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## **DETERMINATION OF THE COMPANY'S INSOLVENCY IN THE RISK MANAGEMENT SYSTEM**

***Abstract:*** *the development of an effective management model of a company is the basis for a high indicator of its viability. The work uses the example of «Yandex» to demonstrate the author's evaluation of the amount of financial bankruptcy of firms. The author recommends applying a cost-based method to analyzing a company's financial health in order to identify the key lines of enterprise development, forecast future growth, and offer the primary strategies to enhance it.*

***Keywords:*** *bankruptcy, insolvency, financial risks, cost model, business management, added economic value.*

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## **ОПРЕДЕЛЕНИЕ НЕСОСТОЯТЕЛЬНОСТИ КОМПАНИИ В СИСТЕМЕ РИСК-МЕНЕДЖМЕНТА**

**Аннотация:** разработка эффективной модели управления компании является основой высокого показателя ее состоятельности. В статье представлена авторская оценка уровня финансовой несостоятельности предприятий на примере компании «Яндекс». Автором предлагается использование стоимостного подхода оценки финансового состояния компании для выявления основных направлений развития предприятия, предсказания дальнейшего развития и предложения основных путей ее улучшения.

**Ключевые слова:** банкротство, несостоятельность, финансовые риски, стоимостная модель, управление бизнесом, добавленная экономическая стоимость.

### *Introduction*

Methods for evaluating an enterprise's insolvency in a contemporary economy should take into consideration both the effect of the enterprise's external environment and changes in the structure of investments and intellectual aspects of working capital. As a result, it is clear that standard techniques of measuring financial risks are unsuitable for analyzing company economic efficiency. Therefore, according to the author, the most effective method is to assess the value of the company.

The most useful indication for managing the value of a firm is the indicator of economic value added (EVA), which is computed using the formula:

$$EVA = IC(ROI - WACC) = NOPAT - IC \times WACC \quad (1.1) [6]$$

Where IC denotes invested capital, ROI denotes return on invested capital, WACC denotes weighted average cost of capital (price, expenses), and NOPAT denotes net operating profit after tax but before interest on borrowed funds.

$$WACC = w_e k_e + w_d k_d (1 - T) \quad (1.2) [6]$$

Where  $w_e$ ,  $w_d$  are the share of debt and equity;  $k_e$ ,  $k_d$  – the price of borrowed and own capital, respectively; T is the income tax rate.

The economic value-added indicator characterizes the firm's economic profit as well as the excess of residual income over the alternative costs of the invested capital attracted to the enterprise.

It is necessary to consider the major values of the EVA indicator and compare them to owner behavior.

1.  $EVA = 0$ , i.e.  $WACC = ROI$  – the enterprise's market value equals its book value of net assets. When the owner invests in a business in this instance, the market gain is zero.

2.  $EVA > 0$ , i.e. the difference between the company's market value and its book value of net assets. In this instance, the owners gain from further investment in the business.

3.  $EVA < 0$  results in a fall in the enterprise's market value. Due to the lack of alternative profitability, the owners lose the capital invested in the firm.

Thus, by assessing the economic value added, it is most accurately possible to assess the distribution of the company's funds and its investment attractiveness for further predicting the bankruptcy of the company.

#### *Company overview*

«Yandex» (MOEX: YNDX) is an international technology company founded in Russia in 2000. Later, in 2007, a separate company «Yandex» was established, registered in the Netherlands, and consolidating its assets on the basis of «Yandex» N.V.

The company owns search services, internet portals, marketplaces, food delivery services, music, car sharing, and other projects integrated into the ecosystem. The company identifies 6 reportable business segments presented in Figure 1.

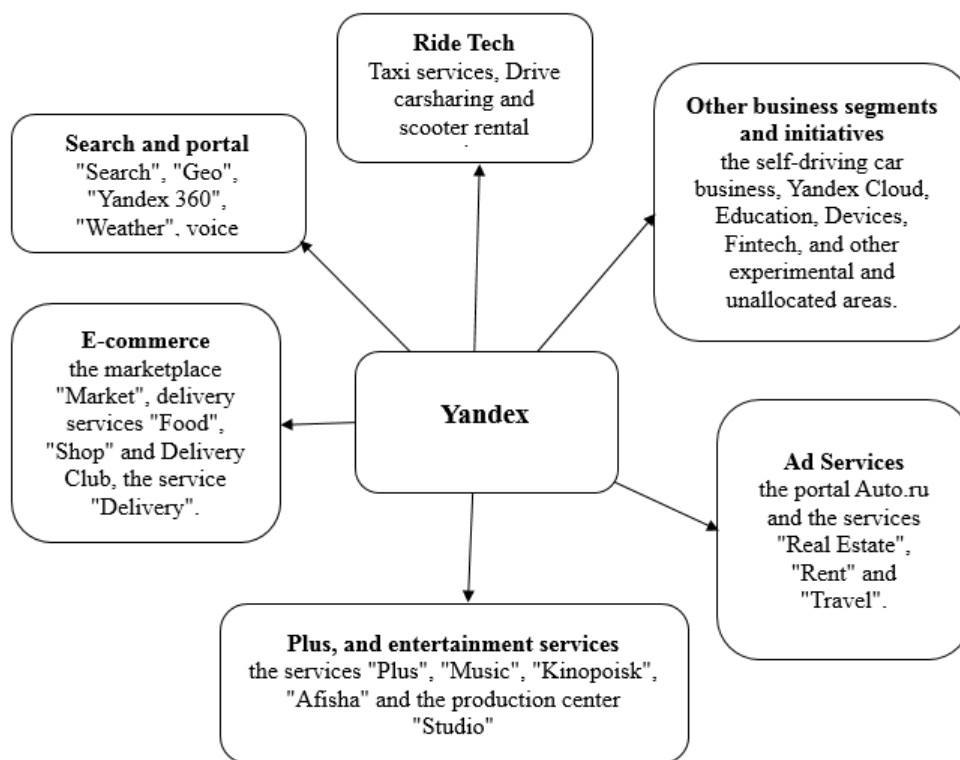


Fig. 1. «Yandex» business segments  
(compiled by the author based on data from [2])

According to the fourth quarter 2022-year results, «Yandex»'s total revenue grew 52% year-on-year to RUB 172.3 billion. By the end of the year, revenues reached RUB 456.8 billion, up 49% compared to 2021.

Adjusted net profit amounted to RUB 754 million in Q4 and RUB 10.8 billion for the full year, up 35% compared to 2021.

The marginal indicator of adjusted EBITDA increased by 3.3 percentage points to 12.3% at year-end.

«Yandex» continued to support employees with cash payments compensating for the loss of options that were impossible to exercise due to restrictions on trading in «Yandex» shares on the NASDAQ stock exchange. By the end of 2022, 18.5 billion rubles were spent for these purposes. More than 10 thousand people participate in the «Yandex» option program.

Table 1

## Financial results of «Yandex», billion rubles

Indicator	2020	2021	2022
Revenue	218,3	356,2	521,7
Adjusted EBITDA	47,2	33,5	72,1
Adjusted EBITDA margin	25,71%	9,60%	13,40%
Adjusted net income	23,5	9,2	11,3
Marginality of adjusted net profit	9,30%	2,20%	2,10%

(compiled by the author based on data from [1–2])

«Yandex» leads all the most in demand and fast-growing segments of the economy – from digital advertising and transport mobility to e-commerce, content, and smart devices. «Yandex» industries and developments show good results by the end of 2022 according to the Table 2.

Table 2

## Revenue structure for 2022, billion rubles

Segment	Revenue	Growth	Segment share in total revenue
Search and portal	224,7	38%	39%
Ride Tech	121,9	43%	21%
E-commerce	101,2	67%	17%
Plus and entertainment services	31,8	73%	5%
Ad Services	12,3	33%	2%
Other business segments and initiatives	89,1	85%	16%

(compiled by the author based on data from [2])

The firm is actively developing, investing cash flow from lucrative divisions in new initiatives that have the potential to become significant growth drivers in the coming decade. In the event that the growing company ideas are withdrawn from the IPO, «Yandex» may obtain a large profit and a big revaluation of the value.

Unlike many inter-segment counterparts, the company has a strong cash position and steadily growing operating cash flow, which allows it to develop without borrowing funds or issuing new shares.

The author has presented current forecasts, but it is better to understand how «Yandex» can increase its revenues in the future. Currently, the company's business is based on advertising in search engines. According to analysts (based on information from [4–5]), this market will grow at an annual rate of 19% until 2024.

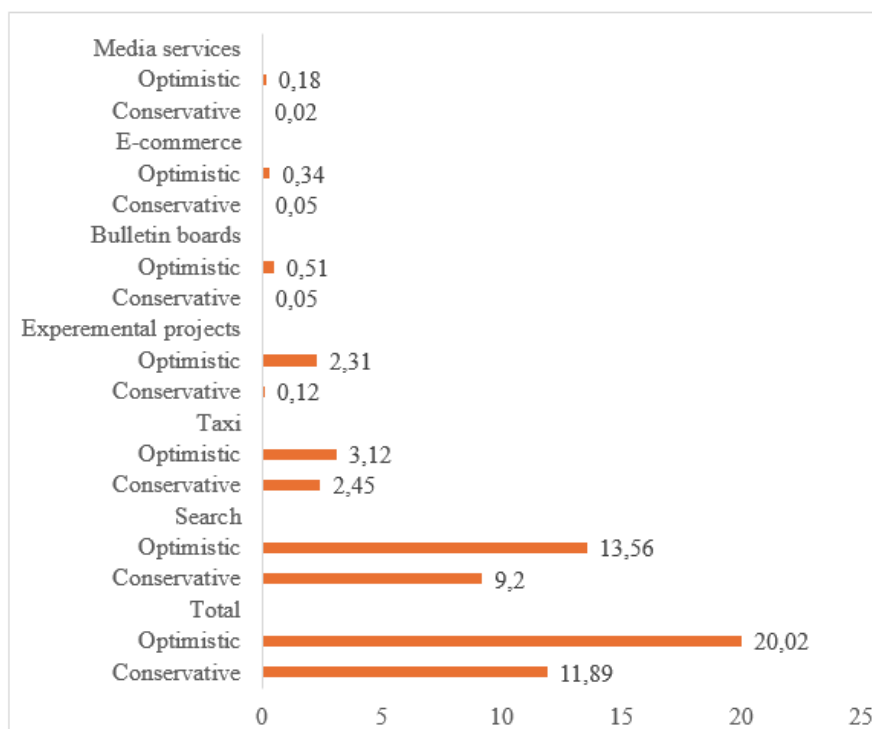


Fig. 2. The final assessment of Yandex's business, billion dollars  
(compiled by the author based on data from [2])

«Yandex» has two products with great potential: taxis and grocery stores. These products operate in much higher volume markets than the online advertising market. Revenue growth for both products is over 15% quarter-on-quarter.

In September 2018, «Yandex» launched Cloud, a cloud service for storing and processing data. The global market is estimated at USD 250 billion. This is another service that could boost Yandex's revenue and stock market capitalization.

#### *Analysis of the company's value management*

EVA is utilized as part of a firm's cost management when generating a capital budget, evaluating the success of business divisions or the company as a whole,

developing an optimal and fair management bonus structure, and projecting the likelihood of an enterprise's bankruptcy. The benefits of incorporating this idea into the framework of corporate risk management are connected with a sufficient and labor-intensive allocation based on this indication of the extent to which a division, firm, or individual project has achieved the aim of lowering financial risks.

Table 3

## Valuation of the company's EVA, billion rubles

Indicator	2018	2019	2020	2021	2022	2023	Forecast
Revenue from sales	1000	1200	1400	1500	1300	1700	1700
EBIT	34,54	45,34	45,24	31,51	65,5	70,18	70,18
NOPAT	152	182,4	228	228	228	228	228
IC	1500	1600	1200	1200	1200	1200	1200
Payment for capital	225	225	240	180	180	180	180
EVA	-73,00	-42,60	-12,00	48	48	48	48
PVEVA	-63,48	-32,21	-7,89	27,44	23,86	20,75	320

(compiled by the author based on data from [1–3])

In accordance with the above calculations,  $EVA = 48$  billion rubles  $> 0$  for 2022 year and according to forecasts for 2023 year, the same value remains positive. In this case, the owners benefit from further investment in the company. It should be emphasized that the acts of the company's CEO in the sphere of production boost the company's worth. Additional growth is conceivable as a result of improved assortment policy, cost reductions, and existing support optimization, among other things.

The author predicts continued strong revenue growth, which will allow the company to increase investments in promising segments such as online commerce and other initiatives. At the same time, the announced revision of the management and ownership structure may significantly affect the company's investment case. Note that Yandex does not pay dividends.

In the near future, investors will continue to focus on the company's plans for the possible division of the business into Russian and international segments, as well as

the prospects for lifting restrictions on transactions with the company's securities on the Nasdaq and Moscow Stock exchanges.

Having analyzed these indicators and the information received from «Yandex» LLC, it is possible to draw certain conclusions about the impact of adopted innovations on the final results of the segments in which the company operates. Obviously, thanks to them, the segments into which they were introduced showed higher results than before their introduction, the employees of the «Yandex» LLC company also note.

*Measures to decrease the probability of bankruptcy of Yandex LLC*

One of the main tasks of the work was to increase «Yandex»'s solvency. To solve this problem, a set of measures was selected to improve the IT company's risk management. It is proposed to implement the following programs:

– development of a system for recording the working hours of production staff. The optimal solution in this context is to formulate work rates in the context of actual working hours or completed tasks. This measure will allow for a more accurate calculation of project costs;

– maximum automation of cash flow planning, recording payment requests and organizing payment schedules. This measure allows cash deficits to be identified in advance and measures to prevent them to be taken. Taking into account the automation of activities related to the implementation of monetary payments, the time costs of conducting financial transactions are significantly reduced. The use of payment calendars also allows «Yandex» to manage financial transactions, which allows entering real data on the availability of funds on the company's account on a daily basis;

– changing the legal location to a free economic zone or IT cluster (e.g. «Skolkovo Innovation Center», «Innopolis» Special Economic Zone). Relocation of offices to special zones that offer tax incentives to residents, allowing them to reduce tax expenses (lower insurance premium rates, income tax exemptions, lower customs duties) and deductions from their salaries;

– development of new services using users' financial resources. For example, the establishment of «Yandex.Bank», an online activity to provide banking services to customers;



– implementation of loyalty programs for regular users of «Yandex» services. Reward programs can be implemented to increase the loyalty of customers using various «Yandex» services: promotional campaigns, discounts on service fees and free services for frequent users of services such as «Yandex.Food» and «Yandex.Taxi», and other personalized approaches can increase customers' interest in using the company's services more often.

Thus, company-specific problems in the information environment are mainly shaped by the specifics of project work and balance sheet characteristics (e.g. compared to production). The above measures have a significant impact on optimizing the company's costs and improving «Yandex»'s liquidity. The recommendations can be implemented by similar companies in the information support sector.

### *Conclusion*

Cost management is an important tool for business development in modern society. Assessment of the bankruptcy of the enterprise should be shaped on the basis of both the internal state of the organization and the surrounding conditions.

According to the analysis conducted in this study, «Yandex» LLC is one of the largest and most competitive companies in the IT sector in the Russian Federation. The company has a wide range of services and different capacities and has great potential for further expansion and development.

According to the analysis of the crisis management of «Yandex» LLC, the company is currently actively working in this direction, constantly introducing innovations in its activities, and investing in new projects. Despite the company's economic difficulties, it continues to invest in innovative developments and is ready to develop at its own expense. However, during the analysis in this work, some shortcomings and problems were identified in the company's activities. Recommendations are then presented which, if implemented, will turn the situation around.

Previously, Russia was skeptical about innovation. It was believed that it was too far away from us and not worth changing anything. The principle was: If something works well, why change it? But today the situation has changed dramatically. Innovation is now the main source of organizational development in the market. Actively

monitoring the situation on the market and identifying new needs, ideas, and technologies – all this is the key to further development and market dominance of companies.

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