

Strategy for Increasing the Competitiveness of the Russian Company in the Global Satellite Communications Market

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Abstract: - The article shows the relevance of work on developing a strategy for increasing the competitiveness of Russian Satellite Communications Company (RSCC) and degree of development of the problem. The logical structure of the research was formed, including such components as the object, subject, initial hypothesis, goal, methodological foundations and practical significance of the research. The mission of the studied RSCC is presented. The essence of the process of strategic planning for increasing competitiveness is investigated and the possibilities of determining the goals and structure of the company are revealed. The reasons for the low economic efficiency of using a standing point in a geostationary orbit for Russian companies are revealed and possible solutions to these problems are identified. There is the system of indicators by which the company loses to its competitors. The market segmentation by frequency resource is presented. The technology of selection of the frequency range by the client is shown. The key factors of the company's success in the global market have been identified and compared using these factors with the main competitors. The necessity of using a flexible pricing policy to increase the competitiveness of the research object is shown. Detailed strategic portfolio analysis was performed using McKinsey and Arthur D. Little (ADL) matrices. To construct ADL/LC matrix (where LC is Life Cycle), an expert predictive analysis of the competitive position of an enterprise product at different stages of its LC was carried out, as well as forecasts of its development: optimistic and most probable. To reveal the directions of the company's strategic development, assessments of the market attractiveness of the company's main product and service were carried out. The main threats to the growth of the market attractiveness have been identified. The main problems of the organization and developed strategies for their leveling were opened and ranked. A system of strategic measures has been developed by comparing industry problems with the problems of an enterprise, as well as translating the problems of an organization into opportunities for its development. Opportunities for the development of the organization are determined and a positioning strategy for their implementation is formed. To prove the scientific hypothesis of the research, a predictive assessment of the effectiveness of the research object in the global satellite communications market was carried out.

Key-Words: - strategy, competitiveness, satellite communications, key success factors, service life cycle, positioning.

1 Introduction

Relevance of the research topic and problem statement. The study is devoted to the development of a strategy to increase competitiveness in the global satellite communications market for a Russian company that owns an orbital constellation in geosynchronous equatorial orbit (GEO).

In accordance with the Decree of the President of the Russian Federation on August 4, 2004 № 1009 and the Order of the Government of the Russian Federation on August 20, 2009 № 1226-p with amendments and additions of RSCC is a strategically important organization in Russia.

The company's value for the period from 2011 to 2020 increased almost 2 times. The average annual growth over this period of the company's value in ruble terms amounted to 13.5%, and in dollar terms only to 0.4%. Growth indicators in United States dollar, as more stable currency than the ruble, indicate problems in the company's development. Adjusted for discounting for inflation, the growth in dollar terms is negative. As for the company's revenue for the same period, in ruble terms the average annual revenue growth was 12.4%, and in dollar terms it was almost zero (-0.03%).

In Russia, telecommunications companies have problems with technological backwardness in the field of microelectronics (3-4 years) and the need to import equipment from Western countries, which reduces their competitiveness in the market. For the satellite communications market, equipment is more expensive, also due to its size. If you do not take decisive action, it will be more difficult to maintain even the current level of achievements in the future.

The main competitors of satellite communications are fixed broadband access to the Internet and fixed voice communications (using wire and fiber-optic communication lines, twisted pair, etc.), mobile communications and terrestrial television (terrestrial wireless communication lines).

Taking into account the fact that the telecommunications industry is developing rapidly in terms of technical progress, it is difficult to predict what will happen in 10-15 years, and therefore, the company cannot exist without strategic planning.

Degree of elaboration of the problem. The main problems of developing and increasing the competitiveness of satellite communications were considered by many people. Their list can include almost all top managers of satellite operators who have published a lot of articles on this topic. In Russia, in most cases, top managers are people with technical education and extensive management experience.

General Director of RSCC, Yu. V. Prokhorov (Honored Tester of Space Technology, Academician of the International Academy of Communications), has written many scientific papers on the strategic development of satellite communications, thus the company understands the need for strategic development.

Most of the heads of satellite operators, including V.N. Doniants and S.V. Pekhterev, believe that the high price of a satellite frequency resource greatly inhibits the development of satellite communications.

In one of his articles, Academician of the International Telecommunications Academy E.V. Buidinov tried to assess the socio-economic efficiency of satellite communications [1]. From the obtained results, he concluded that the socio-economic efficiency of satellite communications for the Russian Federation can be increased by more than 1.5 times.

The increase in the competitiveness of satellite communications is also facilitated by the development of terrestrial infrastructure for it, in connection with which this issue is raised among the developers of technical means for satellite communications. Such leaders in the production of satellite equipment, including hubs, such as Gilat, Hughes, Comtech, iDirect, Newtec and others, are betting on the B2B sector and mobile networks of the fourth and fifth generation, as they spoke about in their presentations at the latest Satellite Russia & CIS in the spring of 2018 and 2019 and the scientific works of the employees of these companies were published. They understand that satellite communication is very expensive for the end user and the use of expensive equipment greatly reduces the cost for the end user. As for mobility, it is higher for the end user, because a parabolic antenna with a diameter of 0.45-1.2 meters cannot be taken with you.

The object of the research is the competitiveness of Russian operator in the global satellite communications market.

The subject of the research is the process of strategic planning to improve the competitiveness of Russian operator in the global satellite communications market.

Scientific research hypothesis. The implementation of a strategy developed on the basis of an analysis of the telecommunications market in order to identify the demand for certain satellite communication services will allow RSCC to increase its net sales income and improve its efficiency, which will strengthen its competitiveness in the world market.

Purpose of the study is: on the basis of theoretical studies of the telecommunications market and the identified new directions in the company's activities in the field of satellite communications, to make a new strategy for its development, taking into account internal and external factors.

The mission of RSCC is to create under the study an extensive information space based on the Russian satellite constellation using advanced technologies.

We note that the overall corporate strategy and the strategy for increasing competitiveness coincide

in many respects. In this regard, it is sometimes difficult to draw the line between strategic planning and the development of a strategy to improve competitiveness. Strategic development opportunities are ways to improve competitiveness. Market attractiveness is essentially the market potential, which largely depends on the internal environment of the company.

2 Theoretical Basis

During the research, the theory of strategic analysis was used [2-3], including the research of competitors and portfolio analysis. The problems of increasing the company's competitiveness in the global satellite communications market have been identified, for the solution of which the market will be segmented by frequency resource. The factors of competition and key factors of the company's success are identified, and a comparison is made using these factors with the main competitors. In this case, the following abbreviations for the assessment rating were used: H - High (3 points); A - Average (2 points); L - Low (1 point), and by the phase of the service LC: G - Growth (3 points); M - Maturity (2 points); R - Recession (1 point). To clarify the strategy, further detailed strategic portfolio analysis was carried out using McKinsey and ADL matrices. To construct them, an expert predictive analysis of the competitive position of the analyzed enterprise was carried out, as well as forecasts of its development: optimistic and most probable. To identify the directions of the company's strategic development, assessments of the market attractiveness of the company's main product or service were carried out. Further, the theory of strategy formation was used, for which the main problems of enterprise development and the reasons for their occurrence were identified. According to the well-known theory of strategic management [2] and hierarchy, strategies are divided into general and business ones, the latter including competitive and portfolio strategies. The proposed theory of the formation of strategic measures includes three components:

1. Comparison of sectoral problems with the problems of the enterprise, including allocation of problems to be solved and the definition of a group of strategic measures for their solution;
2. Formation of strategic actions that translate organizational problems into development opportunities;

3. Creation of strategic activities that are most consistent with the potential capabilities of the enterprise.

The study proposes a theory of the formation of a positioning strategy based on selected opportunities and steps aimed at their implementation.

In accordance with the theory from earlier works [4-7], staff management strategy was developed, within which it is possible to use network working groups.

3 Methodology of Research

The conducted research is of a problem-systemic nature. The challenge is to improve the competitiveness of the company. The conducted research and comparison of Russian and foreign competitors in terms of competition factors showed that the economic efficiency of using a standing point on the GEO for a Russian company is extremely low, compared to the giants. There are several explanations for this:

- prices for services are higher in foreign companies;
- higher workload or heavier spacecrafts of foreign companies;
- high degree of integration with additional services of foreign companies;
- large discount for government agencies.

One of the possible solutions to these problems is segmenting the market by frequency ranges, namely by important parameters for customers when operating in these ranges (Table 1): mobility, equipment cost, meteosensitivity and spectral efficiency.

Protective measures of the Russian government [8-9] helped to increase the amount of consumed frequency resource. These measures forced all state-owned companies (including Central Bank of Russia) to forcibly switch to Russian spacecraft. But this, at the same time, had a negative impact on the expansion of foreign markets by Russian telecom operators, as some states made the same thing.

The choice of the range by the client depends on various components. For example, C band is chosen for fixed terminals, where the size of the terminal and the compactness of the transmitter are not important. For example, there are two types of transmitters: SSPA and TWTA. SSPA is very compact, but also with very small power (0.5-8W), while TWTA is huge and weighs from 25 Kg, but at the same time the power is much higher (from 200 W).

Table 1
Market segmentation by frequency resource

Segmentation criterion	Basic parameters required for earth station			
	Mobility	Cost of equipment	Meteosensitivity	Spectral efficiency
C band	Low	High	Low	Low
Ku band	Average	Average	Average	Average
Ka band	High	Low	High	High

Ka band is important for those who want to obtain compactness and high spectral efficiency, but the price for this is the instability of the same spectral efficiency. Thus, this range is ideal for satellite internet.

Ku band is chosen by those who need an intermediate version. For example, direct TV broadcasting is convenient in Ku. Since the normal stability of the spectral efficiency is needed due to the fact that technologies that allow to level this cannot be applied in simplexes (one-way communication channel), and keeping the power headroom is sometimes not profitable due to the high cost of transmitters. The approximate price of a 750 W transmitter is about 2 million rubles. In this case, firstly, we also need backup transmitter. And secondly, real maximum allowable power, depending on the code-signaling structure, drops significantly. Therefore, at best out of 750W, 350W can be used. In "linear mode" we can only use 50W.

For example, if the C band for earth station on the territory of Russia for reception with an

availability factor of 99.7%, an energy margin of 1 dB (+ 25%) is recommended, for Ka it is already 5 dB (+ 216%). For Ku, this is 3 dB (+ 100%), i.e. double margin and at the same time the size of the antennas is small (0.6-1.2 m), which is very convenient. This is without considering the up line. In general, this applies to the whole world, with the exception of regions with intense precipitation.

As a part of the competitive analysis of the object of research on the global satellite communications market, it is assumed that the key success factors (KSF) of the company are selected. Table 2 presents the selected KSF and shows the comparison results according to these factors of RSCC and the main competitors.

As we can see from the data presented in the Table 2, the main KSF of RSCC is the regulatory climate, for the rest of the KSF the company either matches its competitors or has a worse result. Thus, the company is encouraged to use a flexible pricing policy more widely, because, as Table 3 shows, the company changes prices slightly to sell the product.

Table 2
Assessment of competition by key success factors

№	Key success factors	RSCC	SES S.A.	Intelsat	Eutelsat
1.	Distribution channels efficiency	H	H	H	H
2.	Product LC stage	M	M	M	M
3.	Differences to the products of competitors	L	L	L	L
4.	Market segment cyclicity	L	L	L	L
5.	Firms' skills	A	H	H	H
6.	Product quality for the consumer	H	H	H	H
7.	Flexible pricing structure	L	A	A	A
8.	Price competitiveness	A	A	A	A
9.	Threat of substitute goods	A	A	A	A
10.	Entry barriers	A	A	A	A
11.	Exit barriers	A	A	A	A
12.	Variety of applications and properties	H	H	H	H
13.	Possibility of economies of scale	A	H	H	H
14.	Availability of raw materials and supplies	A	H	H	H
15.	Regulatory climate	H	A	A	A
16.	Market segment risk	H	H	H	H
17.	Investment required for competitiveness	H	H	H	H
	Total	2.12	2.29	2.29	2.29

Table 3
Comparative evaluation with competitors

№	Name of indicators	RSCC	SES S.A.	Intelsat	Eutelsat
1	2	3	4	5	6
1.	Additional products or services	All companies offer additional services			
2.	Competitive technological advantages comparing with our products or services	No one has technological edge			
3.	Do these firms offer anything new in addition	All of them have unique combination of coverage, energy performance and frequency			
4.	Are they a niche company	No. Competition is on all fronts, including with small operators who do not have their own spacecraft fleet			
5.	Their pricing strategy is based on a specific product, segment or both	On both			
6.	How much do firms increase or decrease the price to sell the product	Minor change	Average change. Companies are more free to make pricing decisions		
7.	Is the firm using a cost-cutting leadership strategy to gain market share. If so, what products and how	Yes, across the spectrum. It happened involuntarily in 2014			
8.	What customer requirements does the competitor's product meet, but ours does not meet	Uniqueness of the orbits is in GEO. HTS is only in Ka	Uniqueness of the orbits is in GEO. HTS is in Ku and Ka		
9.	What distribution channels do they use	Specifics of the market impose restrictions on the methods of marketing: exhibitions and conferences and participation in state contracts			
10.	What territory does their sales network cover	Eurasia, Africa and partially the rest of continents	Whole world		
11.	What geographic area are they targeting as their market	Eastern hemisphere of the Earth	Whole world		
12.	Is this an innovative firm	Yes. It have to constantly innovate in production			
13.	What is the position of the company in the market	In the top 20	Leader	In the top 3	
14.	Customers consider the products of this company to be technologically superior or inferior to our products	Hard to tell. Services are almost identical for everyone			
15.	What does this company offer to the product	Additional service	Additional service in the whole world		
16.	List specific target markets or segments for each competitor's product	B2B, B2G	B2B, B2G, B2C		

The constructed matrix ADL/LC is shown in the Figure 1. To build it, an expert predictive analysis of the competitive position of the analyzed enterprise was carried out, as well as forecasts of its development: optimistic and most probable. The results of this analysis are presented in the Table 4.

As the analysis showed, the company's product is in the maturity stage. If new measures are not

introduced, the position in the market can be greatly shaken. To prevent this, it is necessary to use an innovative development strategy, the development and implementation of innovative design and technological solutions, the creation of a scientific and technical groundwork.

Table 4
 Evaluation of the current and predictive assessment of the competitive position of enterprise product

№	Indicator	Evaluated enterprise		Comments
		2020	2025	
1.	Cost	5	6	The price is rather high. Due to the development of technology and reduced costs, it is expected to decrease it
2.	Quality	5	7	The quality of services is at a good level and will grow due to the technological breakthrough
3.	Market share	1	1	It is difficult to increase market share. The main strategy is to keep it
4.	Diversity	4	5	The variety will increase due to the commissioning of new spacecraft
5.	Staff	3	5	There is a lot of work here. But a hurt is big
6.	Width of application	3	5	Low
7.	Connection with other products of the company	4	6	At the moment, the connection is insufficient. If we increase the services of the integrator, it will increase the volume of sales and basic services
8.	Service	6	7	Average
9.	Increased competition	4	4	Growth in competitive advantage relative to industry leaders will not increase. The main thing is not to lose current position
10.	Assortment	4	6	The range of services is insufficient. The groundwork is great for growth
11.	Supplier power	7	8	Average. There is a lot of competitions in this market
12.	Replacement threat	5	5	The threat of replacement for the entire satellite communications market
TOTAL		51	65	Maximum 90 points

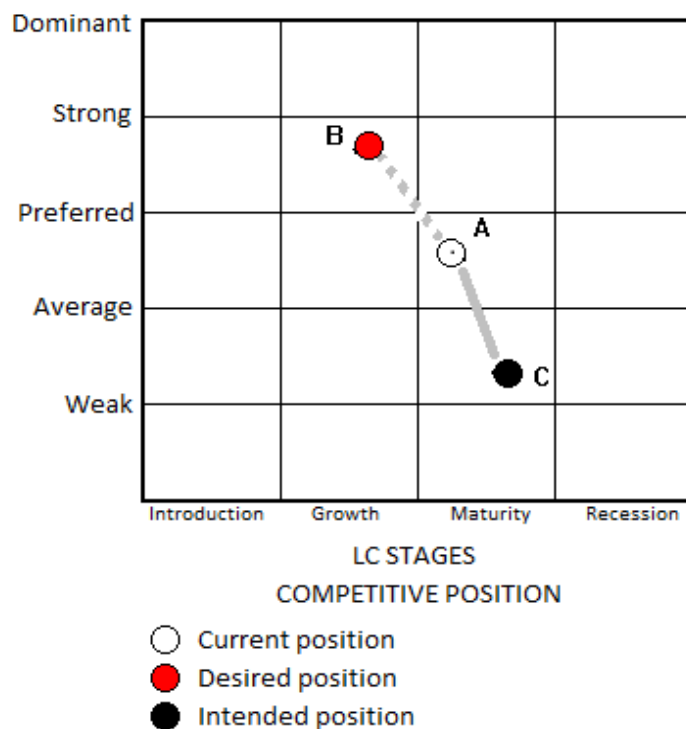


Fig. 1. ADL/LC matrix

The company occupies a large market volume in Russian market (more than ~ 1/3), but as for the volume of the world market, it is very small, only 1.75%. On the other hand, RSCC has an advantage artificially created by the state, which makes it possible to increase its share in Russian market, while large losses of its share in the world market are not expected.

Analysis of the market attractiveness is above average and will grow in the future. The main threats are: negative growth of the satellite communications market, emergence of new competitors and regulatory climate and other risks.

Calculation of the competitive status of the enterprise shows that it is currently quite high and

has prospects for further growth. Projection of the competitive position and high attractiveness of the market to the McKinsey matrix shows that it is necessary for an enterprise to choose a portfolio growth strategy associated with active actions to improve its competitive status, to attack the position of the best; to strengthen the weak points of your inner potential; to invest based on their own capabilities. Thus, selective investment in growth is required to further develop the company's products.

Thus, we have formed a competitive and portfolio development strategy, then, to form a system of strategic measures, we will consider the main problems of enterprise development and the reasons for their occurrence (Table 5).

Table 5
 Main problems of the enterprise and their reasons

Problems	Reasons
High cost of the sold resource	High costs due to the imperfect organizational system of the enterprise. Purchase of materials for devices abroad
Attempt to improve competitiveness in competitive market	Insufficient number and qualifications of employees of the marketing department at the enterprise. Market specific
Finding new opportunities to use potential	Service responsible for implementing the other line of business is very young. Employees are not qualified enough. They do not include the necessary specialists who can choose the best option
Focus on long-term prospects	Market specifics. It is impossible to exist without long-term planning of up to 15-20 years, due to the service life of the vehicles 14-18 years, and the time required from assembly to launching the vehicle into orbit. During this interval, the market can change dramatically. Therefore, they try to find universal solutions
Infrastructure focused on the market information management system	Introduction of electronic document management has led to clear improvements. Now the majority of applications are processed on time. The system implemented in the enterprise is considered to be very flexible. But this is a double-edged sword. Staff who are not IT specialists do not keep up with innovations
Centralized management power limiting cadre initiative	Everyone is trying to "pull the blanket" over themselves. Sometimes they try to take those functions that are not characteristic of these departments. Centralization does not always ensure an adequate distribution of functional responsibilities.

The company's products are attractive and generally in demand. There is a reserve for growth. Good management resources and marketing are needed. If in terms of management the classical methods are suitable, we need to be very careful with marketing, because it is very easy to lose confidence in this market [10].

More flexible pricing policy is also needed, since the resource for different clients and regions has different values [11]. It is necessary to improve customer support at the very beginning. This will help clients to better familiarize themselves with the resource and understand its main consumer

qualities. For example, an improperly selected apparatus and barrel can greatly increase the cost of an ongoing project. Strict cost control, frequent detailed monitoring reports, clear structure in the organization and distribution of responsibilities are required. The main incentive is the strict implementation of the production volume plan.

It is especially worth highlighting the problem of low qualifications of employees of some clients. Due to a misunderstanding of some points, incidents occur that negatively affect further cooperation. Thus, the solution to this problem is associated with the organization of the advanced training system.

The portfolio strategy presupposes the development of the internal potential of the enterprise and its competitive status, therefore, for the implementation of this strategy, Table 6 gives a group of strategic measures selected according to the theory developed by the authors.

Based on the results of the assessments carried out in the work, a matrix of opportunities was built (Figure 2). It shows that items 2, 4 and 6 are the least realistic, but they can be very effective. The attractiveness for the enterprise from the implementation of these measures is also small,

since they are very painful. Opportunity matrix indicates the need to develop a positioning concept in terms of consumer appeal and success probability.

These strategic measures allow increasing the capabilities of project teams of development companies [12] when working on projects that require new and non-standard solutions in the face of growing competition and resource shortages (Dmitriev, 2019 & Novikov, 2019). The conditions for the expediency of using network design teams based on the results of studies of their capabilities.

Table 6
System of strategic decisions

Problems	Reasons
High cost of the sold resource	High costs due to the imperfect organizational system of the enterprise. Purchase of materials for devices abroad
Attempt to improve competitiveness in competitive market	Insufficient number and qualifications of employees of the marketing department at the enterprise. Market specific
Finding new opportunities to use potential	Service responsible for implementing the other line of business is very young. Employees are not qualified enough. They do not include the necessary specialists who can choose the best option
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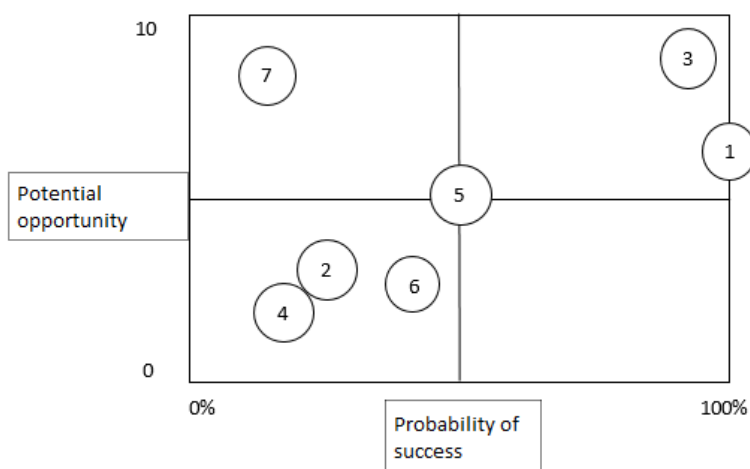


Fig. 2. Matrix of opportunity

Table 7

Positioning strategy formation

Proposed positioning strategy formation	Implementation activities
Improving the company's image	To improve the perception of the company with current and potential customers. To help with the best choice
Application of advanced technologies	To use the latest developments in satellite communications whenever possible. To get rid of old and ineffective equipment
Quality service	To improve client support during all time intervals (from application submission to contract termination)
Innovation	To search for the best solutions in satellite communications. To include them in commercial offers

4 Results

In the process of developing a strategy for increasing the competitiveness of the company, RSCC conducted research and developed management decisions. The following results were obtained:

- conducted research and comparison of Russian and foreign competitors in terms of competition factors, the economic efficiency of using a standing point in the GEO for Russian company is extremely low, in comparison with giants. There are several explanations for this: prices for services are higher for foreign companies; higher workload or heavier spacecraft from foreign companies; high degree of integration with additional services from foreign companies; large discount for government agencies.
- research proposes a solution to this problem by developing a set of business strategies, including the following components: portfolio, competitive and positioning strategy and system of strategic events.
- strategic competitive analysis showed that the current company loses to its competitors on some indicators. The fact that it remains afloat is a great merit of the state, in terms of politics and scale of the territories and unevenness of their settlement. Therefore, the company needs to segment the market by frequency ranges, namely by important parameters for customers when operating in these ranges: mobility, equipment cost, meteosensitivity and spectral efficiency.
- based on the results of comparison of the considered company with competitors, according to the factors of competition and success, the competitive strategy of the company was proposed as the optimal ratio of the strategy "price-quality".

- in the course of the expert forecast analysis, scenarios of its development were built: optimistic and most probable. It was determined that the company's product is at a stage of maturity, therefore it was recommended to use an innovative strategy for its development, the development and implementation of innovative design and technological solutions and the creation of a scientific and technical reserve.
- to identify the directions of the company's strategic development, assessments of the market attractiveness of the company's main product or service were carried out. As the analysis has shown, the attractiveness of the market is above average and will grow in the future.
- calculation of the competitive status of the enterprise shows that it is currently quite high and has prospects for further growth. Projection of the competitive position and high attractiveness of the market to the McKinsey matrix shows that the enterprise needs to choose a portfolio growth strategy and for the further development of the company's products, selective investments in growth are required.

5 Discussion

Strategic competitive analysis showed that the current company loses to its competitors in some indicators. The fact that it remains afloat is a great merit of the state in terms of politics and scale of the territories and the unevenness of their settlement. Thus, artificial favorable environment was formed for the current company. As for the large share in the foreign market (53% of revenue for 2019), this is the merit of geopolitics. Due to the fact that the source of income is not important for capitalism, foreign companies "huddle" different warring parties in international conflicts. Accordingly, if it is

the enemy of the United States and the coalition, leasing from Western companies is impossible.

The strategy proposed in the work allows taking into account external opportunities and translating development threats and weaknesses of internal potential into development prospects.

The practical significance of the study is determined and confirmed by the fact that the conclusions of this study can be a guide for all enterprises in the satellite communications market, both defense and civilian, facing the problem of competitiveness in the telecommunications market.

Further research will be related to assessing business risks for the space communications operator and ways to eliminate them researching the demand for satellite communications services in the telecommunications market and developing a comprehensive program and assessing the effectiveness of the implementation of a strategy to increase competitiveness in the global satellite communications market of Russian company.

6 Conclusion

Predictive analysis of the effectiveness of the proposed set of strategies showed that increasing the volume of satellite resource by 2 times and bringing the share of additional services to 87% will increase the average annual growth of net sales income by 4.98% per year with revenue of 4.53% per year, which is more than the current inflation of 3.05%. Thus, the effectiveness of the implementation of the strategy to increase competitiveness and the research hypothesis are proved.

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