

Enterprise development management based on digital economy methods

Pakhomova Yu.V.
Voronezh State Technical University
Voronezh, Russia
yulia198007@mail.ru

Narolina T.S.
Voronezh State Technical University
Voronezh, Russia
yulia198007@mail.ru

Boeva A.A.
Voronezh State Technical University
Voronezh, Russia
yulia198007@mail.ru

Abstract — The article considers a service enterprise activities, determines the financial health of a service enterprise in the market, proposes a model of regulatory demand that allows to determine the share of mobile service providers in the subscriber bases increase.

The expanded use of management in the regional services market development provides competitive advantages. The innovative approach makes it possible to obtain specific results of enterprises activities, such as the offer of high quality goods and services, competitive advantages enabling a more flexible response to changes in the internal and external environment. The definition and analysis of the investment attractiveness of the service industry are important in the context of managing the regional services market development. The higher it is, the more chance of an financial resources flow into the industry economy. Accordingly, the relationship between the concepts of “industry investment attractiveness” and “industry competitiveness” assumes major importance. Therefore, the problem of managing the service market is relevant. An analysis of these problems showed the lack of effective management of enterprises in the market. Currently, there are no effective methods and models of enterprise management, which are of an economic entity relations, which implies a relationship in the provision and consumption of goods and services. This article considers the main aspects of government influence on the service market activities. Market regulators do not create conditions conducive to the service sector development. Therefore, a model has been proposed that allows regulating the relations of an enterprise based on an innovative enterprise management strategy, expanding the possibilities and ways to improve the management efficiency of both the services market and the economic sector as a whole. The article assesses the services market competitiveness, determines the economic potential of the regional services market, presents an algorithm for developing a management strategy, proposes a model for the regional services market development.

Keywords — *enterprise services, financial health of the enterprise, demand, forecast*

I. INTRODUCTION

Currently, the processes taking place in society allow to develop information technology and communications. Scientific and technological progress and immediate

information exchange, increased interest in the service sector, which is developing in the post-industrial world as an alternative to the material production, as one of the most important forms of stabilizing social relations, contributes to solving problems associated with resource constraints. The services market in a post-industrial society is becoming a priority.

The processes activating the pricing policy begin with a study of market processes of the environment, that is, the external and internal combination of factors. The determination of the innovation activity to be implemented includes the pricing strategy of enterprises. Known types of strategies include offensive and suggestive strategies, using which the scientific and technological achievements are being applied. They allow enterprises to take a leading position in the market. Their implementation involves high costs, therefore, in a period of limited means, it may require enterprises to choose other, less effective strategies (defensive, imitation, etc.) that require less investment.

II. RESEARCH METHODOLOGY: COMPETITIVENESS AND INVESTMENT ATTRACTIVENESS OF THE SERVICE MARKET

Market conditions, competitive advantages are due to the need to choose pricing strategies (with high or low prices of analogues). The choice of the initial option and the production program are the need to achieve the minimum necessary amount of profit, the profitability level, with which we can compare the amount of profit and profitability levels.

The calculations are repeated depending on the result and market research to obtain acceptable performance indicators of the enterprise are conducted. If the intended goal cannot be achieved, then one should either review the development strategy of the enterprise, or settle for the best of the options.

Positive changes can be highlighted, and it was true that there were negative aspects in a post-industrial society, among which the problem of inequality at the level of countries and social classes is the most urgent. This is due to large-scale

changes in the structure of appropriation and distribution of resources between social communities.

Currently, enterprises operate according to the situation prevailing in the market. An important prerequisite for effective activity includes the use of innovative components. Innovative management methods, including existing and operating technologies at the enterprise, lead to improved performance.

Interregional and interstate relations, taking into account the use of management tools, can increase the region attractiveness, including the regional service market, and receive promotion for development.

Integration processes in the world economy contribute to active competition over investment resources in the region, which can lead to the modernization of economic components and increase competitive advantages.

The region economy needs appropriate measures and conditions for investment activity, which allow attracting foreign investments as a strategic course for introducing to the global investment market, taking into account relevant specific laws and conditions.

As a result, regional social and economic systems use a set of innovative investment developments that combine the requirements of creditors at the regional and federal levels.

An effective and integrated investment component is foreign capital, which is considered as a financial source that contributes to the development of technical, technological, intellectual capabilities, as well as management.

The communications industry includes the following characteristics:

- regional need for this industry segment development;
- shareholding with real value higher than nominal, which characterizes the increase in attractiveness in foreign markets. An important issue of investors' interest is determining the profitability of invested communications enterprises.

Investment attractiveness is characterized by the volume of investment activity, the price of a product or service, the volume of consumption, costs of communications enterprises, the dynamics of raising funds.

The investment attractiveness of industry segments can be characterized as follows:

- the possibility of presence of competing communications enterprises providing goods and services;
- the presence of intra-industry competition;
- influence of consumers of communications enterprises, subscribers, determination of the impact of macroeconomic development conditions.

Development of the regional market depends on the competitive and investment activities of enterprises. It is a determining indicator, since it is possible to increase

interregional and interstate competitive advantages by increasing competitiveness and investment attractiveness.

Such a distribution of resources allows to divide countries into groups that differ in the development model. The first group consists of the G7 countries: USA, Canada, UK, Germany, Italy, Japan, France. The second group consists of countries such as Sweden, Australia, the Netherlands. The third group unites countries that have become appendages of the countries of the first and second groups.

Market services are those whose selling price has a significant impact on their demand. These services are used in production as well as in exchange for other services and assets. Non-market services include services that have a final disposal price that cannot have a significant impact on their demand. This type includes services for own final consumption and intended for non-market use.

The provision of services covers a complex of social, domestic, spiritual human needs, affects the needs of a more global macroeconomic scales, for example, in the telecommunications sector.

By-laws and laws become effective with a delay, which makes it a significant gap in their application.

The specified defect has an adverse effect on the licenses and contracts implementation, but it is also a necessary protection when presenting a claim.

The main problem in the service market development is a multi-stage and non-transparent procedure for obtaining a license.

The foregoing indicates that the technical policy creates an administrative barrier in the form of discriminatory conditions, reducing the assessment of the service market investment attractiveness. The consumer loses the use of modern technology that provides additional services.

The market risk of the enterprise is at a low level and is determined by its position. Stable demand for products is a guarantee of a constant minimum level of income, which is not affected by the economic conditions and political situation of the country.

The significant impact of government bodies creates the political risks of enterprises.

III. RESULTS OF THE RESEARCH: METHODOLOGY FOR THE DEVELOPMENT OF A REGIONAL MARKET FOR CELLULAR SERVICES

Market conditions, competitive advantages are due to the need to choose pricing strategies (with high or low prices of analogues). The choice of the initial option and the production program are the need to achieve the minimum necessary amount of profit, the profitability level, with which we can compare the amount of profit and profitability levels.

The calculations are repeated depending on the result and market research to obtain acceptable performance indicators of the enterprise are conducted. If the intended goal cannot be achieved, then one should either review the

development strategy of the enterprise, or settle for the best of the options.

Positive changes can be highlighted, and it was true that there were negative aspects in a post-industrial society, among which the problem of inequality at the level of countries and social classes is the most urgent. This is due to large-scale changes in the structure of appropriation and distribution of resources between social communities.

Currently, enterprises operate according to the situation prevailing in the market. An important prerequisite for effective activity includes the use of innovative components. Innovative management methods, including existing and operating technologies at the enterprise, lead to improved performance.

Interregional and interstate relations, taking into account the use of management tools, can increase the region attractiveness, including the regional service market, and receive promotion for development.

Integration processes in the world economy contribute to active competition over investment resources in the region, which can lead to the modernization of economic components and increase competitive advantages.

The region economy needs appropriate measures and conditions for investment activity, which allow attracting foreign investments as a strategic course for introducing to the global investment market, taking into account relevant specific laws and conditions.

As a result, regional social and economic systems use a set of innovative investment developments that combine the requirements of creditors at the regional and federal levels.

An effective and integrated investment component is foreign capital, which is considered as a financial source that contributes to the development of technical, technological, intellectual capabilities, as well as management.

The communications industry includes the following characteristics:

- regional need for this industry segment development;
- shareholding with real value higher than nominal, which characterizes the increase in attractiveness in foreign markets. An important issue of investors' interest is determining the profitability of invested communications enterprises.

Investment attractiveness is characterized by the volume of investment activity, the price of a product or service, the volume of consumption, costs of communications enterprises, the dynamics of raising funds.

The investment attractiveness of industry segments can be characterized as follows:

- the possibility of presence of competing communications enterprises providing goods and services;
- the presence of intra-industry competition;

- influence of consumers of communications enterprises, subscribers, determination of the impact of macroeconomic development conditions.

Development of the regional market depends on the competitive and investment activities of enterprises. It is a determining indicator, since it is possible to increase interregional and interstate competitive advantages by increasing competitiveness and investment attractiveness.

Such a distribution of resources allows to divide countries into groups that differ in the development model. The first group consists of the G7 countries: USA, Canada, UK, Germany, Italy, Japan, France. The second group consists of countries such as Sweden, Australia, the Netherlands. The third group unites countries that have become appendages of the countries of the first and second groups.

Market services are those whose selling price has a significant impact on their demand. These services are used in production as well as in exchange for other services and assets. Non-market services include services that have a final disposal price that cannot have a significant impact on their demand. This type includes services for own final consumption and intended for non-market use.

The provision of services covers a complex of social, domestic, spiritual human needs, affects the needs of a more global macroeconomic scales, for example, in the telecommunications sector.

By-laws and laws become effective with a delay, which makes it a significant gap in their application.

The specified defect has an adverse effect on the licenses and contracts implementation, but it is also a necessary protection when presenting a claim.

The main problem in the service market development is a multi-stage and non-transparent procedure for obtaining a license.

The foregoing indicates that the technical policy creates an administrative barrier in the form of discriminatory conditions, reducing the assessment of the service market investment attractiveness. The consumer loses the use of modern technology that provides additional services.

The market risk of the enterprise is at a low level and is determined by its position. Stable demand for products is a guarantee of a constant minimum level of income, which is not affected by the economic conditions and political situation of the country.

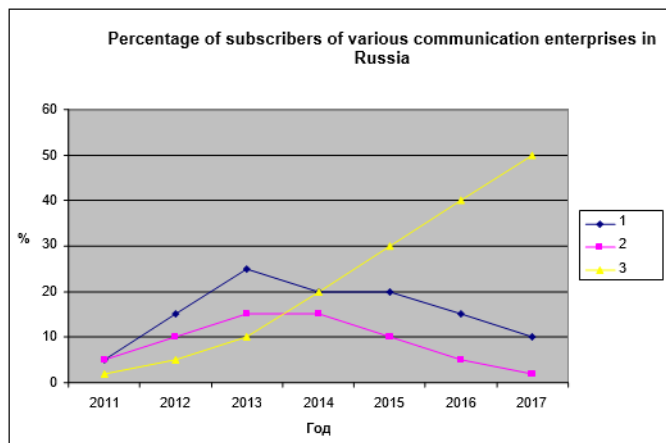


Fig. 1. Percentage of cellular subscribers in Russia.

MTS OJSC

Megafon OJSC

Beeline OJSC

Figure 1. Percentage of cellular subscribers in Russia.

The use of cellular systems allows providing users with high-quality messages designed to protect communications and privacy, given the immediate possibility of using high-quality telephone and fax communications by offices, enterprises and organizations. Russia continues to develop its telecommunications component rapidly: firstly, it is approaching more developed countries based on their experience; secondly, Russia has rather high technical and intellectual characteristics.

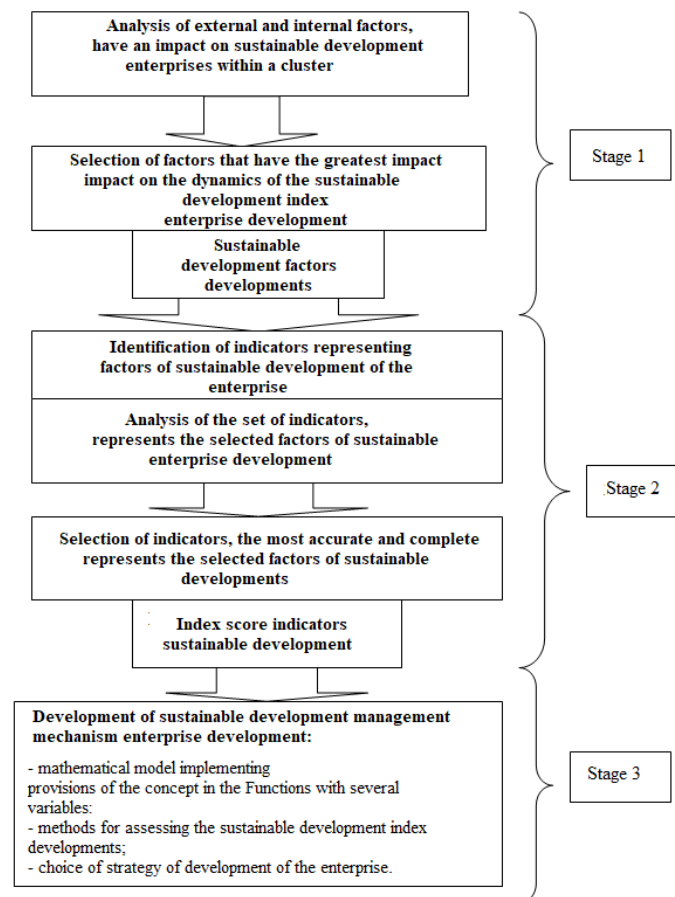
IV. DISCUSSION OF THE RESULTS

ASSESSMENT OF THE FINANCIAL STABILITY AND FINANCIAL INDEPENDENCE OF A CELLULAR SERVICES ENTERPRISE

Since 2016, the number of Beeline OJSC subscribers has been increasing, steadily and almost linearly going up, while the other 2 cellular services enterprises have a peak in the period from 2014 to 2016. (Figure 1). This is due to the fact that at that time communication with these operators was cheaper. Since 2017, cellular services enterprises have conducted an expanded marketing policy and invested financial resources in the widespread coverage of the territory with receiving and transmitting towers. This made it possible to obtain a set of serious advantages over competitors, because Russian citizens have a constant need for information exchange, taking into account traveling, and it is required to be in touch. The modern use of advanced world technologies allows Russia to keep up with the leading countries of the world in the development of modern mobile radio communications systems. Currently, various operators in the world provide cellular services in almost all cellular standards.

In particular, the net profit level of the leading operators of MTS and Beeline approached the levels of \$1-1.2 billion, with a capitalization of \$25-30 billion. Not only the presence of these operators in the stock market should be noted, that is characterized by a successful increase in overall profitability, cost reduction, increased capitalization, but also the

achievement of the full range of services in the tariff policy development.



To characterize the reserves formation sources and costs cellular services enterprise use several indicators that reflect various types of sources: - the availability of working capital (WC); - the availability of their own and long-term borrowed sources of reserves or functioning capital (FC); - the total value of the main sources of reserves formation (SV). Three indicators of the availability of reserves formation sources correspond to three indicators of reserves life by formation sources: - surplus (+) or shortage (-) of working capital ($\pm\Phi C$); - surplus (+) or shortage (-) of their own and long-term borrowed sources of reserves formation ($\pm\Phi T$); - surplus (+) or shortage (-) of the total value of the main sources of reserves formation ($\pm\Phi 1$). Using these indicators, it is possible to determine a three-component indicator of the financial situation type (Table 1).

TABLE 1. SUMMARY TABLE OF INDICATORS BY TYPE OF FINANCIAL SITUATION

Indicators	Absolute independence	Normal independence	Unstable state	Crisis state
$+ \Phi C = WC - S$	$\Phi C > 0$	$\Phi C < 0$	$\Phi C < 0$	$\Phi C < 0$
$\pm \Phi T = F - S$	$\Phi T > 0$	$\Phi T > 0$	$\Phi T < 0$	$\Phi T < 0$
$\pm \Phi I = SV - S$	$\Phi I > 0$	$\Phi I > 0$	$\Phi I > 0$	$\Phi I < 0$

TABLE 2. CLASSIFICATION OF FINANCIAL HEALTH TYPE OF BEELINE OJSC IN 2017 (THOUSAND RUBLES)

Indicators	At the beginning of the period	At the end of the period
$+ \Phi C = WC - S$	-527961470	-487258120
$\pm \Phi T = F - S$	84567110	214795210
$\pm \Phi I = SV - S$	84567110	214795210

V. CONCLUSIONS (RESULT): FORECASTING THE ACTIVITIES OF CELLULAR SERVICES ENTERPRISE

The increase in financial independence, the guarantee of obligations repayment by an enterprise and the great opportunities for raising funds from the outside are characterized by

indicators of financial stability.

The data in Table 2 indicate that normal financial health was observed in Beeline OJSC throughout the analyzed period of 2018, which guarantees solvency.

The choice of development method depends on the choice of development strategy, the accuracy of the forecast for the cellular services enterprise development.

The regulatory demand model is selected as a forecasting model:

$$Y = a_1 x N_1 + a_2 x N_2 \quad (1)$$

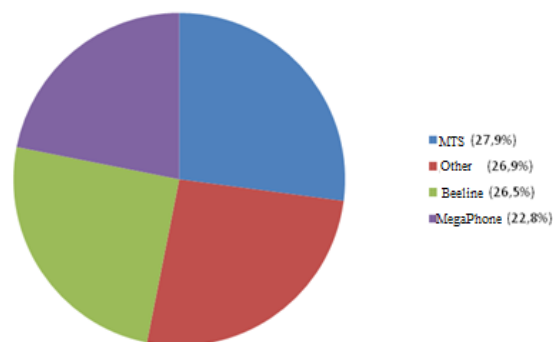


Fig.2. Shares of operators in the subscriber bases increase in the 4th quarter of 2018

According to this model, the sum of services consumption (use) standards product for the mobile operators by the number of subscribers a_1 , a_2 (consumers) by segments N_1 , N_2 is determined.

Thus, the market share of MTS OJSC is 28.9%, Beeline OJSC - 27.5%, Megafon OJSC - 23.8% (Figure 2). Therefore, one can assume with great probability that an increase in the growth rate of mobile services penetration will continue.

References

- [1] Golubkov E.P. Strategicheskii menedzhment [Tekst] / E.P. Golubkov, 2015. – 292 s.
- [2] Chudinova L.N. Investitsionnoe obespechenie ustoychivogo sbalansirovannogo razvitiya regiona: problemy, ugrozy, tselevye orientiry / Chudinova L.N., Sirotkina N.V. // Region: sistemy, ekonomika: upravlenie. – 2016. – № 1. – S. 24–31.
- [3] Fatkhutdinov R.A. Upravlencheskie resheniya [Tekst] / R.A. Fatkhutdinov. – Infra-M, 2015. – 352 s.
- [4] 2. Voronezhskiy statisticheskiy ezhegodnik. 2017: Stat. sb. / Voronezhstat. – Voronezh, 2017. – 320 s.
- [5] Balashov A.P. Osnovy menedzhmenta: ucheb-noe posobie, 2-e izd., pererab. i dop. M.: Vuzovskiy uchebnik: NITs INFRA-M, 2014. 288 s.
- [6] Kihn M. House of lies: how management consultants steal your watch and then tell you the time. 2012. 288 p.
- [7] Senor D. Start-up Nation. 2016. 198 r.
- [8] Peppard J., Ward J. The strategic management of information systems: Building a digital strategy. John Wiley & Sons, 2016.
- [9] Weng J., Liu T. Enterprise Strategy Analysis Based on SWOT Analysis // 2018 International Conference on Sports, Arts, Education and Management Engineering. Atlantis Press, 2018.
- [10] Bromiley P., McShane M., Nair A. et al. Enterprise risk management: Review, critique, and research directions // Long range planning. 2015. V. 48. № 4. P. 265–276.
- [11] Nickols F. Strategy, strategic management, strategic planning and strategic thinking // Management Journal. 2016. V. 1. № 1. P. 4–7.
- [12] Igoshin A.N., Cheremukhin A.D. Osobennosti proizvodstva chelovecheskogo kapitala v kontekste otsenki effektivnosti raboty organizatsii // Vestnik NGIEI. 2017. № 5 (72). S. 96–113.