

Research article

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Forecasting the Financial Performance Dynamics of a Present-Day Industrial Enterprise in Today's Market

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Abstract

Forecasting financial performance dynamics is one of the most fundamental processes for analysing the development trends of any company. For large-scale forecasting, however, it is necessary to consider numerous relevant factors, including the external environment in which a company operates. This particular factor has proven the most vital aspect to consider, because even minor environmental shifts shape the entire development trajectories of all industries and enterprises involved. What is more, the ability of an industrial enterprise to adjust to external environmental changes of any sort represents a prerequisite of successful competition and increased investment prospects within the framework of newly emerging challenges and resources, both digital and technological. In this research, the authors aim to investigate the external environment of a particular industrial enterprise and to assess the prospects of its strategic development, accounting for the innovations introduced by digital technologies and industrial revolutions. As a result, this research suggests a range of measures for enterprises to stabilise the internal environment, thus contributing to the dynamic stability of business models. Overall, combining scientific analysis with these stabilising measures justifies the statement that the development strategies and management approaches of industrial enterprises must be consistent and co-integrated.

Keywords: financial performance, financial indicators, digital transformation, industry, enterprise

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Прогноз Динамики Финансовых Показателей Промышленного Предприятия в Текущих Условиях

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Аннотация

Прогноз динамики финансовых показателей является достаточно важным инструментом анализа тенденций развития компании. Однако для его проведения необходимо учитывать обширный перечень релевантных факторов, одним из которых можно назвать внешнюю среду, в которой функционирует предприятие. Именно тенденции ее изменения придают ключевые рамки в развитии промышленности и промышленных предприятий. И наличие гибкости промышленного предприятия в вопросах адаптации к нестабильной внешней среде дает ему возможность достигать конкурентоспособного уровня и инвестиционной привлекательности с учетом новых вызовов и ресурсов (цифровых и технологических). Целью данного исследования стало исследование внешне среды функционирования конкретного промышленного предприятия и возможности его стратегического развития в будущем, с учетом нововведений, привнесенных цифровыми технологиями и Индустриальными революциями.

Ключевые слова: финансовые показатели, цифровая трансформация, промышленность, предприятие

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1. Introduction

This research considers the activity of an industrial enterprise and the dynamics of its financial performance within an unstable external environment, as well as the innovations brought by industrial revolutions (Industry 4.0–Industry 6.0). As such, the herein research topic is of significant relevance at present. For instance, today, the scientific community is exerting much effort to determine the most appropriate development strategy to meet the challenges introduced by extreme instability, thus enabling enterprises to perform better and to adapt to new market realities (Ismailova et al., 2021).

In effect, a leading challenge among industrial enterprises has proven to be developing the ability to adjust to a widened range of digital opportunities and functions, a fact that guided the development of the goals and tasks of this research. As such, the herein authors strive to define and justify the importance of alignment between the development strategy and the above-mentioned priority tasks and threats.

Forecasting the financial performance dynamics of industrial enterprises begins with a definition of the external environment in which the company operates, namely its current development vectors. Accordingly, the provisions of Industry 4.0 have shaped the grounds for a precedent concerning the complete digitalisation of (all or singular) business processes (Sandberg et al., 2019). Relative to this, Figure 1 presents the vision of Industry 4.0, together with the range of associated benefits.

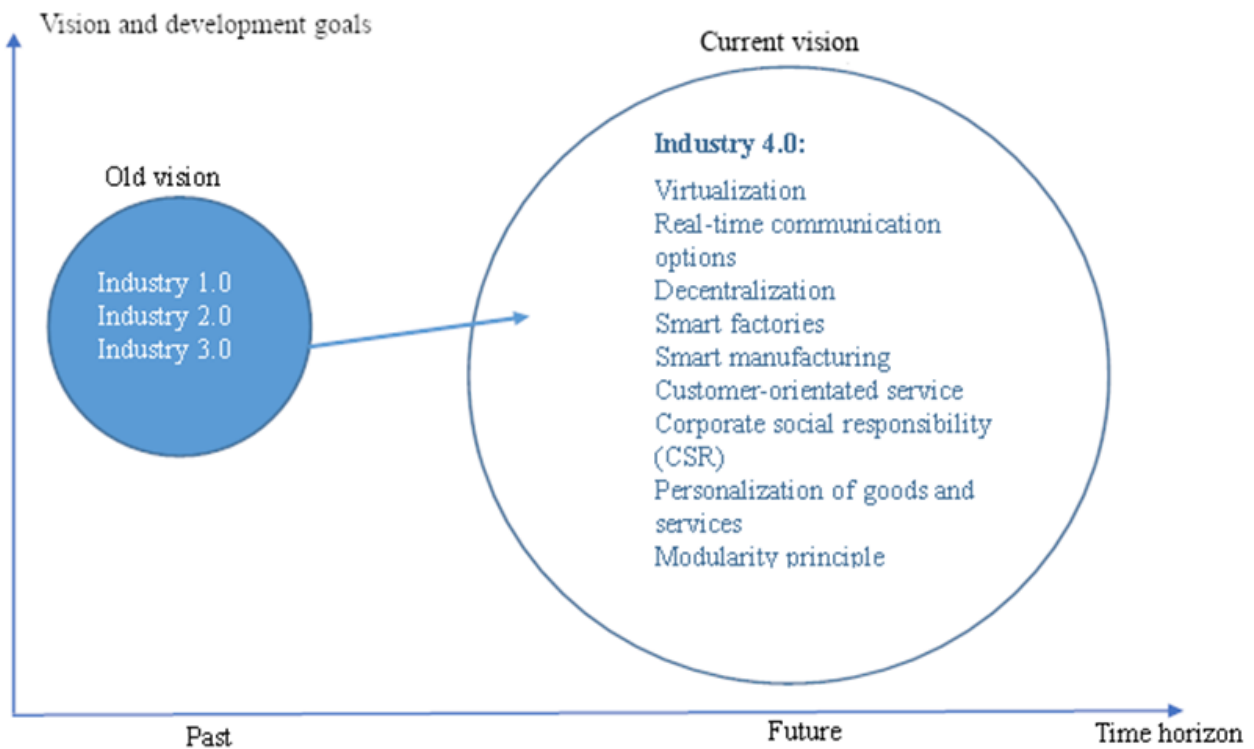


Figure 1. Old and current visions of industrial development

Figure 1 demonstrates the already available digital functions of the Industry 4.0 framework implemented in multiple fields, including industry (Annanperä et al., 2021), providing the basis for the evolution from semi-automated labour to neural networks and cyber-physical automation. The 2019 pandemic became a jumping-off point for significant changes, leading to growth in the prospects of a new Industry 6.0 vision to be implemented in the near future. Beneficially, the core technical and technological elements of “smart production”, relevant for Industry 3.0, have already been exploited in Industry 4.0, thus shaping the basis for Industry 6.0 (Figure 2) (Annanperä et al., 2021).

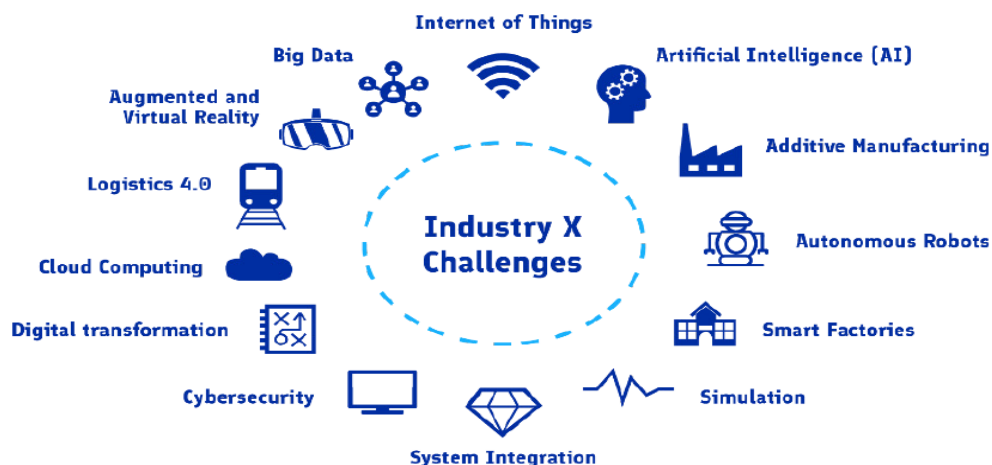


Figure 2. Core technologies available for the transition from Industry 4.0 to Industry 6.0

Figure 2 explicitly demonstrates that all the Industry 4.0 functions available now function as sufficient prerequisites for the whole-scale digital transformation of the industry—meaning that achieving this shift is simply a matter of time (Samonova, 2020).

Even now, the functionality of digital services is rapidly changing (Li et al., 2009), involving the transformation of traditional business models and market relations (Orekhova, 2018). Further, the relentlessness of this process dictates the necessity for industries to invite technologies (digital and industrial) to maintain their financial stability, competitiveness, profitability and investment prospects (Kovtunenکو et al., 2016).

However, the unstable and unpredictable external environment of today cannot be neglected by industrial enterprises (Mironova, 2008; Nikolaev, 2005), which is exactly why an enterprise's ability to adjust will enable not only survival during a crisis, but also the implementation of modern technological solutions and digital services for optimisation (Shestakova, 2021). Consequently, costs will be reduced (Lukasevich, 2010), and financial performance will improve once the company overcomes the impediments to production and business models.

For an industrial company to adapt successful (Orfanidi et al., 2023) to the external environment, it is necessary to attract additional funding sources (Ryabova, 2015), and the concept of investment prospects should be considered in more detail, because investment management is—undoubtedly—an integral component of any development strategy (Aleksandrova, 2013).

Generally, the investment prospects of an economic entity (Zakirova, 2016), including an industrial enterprise, can be considered from different angles. Particularly, Tolkachenko et al. (2008) distinguish four approaches to the definition:

1. Investment prospects as a condition of enterprise development,
2. Investment prospects as a condition for investment,
3. Investment prospects as a set of indicators and
4. Investment prospects as an indicator of investment efficiency.

Each approach includes three main components: economic relations, investment resources (Ryabova, 2015) and competitiveness (Golov et al., 2018), each of which plays a key role for a number of reasons.

First, an economic relationship between donor and investment recipient is a basic requirement of

the investment process of capital redistribution at the macro- and microeconomic levels. As such, an industrial enterprise need not increase its investment prospects simply for the sake of it. Indeed, the need comes from the presence of counterparty relations. Simultaneously, the need to attract investments arises when an industrial enterprise lacks sufficient investment capital and the opportunity to generate capital at the expense of its own financial resources—which is where investing becomes relevant. However, when allocating their own funds, investors require certain term guarantees (urgency, repayment, fee), because as a rule, the amount of temporarily free funds that can be invested is limited. Logically, only a competitive and, therefore, strategically sustainable industrial corporate structure can be considered a dependable recipient (Skobeleva, 2007).

Investment resources, both external and generated at the expense of the industrial enterprise, can be allocated to meet various needs, as in theory, investments are always a contribution to the future development of the corporate structure, i.e. expanded reproduction. Concurrently, the investment prospects of an industrial enterprise can only be considered seriously if strategic management and planning prove effective, as the presence of both indicates the company has sufficient fixed assets, current assets (material resources), human resources and intellectual and technological potential, furthering the development strategy (Laursen et al., 2016). Another important enhancer of company strategy and overall performance is financial, tax and management accounting, because these data provide the grounds for comprehensive decision-making.

As such, the financial indicator dynamics in this research are assessed and case-based on the OOO ‘StalNefteMash’, though the example enterprise choice is not random, resting on the fact that the company operates in the oil sector, which is vastly exposed to the external environment and has high prospects for attracting funds for digital transformation.

2. Materials and methods

In their assessment, the authors selected the following financial indicators for analysis: growth rates of revenue and net profit and the dynamics of investment attractiveness indicators (EBITDA, EBIT, profitability indicators, etc.) (Magomedov et al., 2020). When considered complex, these indicators enable assessment of the enterprise's current performance and forecasting the future financial indicators based on the price dynamics of one barrel of oil (as OOO ‘StalNefteMas’ operates in the oil sector). The table below presents data on the growth rate of the enterprise and its revenue for 2018–2021.

Table 1. The revenue of ‘StalNefteMash’, 2018–2021

Company	Revenue, thd. rub.			
	2018	2019	2020	2021
	48,924	50,166	53,217	76,763
OOO “StalNefteMash”	Growth rate, %			
	2.5%	6.1%	44.2%	

Source: (compiled by the author)

Figures 3 and 4 showcase the same growth trends for examples of other indicators.

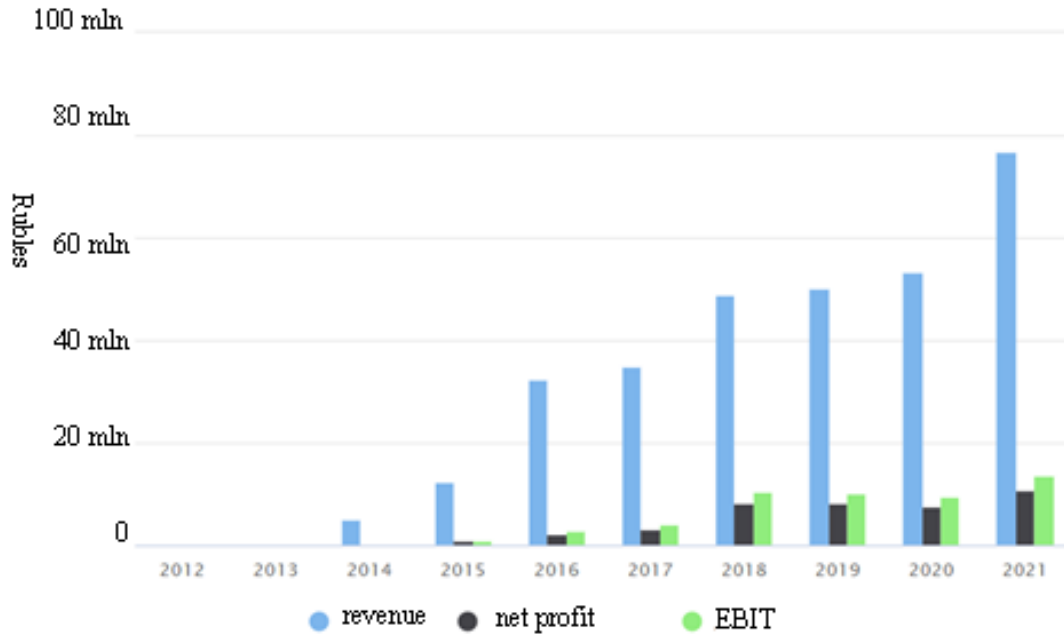


Figure 3. Financial performance of OOO ‘StalNefteMash’

Source: (compiled by the author)

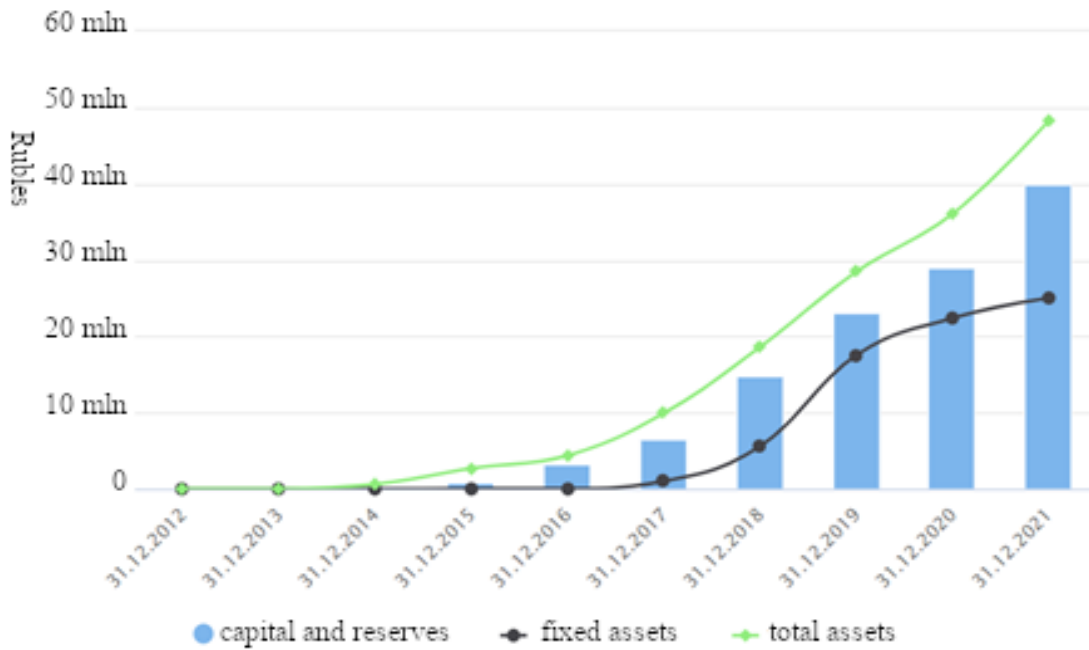


Figure 4. Balance sheet data of OOO ‘StalNefteMash’

Source: (compiled by the author)

Table 2. Company net profit and EBITDA

Company	Net profit, thd.rub.			
	2018	2019	2020	2021
	8,398	8,202	7,598	10,872
	EBITDA, thd.rub.			
	2018	2019	2020	2021
	10,502	10,282	9,531	13,634
OOO 'StalNefteMash'	Net profit growth rate,%			
	2018	2019	2020	2021
		98%	93%	143%
	EBITDA growth rate, %			
	2018	2019	2020	2021
		98%	93%	143%

Source: (compiled by the author)

The data presented in Table 2 and Figures 3 and 4 showcase the accelerated business performance and growing financial stability from 2018–2021.

Table 3. Year-end financial and economic indicators of OOO 'StalNefteMash'

Financial indicator	2021	2020	2019	2018	2017	2016	2015	2014
EBIT	13,634	9,531	10,282	10,502	4,087	2,861	1,011	154
Return on sales (profit from sales per each revenue rouble)	18%	18.4%	20.9%	21.5%	11.9%	9.1%	8.1%	3.7%
Return on equity (ROE)	27%	26%	43%	78%	67%	109%	148%	151%
Return on assets (ROA)	26%	23.5%	34.8%	58.7%	45.5%	64.4%	48.5%	37.8%

Source: (compiled by the author)

Based on actual data of the company's performance, it is possible to track the indicators' existing dynamics, thereby enabling the projection of future trends. In addition, the projected value of financial indicators was assessed until the year 2027, and calculations of the projected values were based on the cost per barrel of oil (USD) from 2023–2027, which according to public sources was as follows: 2019, \$64.21; 2020, \$41.84; 2021, \$70.91; and 2022, \$85.99. Further, Monetary Policy Report No. 4 by the Central Bank of the Russian Federation (2022) states that the cost per barrel of oil was fixed at US\$84.47 in 2023, US\$70 in 2024, US\$60 in 2025 and US\$55 in 2026; meanwhile, for 2027, the authors determined a fixed US\$56.

Table 4. Projected financial indicator values, 2019-2027

Figures as of 31 December

Period	2019	2020	2021	2022	2023	2024	2025	2026	2027
Revenue									
Volume (thd. barrels)	781	1,272	1,083	911	911	911	911	911	911
Estimated annual growth rate (%)	62.8%	14.9%	15.9%	-	-	-	-	-	-
Average cost per barrel of oil (USD)	64.21	41.84	70.91	85.99	100.00	100.00	100.00	100.00	100.00

Estimated annual growth rate (%)	34.8%	69.5%	21.3%	16.3%	-	-	-	-	-
Total revenue	50,166	53,218	76,764	78,299	91,056	91,055	91,055	91,055	91,055
Cost of finished products	33,278	36,855	45,927	46,846	54,478	54,478	54,478	54,478	54,478
Gross profit	16,888	16,362	30,836	31,453	36,578	36,577	36,577	36,577	36,577
Gross profit (% of total revenue)	33.7%	30.7%	40.2%	40.2%	40.2%	40.2%	40.2%	40.2%	40.2%

Source: (compiled by the author)

Table 4 offers a view of the changes in revenue, gross profit and other indicators if the projected volume is maintained; however, changes in the projected cost per barrel are considered. According to the data, in the event of an oil price decrease, the company's financial indicators will cease to grow significantly, suggesting a logical shift in focus towards innovative development or market share expansion, as the company still has sufficient development potential. For instance, gross profit takes 40% of gross revenue, meaning that with a comprehensive investment policy, the company can achieve a new level.

Table 5 summarises the data from the previously mentioned calculation, demonstrating an average growth rate of 16% in revenue and 10.5% in EBITDA/EBIT for the period to 2022, despite a recorded decline in financial indicators of 8.2%, following declining oil prices.

Table 5. Summarised projected values of financial indicators, 2019–2027

Thd. Rub.

Figures as of 31 December	Actual data					Forecast data					Average growth rate (%)	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	'19–'22	'22–'27	
Revenue	50,166	53,217	76,763	78,298	50,992	50,991	50,991	50,991	50,991	16.0%	(8.2)%	
Costs	(33,278)	(36,855)	(45,927)	(46,846)	(30,508)	(30,508)	(30,508)	(30,508)	(30,508)	12.1%	(8.2)%	
Gross profit	16,888	16,362	30,836	31,453	20,484	20,483	20,483	20,483	20,483	23.0%	(8.2)%	
Selling expenses	(436)	(516)	(919)	(937)	(610)	(610)	(610)	(610)	(610)	29.1%	(8.2)%	
Profit after deduction of selling expenses	16,452	15,846	29,917	30,515	19,874	19,873	19,873	19,873	19,873	22.9%	(8.2)%	
Administrative expenses	(5,970)	(6,046)	(16,115)	(16,437)	(14,356)	(16,079)	(18,008)	(20,169)	(22,589)	40.2%	6.6%	
Other expenses	0	0	0	0	0	0	0	0	0	0.0%	0.0%	
	10,482	9,800	13,802	14,078	5,518	3,794	1,865	(296)	(2,717)	10.3%	(172.0)%	
Amortisation	(200)	(269)	(168)	(203)	(245)	(245)	(245)	(245)	(245)	0.5%	3.8%	
	10,282	9,531	13,634	13,875	5,273	3,549	1,620	(541)	(2,961)	10.5%	(173.4)%	
Net profit	8,202	7,598	10,872	11,089								

Dynamic of indicators

	6.1%	44.2%	2.0%	34.9%	0.0%	0.0%	0.0%	0.0%	0.0%
	20.9%	18.4%	18.0%	18.0%	10.8%	7.4%	3.7%	(0.6)%	(5.3)%
	20.5%	17.9%	17.8%	17.7%	10.3%	7.0%	3.2%	(1.1)%	(5.8)%
	16.3%	14.3%	14.2%	14.2%					

Source: (compiled by the author)

The data presented in Table 5 shows a significant decrease among EBITDA/EBIT indicators when compared with 2022, if the company does not adjust its current activities and does not seek new development paths.

3. Results

This section of the research is organised in accordance with the statements suggested earlier. Figure 5 below graphically presents the results summarised from Table 5.

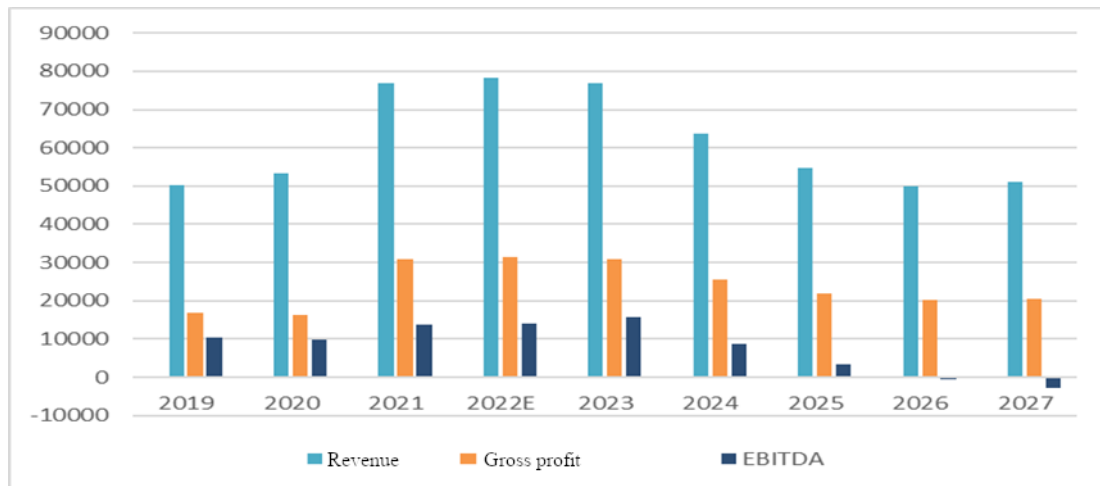


Figure 5. Projected revenue, gross profit and EBITDA indicators, in accordance with the oil price forecast by the Central Bank of the Russian Federation, 2023–2027

Source: (compiled by the author)

Let us analyse the dynamics of the company's financial indicators if the oil price remains at US\$100/barrel (Table 6).

Table 6. Summarised forecast values of financial indicators at US\$100/barrel, 2019–2027

Thd. Rub.

Figures as of 31 December	Actual data					Forecast data					Average growth rate (%)	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	'19–'22	'22–'27	
Revenue	50,166	53,217	76,763	78,298	91,056	91,055	91,055	91,055	91,055	16.0%	3.1%	
Cost	(33,278)	(36,855)	(45,927)	(46,846)	(54,478)	(54,478)	(54,478)	(54,478)	(54,478)	12.1%	3.1%	
Gross profit	16,888	16,362	30,836	31,453	36,578	36,577	36,577	36,577	36,577	23.0%	3.1%	
Selling expenses	(436)	(516)	(919)	(937)	(1,090)	(1,090)	(1,090)	(1,090)	(1,090)	29.1%	3.1%	
Profit after deduction of selling expenses	16,452	15,846	29,917	30,515	35,488	35,487	35,487	35,487	35,487	22.9%	3.1%	
Administrative expenses	(5,970)	(6,046)	(16,115)	(16,437)	(14,356)	(16,079)	(18,008)	(20,169)	(22,589)	40.2%	6.6%	
EBITDA	10,482	9,800	13,802	14,078	21,132	19,408	17,479	15,318	12,898	10.3%	(1.7)%	
Amortisation	(200)	(269)	(168)	(203)	(245)	(245)	(245)	(245)	(245)	0.5%	3.8%	
EBIT (Operating Profit)	10,282	9,531	13,634	13,875	20,887	19,164	17,234	15,073	12,653	10.5%	(1.8)%	
Net profit	8,202	7,598	10,872	11,089								

Indicators Dynamics

Revenue growth rate (%)	6.1%	44.2%	2.0%	16.3%	0.0%	0.0%	0.0%	0.0%	
EBITDA Margin	20.9%	18.4%	18.0%	18.0%	23.2%	21.3%	19.2%	16.8%	14.2%
EBIT Margin	20.5%	17.9%	17.8%	17.7%	22.9%	21.0%	18.9%	16.6%	13.9%
Net profit growth rate	16.3%	14.3%	14.2%	14.2%					

Source: (compiled by the author)

In the analysis of the dynamics of financial indicators, according to the table above, the decline in activity is observed to a much lower extent. What is more, for the period from 2022 to 2027, the indicators of revenue and gross profit show an increase of 3.1%; EBITDA/EBIT in this case declines by 1.7–1.8% only.

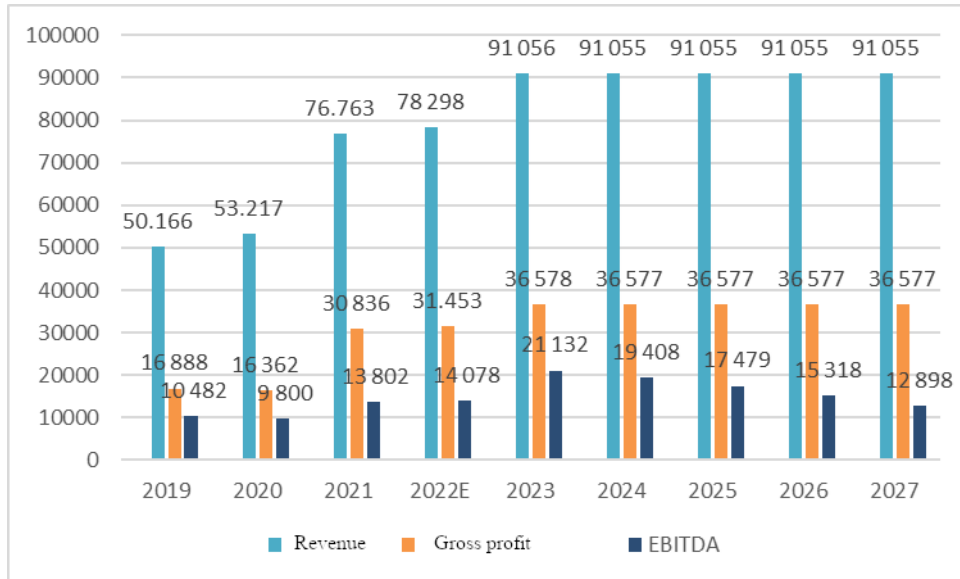


Figure 6. Projected revenue, gross profit and EBITDA indicators, in accordance with the forecast for 2023–2027, at an oil price of \$100/barrel

Source: (compiled by the author)

Figure 6 also clearly demonstrates the stability of financial indicators when oil prices are fixed at a specified level. In this research, such an approach is considered promising, but currently, experts primarily tend to expect growth in oil prices due to the ongoing recovery of the Chinese economy. Thus, to assess development prospects in detail, it is necessary to compare the value volume of OOO ‘StalNefteMash’ in terms of current and potentially possible markets. For instance, according to analytical data, the potential capacity of petrochemistry and oil refining is 1.5 times higher than its current capacity, with an annual average market growth of 20%. Further, calculations based on industry data show the gap between the current market position and the potential market position of OOO ‘StalNefteMash’, amounting to 55–60%, or 1.14 million roubles in current prices (Fig. 7).

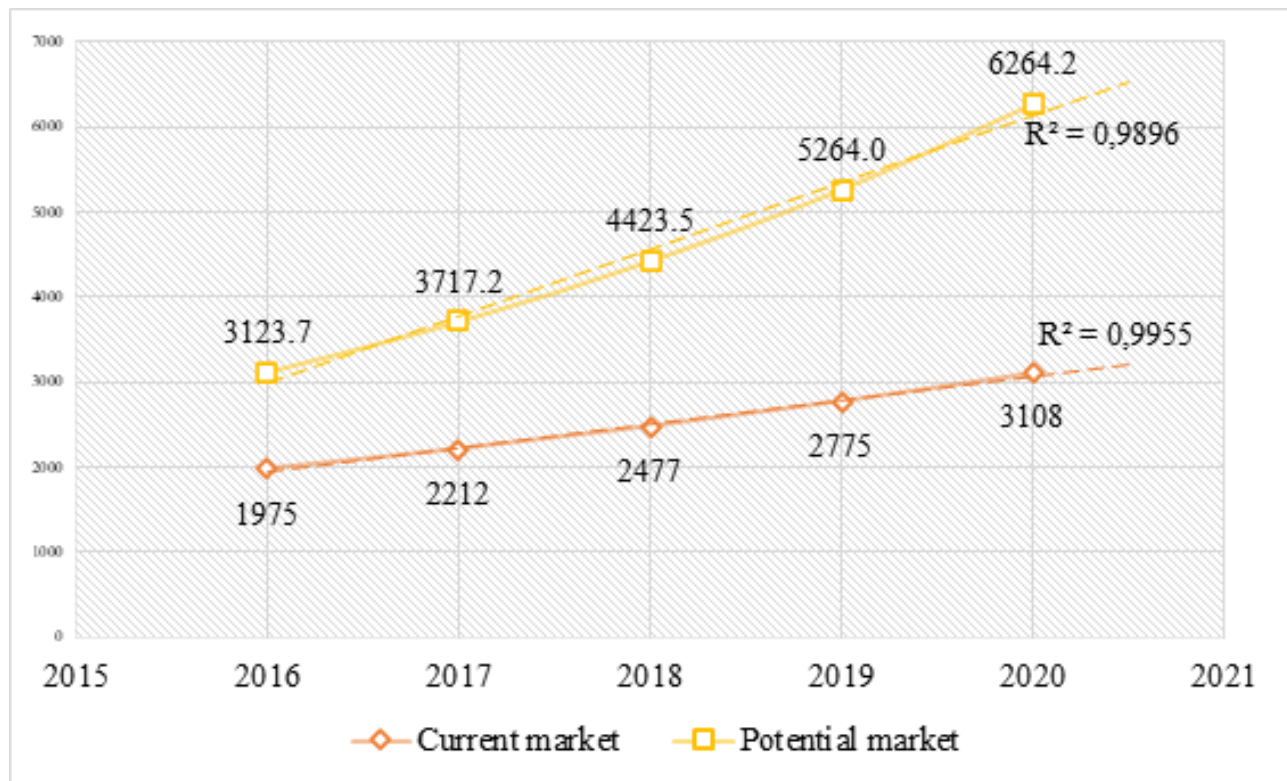


Figure 7. Assessment of opportunities for strategic development of OOO 'StalNefteMash'

Source: (compiled by the author)

The analysis reveals the obvious dependence of the company's financial performance on changes in oil price; what becomes even more apparent is the need for the company to introduce innovations to reduce production costs and increase investment prospects. Overall, the company has a certain potential to expand its market niche.

4. Discussion

OOO 'StalNefteMash' could certainly opt for an aggressive form of development and regain its lost market position; however, it is important to remember that this type of development is a short-term strategy only (Kundytskyj et al., 2019). In the future, it will be necessary to transition to a diversified development strategy to maintain and improve market positions, as well as the economic security of the business model (Bogoviz et al., 2020).

As such, an aggressive strategy would be authentic to the market opportunities and would allow OOO 'StalNefteMash' to broaden its market capacity and boost investment prospects (Shitkina, 2006). Nonetheless, aggressive growth requires a high-quality internal environment and efficiency in its development strategy, both of which are largely supported by the dynamic stability of the adopted business model and positive financial indicator dynamics. This means attracting additional funds and digital technologies can result in a significant positive change (Nabieva et al., 2023), even with the current financial performance and projected values.

The current development strategy of OOO 'StalNefteMash' features the following drawbacks. The first group is associated with management's general inefficiency and, accordingly, corporate strategy failures. Meanwhile, the second is associated with financial and investment strategy inefficiency. As such, the identified problems contradict the range of managerial decisions aimed at improving the internal environment of OOO 'StalNefteMash' to achieve the company's strategic goals. All effective solutions boil down to corporate development management (Vorontsova et al., 2023) and require the company to reduce excessive staff, sell and (or) lease excessive property (fixed assets) and find ways to

increase the exploitation of intangible assets.

Implementation of these measures by OOO 'StalNefteMash' would enable the company to reduce operating activity expenses and, partially, investments, as well as to obtain additional income from the exploitation of intangible assets, thus leading to reductions in the growth rates of expenses for primary (operating) and investment activities. This means that by achieving a balance between income and expense growth rates, the company can increase profitability and self-finance. This also leads to a reduced debt burden via redirecting additional revenues to secure current and long-term liabilities, reduced operating activity expenses and the redistribution of additionally released financial resources to limit current and long-term liabilities.

It is obvious that from the nearest five-year perspective, OOO 'StalNefteMash' demonstrates a high quality of economic growth and, consequently, will develop an elevated level of economic security and sufficient investment prospects. It is also important to note that such dynamic and sustainable development will be possible only if the business model and approach to strategic planning and management are updated—if the necessary funds are allocated and if the price per barrel remains at US\$100.

As well, the implemented measures will allow OOO 'StalNefteMash' to stabilise its internal environment and contribute to the dynamic stability of its business model. In this case, the analysis and measures proposed above once again substantiate the statement that the development strategy and management approaches should be coordinated and co-integrated. It is important for strategic management to target specifically measures that would stabilise the company's socio-economic and financial status, as this is the only way to identify growth and development reserves in accordance with the adopted strategic updates.

Another group of co-dependent indicators is represented by development sustainability, economic growth, investment prospects and investment profitability (Susilo et al., 2023). Nevertheless, many researchers emphasise the functional aspects related to management in industrial enterprises. For example, Mironova prioritised the operational aspect as the leading impediment to economic growth, and according to her vision, the excessively long production–operation cycle must be minimised to incentivise advanced economic growth.

However, such an outcome is practically impossible, as much of the production–operation cycle in industry is occupied by unfinished production. Accordingly, to increase productivity and hasten the production process, certain changes must be introduced regularly. An industrial enterprise should constantly increase investments in non-current assets, increase the capital intensity of its activities and maximise economic benefits (primarily revenue from operating activities).

Similarly, Lukasevich singles out another impediment to accelerating turnover in the operating cycle: the need to maintain an optimal (sufficient) stock of resource volumes (raw materials and supplies) to ensure uninterrupted production and sales. The researcher argues this is an optimal solution for the company to minimise its financial cycle. However, this strategy is far from universal, as for large industrial enterprises with external flows of financial, material and other resources, a condensed financial cycle might promote shortages in one or another production area.

5. Conclusion

In 2022, 46 projects based on a public–private partnership were announced in the Republic of Bashkortostan, totalling 47.5 million roubles. Hopefully, when implemented, such a partnership model will spread widely throughout the industry, giving industrial enterprises, in general, the opportunity to invite funds from the external environment to boost their development potential. Therefore, the focus of theoretical and methodological research on investment prospects must shift more towards private investments and practice-oriented models of attraction.

Global development trends should also be tracked carefully by enterprises, including industrial

ones, and modern technologies should be employed in production among industrial enterprises to ensure long-term competitiveness. Moreover, the general development strategy of industrial enterprises should combine the features of Industry 6.0 and potential opportunities for the future with their assessment based on tracking classical financial indicators. Based on the accumulated variety of data, any company can choose one or another type of development strategy, but in this research, an aggressive development strategy was proven the most efficient for the specific conditions of OOO 'StalNefteMash'.

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References

- Aleksandrova, A., 2013. Features of Russian holdings as objects of corporate management. *Problems of Economics and Management* 12 (28). URL: <https://cyberleninka.ru/article/n/osobennosti-rossiyskih-holdingov-kak-obektov-korporativnogo-upravleniya>
- Annanperä, E., Jurmu, M., Kaivo-oja, J., 2021. From Industry x to Industry 6.0 antifragile manufacturing for people, planet, and profit with passion. White paper 5. URL: <http://hdl.handle.net/10138/335672>
- Bogoviz, A., Ragulina, Y., 2019. Industry competitiveness: Digitalization, management, and integration. In: *Proceedings International Scientific and Practical Forum "Industry. Science. Competence. Integration"*, Moscow, 28 November 2019, Springer Nature, 2020. <https://doi.org/10.1007/978-3-030-40749-0>
- Golov, R., Baldin, K., Perederyaev, I., 2018. *Investment Design*, fourth ed., Dashkov and K, Moscow. URL: <https://znanium.com/catalog/product/415324>
- Izmailova, M., Morozov, M., Morozova, N., Morozov, M., et al., 2021. Digital transformation of industrial enterprises in the conditions of innovation economy. *World of Science*. URL: <https://izdmn.com/PDF/06MNNPM21.pdf>
- Kovtunen, Y., Grabovenko, O., 2016. Competitiveness enterprise in modern conditions: problems and prospects. *Economics: Realities of Time* 2 (24). URL: <https://cyberleninka.ru/article/n/competitiveness-enterprise-in-modern-conditions-problems-and-prospects>
- Kundytskyj, A., Vykliuk, M., Kovalenko, N., Cret I., 2019. The mechanism of the industrial enterprise's strategy development formation. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)* 9 (1). <https://doi.org/10.35940/ijitee.A4969.119119/>
- Laursen, G.H.N., Thorlund, J., 2016. *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*. John Wiley & Sons. <https://doi.org/0.1287/inte.2018.0967>
- Li, J., Merenda, M., Venkatachalam, A.R., 2009. Business process digitalization and new product development: An empirical study of small and medium-sized manufacturers. *International Journal of E-Business Research (IJEER)* 5 (1), 49–64. <https://doi.org/10.4018/978-1-61520-627-8.ch014>
- Lukasevich, I., 2010. *Financial Management*. Eksmo, Moscow.
- Magomedov, R., Bogodevich, N., 2020. Analysis of influence prospects of program-targeted instruments on the regional development (Russia case-based). *Regional Problems of Economic Transformation* 129. <https://doi.org/10.26726/1812-7096-2019-8-129-136>
- Mironova, N., 2008. Essence and factors of sustainable economic development of industrial enterprises. *Business in Law* 3, 233–237.
- Nabieva, N., 2023. Innovative activity and its impact on the production structure of an industrial enterprise. *Nazariy Va Amaliy Tadqiqotlar Xalqaro Jurnal* 3 (1), 21–33. <https://doi.org/10.5281/zenodo.7595211>
- Nikolaev, I., 2005. Organization of financial management in holding companies. *Management Accounting and Finance* 3, 40–42. URL: <https://grebennikon.ru/article-lsw.html>
- Orekhova, S., 2018. Industrial enterprises: Electronic vs. traditional business model. *Space of Economy* 4. URL: <https://cyberleninka.ru/article/n/promyshlennye-predpriyatiya-elektronnaya-vs-traditsionnaya-biznes-model/>
- Orfanidi, N., 2023. Import substitution as an impetus for the development of domestic production and business: Legal aspect. In: N.I. Orfanidi, A.A. Naidenova (Eds.), *Science and Innovation—Vectors of development: Proceeding of the International Scientific and Practical Conference of Young Scientists, Postgraduates and Master Students*. Krasnodar: Krasnodar Cooperative Institute, Branch of the Russian University of Co-operation. URL: <https://www.elibrary.ru/item.asp?id=50441015>
- Ryabova, E., Verzhbitskaya, I., 2015. Investment attractiveness of enterprises in the system of accounting coordinates. In: V.N. Glaz, S.A. Turko (Eds.), *Proceedings of the I Annual International Scientific and Practical Readings of the Stavropol Institute of Cooperation, BUKEP, Stavropol, April 21–23, 2015*, 28–29. URL: <https://www.elibrary.ru/item.asp?id=24407791&pf=1>
- Samonova, C., 2020. Assessment of conditions and quantitative indicators of the technological development of high-tech industries in Russia by the example of the radio-electronic industry. *Management in Economic and Social Systems* 4(6), 64–70. URL: <https://www.elibrary.ru/item.asp?id=44638996>
- Sandberg, J., Holmström, J., Lyytinen, K., 2019. Digital Transformation of ABB Through Platforms: The Emergence of Hybrid Architecture in Process Automation: Digitalization Cases. Springer, Cham. https://doi.org/10.1007/978-3-319-95273-4_14
- Shestakova, V.V., Sitzhanova, A.M., Prytkov, R.M., 2021. Industrial enterprises: problems, features, directions of development. *Business Education Law* 4 (57), 11–18. <https://doi.org/10.25683/VOLBI.2021.57.405>
- Shitkina, I., 2006. *Holding: Legal regulation and corporate governance*. Scientific and Practical edition Wolters Kluwer Russia, Moscow. URL: <https://books.google.ru/books?id=GnH5XodixScC&printsec=frontcover&hl=ru#v=onepage&q&f=false>
- Skobeleva, E., 2007. Financial flows of the holding: the object of management. *Vestnik OGU* 9. URL: <https://cyberleninka.ru/article/n/finansovye-potoki-holdinga-obekt-upravleniya>
- Susilo, D., Mendoza, C., Khan, M., 2023. Sustainability in industry: The lack of implementation running in the FMCG industry. *Journal Ekonomi dan Bisnis Digital (MINISTAL)* 2 (2), 461–476. <https://doi.org/10.55927/ministal.v2i2.3850>
- Tolkachenko, O., 2008. Classification of approaches to determining the investment attractiveness of an enterprise. *Transport Business of Russia* 4. URL: <https://www.elibrary.ru/item.asp?id=11722237>
- Vorontsova, Y., Likhacheva, E., 2023. Management of the competitiveness of an industry enterprise in the conditions of instability of the world market. *Smart Digital Economy* 3 (1), 70–76.
- Zakirova, E., 2016. Economic content of the "investment attractiveness" category. *Bulletin of Voronezh State University of Engineering Technologies* 2 (68). <https://doi.org/10.20914/2310-1202-2016-2-327-333>

Список источников

- Annanperä E., Jurmu M. Kaivo-oja J., 2021. From Industry x to Industry 6.0 antifragile manufacturing for people, planet, and profit with passion. White paper 5. URL: <http://hdl.handle.net/10138/335672>
- Bogoviz A., Ragulina Y., 2020. Industry Competitiveness: Digitalization, Management, and Integration: Proceedings International Scientific and Practical Forum 'Industry. Science. Competence. Integration'. Springer Nature, 787. <https://doi.org/10.1007/978-3-030-40749-0>
- Kovtunen Y., Grabovenko O., 2016. Competitiveness enterprise in modern conditions: problems and prospects. Экономика: реалии времени 2 (24). URL: <https://cyberleninka.ru/article/n/competitiveness-enterprise-in-modern-conditions-problems-and-prospects>.
- Kundytskyj, A., Vykliuk, M., Kovalenko, N., Cret I., 2019. The Mechanism of the Industrial Enterprise's Strategy Development Formation. International Journal of Innovative Technology and Exploring Engineering 9, 1. <https://doi.org/10.35940/ijitee.A4969.119119/>
- Laursen G., Thorlund J., 2016. Business analytics for managers: Taking business intelligence beyond reporting. John Wiley & Sons. <https://doi.org/10.1287/inte.2018.0967>
- Li J., Merenda M., Venkatchalam A.R., 2009. Business process digitalization and new product development: An empirical study of small and medium-sized manufacturers. International Journal of E-Business Research (IJEER), 5 (1), 49–64. <https://doi.org/10.4018/978-1-61520-627-8.ch014>
- Nabieva, N., 2023. Innovative activity and its impact on the production structure of an industrial enterprise. Nazariy va amaliy tadqiqotlar xalqaro jurnali, 3 (1), 21–33. <https://doi.org/10.5281/zenodo.7595211>
- Samonova, Ch. V., 2020. Assessment of conditions and quantitative indicators of the technological development of high-tech industries in Russia by the example of the radio-electronic industry / Ch. V. Samonova. Management in Economic and Social Systems 4(6), 64–70. URL: <https://www.elibrary.ru/item.asp?id=44638996>.
- Sandberg J., Holmström J., Lyytinen K., 2019. Digital Transformation of ABB Through Platforms: The Emergence of Hybrid Architecture in Process Automation. Digitalization Cases. Springer, Cham, 273–291. https://doi.org/10.1007/978-3-319-95273-4_14
- Susilo D., Mendoza C., Khan M., 2023. Sustainability in Industry: The Lack of Implementation Running in the FMCG Industry. Jurnal Ekonomi dan Bisnis Digital (MINISTAL) 2, 461–476. <https://doi.org/10.55927/ministal.v2i2.3850>
- Vorontsova Y., Likhacheva E., 2023. Management of the competitiveness of an industry enterprise in the conditions of instability of the world market. Smart Digital Economy 3, 70–76.
- Александрова А., 2013. Особенности российских холдингов как объектов корпоративного управления. Проблемы экономики и менеджмента 12 (28). URL: <https://cyberleninka.ru/article/n/osobennosti-rossiyskih-holdingov-kak-obektov-korporativnogo-upravleniya>
- Голов Р., Балдин К., Передеряев И., 2018. Инвестиционное проектирование. URL: <https://znanium.com/catalog/product/415324>.
- Закирова Э., 2016. Экономическое содержание категории 'инвестиционная привлекательность'. Вестник Воронежского государственного университета инженерных технологий 2 (68). <https://doi.org/10.20914/2310-1202-2016-2-327-333>
- Измайлова, М., Морозов, М., Морозова, Н., Морозов, М., 2021. Цифровая трансформация промышленных предприятий в условиях инновационной экономики. Мир науки. URL: <https://izdmm.com/PDF/06MNNPM21.pdf>.
- Лукаевич И., 2010. Финансовый менеджмент. Эксмо.
- Магомедов, Р., Богодевич, Н., 2020. Анализ возможностей влияния программно-целевых инструментов на региональное развитие (российская практика). Региональные проблемы преобразования экономики 129. <https://doi.org/10.26726/1812-7096-2019-8-129-136>
- Миронова Н., 2008. Сущность и факторы устойчивого развития экономики промышленных предприятий. Бизнес в законе 3, 233–237.
- Николаев И., 2005. Организация финансового менеджмента в холдинговых компаниях. Управленческий учет и финансы 3, 40–42. URL: <https://grebennikon.ru/article-lswh.html>
- Орехова С., 2018. Промышленные предприятия: электронная vs. традиционная бизнес-модель. Пространство экономики 4. URL: <https://cyberleninka.ru/article/n/promyshlennye-predpriyatiya-elektronnaya-vs-traditsionnaya-biznes-model/>
- Орфаниди, Н., Найденова, А., 2023. Импортзамещение как толчок развития отечественного производства и бизнеса: правовой аспект. Наука и инновации - векторы развития, 102–108. URL: <https://www.elibrary.ru/item.asp?id=50441015>
- Рябова Е., Вержбицкая И., 2015. Инвестиционная привлекательность предприятий в системе учетных координат, 28–29
- Рябова, Е., Вержбицкая, И., 2015. Инвестиционная привлекательность предприятий в системе учетных координат, 28–29. URL: <https://www.elibrary.ru/item.asp?id=24407791&pf=1>
- Скобелева Е., 2007. Финансовые потоки холдинга: объект управления. Вестник ОГУ 9. URL: <https://cyberleninka.ru/article/n/finansovye-potoki-holdinga-obekt-upravleniya>.
- Толкаченко, О., 2008. Классификация подходов к определению инвестиционной привлекательности предприятия. Транспортное дело России 4, 86–87. URL: <https://www.elibrary.ru/item.asp?id=11722237>.
- Шестакова Е., Ситжанова А., Прытков Р., 2021. Промышленные предприятия: проблемы, особенности, направления развития. Бизнес. Образование. Право 4 (57), 1–18. URL: <https://doi.org/10.25683/VOLBI.2021.57.405>
- Шиткина И., 2006. Холдинги: правовое регулирование и корпоративное управление. Kluwer Russia. URL: <https://books.google.ru/books?id=GnH5XodixScC&printsec=frontcover&hl=ru#v=onepage&q&f=false>

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