

Trends in the Development of Small and Medium Processing Enterprises in the Setting of Their Cooperation with Large Business

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Abstract. This paper provides an analysis of trends in the development of enterprises which are end processors within the petrochemical complex in the setting of the implementation of projects on large-scale production of raw materials for processing by large business enterprises. The author comes to the conclusion that there is a need for creating conditions for the speedy formation of a broad class of product processors that operate using new technology and turn out innovative products.

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Introduction

Small and medium enterprises (SMEs) are starting to play a special part in Russia's social-economic development as a primary source of new jobs and innovation and a factor in ensuring consumer demand for goods and services and the development of competition. Besides, SMEs play a key role in ensuring social stability within society, being the basis for the middle class and a factor in combating poverty, and fulfill other important functions. Russia's targets for the development of SMEs are that by 2020 they will account for no less than a half of all jobs within the economy; by 2020, most of them will be represent the sector of intellectual and creative labor, operating in the global market, and exporting their goods and services. Note that the share of enterprises adopting technological innovation must increase 2.5 times. The attainment of this goal requires improvement in the institutional environment, the speedy development of market institutes, and improvement in the national entrepreneurial climate.

Results obtained

The entrepreneurial climate to a considerable extent reflects the state's economic policy as well as the efficacy of state support for SME entities provided as part of this policy. Note that the legislator has established the major focus areas in the state regulation of SMEs in Russia: the administrative method, which involves direct funding (in the form of tax and investment concessions, dotations, and grants) and the program-target method, under which it is the state which places orders for certain works and services. The realization of these methods is based on

an established regulatory and legal framework and well-developed modern specialized institutes.

Concurrently, the effective development of SMEs is greatly impacted by large business enterprises: SME entities take part in the formation of a relevant infrastructure for the production activity of large enterprises. SMEs enter into contractual relations with large business through contractor, outsourcing, wholesale and retail sales, and distributor agreements and are consumers and end processors of their products. SMEs operating within the sphere of polymer processing are doing a successful job in the setting of emerging petrochemical clusters through the cooperation of enterprises participating in them, the balancedness of commodity and raw materials flows, and costs reduction. In the setting of such clusters, one is provided with immediate access to relevant raw materials, which substantially reduces the product cost through reduction in transportation-logistics costs related to transportation and the creation of warehouse insurance reserves. The successful development of petro-gas-chemical clusters is accompanied by additional expenditure on fulfilling requirements for environmental protection, which are quite high in places where petro-gas-chemical production operations are concentrated. The following are examples of successful realization of the cluster mechanism within the petrochemical sector from global practice: CHEMPARK (Germany), Jurong (Singapore), Dahej and Gujarat (India), and others. In Russia, the cluster approach has been actively developing in the petro-gas-chemical complex of the Republic of Tatarstan, with JSC Nizhnekamskneftekhim and JSC Kazanorgsintez being anchor enterprises, the product they turn out

making attractive putting together within walking distance of them small and medium enterprises engaged in advanced polymer processing.

Global and national experience shows that SMEs successfully carry the production of consumer goods, construction materials, auto components, and packing materials made from polymer materials. Production operations related to processing polymer materials are distinguished by a relatively short production cycle, with low numbers of personnel at SMEs within the sphere (an average of 15 employees for small enterprises), which in the end results in higher productivity rates compared with processor enterprises within other sectors of industry. In most cases, it is expedient to place an enterprise engaged in processing polymer products in the vicinity of immediate market outlets for the end product. The insufficient development level of the infrastructure of support for SMEs, which is exacerbated by the country's substantial territorial dimensions and disproportions in regional social-economic development [1, 2, 3], in many cases makes the entry barriers for SMEs really formidable. Considering Russia's size, there is significance in the logistics factor, which, inter alia, includes the costs of shipping raw materials to the end consumer, issues related to customs-tariff regulation and state support, and in case of shipping products for export the times for delivery of raw materials. Potentially, there are two ways to deliver polymer raw materials to the processor: by rail or by automotive transport. The drawbacks of the first type of transportation are: 1) a high Russian Railways tariff and a high cost of engaging railway vehicles; 2) the need for the availability of approach lines with the processor, which is not always possible for small and medium processors; 3) the speed of delivery. The weaknesses of the second type of transportation are: 1) dependence on weather conditions; 2) a relatively low cargo-carrying capacity for a single trip; 3) the seasonality of demand for automotive transportation services on the part of other sectors of the national economy. Additional costs related to the formation of insurance reserves of raw materials reduce the net profit margin of the business with their producer and end processor. Considering this and high interest rates for lending to SMEs in Russia, even slight deviations from the financial model of the project being implemented can result in the entire enterprise going bankrupt.

In the setting of organizing the funding of the entrepreneurial activity of SME entities, an important factor in the realization of their economic potential is the organizing of funding from external sources, among which the most common are bank loans, private loans and loans from third parties, and proceeds from the sale of securities. Research [4]

indicates that against the backdrop of the overall stabilization of the situation in the national economy, an increase in demand for loan funds, and, as a consequence, an increase in lending to SME representatives, we are witnessing a low accessibility of financial resources from external sources for SME entities engaged in production. Therefore, in this case, there is additional financial pressure on large corporate business. Thus, for instance, as part of targeted work with clients in the Ural, Privolzhsky, and Southern federal districts, the national petrochemical producer Sibur has been developing a regional network of trade offices, using local warehouse spaces for storing base polymers and other products. For polyolefin storage and offloading, in November 2013 the company opened in the town of Artyom, Primorsky Krai, a warehouse for base polymers, which helps improve the quality of service provided to clients and react to their requests in a timely fashion [5].

SME entities are major consumers/processors of volume polymer products (polyethylene, polypropylene, polystyrene, etc.); they in large part form demand for those products – therefore, the development level of SMEs to a considerable extent impacts the financial results and tax contributions of producers of volume products which are large business enterprises. However, the development of SMEs in Russia does not meet the current needs of the national economy. Thus, in the petrochemical industrial complex the development of enterprises engaged in processing petrochemical products does not meet the needs of large business. Back in the early 2000s, Russia had just three producers of polypropylene: in Tomsk, Ufa, and Moscow, while internal demand for polypropylene was not met. Over the following years, the capacity of engaged polypropylene production units was substantially increased: in 2006, they launched a major project at LLC Nizhnekamskneftekhim, in 2007 at LLC Stavrolen, Budyonovsk, and in 2013 at plants at LLC Polium, Omsk, and LLC Tobolsk-Polymer; by 2013 Russia reached a level of 1.5 million tons of polypropylene produced per year. Note that demand for polypropylene in Russia was 880 thousand tons per year [6]. There being such a substantial surplus of supply on the internal market, it should be noted that there is a considerable potential for an increase in the consumption of polypropylene in Russia in the near future already. Thus, the consumption of polypropylene in Russia in 2013 reached an average of 6 kg/person, while in Eastern Europe the consumption of this type of polymer is already 14 kg/person, and in Western Europe and the US it is 17-18 kg/person.

Amid supply exceeding demand in the internal market, vertically-integrated companies have substantial advantages over independent producers of volume products and end producers bound to each other by either contractual relations or by way of independent intermediary and trade companies. Therefore, the putting together of their own end processing operations by volume producers of polymer raw materials was large business's emergency measure for developing and stimulating internal demand for its product (such associations are formed not on the sectoral principle but the principle of creating a single technological chain of getting the product to the end consumer).

Vertical company integration requires substantial financial resources and high technological potential at all stages of the advancement of the product. Such a company structure requires the effectuation of long-term investment, which forces the company to divert its resources from effectuating priority focus areas in its development. As a result, one incurs an increase in fixed costs of maintaining the working capacity of production units at all stages of processing the product, which reduces the company's overall financial sustainability. The uneven and uncoordinated development of particular stages in processing the product can, in turn, cause a production imbalance in the development of the entire corporate establishment as a whole and can impede the company's innovation and technological development.

In 2013, JSC Nizhnekamskneftekhim became the owner of 100% of the shares in CJSC Polimatiz, a producer of polymer non-woven materials using the spun bond and melt blown technology, construction membranes with a capacity of 15 thousand tons per year, oriented towards the polypropylene of JSC Nizhnekamskneftekhim. A similar strategy has been traced in the actions of another national producer of polypropylene – Sibur Group.

Sibur [7] is the owner of the primary producer of biaxially oriented polypropylene (BOPP), LLC Biaksplen, with a combined capacity of 111 thousand tons of BOPP produced annually. The major production units of LLC Biaksplen are located in the cities Novokuybyshevsk, Kursk, Balakhna (Nizhegorodskaya Oblast), and Zheleznodorozhny (Moscow Oblast). In addition to BOPP, LLC Biaksplen produces stretch, polyethylene and twist films, polyethylene pipes, and anti-corrosion materials for the protection of steel pipelines in the oil and gas industry. There have been finished start-up and commissioning works and has started the production of BOPP in a test mode at the Tomsk site of LLC Biaksplen. The placement of enterprises in the central part of Russia optimizes costs related to LLC Biaksplen's logistics for consumers in most regions of

Russia. In the setting of the vertically-integrated structure of Sibur-Biaksplen, there have been efforts to garner additional revenue in the setting of the vertical integration of the product chain and guaranteed sale of polypropylene raw materials in the internal market on terms acceptable to LLC Biaksplen (the cost of polypropylene raw materials is estimated to be 85% of the self-cost of films). The share of LLC Biaksplen in national BOPP production is estimated to be 60%[8].

Sibur's other subsidiary, LLC Sibur GEOSINT, Russia's largest polypropylene processor and producer of geosynthetic materials, was formed based on its production branches in the cities Kemerovo, Surgut, and Uzlovaya. As part of resolving the issue of selling this product to the end consumer, there has been signed an agreement with the state-run company Rossiyskiye Avtomobilnyye Dorogi (the Russian for "Russian automobile roads"; GK Avtodor) on cooperation on issues related to the production and application of modern road materials in road construction at GK Avtodor's facilities [9, 10, 11].

The above indicates that in the petro-gas-chemical industrial complex what is gaining in importance are trends for the enhancement of the structure of the largest companies within the complex through the formation of vertically-integrated structures which include all the stages in technological production: crude hydrocarbons prospecting and extraction, their transportation, volume processing into polymer raw materials, the advanced processing of polymers into a ready product, and the sale of the ready product to end consumers. Thus, within one corporate structure there consistently combine all the stages in production and there is effected vertical integration with the production and channels of sale of the end product, which in the setting of a substantial supply of the product helps reduce transaction costs related to procurement and sales and ensure providing a better service to consumers of the product. It should be noted that subject to the Presidential Decree "On the Characteristics of Privatization and Transformation of State-Owned Enterprises and Production and Scientific-Production Associations within the Oil and Oil-Refining, and Oil Products and Fuel Supply Industry into Joint-Stock Companies" (# 1403; dated November 17, 1992) there began in Russia the institution of national joint-stock vertically-integrated oil companies (VIOC). Thus, the making of vertically-integrated companies in the petrochemical sector is occurring later than in oil business [12].

In our view, the state ought to take part in stimulating and developing the internal market of polymer products. A substantial expansion of demand for the end product of the petrochemical sector can be attained through the making of national production of

auto components at a high technological level. Global practice has shown that a huge synergetic effect is attained through the creation of new medium and small production operations at the juncture of two clusters – the petrochemical and the automotive clusters. The Russian market of passenger vehicles, the second-largest in Europe after Germany, is still far from being satiated and, therefore, will continue to grow. In accordance with the agreement on the industrial assembly of automobiles, which provides concessions on tax rates for the import of parts, foreign automobile concerns are expected to increase the capacity of Russian plants and the level of localizing automobiles manufactured in Russia – up to 60%. Simple calculations indicate that the potential consumption of polymer products for the above volume of automobile production could reach up to 400 thousand tons of polymers per year.

The efficacy of direct measures of state stimulation of demand for chemical products [13, 14] is attested to by the example of China, which even in the crisis year 2009 managed to avoid the fall of demand for polymers. Thus, in the 1st quarter of 2009, there was created for the Chinese petrochemical industry a benign environment through the adoption of government programs aimed at stimulating the consumption of plastics in rural regions. Starting on February 1, 2009, farmers received a 13% discount when purchasing TV sets, refrigerators, cellular phones, washing machines, and air conditioners. Thanks to this, sales of consumer electronics only in March increased 70% compared with the previous month, while the consumption of plastics went back to the pre-crisis level of the 1st quarter of 2008. If in January, 2009, production from plastics fell 4.6% compared with the previous month, in February already there was a 16.2% increase. While, overall, production increased 5.1% within the first months of 2009.

Inferences

Despite the internal market's existing potential, producers of volume products within Russia's petrochemical industrial complex are unable to come across offers from processors which are SME entities for the complete and high-quality processing of their raw materials into a product that possesses advanced consumer qualities and is in high demand with the population. In this regard, to ensure their further development large corporate establishments are forced to engage in their own processing of the end product, diverting to this their time and resources. One needs to pay special attention to creating

conditions for the formation of a broad class of product processors that operate using new technology and turn out innovative products.

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