on Russian management (Puffer and McCarthy 2011; McCarthy and Puffer 2013). Thus, we encountered a largely unexplored field while conducting this study. By necessity, this study is an exploratory one. Nevertheless, even for an exploratory study, we needed to create a research framework.

RESEARCH FRAMEWORK

In creating the research framework, we strove to achieve two tasks. First, we needed a general framework to understand the sources and drivers of innovation in manufacturing subsidiaries of MNCs. Second, we needed a metric that would enable us to make a "collage" from individual "snapshots," that is, to depict in a single list the heterogeneous projects, processes, and works currently labeled as innovations within various MNCs and their Russian subsidiaries. For the general framework, we first looked into the existing theoretical and empirical studies on the multinational firm. However, quite soon we recognized that in such studies, two competing approaches are used to present MNCs' activities. In one approach, which may be labeled "apologetic," MNCs are presented as strange creatures in the global economy that play several exclusive roles simultaneously (exploiting *monopolistic* advantages in foreign markets; internationalizing markets across national borders;

and creating, transferring, combining, and using *unique* capabilities in foreign markets; Forsgren 2008, 146; italics ours).

The other approach is critical. Thus far, no studies (at least in academic journals) simply label transnational corporations as "bloodsuckers" exploiting natural and human resources in developing countries. The critique is more subtle. Large MNCs are presented as inert behemoths avoiding subsidiaries' initiatives (Birkinshaw and Ridderstrale 1999) on the basis of "sheer ignorance" (Ciabuschi et al. 2012). We tried to escape both extremes and find a neutral model of firm innovative behavior. Selecting among existing approaches that explain why, how, and when the firm is inclined toward innovation—including neoclassical, neo-institutional, and evolutionary theories—we favor neo-institutional theories, especially the stakeholder approach. It seems to be very appropriate, as it attributes innovation to the reaction and anticipation of stakeholder demands (see Jones 1998; Lewis et al. 2007; Talke and Salomo 2009). According to the stakeholder approach, firms master proactive innovation to anticipate the future demands and (or) reactive innovation to meet the existing unsatisfied demands of stakeholders if such claims cannot be met by prosaic activities (Gurkov 2013). This approach also presents competition as a driver of innovation in a more subtle yet realistic way—The firm will strive to master more innovations than its direct competitors if its stakeholders impose stronger or different demands on firm's operations' content and outcomes or if the firm has a different reaction to the demands (proactive versus reactive). Such an understanding of stakeholder claims as drivers of innovation was recently used successfully to depict patterns of innovative/prosaic behavior by genuine Russian companies (Gurkov 2011). We apply this approach to the study of other Russian companies.

If innovation is a deviation from the established practices, any innovation is change. We needed to develop a metric that would enable us to compare changes in companies of various size, industry, and technology. We decided to present changes in manufacturing subsidiaries using a series of two-dimensional matrixes (see tables 1 and 2 in the synthesis of individual cases). One axis is common for all the matrixes: the *novelty* of a solution. The second axis is the *magnitude* of changes in a particular functional area, and thus it is specific in each matrix. Taking into account the object of our study (the Russian manufacturing subsidiaries of MNCs) and acknowledging the role of MNCs as creators and brokers of "capabilities" (not necessarily unique ones), we present the *degrees of novelty* as follows:

- Known for the Russian subsidiary: The solution has been found already by the Russian subsidiary or existed as common knowledge of local managers/technicians/workers but there was no reason (necessity, resources) to implement it.

TABLE 1 Types of Changes in Production Processes Implemented in 2009–2012 in the Surveyed Companies

	Changes in existing production facilities					
Novelty	New methods for work on existing facilities	Adjustment of the existing facilities	Installation of selected new apparatus or machines	Installation of new production units (production lines)	Installation of new shops within the existing sites	Installation (acquisition) of new production sites
Known for the Russian subsidiary	Ps, So, Rx, Rw, Kn, Lt, Mp	Ps, So, Rx, Rw, Kn, Lt, Mp	Lt			
Known for the corporation	Ps, So, Rx, Rw, Kn, Lt, Mp	Mp, Rw, So, Rx, Lt	So, Mp, Kn	So, Kn	Kn	Mp, Rw, Lt, Ps
Known for the industry		Ps	Rw	Kn	Kn	Ps, Rw
A new combination of known solutions		Ps		Ps		
Totally new solution		Kn				

Note. Kn, Knauf; Lt, Lactalis; Mp, Mapei; Ps, PepsiCo; Rw, Rockwool; Rx, Rexam; So, Solvay-Rhodia.

TABLE 2 Types of Changes in Products Implemented in 2009–2012 in the Surveyed Companies

	Changes in existing products			
Novelty	New forms of promotion and sales of existing products	Modification of existing products (changes to products' attributes)	Development of new products in traditional categories	Development of new products in new categories
Known for the Russian subsidiary	Kn, Lt, Mp, Ps, Rw, Rx, So	Kn, Lt, Mp, Ps, Rw, Rx		
Known for the corporation	So	Kn, Lt, Mp, Ps, Rw, Rx		
Known for the industry			Kn, Mp, Ps, Rw, Rx	
A new combination of known solutions			Mp, Ps, Rw, Rx	Ps
Totally new solution			Rw	Ps

Note. Kn, Knauf; Lt, Lactalis; Mp, Mapei; Ps, PepsiCo; Rw, Rockwool; Rx, Rexam; So, Solvay-Rhodia.

- Known for the corporation: The solution has been found in the HQ or in a sister subsidiary, but there was no reason (necessity, resources) to implement it in Russia.
- Known for the industry: The solution lies outside the current capabilities of the corporation, but it exists somewhere and may be purchased at the source, re-developed, imitated, stolen, and so on.
- A new combination of the existing solutions: Each element of the solution exists either in the corporation or the industry, but their combination is completely unique and novel.
- A totally new solution: A combination of existing and novel elements.

The scale of *magnitude of changes* is specific to a functional area under consideration. It is possible to create a specific scale for any major functional area (marketing and sales, production, human resource management, corporate finance, public/government relations, etc.). In this article, we concentrate on two major functional areas of overseas manufacturing subsidiaries of MNCs—both marketing and sales and production. Thus, we developed separate scales to assess the magnitude of development of new products and to assess the development and implementation of new forms (methods) of production.

For development of new products we distinguished

- new forms of promotion and sales of existing products;
- modification of existing products (changes to products' attributes);
- development of new products in the product categories that are traditional for the corporation; and
- development of new products in product categories that are new for the corporation.

If we followed the established tradition of marketing studies (Malhotra, 2009; Churchill and Iacobucci 2009) to distinguish the degrees of change in marketing practices, recognizing the degrees of change in production was more difficult. The solution came after a pilot interview with one managing director of the Russian subsidiary of a German corporation. He said, "In our corporation, all innovations that do not require the purchase of new equipment, i.e., new methods of work or adjustment (tuning) of the existing facilities, are considered 'small projects.'" Thus, we derived a scale that starts with "new methods of work on existing facilities" and "adjustment of the existing facilities" and continues through increased purchasing and installation of new equipment (selected apparatus or machines, new production lines, new shops, complete modernization of the production site, new production site development, etc.).

It should be stressed that in reality, "new methods of work" include a wide range of changes (applying new safety standards, new ways of

production scheduling, new methods of quality control, and new production formulae and processes) that may revolutionize the life of a manufacturing subsidiary to a greater extent than the simple installation of a new shop or production line.

DATA AND METHOD

In this article, we report the results obtained in *mature* manufacturing subsidiaries, that is, those set up more than 5 years ago. We estimate that a 5-year period is sufficient for the completion of all initial installation work and the establishment of a framework for innovation. Because of limited resources, we concentrated on process industries. According to the definition from the Institute of Industrial Engineers (2013), these are those industries in which

> the primary production processes are either continuous, or occur on a batch of materials that is indistinguishable. Examples of process industries include food, beverages, chemicals, pharmaceuticals, petroleum, ceramics, base metals, coal, plastics, rubber, textiles, tobacco, wood and wood products, paper and paper products, etc.

Established Russian manufacturing subsidiaries of MNCs are mostly found in these industries. We built a sample aiming to include various types of processing companies—from a single-plant mono-product firm to networks of dozens of factories that produce thousands of products in several industries.

Data collection included semi-structured interviews with heads of local subsidiaries and general managers of factories and, in several cases, with managers in production, marketing, and quality control. Interviews were carried out between June 2012 and July 2013. The first series of interviews lasted, on average, between 1.5 and 2 hours; in many cases we conducted follow-up interviews presenting the first results and listening to comments and explanations from company managers. We explicitly informed our respondents beforehand that neither video- nor audio-recording would be performed during interviews but asked for, and in all cases received, their permission to make headnotes. Depending on circumstances, interviews were carried out either in Russian or in English (with expatriate managers). Most of the interviews were held on-site and were preceded by a tour of the premises to get a better understanding of the core production lines, R&D laboratories, and so on. On such tours, we generally held impromptu discussions with supervisors and operators. We found our approach to data collection to be very close to that used by Loveridge in his exploratory study of subsidiaries of European MNCs in Southeast Asia (Loveridge 2006).

The interviews were built around three questions:

- What is regarded as innovation at the corporate and subsidiary level?
- How are innovation projects organized, and what are the roles of the HQ, sister subsidiaries, and the Russian subsidiary in various types of innovation efforts?
- How is innovation financed, and which types of budgets are used for the different categories of innovation projects?

However, in our study, we went beyond naturalistic inquiry (Lincoln and Guba 1985) and using narratives only (Czarniawska 1997), as we aimed to derive some quantitative assessment of innovation processes. Thus, we analyzed corporate reports, internal corporate magazines, and other documents. In some cases, reports on key innovation projects done in the last 2 to 3 years and those earmarked for 2013–2015 were prepared for us.

Shortly after the interviews, their summaries and salient features were sent to the companies. We surveyed 16 companies and visited 18 plants (in some companies, we visited several plants). The size of the sample was sufficient to prove replication of results (see Eisenhardt and Graebner 2007). To date, we have received written permission to use the company names and data for academic purposes from seven companies.

Position of Manufacturing Subsidiaries of MNCs in the Russian Economy

Before we proceed to the individual cases, we must outline the current position of manufacturing subsidiaries in the Russian economy. For almost 60 years, from 1930 to 1987, any foreign ownership of productive assets was prohibited in the former Soviet Union. In 1987, the Soviet government permitted "joint ventures between Soviet organizations and firms from capitalist and developing countries" (Soviet Union 1987). In 1990, there were more than 2,000 such joint ventures, mostly small firms in wholesale, retail, and catering. The lifting of all restrictions on the share of foreign ownership in 1989, and especially the mass privatization program of 1992–1994, created favorable conditions for large MNCs to enter the Russian market. Most joint ventures were dissolved; for MNCs, the major method of establishing manufacturing facilities was the acquisition of Russian industrial companies, usually at rock-bottom prices.

Nevertheless, in the 1990s, the development of manufacturing subsidiaries in Russia was hampered by the strong inflow of direct imports. In 1998, the share of imported goods in the Russian consumer market reached 70% (Center of Development 2012, 8–10). Later, the financial crash of August 1998 and the fourfold devaluation of the local currency created a powerful impetus for export substitution. Simultaneously, foreign companies realized

the efficiency of greenfield investments. Thus, from 1998 to 2005, large production sites were installed, especially around the two largest Russian cities—Moscow and St. Petersburg. Because of the restrictions on participation in the most lucrative industries (oil, gas, and ferrous and non-ferrous metals), the manufacturing activities of foreign MNCs in Russia are mostly concentrated in consumer markets: foodstuffs, white goods, consumer electronics, and car assembly. In addition, most MNCs never considered Russia as a manufacturing base for exports into their home countries. This was partly because of the size of the Russian domestic market (in 2011: The total retail turnover of Russia was around US$700 billion, including US$340 billion spent on food, beverage, and tobacco), and partly because of the physical and institutional difficulties of exporting from Russia to the European Union. The zenith of market dominance by MNCs in Russia came in 2006. For example, in 2006, six foreign tobacco companies controlled almost 90% of the local tobacco market; a few global beer companies controlled 85% of the local beer market, and so on.

Since the mid-2000s, Russian subsidiaries of MNCs have begun to face stronger competition from local firms that managed to modernize legacy Soviet facilities, set up new production facilities, develop popular consumer brands that are better suited to local tastes, and even conduct initial public offerings on Russian or foreign stock exchanges. Therefore, the MNCs have adopted a new method of acquisitions. Now, they acquire successful local competitors, sometimes by paying a solid premium over the market price. Such large-scale acquisition of local firms has presented new challenges for MNCs. In many cases, these deals have led to portfolios of overlapping global and local brands and an excess stock of production facilities.

The last 4 years were also marked by active expansion of MNCs beyond fast-moving consumer goods (FMCG). The financial crisis of 2008–2009 greatly affected Russian producers of machinery and equipment (the industry's output fell by 57%); therefore, MNCs intensified their machine-building efforts. For example, Siemens created a joint venture for manufacturing gas turbines, while Alstom purchased a 25% stake in the Russian holding company that controls most of the facilities for rolling stock manufacturing.

In general, Russian manufacturing subsidiaries of MNCs have achieved and still maintain dominance in most consumer markets in Russia despite intense competition from three sides: local manufacturers, imports from low-cost countries, and imports from sister subsidiaries or foreign subsidiaries of other MNCs. In many cases, imports from sister subsidiaries and from other MNCs originate in low-cost countries (especially China). It is not easy to assess the overall sales of the Russian manufacturing subsidiaries of foreign MNCs. The official statistical data indicate that firms with foreign equity of 10% and more produce around 35% of the total Russian manufacturing output. However, not all of these companies may be called Russian subsidiaries of foreign MNCs. There is a widespread practice of keeping holding

companies of Russian corporations in offshore locations. Thus, by our conservative estimate, in 2012, Russian subsidiaries of "truly foreign" MNCs contributed just over 15% of the total Russian manufacturing output: that is, more than US$100 billion in sales.

Individual Cases

We have arranged the individual cases by the number of production sites under the operational control of a Russian regional HQ. The logic is quite simple—the greater the number of objects to manage, the more complicated is the management system. Further, we found that the number of production sites under the operation control of a Russian regional HQ plays a crucial role in reshaping the entire innovation process of the Russian subsidiary.

Sertow (Solvay-Acetow)

We start our overview of innovation at Russian subsidiaries with Sertow—a Russian subsidiary of Solvay-Acetow (global sales of over €6 billion in 2012). Solvay-Acetow is in turn part of the Solvay-Rhodia group—a diversified chemical company with global sales of €12.6 billion. Sertow is a single-plant subsidiary producing only one product—acetate tow (the material for manufacturing cigarette filters). Sertow is the only Russian manufacturer of acetate tow. Taking together its production in Russia and imports from sister subsidiaries, the company controls about half of the acetate tow consumption in Russia.

The production operations started in 1997. They followed rising demand for acetate tow from global tobacco majors that successfully entered the Russian market a few years earlier. However, it was very difficult to satisfy their demand. As Sertow's deputy general manager for manufacturing recalled,

> We achieved compliance with the quality requirements of our customers only on the third attempt. The parent company was ready to give up the whole project. … However, this was just the beginning of the game. Each year, our customers perform a complex audit of our production site, and we need to prove again and again that we are better than imports. (S. Arseniev, personal communication, October 25, 2012)

The innovation processes at Sertow are aimed toward two goals:

- anticipating the externally imposed and evolving standards of quality, and
- increasing the efficiency of production processes.

Anticipation of quality standards occurs through direct and intensive contact with customers. As the tobacco market in Russia stagnates because of stricter rules imposed on smoking in public places and intensified "parallel imports"

(imports from sister subsidiaries through unauthorized dealers), Russia's subsidiaries of tobacco majors are becoming even more demanding in terms of quality. During our visit, we were able to see some extreme quality requirements: For example, if the external plastic shell that covers bags on a palette has even a small single hole, the whole palette of bags of the product is rejected by the factory's end control, and the material goes back for re-manufacturing and re-packaging.

Through 15 years of operations, the unit costs (the amount of raw materials per ton of product) decreased from 70 to 10 kg. In the opinion of the plant management, the unit costs could be further decreased, but this would require a heavy capital investment that has not been approved by the parent company. Most of the decrease is due to the installation of more productive equipment in the second and third production lines and the implementation of a company-wide program called "World Class Manufacturing" that embraces both standard (Six Sigma, lean manufacturing, productivity benchmarking using the Process Capability Index and the Process Performance Index assessment [$C_{pk} - P_{pk}$]) and unique measures developed on site with the assistance of task teams from the parent company and international consultants. The World Class Manufacturing program also includes a separate module of "Behavior-Based Safety." Because of these measures, Sertow has a uniquely positive record on job-related trauma—12 years (5 million man-hours) without a single serious job-related trauma.

The case of Sertow can be considered a good example of high absorptive capacity for corporate initiatives by a local subsidiary. Most efforts at continuous improvement of production processes were designed and implemented by a "triangle" (general director—head of production—financial controller). The head of production is a local person recruited at the very beginning of Sertow's operations who has worked successfully with regularly changing expatriate general directors and financial controllers.

Despite all its achievements, Sertow recently failed to justify a project to install a second plant for acetate tow in Russia. The new plant was built in the European Union because of unpredictable impediments imposed by the Russian bureaucracy on construction of new production sites. At the same time, the Solvay-Rhodia group as a whole has not given up its interest in Russia. In 2010, it announced the creation of a 50/50 joint venture with SIBUR—the major Russian producer of bulk chemicals—to build a completely new plant with an annual capacity of 350,000 tons of polyvinylchloride and 235,000 tons of caustic soda.

Mapei

Mapei is an Italian producer of special adhesives and admixtures for construction and has 63 plants around the world (global sales €2.1 billion in 2012). Its Russian subsidiary has one production site near Moscow and another in

Ekaterinburg. Again, the general director of the subsidiary is an expatriate, and the head of production is Russian. The product range of the Russian subsidiary includes 101 assortment positions in eight assortment groups (the proportion between imports from sister subsidiaries and local production varies greatly through the year based on the seasonality of demand).

The company is proud of its high expenditure on R&D (more than 5% of the annual turnover). The Mapei Corporation releases about 200 new formulae annually. It applies a well-tested algorithm to launch new products into the market (building a "new formula"), as we explain below:

- The sales director of a subsidiary sends an application to the corporation-wide R&D department stating the reasons for the application (for example, sustained demand), the expected product specifications, its equivalent in the product line of the company or its competitors, and the degree of urgency of adding such an item to the production line (high, medium, or low).
- The head of the corresponding sector at the R&D department based at the HQ carries out a feasibility study and presents the research findings to the head of the R&D department.
- If it is approved, an "internal technological project" is launched. This results in the creation of a new process chart that includes the composition of raw materials, the terms and conditions for mixing components, and so on.
- The process chart is then sent to the foreign subsidiary. The production director at the local factory arranges for production of the minimum-required quantity, consisting of no fewer than three samples (that is, a triple production trial).
- The factory laboratory conducts a quality-control test of the new product samples. If the test results are positive, the samples are sent to the HQ for final laboratory analysis.
- At the same time, field research is carried out, both at the prospective customer's site and at the subsidiary's own testing site.
- The final laboratory reports and field research are entered into the company's internal information system and used as the basis for the finalization of the "production formula."

Then "formula activation" takes place as follows:

- The local marketing department, jointly with the HQ marketing department, designs new product packaging, provides translation, and corrects the package design and notes, if necessary.
- The local factory starts manufacturing the new product. If necessary, product certification may be secured on a voluntary basis. Simultaneously, the production manager and the quality control manager at the local factory

work out new product specifications and adjust them to the corresponding state specification standards.

In this way, the Russian division annually initiates the creation and market launch of five to six new formulae. As in any process-based production, there is some difficulty with the authorization of raw materials, that is, getting approval from the parent company for the use of local raw materials for new initiatives. However, on the whole, the algorithm is accurate and efficient. In general, this case may be considered an example of an innovation process by a single-plant subsidiary with well-balanced local initiatives and HQ efforts.

Rexam

Our next case is the United Kingdom's Rexam—a global manufacturer of packaging and beverage cans with global sales of £4.76 billion (over €6 billion) in 2012. The company has three can factories in Russia and a production shop for lids. Its Russian subsidiary represents around 7% of the global sales of the corporation and dominates the local production of aluminum cans; moreover, Rexam is the only company in Russia that produces both aluminum cans and their lids. Like Sertow, Rexam faces stringent demands from its customers—producers of beer and soft drinks (both local firms and subsidiaries of MNCs). A successful audit of a production site by a major customer is a significant accomplishment that is reported worldwide in the corporate magazine.

The innovation processes of Rexam's Russian subsidiary are centered on maintaining the quality of the existing products and meeting new demands from local customers. For example, in order to address the falling consumption of beer and anticipating governmental restrictions on the use of plastic bottles for beer, Rexam developed larger cans. First, in 2011, it produced Europe's first 75-cl can in Russia and expected that this product would have promise further west. Later, together with Baltica (the largest Russian beer producer, a subsidiary of Carlsberg), it launched a one-liter can that became the sixth type of can it produces in Russia. There have also been smaller types of product modifications, like embossing the text from inside the can or beveling the can's neck. In most cases, brand managers capture and then translate the specific demands of particular customers to the production function.

In Rexam's Russian subsidiary, we were able to see that efficiency of innovation transfer in MNCs depends largely on the managerial discretion of subsidiaries, including the key element that is all too often missing in empirical studies on multinationals—the financial discretion of subsidiaries (the ability of plant managers to spend money on an innovation without prior approval from the HQ). In Rexam, we discovered a simple method to

allocate resources to plant managers—the funds allocated depend directly on the amount of production, for example, for each 1,000 cans produced, the plant manager receives X rubles to fund process improvements. Unfortunately, to the great chagrin of our respondents, the money allocated to that fund must be completely spent within 1 year. It is impossible to transfer funds to a second year or to combine the funds of different subsidiaries for more substantial projects.

The other aspect of innovation transfer in MNCs acknowledged by our respondents was disregard of innovation from the "corporate periphery," regardless of the real novelty, proven effects, and potential efficiency in reproduction. Such sentiments were expressed not by staff at the corporate HQ, who strive to record all valuable improvements at the Russian subsidiary (as in the example of "reverse innovation," when the 75-cl can moved west from Russia), nor by bottom-line personnel in the R&D and engineering departments, who maintain frequent, sincere, and effective communications through the company-wide information system, but by the top executives of sister subsidiaries from developed countries.

Lactalis

The Russian subsidiary of Lactalis (the largest world producer of milk, with global sales of €15 billion in 2012) comprises three production sites: a modest production site coupled with a large distribution center for imports from foreign sister subsidiaries, a large factory built through greenfield investment, and a recently acquired local dairy. In addition, since the acquisition of Italian dairy leader Parmalat in 2011, Lactalis has controlled two of Parmalat's Russian dairy plants; however, at the time of our observations (the end of 2012), these plants were managed separately, through the regional Parmalat HQ. Like Mapei, through imports and local production, Lactalis maintains a very broad production mix in Russia (176 product categories in six assortment groups). However, unlike Mapei, whose production is mostly oriented toward the business sector (large construction firms), Lactalis's products are for personal (family) use. In its major assortment groups (soft cheeses and butter), Lactalis is engaged in head-to-head competition with Finland's Valio, Germany's Hochland, and (for butter) firms from New Zealand. It has newly entered the juice market (as a result of the Parmalat acquisition), where it faces strong competition from Coca-Cola and PepsiCo, which recently achieved a duopoly in Russia's juice market.

In such circumstances, the strategy of Lactalis's Russian subsidiary is to use an accelerated launch schedule of new products from the parent firm's product portfolio into the Russian market and subsequent replacement of such imports through local production of the same brands. Thus, the subsidiary devotes most of its attention to marketing innovations—modification of products to suit local tastes and experiments with packaging, pricing,

promotion, and place. Many such marketing innovations may be assessed as novel combinations of existing solutions or very new solutions. The high degree of marketing innovativeness in Lactalis's Russian subsidiary is evidenced by the transfer of local managers from the Russian subsidiary to other locations or their promotion within the corporate hierarchy. For example, a marketing director of the Russian subsidiary (a woman in her mid-thirties) became a member of the corporate marketing board, while another Russian manager (another woman of the same age) became the purchasing director of Lactalis's subsidiary in Spain.

These facts are only the most visible indications of *Lactalis's trust in the capabilities of local managers*. The Russian HQ is managed by a local. Moreover, after the acquisition of the third plant (a local firm), the head of the task force sent to the plant to manage its current operations and to perform an upgrading of facilities to fit the corporate standards of productivity and quality was also a local manager.

Another peculiarity of innovation processes at Lactalis stressed in the interviews was a combination of long-term orientation and quick decision making. This is because of the ownership structure of Lactalis—it is a family firm.

Rockwool

The Danish company Rockwool had about €2 billion sales in 2012, of which almost 11% came from four production sites in Russia. Rockwool occupies about 20% of the Russian market for insulation material, and its Russian sales grew by 45% in 2011.

Rockwool started its production in Russian in 1998 through the acquisition of a production site from a local company. The marketing director of Rockwool recalled,

> We created a new market in Russia, and trained architects, civil engineers, and building contractors to use new principles and methods of work. Almost immediately, local competitors began installing identical production equipment, registering resembling trademarks, and using the same distribution channels. We must incessantly launch superior, sometimes unique products, to stay ahead of our competitors. (I. Sadchikova, personal communication, September 17, 2012)

One product recently launched by Rockwool in the Russian market is "Light Batts Scandic" (a building insulation that allows compression and decompression) produced in two variants. The "standard" variant may be transported in a car (an old Lada car is still a favored mode of transportation for small groups of construction workers in Russia) and an "XL variant" that may be transported only in light trucks.

Rockwool as a corporation strives to overcome disregard of innovation from the corporate periphery and to promote innovation from and across its

subsidiaries. This is achieved in many ways. First, its corporate managing board is rather young and multicultural—it comprises two persons from Denmark, two from the Netherlands, one from France, one from Germany (the oldest member of the managing board, born in 1953), and one from Finland. Second, the corporation is managed according to a 6-year plan (currently for 2013–2018) in which projects at subsidiaries play an integral part. The plan itself is developed through a series of iterations between the HQ and major subsidiaries. After final design of a corporation-wide strategic plan, it is decomposed at the subsidiary and individual plant levels into 3-year plans. The subsidiary 3-year plan is based on a forecast of sales by local marketers and the intended localization of sales after negotiations and mutual bargaining between the subsidiary and the HQ. Thus, every individual plant has a 3-year plan for modernization and investments. However, all large projects within that plan pass through the second check: Before they start, they are "defended" again both by the subsidiary and by the HQ. In 2012, before the new 6-year plan began, Rockwool carried out a large program of investments in Russia; it simultaneously improved the facilities in its first factory (near Moscow), started to build a new production line at its second factory (near St. Petersburg), aimed to move into the Finnish market, expanded the production capacities of its third factory by 50%, and opened its fourth Russian factory (the largest single investment project of the corporation at US$150 million).

In the Rockwool case, we identified the visible advantages of a multiplant Russian manufacturing subsidiary. Special task force teams that include both expatriates and Russian managers and workers were created for the large projects launched at the third and fourth production sites. If expatriates were sent to new sites on a temporary basis, most Russian managers and workers were relocated permanently. They were instructed not only to replicate their previous experience but to experiment to make improvements through installation and launch phases. Such relocated managers, technicians, and workers also became tutors for other employees at the new production sites.

The drive for experimentation is also maintained at established production sites. Plant managers are allowed to launch unique projects, not directly aiming for reproduction. For example, at the first Rockwool Russian plant, we were informed about two projects the plant director was very proud of:

- development of a system of "hot repairs" (repair of ovens before they are finally cooled; such a method increases the periods between overhauls and shortens the time of repair work) and
- installation of snow-melting devices. The plant occupies 12 h. of land, so the mechanical removal of 40–50 cm of snow cover each winter is costly.

Although the latter innovation had some merit for reproduction in Russia and in Nordic countries, the first innovation was impractical to reproduce, as other Rockwool factories were built with different types of equipment.

As at Sertow, a system of excellent production exists at Rockwool. This system is oriented toward raising the efficiency of each workplace. Each worker must understand the logic of his or her operations according to the system and supply ideas for operational improvement. However, as in the previously described companies, rationalization of operations is considered part of the working duties of all employees, so no measures exist to stimulate additional efforts and time spent by employees to find new ways of work.

PepsiCo

PepsiCo, one of the largest world food and beverage companies (global sales of US$65 billion in 2012) demonstrated its interest in Russia in the late 1950s. At the end of the 1970s, PepsiCo helped to build bottling facilities in the former Soviet Union and has supplied them with the concentrates for its Pepsi and Fanta drinks ever since. The experience accumulated during Soviet times became invaluable after the fall of the Soviet Union—PepsiCo did not share the many illusions of other MNCs that started their Russian operations through joint ventures and instead favored greenfield investments. From 1997 to 2009, PepsiCo built nine large plants for bottling and snack production and launched the installation of its tenth plant in 2010. However, at the end of the 2000s, PepsiCo partially revised its approach. Following the examples of other global food majors that purchased their market shares in Russia through the acquisition of local competitors (Unilever acquired the leading Russia ice cream producer, Inmarko, in 2008, and the leading local ketchup producer, Baltimor, in 2009; Coca-Cola took over juice producer Nidan for US$400 million in 2010), in 2009, PepsiCo acquired the local juice market leader, Lebediansky, for US$1.4 billion. However, the biggest acquisition in the Russian food market was PepsiCo's US$5.4 billion acquisition of food company Wimm-Bill-Dan in 2010–2011. That deal increased PepsiCo's global sales by 7%, made PepsiCo the largest Russian food company with local sales of US$5.44 in 2011 (three times of that of Coca-Cola), supplemented the company's brand portfolio by adding five strong local brands worth US$1.5 billion, and added 37 new production sites (mostly dairies) to PepsiCo's Russian manufacturing portfolio. Through the acquisition of Lebediansky and Wimm-Bill-Dan, PepsiCo commanded around 45% of the Russian juice market in 2011 and entered the dairy market. In 2012, PepsiCo in Russia produced 28 brands in five product categories with the total assortment range exceeding 1,000 items. Although the marketing networks of PepsiCo and Wimm-Bill-Dan were quickly amalgamated after the acquisition, at the time of our observations (summer 2012), operating control of the newly acquired dairies was mostly done through the Wimm-Bill-Dan corporate center. (This situation led to odd product labeling: For example, a carton of milk might say, "This is a product of Wimm-Bill-Dan company" but also

include the logo of the local dairy that really manufactured the product and an indication that imports to Belarus are made by PepsiCo Products.)

In our study, we carried out interviews at PepsiCo's Russian HQ and visited two factories—a "genuine" PepsiCo bottling facility built through greenfield investment in 2009 and the largest Russian dairy factory, purchased by Wimm-Bill-Dan in 1994. In addition, the company supplied us with a list of 35 innovation projects (new products and new production processes) implemented from 2008 to 2012. It is interesting that this was a novel experience for the Russian regional HQ—They had never been asked to produce such a report by either the European HQ of PepsiCo or by the central HQ of the corporation. It is worth noting that most process innovation projects were done in genuine PepsiCo plants, while most product innovations were implemented by Wimm-Bill-Dan before, during, and after its acquisition by PepsiCo.

All 17 important projects for process improvement were successfully implemented. Among those projects, 11 were implementations of foreign experience (solutions that were known either by the corporation and existed in the industry), and 6 were local initiatives. One example of a local initiative was the design and implementation of snow-melting devices at PepsiCo's Yekaterinburg plant (absolutely independently from Rockwool's experience and with other technology). Another example of a local initiative is a project realized in the Sheremetyevo PepsiCo factory, where the naturally cold raw material—well water (+11°C)—is now used to cool manufacturing equipment. Normally, about 2 MW of power is needed to cool the equipment for soft drink production. This solution, initiated by the subsidiary, received corporation-wide recognition and allowed savings of 1.5 million kW * hours in the first year alone.

Among 18 important product development projects, five at Wimm-Bill-Dan were stopped in 2009–2010 because of the financial crisis, shrinking advertising budgets, and decreasing demand; the others were successfully implemented and resulted in sales growth. Among these successful projects, one was the launch of a completely new brand; the others involved changes to recipes, tastes, packaging, and target audience. The proportion of local initiatives and transfer of foreign experience was quite similar to that for process improvement—7 projects were totally local initiatives developed and implemented in Russia, and 11 projects were implementations of foreign experience—either replication of ideas already known in the industry, or (more often) the development of local ideas with the support of foreign (mostly European) suppliers of production equipment and technological solutions.

However, there is no absolute separation between process improvement and new product development projects. One interesting example of an innovation project that started as a process improvement and ended as a significant product innovation was pouring hot tea into disposable containers—thin

plastic bottles—at the Russian subsidiary of PepsiCo. The tea drink was bottled in returnable containers—thick plastic bottles—in other countries. However, the collection and reuse of thick plastic bottles totally failed in Russia. To solve the problem, many well-known but formerly isolated solutions were combined by the Russian subsidiary into one complex solution: pasteurizing bottle caps with the hot drink itself and creating excess pressure in the bottles by injecting inert gas that guarantees both the maintenance of the elasticity of the thin plastic bottle and the protection of the drink from oxidation. This solution was adopted on three Russian production lines. As the popularity of iced tea in the United States was growing, this new solution was designated as a best practice and was successfully applied in the American factories of PepsiCo. This may be a good example of reverse innovation (see Govindarajan and Trimble 2012), but its launch required the combined efforts of the head of the Russian subsidiary, the global brand's technical director, and the director of the global brand's international projects.

After acquisition of Wimm-Bill-Dan, PepsiCo was keen to combine the best features of the two innovation engines—the ingenuity of Wimm-Bill-Dan in terms of product innovation and the persistence of the Russian PepsiCo subsidiary in terms of process innovation. First, PepsiCo poured more resources into the R&D functions of the (former) Wimm-Bill-Dan, including additional money to be spent on laboratory equipment, specialized contractors for the installation of laboratory equipment, training R&D personnel, and compensating for production line idle time during the testing of new production processes. Some perks were also offered. For example, all R&D employees were allowed to fly business class. The R&D director of Wimm-Bill-Dan said during the interview, "This is quite nice, but travel expenses are covered from the same R&D budget, so I would rather save money to purchase a new chromatograph than fly business class." Second, PepsiCo offered more HQ attention to bottom-line R&D employees. For example, the chief technology officer of PepsiCo recognized them in person. At the same time, R&D, and especially engineering, staff indicated that the absence of profit-sharing schemes or other forms of sharing "innovation rent" is a serious problem, as this is considered unfair by older and younger Russian creative employees alike.

Knauf

Our last case is Knauf CIS—a subsidiary of Germany's Knauf KG—that deals with gypsum products and insulation. In 2012, Knauf KG had global sales of €6.5 billion. Knauf CIS controls 24 production sites in seven countries of the former Soviet Union, including 13 production sites in Russia. The total sales of Knauf CIS in 2012 were around €1.0 billion, that is, 15% of the global sales of Knauf KG. We put this case last because the example of Knauf CIS may be considered a complete picture of local innovative potential marked by

undisputed achievements in both financial performance and operational excellence.

Knauf KG is a family firm with the legal status of a mixed partnership. Until the summer of 2008, two sons of the founders occupied the managing partner positions and had unlimited responsibility for the company's liabilities. Other members of the family (the second and third generations) headed the regional HQ. The Knauf group does not have a formal integrated strategic plan. The group tries to foresee possible changes a generation ahead and anticipate them by developing new product categories or by establishing large regional subsidiaries called *projects*.

Knauf first appeared in Russia in the late 1970s, establishing a local representative of Knauf Engineering that provided technical services to industrial ministries and individual factories. At the beginning of the 1990s, Knauf started a major expansion into Russia by acquiring local construction material companies. Quite soon, updating the production facilities turned into complete modernization and replacement of most of the previously installed equipment. In addition, shortly after the takeovers, Knauf defended against corporate raiders and absurd claims from local tax authorities; court hearings sometimes required the presence in person of the managing partner of the Knauf group.

However, during the first 4 to 5 years of Russian operations, Knauf overcame most such impediments to development. We do not know whether the managing partners of Knauf KG read the advice of Lawrence and Vlachoutsicos (1993) to "put the locals in charge," but they followed that advice—all except two general directors of the acquired Russian plants, who kept their positions long after the acquisition; some of them still manage their companies now. Of course, in the first years after the acquisition, each factory had an expatriate financial controller and an expatriate plant superintendent, responsible for selection and training of local personnel, but such persons were recalled a few years later as the local personnel complied with the imposed standards of behavior.

Observing innovation processes at Knauf CIS, we were able to identify five interrelated elements—a holistic approach to production site development; breakthrough innovations in construction, equipment installation; and launch phases; cascade effects in the replication of projects; stimulation of innovation at the very bottom of the organization; and provocative marketing techniques.

The holistic approach to production site development was demonstrated to us at Knauf Krasnogorsk—the first Russian factory acquired by Knauf in 1994, which became the "head factory" of the group. After the acquisition, more than 20 large investment projects were implemented at that production site—removal of outdated production shops and installation of new production lines, construction of storage facilities, repeated modernization of the recently installed production lines to increase the level of

automation and overall productivity, complex reconstruction of the energy supply, and so on. We can see that "continuous improvement" may be applicable not only to subtle elements of quality control techniques but to production facilities as well.

Permanent and frequent work on installation of new equipment required radical innovation of the entire process of facility design, installation, and launch. Knauf CIS developed several unique techniques for such work. For example, its plant near St. Petersburg not only had the quickest construction of a production site in the company's history but during the launch, the productivity of selected production lines was surpassed by 40%, and the initially planned capacity of the factory was surpassed by 30% without violation of production processes and without compromises on quality. The general director of that plant said in an interview, "What do equipment designers and equipment manufacturers know about operations?"

Such an approach was reproduced during the installation of new production facilities, partly because of very intensive cooperation between sister plants. For example, members of the launch team for Knauf Kungur went through intensive training during a prolonged probation period at the head factory (Knauf Krasnogorsk) while the launch team of the next production site (Knauf Gypsum Baikal) went through intensive training during a probation period at Knauf Kungur. Moreover, temporary launch teams for production sites outside Russia (in Georgia and Uzbekistan) were staffed by employees from Russian and Ukrainian factories.

Such practices are supplemented by schemes to promote ingenuity at the bottom. The head factory recently launched a special scheme: All employees (managers, technician, foreman, and operators) may propose improvements. Cash awards are proposed (up to €25,000 per improvement) for significant and effective improvements.

It should be stressed that all the above-mentioned measures (accelerated installation of production facilities, eagerness to surpass the projected output level of a facility or the entire plant, rotation of launch teams from advanced factories, and especially cash awards for factory inventors) were new for the corporation but represent the cornerstones of the Soviet system of industrial management during its best times (1959–1977).

However, Knauf CIS supplemented such measures with very specific marketing efforts, centered not on product or price (products offered in Russia are mostly standard products of the Knauf group and the prices are set slightly above the prices of direct competitors) but on promotion. We mean here the education of end users. At Rockwool's factory, we saw a special training center for insulation end users. Knauf transformed such partisan activities to reach end users through a multi-level system. It targets all possible categories of end users of gypsum products. There are special seminars and resource centers for architects, specialized diploma courses for practicing civil engineers, and support for laboratories and centers in schools for

civil engineers. However, most important is Knauf CIS's reconstruction of the entire system of vocational training. Knauf supports more than 80 resource centers and workrooms in technical schools across Russia, publishes textbooks and produces educational videos for workers and foremen, organizes regular regional and national competitions for young construction workers, and even designed a new governmental standard on education in "dry construction" for vocational schools. It is worth noting that intensive feedback from end users resulted in significant modifications in product names and packaging, implemented by Knauf CIS in 2011–2012.

The above-mentioned measures brought Knauf CIS into the top levels of corporate benchmarking. In 2010–2011, two Knauf CIS factories occupied the first places in a corporation-wide competition for quality in their respective products; in 2012, Knauf CIS took first place in corporation-wide technological benchmarking, and Knauf Russia, Kazakhstan, and Uzbekistan, respectively, achieved the first, second, and third places in corporate financial benchmarking. Such successes enabled Knauf CIS to look beyond its traditional gypsum products market. At the beginning of 2013, an ambitious plan to invest $300 million in an already purchased carton mill was announced, as the company decided to enter the food-packaging business.

Synthesis of Individual Cases

We have presented a number of quick and sometimes "blurry" snapshots of innovation processes at the surveyed companies. To make a collage from such images, we first need a frame. We have summed up the identified changes in product and production settings using two proposed matrixes with the axes "novelty" and "magnitude of changes" (see tables 1 and 2).

We can see that the larger the Russian subsidiary in terms of number of production sites, the higher are the chances for totally novel solutions, especially in production processes. This is explained by the higher possibility of repetition of initial solutions and therefore development of really innovative ideas. Such effects do not come automatically. They are arranged by continuous injection of the parent's knowledge, through transfer of knowledge between Russian production sites based on cascade effects (as seen in the Knauf cases). All these forms stimulate the best form of knowledge creation in manufacturing—learning by teaching and tutoring.

We should also indicate the similarities and differences between innovation at the subsidiaries of MNCs and those at genuine Russian companies and variations in the innovative repertoires of MNCs.

The most visible difference between innovation at the established Russian subsidiaries of MNCs and innovation at genuine Russian companies is the different levels of production efficiency achieved thus far. Production sites initially acquired by MNCs in the 1990s have been through intensive modernization in terms of both equipment and personnel. Production sites

newly created in the 2000s were in most cases designed with the very best of the corporation's or industry's existing knowledge and, as we have seen in the Knauf case, the designed level of productivity has been surpassed through the ingenuity of local employees.

Achieving an acceptable level of production efficiency, and especially stability of production processes ("centrality of processes" in manufacturing jargon), was the most difficult task for all the surveyed MNCs that entered Russia in the 1990s. They needed to transform the local manufacturing culture, which may be described as "low efficiency, high effectiveness." This embodies the view that targets of any importance—from launching a man into space to fulfillment of the monthly plan of a small shop—should be achieved at any cost. Moreover, there was a deep tradition of both high-intensity work for very short periods ("heroic labor efforts" in the Soviet jargon) and low-pressure work the rest of the time. Changing such traditions was critical for any manufacturing plant seeking to attain the global standard of efficiency or simply for securing a good score for international performance indicators like the Process Capability Index and the Process Performance Index.

All the surveyed MNCs had similar approaches to finding the solution to this problem. First, they supplied newly acquired Russian subsidiaries with detailed production manuals and handbooks of operating instructions that described the appropriate process functions. Second, international task forces were sent to Russian plants to assist in installing new equipment and enterprise resource planning systems and help Russian employees master new technologies and quality standards. Foreign corporations also went beyond machinery and equipment and touched on the human side of technological innovations (Katz 2004), establishing new practices of human resource management, including new sources of labor and new approaches to skill development and performance assessment.

Western companies that entered the Russian market in the mid-1990s have attracted employees from the defense industry, where a somewhat different manufacturing culture prevailed (stronger quality control, attempts to achieve steady work, etc.). During our plant visits, we met former aircraft engineers in food production laboratories and former nuclear engineers in chemical manufacturing operations. Later, in stark contrast to the dominant practices among domestic firms, Western corporations established other recruitment practices, including hiring young people—often without job experience—elderly people, and those having worked at the Russian subsidiaries of other multinationals or abroad. Gurkov and Settles (2013) found that Russian companies avoid hiring young specialists (as they require training), senior employees (eschewing their rich experience), and especially employees with work experience at Western companies both in Russia and abroad (who could disrupt the current organizational process with their superior knowledge).

In terms of skill development, most studies indicate that formal training efforts are indeed more intensive at subsidiaries of MNCs than at genuine

Russian companies (see Zavyalova, Kosheleva, and Ardichvili 2011). However, we should draw attention to other practices, especially to probation periods at sister subsidiaries or sister plants, job rotation, and the possibility of everyday horizontal communication with colleagues at sister subsidiaries.

Finally, foreign subsidiaries established detailed performance assessment systems. We can recognize here two types of systems—systems of employee performance assessment based on indicators of behavior and results of the employee, the departments, and the factory; and sophisticated schemes of corporation-wide technical and financial benchmarking. Again, these systems exist in only a small number of genuine Russian companies (Gurkov, Zlenova, and Saidov 2012).

The second difference between innovation at genuine Russian companies and innovation at the subsidiaries of MNCs is regularity of innovation. Only a small fraction of genuine Russian companies regularly master product and process innovations but, for foreign subsidiaries, continuous improvement, especially regular process innovation, is the norm (the intensity of product innovation largely depends on specific market demands).

The third difference between innovation at genuine Russian companies and innovation at foreign subsidiaries is the different emphasis placed on product and process innovations. Foreign subsidiaries give regular attention to process innovation but approach product innovation in a very careful manner, responding to the ultimate threat of local competitors (as in the Rockwool case) or acknowledging the articulated demands (Mapei, Rexam, and Knauf). With such a "pull" marketing approach, the failure rate is very low. Conversely, the few Russian companies that tackle regular innovation favor product innovation, often using a "push" approach, and thus the failure rate is usually high (Wimm-Bill-Dan).

Looking deeper into the differences between innovation at genuine Russian companies and innovation at subsidiaries of MNCs, we may recognize different types of stakeholder claims or different reactions to such claims. In general, within the Russian subsidiaries of MNCs, more attention is devoted to satisfying the articulated demands of existing customers (Sertow and Rexam) or to anticipating the hidden demands of customers (Rockwool and Knauf). We also were able to observe the long-term orientation of shareholders, especially at family-owned firms (Mapei, Lactalis, and Knauf) that favor innovation.

Looking into variations of the innovative repertoires of MNCs' subsidiaries, we can see the biggest difference is the ability of an MNC to transform the unique peculiarities of the Russian character from weakness into strength. We mean here high ingenuity that in turn is rooted in the perception of all rules as being superimposed and all restrictions as situational limitations, not absolute taboos. This was first formulated by Gurkov (2005) as "the anarchist around" in contrast to Kets de Vries's (2001) clinical reflections on Russian character and leadership style as "the anarchist within." The best example of

"productive violations of rules" is found in the Knauf case (surpassing the projected level of production capacity). This ingenuity may come out in both manufacturing and marketing (see Lactalis).

DISCUSSION

We believe that our study, albeit built on a modest and convenient sample, has some far-reaching implications for several important topics of study in international management. One important topic is the dimension of the study objects—foreign subsidiaries of MNCs. Too often in academic research, these are presented as homogeneous entities; at the very best, the total amount of sales and the number of employees of a subsidiary are reported as controlling variables. Indications of the proportion of the subsidiary's sales of the total sales of the parent corporation come as an exception, and we have *never* been able to understand from research studies how many production sites a subsidiary has. Meanwhile, as we indicated, the number of production sites within a manufacturing subsidiary, at least in the Russian context, is one of the most powerful factors explaining the subsidiary's innovativeness. These factors (the relative size of a subsidiary versus the corporation and the number of production sites under the operational control of a subsidiary) should certainly be accounted for in both qualitative and quantitative studies on innovation in subsidiaries.

The second important topic touched on by our study is the role of the HQ in innovation processes. Sophisticated systems of technical and financial benchmarking for the subsidiary as a whole and of its individual plants, as well as detailed technical audits performed by the HQ and *observed in all the surveyed companies,* leave little room for speculations about "sheer ignorance" as a *modus operandi* of MNCs regarding creation and transfer of innovation within and from subsidiaries (Ciabuschi et al. 2012). There may indeed be some examples of connivance and extreme discretion of local managers in newly installed production sites (as we have seen in several companies that we still cannot identify by name): The local manager is supplied with a sketch of a production scheme, the list of authorized suppliers of equipment, the set of standards for the finished products, and a letter of credit for the local bank; all the rest is a matter of his or her ingenuity. However, even in such "extreme" cases, all innovations implemented during such a "free search" are later carefully studied by the regional and central HQ, which examine their potential as corporation-wide best practices.

What indeed takes place is a disregard of innovation from the corporate periphery, namely from Russia, by established sister subsidiaries. This "not-invented-here" syndrome is the natural defense device of more inert, less innovative subsidiaries. Here we touch on another important topic of the study of international business—intra-firm competition. If we look deeper into a few

documented cases of charter loss (Dorrenbacher and Becker-Ritterspach 2009; Dorrenbacher and Gamelgraad 2010), in most cases, charter removal is not a complete elimination of business from the corporation but rather a transfer of a charter from one subsidiary to another. As long as the Russian subsidiary is effectively blocked below the attainable level of efficiency (Sertow) or dependent on a centralized R&D function (Mapei), it does not present a danger to sister subsidiaries. However, as the flow of reverse innovation increases (Rexam and PepsiCo), or as the Russian subsidiaries win the intra-firm competition for technical and financial efficiency (Knauf), the Russian subsidiaries present a real danger of at least partial charter removal for established sister subsidiaries. To ease the escalating conflict between established and new subsidiaries, the corporation may prefer to undertake costly diversifications into new business areas (dairy products by PepsiCo, food packaging by Knauf), expanding the overall charter of its Russian subsidiary and forcing it to face a new and challenging task. Although this is just a hypothesis, the connection between the innovativeness of the Russian subsidiary and capital allocation for the installation of additional production sites in Russia was discovered in most cases (Rockwool, Lactalis, Knauf, PepsiCo). Of course, this connection is not automatic—it depends on the situations in the target markets; as we have seen in other (anonymous) cases, the corporation may close excessive production sites in Russia if the market condition worsens, but again, more innovative sites have a better chance of surviving the hard times.

CONCLUSIONS

Foreign-owned manufacturing subsidiaries have established a stable presence in the Russian economy and even dominance in the FMCG sector. Innovation is seen as a natural means to achieve the dual objectives of Russian subsidiaries—to gain and maintain overall market share and to establish a presence or dominance in the premium segments of the market. They are viewed as part of the overall business strategy and as a way to develop a sustained competitive edge. Our findings indicate that innovation is deeply embedded in the regular operations of Russia-based foreign subsidiaries of MNCs; it is not just an ad hoc phenomenon. Moreover, Russian manufacturing subsidiaries are becoming an integral part of MNCs' portfolio of production sites and are gradually becoming a source of innovation with corporation-wide importance. However, this conclusion is based on a limited set of case studies within the processing industries. We highlight three promising directions for further study. First, future studies should include other industries, especially car assembly and machine building. Our first studies of assembly manufacturers (still anonymous) indicate that the configuration of innovation processes differs greatly there. Second, it is important to find possible differences in how innovation processes are organized within subsidiaries depending on

the specific characteristics of the parent company. The differences between listed and private (family-owned and family-run) companies are especially striking and call for further study. The country-of-origin effect of the parent companies may be another promising field for further study of innovation processes in Russian manufacturing subsidiaries of MNCs. However, the most promising field of study is comparative study of subsidiaries of the same corporations from different countries. This is one of the main reasons why in our article we presented only a fraction of the studied companies—those we could reveal by name. We invite researchers from other countries to "take the baton" and perform similar studies at other subsidiaries of the identified corporations.

REFERENCES

Almeida, P., and A. Phene. 2004. Subsidiaries and knowledge creation: The influence of the MNC and host country on innovation. *Strategic Management Journal* 25 (8–9): 847–864.

Anghel, G. 2012. *Doomed to internationalization and modernization of corporate culture: The Russian experience of German firms*. Wiesbaden: Gabler Verlag.

Belderbos, R., and J. Zou. 2007. On the growth of foreign affiliates: Multinational plant networks, joint ventures, and flexibility. *Journal of International Business Studies* 38 (7): 1095–1012.

Birkinshaw, J., and J. Ridderstråle. 1999. Fighting the corporate immune system: A process study of subsidiary initiatives in multinational corporations. *International Business Review* 8 (2): 149–180.

Boehe, D. M. 2007. Product development in MNC subsidiaries: Local linkages and global interdependencies. *Journal of International Management* 13 (4): 488–512.

Cantwell, J., and J. Molero. 2003. *Multinational enterprises, innovative strategies and systems of innovation*. Cheltenham: Edward Elgar.

Castellani, D., and A. Zanfei. 2006. *Multinational firms, innovation and productivity*. Cheltenham: Edward Elgar.

Center of Development. 2012. Commentaries on the state and business. No. 13, January 14–27, 2012. Moscow: Higher School of Economics.

Churchill, G., and D. Iacobucci. 2009. *Marketing research: Methodological foundations*. Stamford, CT: Cengage Learning.

Ciabuschi, F., H. Dellestrand, and O. Martín Martín. 2011. Internal embeddedness, headquarters involvement, and innovation importance in multinational enterprises. *Journal of Management Studies* 48 (7): 1612–1639.

Ciabuschi, F., M. Forsgren, and O. Martín Martín. 2012. Headquarters involvement and efficiency of innovation development and transfer in multinationals: A matter of sheer ignorance? *International Business Review* 21 (2): 130–144.

Consoni, F., and R. Quadros. 2006. From adaptation to complete vehicle design: A case study of product development capabilities in a carmaker in Brazil. *International Journal of Technology Management* 36 (1–3): 91–107.

Czarniawska, B. 1997. *Narratives in social science research*. London: Sage.

Dorrenbacher, C., and F. Becker-Ritterspach. 2009. Introducing socio-political perspectives on intra-firm competition, production relocation and outsourcing. *Competition and Change* 13:193–198.

Dorrenbacher, C., and J. Gammelgraad. 2010. Multinational corporation, inter-organizational networks and subsidiary charter removal. *Journal of World Business* 44:206–216.

Dunning, J. H. 2001. The eclectic (OLI) paradigm of international production: Past, present and future. *International Journal of the Economics of Business* 8 (2): 173–190.

Eisenhardt, K. M., and M. E. Graebner. 2007. Theory building from cases: Opportunities and challenges. *Academy of Management Journal* 50 (1): 25–32.

Fisch, J. H., and M. Zschoche. 2011. Do firms benefit from multinationality through production shifting? *Journal of International Management* 17 (2): 143–149.

Forsgren, M. 2008. *Theories of the multinational firm*. Cheltenham: Edward Elgar.

Golikova, V., P. Karhunen, and R. Kosonen. 2011. Subsidiary evolution in a transition economy: Kemira GrowHow in the Russian fertilizer market. *Journal for East European Management Studies* 16 (1): 9–30.

Govindarajan, V., and C. Trimble. 2012. *Reverse innovation: Create far from home, win everywhere*. Boston: Harvard Business Review Press.

Gurkov, I. 2005. Anarchist around. *Journal for East European Management Studies* 10 (4): 347–349.

Gurkov, I. 2011. Explaining the "Ilya Muromets Syndrome" of business innovations in Russian industries. *Journal of East-West Business* 17 (2–3): 120–131.

Gurkov, I. 2013. Why some Russian industrial companies innovate regularly: Determinants of firms' decisions to innovate and associated routines. *Journal for East European Management Studies* 18 (1): 66–96.

Gurkov I., and A. Settles. 2013. A dominant archetype of the HRM system in Russian industrial companies in post-recession times. *The International Journal of Human Resource Management* 24 (19): 3630–3643.

Gurkov, I., O. Zelenova, and Z. Saidov. 2012. Mutation of HRM practices in Russia—An application of CRANET methodology. *The International Journal of Human Resource Management* 23 (7): 1289–1302.

Holtbrugge, D., and J. F. Puck. 2009. Stakeholder networks of foreign investors in Russia: An empirical study among German firms. *Journal for East European Management Studies* 14 (4): 369–394.

Institute of Industrial Engineers. 2013. Process industries division. http://www.iienet2.org/Landing.aspx?id=887 (accessed February 25, 2013).

Johanson, M., and J. Johanson. 2006. Turbulence, discovery and foreign market entry: A longitudinal study of an entry into the Russian market. *Management International Review* 46 (2): 179–205.

Jones, O. 1998. From maturity to entrepreneurship: A stakeholder model of innovation. *Creativity & Innovation Management* 7 (2): 107–114.

Katz, R. 2004. *The human side of managing technological innovation*. New York: Oxford University Press.

Kets de Vries, M. F. R. 2001. The anarchist within: Clinical reflections on Russian character and leadership style. *Human Relations* 54 (5): 585–627.

Kovershikov, A. 2011. National identities in times of organizational globalization: A case study of Russian managers in two Finnish-Russian organizations. In *Politics*

and power in the multinational corporation, ed. C. Dorrenbacher and M. Geppert. Cambridge: Cambridge University Press, 346–379.

Lawrence, P., and C. Vlachoutsicos. 1993. Joint ventures in Russia: Put the locals in charge. *Harvard Business Review* 71 (1): 44–54.

Lewis, M., B. Young, L. Mathiassen, A. Rai, and R. Welke. 2007. Business process innovation based on stakeholder perceptions. *Information Knowledge Systems Management* 6 (1/2): 7–27.

Lincoln, Y. S., and E. G. Guba. 1985. *Naturalistic inquiry.* London: Sage.

Loveridge, R. 2006. Embedding the multinational enterprise: The micro-processes of institutionalization in developing economies. In *Global, national and local practices in multinational companies*, ed. M. Gepperts and M. Meyers, 189–220. Basingstoke: Palgrave MacMillan.

Malhotra, N. 2009. *Marketing research: An applied orientation.* Upper Saddle River, NJ; London: Pearson Education.

Manolopoulos, D., K. E. Söderquist, and R. Pearce. 2011. Coordinating decentralised research and development laboratories: A survey analysis. *Journal of International Management* 17 (2): 114–129.

McCarthy, D. J., and S. M. Puffer. 2013. Business and management in Russia: A review of the post-Soviet literature and future research directions. *European Journal of International Management* 7 (1): 74–111.

McKinsey. 2012. Three snapshots of Chinese innovation. *McKinsey Quarterly* (February). http://www.mckinseyquarterly.com/Three_snapshots_of_Chinese_innovation_2918 (accessed February 25, 2013).

Meyer, K., S. Estrin, S. Kumar Bhaumik, and M. Peng. 2008. Institutions, resources, and entry strategies in emerging economies. *Strategic Management Journal* 30 (1): 61–80.

Meyer, K., R. Mudambi, and R. Narula. 2011. MNEs and local contexts: Location, control and value creation. *Journal of Management Studies* 48 (2): 253–277.

Morgan, G. 2007. National business systems research: Progress and prospects. *Scandinavian Journal of Management* 23 (2): 127–145.

Narula, R., and A. Zanfei. 2005. Globalisation of innovation: The role of multinational enterprises. In *Oxford Handbook of Innovation*, ed. J. Fagerberg, D. Mowery, and R. Nelson, 318–345. Oxford: Oxford University Press.

Pearce, R. 1999. Decentralised R&D and strategic competitiveness: Globalised approaches to generation and use of technology in multinational enterprises (MNEs). *Research Policy* 28 (2/3): 157–178.

Pearce, R., and M. Papanastassiou. 2009. *The strategic development of multinationals: Subsidiaries and innovation.* Basingstoke, UK: Palgrave Macmillan.

Peng, M., D. Wang, and Y. Jiang. 2008. An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies* 39 (5): 920–936.

Pepper, J. 2012. *Russian tide.* Cincinnati, OH: Procter & Gamble.

Phene, A., and P. Almeida. 2008. Innovation in multinational subsidiaries: The role of knowledge assimilation and subsidiary capabilities. *Journal of International Business Studies* 39 (5): 901–919.

Puffer, S. M., and D. J. McCarthy. 2011. Two decades of Russian business and management research: An institutional theory perspective. *Academy of Management Perspectives* 25 (2): 21–36.

Reimann, E., M. Ehrgott, L. Kaufmann, and C. R. Carter. 2012. Local stakeholders and local legitimacy: MNEs' social strategies in emerging economies. *Journal of International Management* 18 (1): 1–17.

Soviet Union. 1987. Decree of the Council of Ministers of the Soviet Union "On creation and activities of joint enterprises with participation of Soviet organizations and firms from capitalist and developing countries" No. 49 on January 13, 1987. Moscow: Council of Ministers of the USSR.

Talke, K., and S. Salomo. 2009. Launching technological innovations: The relevance of a stakeholder perspective. *International Journal of Technology Marketing* 4 (2–3): 248–274.

Wilson, I., and M. Mukhina. 2012. Market segmentation in Russian subsidiaries of FMCG MNEs: Practitioner and academic perspectives. *Marketing Intelligence & Planning* 30 (1): 53–68.

Zavyalova, E., S. Kosheleva, and A. Ardichvili. 2011. Human resource management and development practices in indigenous Russian companies and foreign MNCs: A comparative analysis. *International Journal of Human Resource Development and Management* 11 (2): 179–193.