

Study of the Impact of Driving and Restraining Factors on Ensuring the Development Sustainability of the Bicycle Market in Russia

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Abstract: The aim of the work is to study the factors affecting bicycle manufacturers in order to substantiate the feasibility of developing domestic bicycle production. The article examines the bicycle market and compares the key characteristics of the largest domestic bicycle manufacturers, it also analyzes the influence of factors in the far and near external environment on bicycle manufacturers in Russia and assesses the key risks. The paper concludes that the Russian market is one of the most attractive from the point of view of the development of the bicycle business in the world, since it is experiencing a great increase in the popularity of the bicycle both for sports and for entertainment and also as a means of transportation for the population, the number of domestic manufacturers is extremely small, and the market development potential is quite high.

1 INTRODUCTION


The worldwide COVID-19 pandemic and the self-isolation associated with it have made people appreciate outdoor moments. Since the spring of 2020, borders between countries have been closed, fitness clubs have suspended their work. Cycling is one of the few safe ways to relax and exercise that is left available. The surge in demand for bicycles and bicycle accessories was noticed by such large online giants as Ozon, AliExpress, Wildberries and Avito. According to the press service of the online retailer Ozon, the demand for bicycles in April and the first half of May 2020 increased by 36% across Russia compared to the same period in 2019. The Russian bicycle manufacturer Forward has also experienced an increase in demand in the post-quarantine period. For only five months of 2020, the enterprise produced 90% of the last year's annual production volume (Interfax, 2020). As a result, it can be assumed that the development of a project for organizing the production of bicycles is a promising business idea. The key research issue of the work is to study the feasibility of starting up a bicycle production and assess its effectiveness.

2 MATERIALS AND METHODS

In order to draw a conclusion about the feasibility and possibility of effective functioning of domestic bicycle production, it is necessary to analyze the Russian bicycle market, identify its growth potential, and study the key market players. In this regard, in the preparation of this scientific article, a wide range of information sources and research tools were used:

- data from Rosstat, Wordstat.yandex.ru, marketing agencies and large online marketplaces;
- survey of owners and buyers of bicycle shops;
- the information about the activities of bicycle factories, which is freely available on the network;
- communication with the employees of sports shops and the use of one's own knowledge in cycling topics.

Due to the fact that in the modern world more and more attention is paid to the issues of a healthy lifestyle, in recent years there have been many scientific works and articles devoted to the study of the problems of cycling and its influence on the physical activity of the population. Among such works are scientific articles by Astafeva O. V., Nizeev A. D., Osipova I. A., 2020; Bakota D, Ortenburger D, Płomiński A., 2018; Fiore D.C.,

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Fellows K.M., Henner T.A., 2020; Geurts E., Coninx K., Hansen D., Dendale P., 2018; Kireeva N.S., Slepikova E.V., 2019; Kolumbet A.N., Natroshvili S.G., Babyna T.G., 2017; Perfilova I.A., Dyshakov A.S., Graham C., 2020.

3 RESULTS AND DISCUSSION

3.1 Analysis of the Bicycle Market and Its Potential in Russia

There are currently a small number of domestic bicycle factories in Russia. On average, this market, together with imports, is about five million bicycles and bicycle frames. The largest part (about 60%) is imported and 40% of bicycles are produced in the territory of the Russian Federation. Most two-wheeled vehicles are assembled on the site from the parts shipped from China.

Despite the growing demand every year, the number of bicycle brands is growing at a very slow pace in Russia. At the moment, the main bike brands on the domestic market are Stels, Forward and Stinger, as well as small sub-brands of the same manufacturers, but with a narrower segmentation, such as Altair and Format - from a Perm manufacturer, children's bicycles Novatrack - from Kaliningrad Stinger bicycle manufacturers. Stern bicycles are produced for Sportmaster, a large retail sporting goods store. The main parts are imported

from China, but the assembly and engineering are entirely carried out in Russia. The key competitors today are Velomotors (Stels bicycles) and Forward, which divide the market geographically: a home region for Stels - is Central Russia, that is why their bicycles are most often bought here, but in the Urals the situation is different, and the number of Forward bicycles is prevailing. In general, the bicycle market is poorly represented by the strong authentic brands with a good reputation, while the demand for bicycles of good quality with a stable and strong image is growing.

In parallel, new Russian brands of bicycles are developing simultaneously with them, which make both design and engineering in Russia, while the production of spare parts and components is completely imported from China. One of the brightest and rather successful representatives of this group is the Shulz bicycles from St. Petersburg. These bicycles have become very popular in different regions of our country, mainly for their lightweight and comfortable folding frames and an adequate price. A little later, this manufacturer also launched a line of children's bicycles, which a lot of buyers throughout the country took a liking to. Another brand from this category is Stark bicycles, which are the result of joint work of Russian and German specialists. Their production is located in Taiwan. This brand offers budget-friendly, but quite high-quality models. Let's compare the listed bicycle manufacturers according to certain parameters in table 1.

Table 1: Comparative characteristics of Russian bicycle manufacturers.

Brands / Parameters	Stels	Forward			Stinger		Stern	Shulz	Stark
		Forward	Format	Altair	Adult Stinger	Child Novatrack			
Types of bicycles sold	Urban, mountain, children's, road, folding, racing, cargo, BMX	Mountain, urban, children's, road, folding, racing, electric	Mountain, urban, children's, road, BMX, racing	Mountain, urban, children's	Mountain, urban, road, BMX	Children's, folding	Mountain, urban, children's	Folding, children's, road	Urban, mountain, children's, folding, BMX
Target audience	Couples with children; residents of megalopolises, medium-sized cities and small settlements	Couples with children; aged people who care about their physical condition	Professional athletes, young people aged 20-35 years old	Students aged 18-26; families with incomes below average and average	Professional athletes; residents of medium and small towns	Couples with children buying bicycles for their children	Middle-income families, male half of the population	Students aged 18-26 years old, young people aged 20-35 years old, families with children	Young people aged 20-35 years old, students aged 18-26 years old; residents of megalopolises

Table 1: Comparative characteristics of Russian bicycle manufacturers (cont.).

Sales market	Stels dealer network throughout Russia (mainly the central part), specialized sports retail stores, online stores and marketplaces	Specialized bike shops both online and retail, Forward dealer network throughout Russia (most of it is in the Urals)			Stinger dealer network throughout Russia (mainly the northern part), specialized bike retailers, online stores and marketplaces		Own network of chain retail stores Sportmaster throughout Russia, specialized online stores Sportmaster and Stern	Dealer network of specialized bicycle stores, own branded retail stores Shulz (Moscow, St. Petersburg) and online store Shulz.ru	Stark dealer network throughout Russia, specialized sports retail stores, online stores and marketplaces
Price category	3000 – 66000	4200 – 37000	13000 – 230000	3600 – 23000	18000– 104000	4000 – 20000	2500 – 52000	8000 – 64000	7300 – 86000
Competitive advantage	The widest range of bicycles within one brand, affordable price, the oldest factory with the maximum degree of localization and production automation	High manufacturability of production, development of new models in accordance with international standards with the involvement of professional athletes	The only brand of Russian origin, positioning itself as a manufacturer of premium bicycles, a professional bicycle team of the brand	Affordable cost of bicycles, high-quality Russian-made steel frames	In the basic segment, well-adjusted geometries and designs of bicycles	Wide range of children's bicycles, safety, the best value for money in its segment	Good brand representation in its own Sportmaster network, large-scale advertising campaign	Compact design and lightness of frames, ease of transportation and storage; a variety of colors of models and the use of design solutions	Robust frame construction; a high-quality line of bicycles for extreme riding, performing tricks of varying difficulty

Let's also compare how the market share is distributed between the top 5 largest Russian bicycle manufacturers by distribution base - revenue for 2020. According to SPARK, the total revenue of the main companies registered in Russia is 11,699,787,000 rubles. The largest market player at the moment is "Velomotors+" LLC, which has two more plants – ZhVMZ LLC in Zhukovka (Bryansk region) and KVMZ LLC (Krasnodar Territory), producing Stels bicycles, with a revenue of 8,892,319,000 rubles. The second place is occupied by the company "Forward", its revenue – 2,358,579,000 rubles. The third place on the market is occupied by LLC "TK Ateil", with their Stark bicycles, their revenue - 254,379,000 rubles. The fourth group is "Shultz" LLC (revenue – 191,938,000 rubles), which produces folding bicycles and children's bicycles. And the fifth place - LLC "Velobalt" Production Association" (Stinger bicycles) with a revenue of 2,572,000 rubles, which however, over the last year have somewhat lost their positions in the market.

3.2 Assessment of the Impact of Factors of External Environment on Bicycle Manufacturers

The success of bicycle production depends not only on the availability of demand in the market, but also on many other factors in the far and near external environment.

The external distant environment exists independently of the project itself but has an indirect effect on it. It primarily includes the authorities, the public, the political and economic situation in the country as a whole. Depending on the policy of the state, customs conditions can be improved, domestic producers can be supported, for example, with the help of protectionist policies, tax legislation can be tightened, subsidies and special economic zones can be canceled. It is necessary to cooperate with the Administration of the city where the production will be located, to pay attention to the current policy of the Government of the Russian Federation. The economic situation will determine the solvency of the population, the level of prices for the components and equipment, as well as the wages of craftsmen. The public will form an opinion about the company, it will

include the cycling communities of Russia ("Let's bike it!"), accounts on social networks of bicycle viewers, creators of bicycle parades and bicycle masters, exhibitions of bicycle industry goods (Bike-Expo 2021, Velo (bike) Park 2021), transport and educational magazines (Velomoskva). Also, the project will be influenced by the cultural component. As of today, the fashion for healthy lifestyle is only gaining momentum, and the bicycle as a means of transportation and walking is becoming more and more popular, therefore, the cultural environment is undoubtedly an important element of the external environment. It is necessary to take into account the relationship with the coordinating and control bodies (ministries, services, inspections), such as the fire inspectorate (Ministry of Emergency Situations of Russia), which monitors fire safety at the enterprise; tax inspection; the labor inspectorate, together with the Pension Fund of the Russian Federation and the Social Insurance Fund, regulate the observance and compliance of labor legislation and the correct calculation of benefits; Rospotrebnadzor (Russian Federal State Agency for Health and Consumer Rights), which will control everything related to the quality and safety of production areas (lighting, areas, sanitary and epidemiological situation) and the products themselves - bicycles; Rospirodnadzor (Russian Federal Service for Supervision of Natural Resource Usage and Ecology) - compliance by the enterprise with the norms of emissions of harmful substances into the atmosphere, waste disposal; Roskomnadzor (Russian Federal Service for Supervision of Communications, Information Technology, and Mass Media) - checking the collection, storage and processing of personal data; as well as the prosecutor's office, which exercises general supervision over the activities of the enterprise.

The external environment has a direct impact and includes the areas of finance, sales, supply and infrastructure, buyers, investors and competitors. The sphere of finance will include: the Entrepreneurship Support Fund, the Export Support Center, a soft loan for business from a bank, subsidies from the budget for the development of domestic production. Sales sphere: own branded bike shops, specialized bike online stores (velosite.ru, velosklad.ru, velostrana.ru, bike-center.ru), large marketplaces (wildberries.ru, ozon.ru), specialized dealer bike shops countrywide. The scope of supply: partners in the supply of bicycle frames made of aluminum alloys and carbon in China (goldenwhelgroup.com, trinx.com), leading suppliers of parts and components such as Shimano (gearshift clutch/derailleurs), Sram, Tektro, Kenda, Maxxis, Suntour. The infrastructure: brand stores, corporate cars, provision of Russian cities with bike paths, bike parking lots, special road signs, bike zones in parks. Buyers will have a key influence on the product, as the supply of bicycles will depend on the demand and their preferences. Investors are needed to launch the project itself and to ensure its normal functioning. Competitors that already exist on the market occupy a certain share, they have their own competitive advantages, presented earlier in paragraph 3.1.

3.3 Risk Register of Bicycle Production in Russia

Before launching production and starting its activities, it is necessary to assess all kinds of risk events that may arise at any stage of the project implementation, in order to be ready for them and know how to act in a given situation. The risks of a bicycle production project can be divided into 4 main blocks: technical, organizational, external and project management risks (table 2).

Table 2: Risk register.

Risk category	Description of the risk and the consequences of its realization	Possible consequences of risk realization	The likelihood of a risk event	Risk reduction measures
Technical risks	Non-compliance of the product with quality standards	Quality: the end product is virtually useless	0,4	Constant control over all production processes, careful selection of suppliers
	Equipment malfunctions	Timing: increase in time - by 10-20%	0,42	Timely accrual of depreciation charges for equipment, subsequent repair or replacement of equipment
	The complexity of building a continuous production process	Content: Main content areas are covered	0,2	Competent planning of production areas, building the production cycle based on the principles of lean production
	Lack of production and storage facilities	Timing: increase in time by 5-10%	0,12	Assessment of the need for the number of square meters for the production of a unit of production at the planning stage

Table 2: Risk register (cont.).

	Purchase of defective equipment	Cost: increase in cost by 20-40%; terms: increase in time by 10-20%	0,56	Purchase of production equipment only from verified and certified importers
	Purchase of low-quality components	Cost: increase in cost by 10-20%; terms: increase in time by 5-10%	0,3	A careful approach to the selection of suppliers of components
External environment risks	Changing the system of product quality indicators – GOST (State Standards of quality)	Content: Minor areas of content are slightly covered	0,02	Development of a system for rapid response to changes
	Tightening of customs legislation	Cost: cost increase by 10-20%	0,12	Search for alternative suppliers in the domestic market
	Strengthening the competition	Content: Minor areas of content are slightly covered	0,1	Identifying the strengths and weaknesses of competitors, strengthening one's own competitive advantages
	Failure by contractors to perform preparatory repair work	Timing: increase in time by 5-10%	0,12	Finding reliable contractors at the planning stage
	Disruptions in time and volume of supplied components	Timing: increase in time by 10-20%	0,54	Conclusion of contracts with trusted suppliers, fines for violation of the specified deadlines
Organizational and managerial risks	Lack of funds	Timing: increase in time > 20%	0,72	Thorough preparation of the project plan and assessment of all incidental costs
	Breaking partnerships with spare parts suppliers	Timing: increase in time by 10-20%	0,28	Conclusion of agreements on mutually beneficial terms
	Failure to comply with the planned deadlines for the performance of work and the sale of goods	Content: Main content areas are covered	0,42	A more thorough study of each moment at the stage of project initiation
	Insufficient qualification of hired production workers	Quality: Downgrade requires investor approval	0,42	Continuous training and retraining of personnel, sending personnel to complete retraining courses

4 CONCLUSIONS

Based on the conducted research, it can be concluded that the greatest risk for the company is borne by organizational and project management risks: lack of funding, disruptions in time and volume of supplied components, purchase of defective equipment. Without money and without spare parts for assembling the main manufactured product – bicycles, the operation of the enterprise is impossible. Defective equipment will negatively affect the deadline for the implementation of the plan and will not allow the enterprise to carry out the production process as a whole. The least probability of occurrence and minimal damage are suggested by the following areas: changes in GOST quality standards (an unlikely event), insufficiently effective interaction between top management and the project group (project team members are professionals in their field, they will not enter into conflict with their employers) and increased competition (enterprises, producing bicycles on the Russian market have been

around for many years and have a clear positioning, which makes it possible to assess their future policy in advance). Great attention should be paid to the selection of suppliers, it is necessary to carefully check the quality of the supplied equipment, to establish cooperation with state business support centers to obtain additional funding.

At the same time, it is profitable in Russia to open the production of bicycles and develop cycling, which is not only a convenient way to travel around the city, but also supports the physical activity of the population and contributes to the development of a healthy lifestyle in the country.

The results of the study can be useful both for the developers of programs for the development of small and medium-sized businesses in the national economy, and for organizations supporting healthy lifestyle initiatives.

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