

Pest-Method Development to Assess the Financial Stability of Logistic Companies



Oksana Takhumova, Irina Danilova, Tatyana Reusova, Natalia Bodryakova, Olga Bobyleva

Abstract: *Financial stability and solvency of the company is a guarantee of effective development and the basis for making effective management decisions by management. This approach to business planning makes it possible to conduct a qualitative assessment of operating and investment activities and reflects the ability to timely repay its debt obligations. In Russian and world practice, there are many approaches to assessing the financial condition, however, the peculiarity of our study is the use of methodological tools that allow us to assess the profile of the organization when assessing the external and internal environment of the company. The paper identifies the elements of the macroenvironment, types of financial stability of the organization. Based on the system of expert assessments for PEST-method, environmental factors are determined, including the probability of an event, the impact on the organization, the direction of influence, and the degree of importance. The assessment is based on conditions of an economic, political, socio-cultural and technological nature. This technique is a systematic approach to the study of the influence of conditions that form the external and internal environment of the company, market and production factors on the quantity and quality of products, services rendered. The results of the study indicate possible prospects for the development of further economic activities of the organization in the selected functioning environment.*

Keywords: *economic assessment, financial stability, logistics services, Pest-method.*

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I. INTRODUCTION

The assessment of financial stability is a systematic approach to the study of the influence of conditions that form the external and internal environment of the company, market and production factors on the quantity and quality of products, services rendered. The analysis indicates possible prospects for the development of further production activities of the organization in the selected business environment and directions for planning the strategic development of the organization. For many years of studying this sphere of the world economy in foreign and domestic scientific research, much attention has been paid to the principles of the transport market and the impact on many processes at the macroeconomic level, as well as the consequences of the impact on the internal state of the country. The actions of states aimed at increasing the competitiveness of this sector were also considered. Such studies of foreign and domestic scientists as M.P. Gordon, Johnson J., Wood D.F., Worddou D.L., Williams P.R. I.Ya. Aksenov, A.U. Albekov, D.S. Nikolayev, M.E. Zalmonova, V.S. Lukinsky, V.I. However, significant changes in the development of the global transportation services market have not yet received comprehensive coverage in modern research. At this stage in the development of the global transportation services market, many unresolved issues remain, especially in terms of analysis of financial stability.

II. MATERIALS AND METHODS

For the successful functioning of companies, it is necessary to monitor not only the financial condition for the current period but also be able to anticipate the state of financial performance in the future. In this regard, the issues of strategic decisions aimed at developing an effective mechanism for managing the external and internal environment of the organization are being updated. To implement the stated direction, several authors propose the use of SWOT analysis, which involves determining the driving forces of development, possible threats, proposed functioning options and weak countries in the company's business. Others - build their research based on relative and absolute factors characterizing the financial stability of business entities. In international regional systems with a weak economic development, the most acceptable is the use of PEST analysis, where the political and economic, social and technological aspects of the development of the external environment of the company are investigated as primary tasks.



When choosing one of the parties as a criterion, priority is given to taking into account certain groups of macro environment conditions in terms of the strength of the possible impact and stability of factors for monitoring.

You can evaluate the influence of the macroenvironment on the organization’s activities by studying several parameters for the following elements of the macroenvironment:

- a system of values and norms adopted in this society;
- the political and economic situation in the world;
- the level of socio-economic development of the population;
- the tax system of the state;
- the level of social and economic responsibility of the state and population;
- institutional structures;
- the ecological situation manifested in characteristic natural disasters.

One of the methodological tools for determining the development prospects of the organization is a way of compiling its profile. The method allows you to evaluate the relative importance of individual conditions that determine the development of the external environment of the company. The selected factor is assigned an assessment based on expert assessment, based on which a scale is built on the grounds of:

- probability of occurrence of the event: 3 - strong value, 2 - moderate value, 1 - weak value;
- the influence of the factor on the organization: 3 - strong influence, 2 - moderate influence, 1 - weak influence, 0 - lack of influence;
- degree of influence: +1 - positive influence, -1 - negative orientation.

Table- I: System of expert assessments for PEST-metod

Environmental factors	Importance for the industry	Organization Impact	Direction of influence	Degree of importance
	A	B	C	D=A*B*C

A prerequisite for PEST analysis is the requirement of a systematic strategic analysis of each of the four specified components.

The information base for writing the work was the materials of the annual reports of Russian Railways OJSC for 2012-2018, reference materials, expert opinions, as well as personal observations of the authors.

III. RESULT AND DISCUSSION

The global transportation services market is currently a dynamically developing sector of market infrastructure. Over the past year alone, the total turnover of services provided has increased by more than 10%. In the Russian market, the growth driver of this segment is air transport, whose growth rate in 2018 amounted to 13%. A decrease in profitability indicators is observed in the railway segment. This is primarily due to rising prices for the services provided. In practical terms, we consider one of the largest Russian railway companies, which is one of the world’s three leaders in the field of railway infrastructure. This can be judged by the volume of freight and passenger traffic, high financial ratings, construction capacities and, finally, by the company’s significant experience in international cooperation. As of 2018, the authorized capital of Russian Railways is

2,229.925145 billion rubles.

An external sign of the financial stability of the organization is its solvency, that is, the ability of the organization to pay off its obligations, the general financial situation of the company is presented in Table. 2.

Table- II: Types of company financial stability.

Possible options	+OCA	+FC	+TVS	Type of financial stability
1	+	+	+	Absolute stability
2	-	+	+	Normal stability
3	-	-	+	Unstable financial condition
4	-	-	-	Crisis financial condition

The absolute deviation in terms of working capital (OCA) in 2017 decreased by 180,228 million rubles, compared with 2016 and by 216,433 million rubles. - in 2015

Deviations of the financial capital (FC) indicator in 2017, compared with 2015 and 2016, show negative values (financial capital - by 156 541 and 52 006 million rubles and total sources (TVS) - by 104 297 and 3,179 million rubles, respectively).

Another aspect of reducing financial stability is the relationship between the main macroeconomic indicators (price index, the average wage of the population of the Russian Federation) and passenger turnover for 2008-2017, see “Fig. 1.”

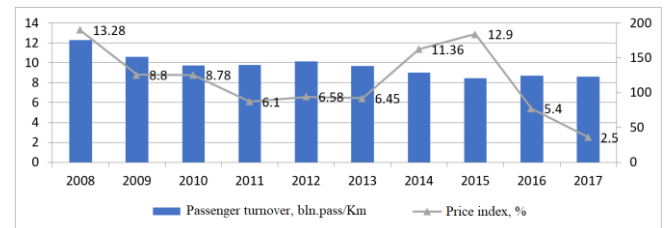


Fig. 1. Dependence of passenger traffic on inflation for 2008-2017

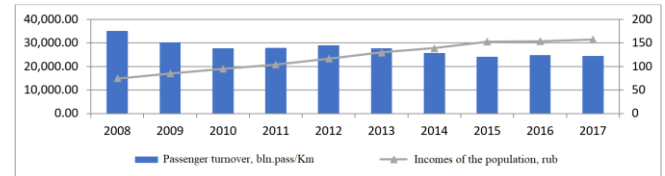


Fig. 2. Dependence of passenger turnover on the level of population income for 2008-2017

The presented results make it possible to identify the insignificant role of population incomes in terms of passenger turnover. The level of income and inflation for the study period have an indirect effect on the volume of services. Thus, a decrease in inflation by 2.58% in 2011 did not entail an increase in passenger traffic, on the contrary, it decreased by 0.9 billion passenger-kilometers. A sharp decrease in inflation in 2016 by 7.1 percentage points did not cause a boom in passenger traffic. In this organization, fixed assets occupy the largest share, crowding out current assets, thereby depriving the organization of paying off its short-term obligations. The payment gap on the most liquid assets and the most urgent liabilities in 2017, compared with 2016, is reduced by 44 113 million rubles.



A reduction in the deficit can be seen in the assessment of prospective liquidity in 2017, compared to 2016, by 58 596 million rubles. This suggests that every year the organization builds up stocks that are part of working capital, thereby increasing the ability to most quickly repay its obligations to its creditors.

The crisis financial condition of the company reflects the insufficient number of current assets to pay off payables and past due obligations. Based on the specifics of this organization, which has in its structure the balance of fixed assets more than working capital, the following is recommended for Russian Railways:

- based on a property lease agreement, provide technically obsolete fixed assets on lease to other organizations;
- reduce the level of stocks of fixed assets;
- increase the turnover rate of existing working capital and increase their number;
- replenish sources of own funds;
- make short-term financial investments due to retained earnings.

Based on the results, identifying the strengths and weaknesses of the organization of the logistics infrastructure, the strengths, and weaknesses of the company were identified and its current activities were considered.

Table- III: SWOT analysis of the transport services market company by the organization of JSC Russian Railways

STRENGTHS	WEAKNESSES
High qualification of workers with many years of experience	Low assessment of labor and employee incentives
Clear hierarchy between employees, specialists and managers	Lack of technical training
Well-functioning system of norms, rules and organizational procedures	Depreciation of fixed assets
Application of scientific and technological progress products	Lagging transport infrastructure from industrialized countries
The status of the largest holding in Russia, allowing to maintain the organization's competitiveness	Lack of financing of capital projects in terms of updating fixed and current assets and transport infrastructure
High influence of interaction with the external environment	Low investment attractiveness by foreign entrepreneurs
Stable pricing for services provided	Low solvency and liquidity balance sheet
High social responsibility of leadership	The difficulties of managing the organizational structure due to the large number of employees and the

OPPORTUNITIES	THREATS
The development of scientific and technological progress	lack of a single policy
Staff reduction through the introduction of remote control and equipment automation	The emergence and development of competitive organizations
Expansion of infrastructure and growth of services provided	Restriction of the organization's authority on the development of projects from the Government of the Russian Federation
The possibility of reforming the organizational structure	Strong dependence on state policy, which can entail sharp fluctuations in the cost of transport services
Public Private Partnership Development	Political instability of society caused by a number of socio-economic factors
Development of new projects related to the reconstruction of transport infrastructure and industry	The growth of economic instability of the organization under the influence of crises
Improving the investment attractiveness of the organization	High dependence of services on tax rates
	The impact of rising prices for raw materials used by the organization to provide services

Among the significant weaknesses can be identified the lack of maintenance, which is characterized by a high degree of deterioration of fixed assets, undeveloped transport infrastructure, which contributes to a decrease in the investment attractiveness of the organization. Low solvency and liquidity indicators characterize Russian Railways as an organization that is not able to efficiently use material and intellectual resources. The solution to these problems depends entirely on additional funding and the development of new projects related to the reconstruction of the transport infrastructure and the industry as a whole.

Based on the strengths, weaknesses, as well as the opportunities and threats that were formulated in the SWOT analysis, we made recommendations for improving the investment attractiveness of Russian Railways:

- it is necessary to optimize the number of personnel and their level of wages;
- implementation of the process of implementation and updating of new NTP products;
- ensuring the safety of staff qualifications;
- interaction and cooperation with the private sector to attract direct investment;
- Introduction of IT-technologies;
- the allocation of non-core activities;
- developing a strategy to reduce costs;
- modernization of transport infrastructure and the industry as a whole.

Table- IV: PEST-method organization of JSC "Russian Railways"

Events / Environmental Factors	Event Probability	Company impact	Direction of influence	Degree of importance
ECONOMIC FORCES				
Increase in tax rates, instability of tax policy	2	3	-1	-6,0
Stability of tax policy, reduction of tax burden	1	3	+1	+3,0
The increase in inflation, a decrease in the purchasing power of the population	2	3	-1	-6,0
Stability of inflation, price reduction	1	2	+1	+2,0
Decrease in the level of employment and their salaries.	2	3	-1	-6,0
The increase in average salary. population and its employment	1	3	+1	+3,0
Recession, crisis	1	3	-1	-3,0
Economic recovery, growth of macroeconomic indicators	1	3	+1	+3,0

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Increase in the number of competitors	1	2	-1	-2,0
POLITICAL FACTORS				
Government policy stability	2	3	+1	+6,0
A sharp aggravation of the political situation in the country	1	3	-1	-3,0
Improving the legal framework in the field of transport services, their financing	2	2	+1	+4,0
Lack of legislative framework and its improvement in the field of transport services and tariffs	1	2	-1	-2,0
SOCIAL AND CULTURAL FACTORS				
Population growth	1	3	+1	+3,0
Population decline	2	1	-1	-2,0
Development of transport infrastructure and the industry as a whole	2	3	+1	+6,0
Underdeveloped transport infrastructure	1	3	-1	-3,0
Social Responsibility Level	1	2	+1	+2,0
Decline in welfare	2	2	-1	-4,0
TECHNOLOGICAL FACTORS				
Creation of new technologies	2	3	+1	+6,0
Decrease in creation of new technologies	1	3	-1	-3,0
Implementation of automated equipment and their remote control	2	3	+1	+6,0
Low level of auto production automation	1	2	-1	-2,0

The most important factors on the transport services market are economic factors with a total value of (-12) points. The influence of these factors is currently negative. Technological factors - 7 points, political factors - 5 points and socio-cultural factors - 2 points. The results obtained make it possible to assess the internal and external environment of the large Russian company Russian Railways, which, in turn, will provide an opportunity to obtain an objective assessment of the organization's investment climate and create conditions for the development of effective management decisions.

IV. CONCLUSION

An analysis of the problems that arose in the field of railway transport revealed the following key points that are critical for further socio-economic growth of the country:

- the need for accelerated updating of fixed assets of railway transport;
 - overcoming the technical and technological backlog of Russia from the advanced countries of the world in terms of railway equipment;
 - the need to reduce territorial imbalances in the development of railway infrastructure, improve the transport security of the regions and develop the capacity of transport lines;
 - the need to remove restrictions on the growth of transit freight traffic;
- lack of investment resources.

The creation of a basic transport network will lead to a significant increase in transport security in many regions, increasing the investment attractiveness of Russian Railways. This will create prerequisites for the socio-economic development of a number of regions at a pace that exceeds the pace provided for in the formation of a long-term program. In addition, depending on the dynamics of regional development, it may be necessary to build additional socially significant and technological railway lines.

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