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THE ROLE OF INTANGIBLE ASSETS IN ENSURING SUSTAINABLE DEVELOPMENT OF INDUSTRIAL PRODUCTION

In the context of globalization and economic transformation the sustainable development of industrial production gains importance. Under competition, ecological challenges and growing social responsibility requirements, material resources lose their role, while intangible assets become decisive. They include intellectual property, software, brand, reputation, human capital, technologies and organizational solutions. The aim of the study is to show their role in sustainability with practical analysis of PJSC Zaporizhstal. The research applies historical, comparative, statistical, factor and systemic methods. The article presents the essence and classification of intangible assets, their influence on economic, social and environmental aspects, as well as problems of valuation and accounting. At Zaporizhstal software, licenses and web rights dominate the structure, providing innovative capacity. Findings show economic, social and ecological effects of intangible assets and underline management challenges and the need for integration with sustainability strategies.

Keywords: *intangible assets, sustainable development, industrial enterprise, human capital, brand, ESG, innovation.*

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РОЛЬ НЕМАТЕРІАЛЬНИХ АКТИВІВ У ЗАБЕЗПЕЧЕННІ СТАЛОГО РОЗВИТКУ ПРОМИСЛОВОГО ВИРОБНИЦТВА

У сучасних умовах глобалізації та трансформації економіки питання забезпечення сталого розвитку промислового виробництва набуває особливої актуальності. В умовах зростаючої конкуренції, екологічних викликів та посилення вимог до соціальної відповідальності бізнесу класичні матеріальні ресурси поступово втрачають монопольну роль у формуванні конкурентних переваг. Вирішальне значення у досягненні довгострокової економічної, соціальної та екологічної стійкості підприємств починають відігравати нематеріальні активи, які охоплюють інтелектуальну власність, програмне забезпечення, бренд, репутацію, людський капітал, інноваційні технології та організаційні рішення. Саме вони забезпечують здатність промислових підприємств адаптуватися до нових умов, підтримувати інноваційність, формувати позитивний імідж у суспільстві та виходити на міжнародні ринки. Метою дослідження є визначення ролі нематеріальних активів у забезпеченні сталого розвитку промислового виробництва з урахуванням практичного аналізу діяльності ПАТ «Запоріжсталь». Для досягнення поставленої мети застосовано комплекс методів: історичний, порівняльний, економіко-статистичний, факторний аналіз, а також системний підхід до оцінки результатів. Особливу увагу приділено методам економічного аналізу ефективності використання НМА, що дозволяють не лише відстежувати їх динаміку, а й оцінювати внесок у стратегічний розвиток підприємства. У статті розкрито теоретичну сутність нематеріальних активів у контексті сталого розвитку, наведено їх класифікацію та визначено особливості впливу на економічний, соціальний і екологічний виміри діяльності підприємства. Проведено характеристику сучасних тенденцій управління НМА на промислових підприємствах України та окреслено проблеми їх оцінки та обліку. Особливу увагу приділено практичному аналізу НМА ПАТ «Запоріжсталь», у структурі яких домінують програмне забезпечення, ліцензії та права користування вебресурсами. Хоча їх питома вага у загальних активах є відносно невеликою, саме вони забезпечують інноваційні та інформаційні можливості підприємства. За результатами дослідження встановлено, що економічний ефект НМА проявляється у підвищенні продуктивності виробництва та

зростанні ринкової вартості підприємства; соціальний ефект – у розвитку людського капіталу, формуванні позитивного іміджу та зміцненні корпоративної культури; екологічний ефект – у впровадженні енергоощадних технологій та екологічних інновацій. Визначено ключові проблеми управління НМА: формальний характер оцінки, недостатня увага до бренду та репутації, слабка інтеграція у стратегію сталого розвитку.

Ключові слова: *нематеріальні активи, сталий розвиток, промислове підприємство, людський капітал, бренд, ESG, інновації.*

Problem Statement. The current development of industrial production is marked by profound transformations driven by globalization processes, the acceleration of scientific and technological progress, the spread of digital technologies, and the necessity of adhering to the principles of sustainable development. Under these conditions, traditional material resources – such as raw materials, equipment, and production capacity–are no longer the sole factors ensuring the competitiveness of enterprises. Increasingly important are intangible assets, which include intellectual property, software, brand, goodwill, human capital, as well as innovative and environmentally friendly technologies. These resources form the foundation of long-term strategic advantages, providing economic resilience, social responsibility, and ecological security for companies.

The main challenge in Ukraine, particularly in the industrial sector, is that the management of intangible assets has long been considered almost exclusively from an accounting perspective. This has resulted in a formal approach focused only on the recognition, valuation, and amortization of individual intangible items, while their strategic potential remains outside the management system. Consequently, enterprises fail to extract full benefits from their intangible resources, lose opportunities to strengthen their competitive positions in domestic and international markets, and slow down the transition to sustainable development.

The relevance of this issue is further reinforced by the requirements of international partners and investors regarding the implementation of ESG (Environmental, Social, Governance) principles in corporate activities. In the current environment, non-financial factors – environmental responsibility, the social role of business, and the transparency of corporate governance – have become decisive for assessing company attractiveness. Intangible assets are directly connected to these aspects: ecological innovations reduce negative environmental impacts, corporate culture and human capital ensure social resilience, while brand and reputation determine the level of trust among stakeholders. Thus, underestimation of IA effectively means disregarding key drivers of sustainable development.

An illustrative example can be observed at PJSC Zaporizhstal, one of the largest metallurgical enterprises in Ukraine. Despite possessing significant intangible assets (software, licenses, web resources, and innovative developments), their share in the total assets of the company remains minimal. This reflects the formal approach to recognition and accounting. At the same time, the company's brand, its reputation as an industry leader, human resources, and social programs exert a substantial influence on competitiveness and development resilience, yet are hardly reflected in financial statements.

In academic discourse, the problem of IA management is likewise viewed mostly through legal and accounting dimensions, while strategic and managerial approaches remain fragmented. Meanwhile, international practice demonstrates that the integration of intangible assets into sustainability strategies ensures not only economic success but also long-term stability, access to investments, and a high level of public trust.

Therefore, the relevance of the problem lies in the need to rethink the role of intangible assets in the management system of industrial enterprises. They should be perceived not as an auxiliary element of accounting Йpolicy, but as a strategic resource that combines economic, social, and environmental dimensions of sustainable development. Addressing this requires not only improving methods of valuation and analysis but also introducing modern managerial concepts oriented toward ESG principles and the digitalization of processes.

Analysis of recent studies and publications. When discussing the modern economy, intangible assets are increasingly viewed as the hidden infrastructure of value creation. Unlike tangible property, they lack physical substance but shape competitiveness and financial sustainability. According to IAS 38, these assets must be identifiable, controlled by the entity, and capable of producing future benefits. Yet the way they are recognized and measured remains highly controversial. A number of researchers emphasize that the weight of intangibles in total corporate value has been steadily increasing since the late 20th century. For instance, studies in the early 2000s showed that R&D expenditures, patents, and software investments explained more of stock price variation than traditional balance sheet items. This shift highlights a major advantage: intangibles can scale rapidly and provide sustainable competitive advantage. However, the limitation is clear – without standardized valuation methods, financial statements risk underrepresenting firms' true potential, leaving investors in the dark [1–3]. The debate also touches on transparency. Analyst coverage is strongly affected by the presence of unrecognized intangibles. Empirical work has shown that companies with heavy investments in R&D or branding receive closer scrutiny from analysts, but also create greater dispersion in earnings forecasts.

On the one hand, this demonstrates that markets do recognize the importance of non-physical assets; on the other hand, it underscores the difficulty in building reliable consensus when reporting practices are inconsistent [4]. Another stream of literature points out that the absence of organized markets for many types of intangible resources, such as proprietary algorithms or customer data, makes valuation inherently problematic. Unlike commodities or real estate, there is no liquid exchange where their worth can be revealed. This invisibility in accounting systems means firms might systematically undervalue themselves, and policymakers have little guidance on how to correct this [5]. In applied settings, attempts to quantify intangibles have produced mixed outcomes. Empirical evidence from emerging markets such as Turkey illustrates that databases and information systems significantly enhance firm

performance, whereas patent rights alone often fail to show immediate economic impact. The strength of such studies lies in their rigorous econometrics and context specificity. Yet they also reveal a drawback: results are heavily dependent on institutional setting and may not transfer easily to other countries with different legal and market frameworks [6]. Broader surveys of European corporations suggest that intangible assets such as reputation, employee competence, and customer relations are now central to strategy. Nevertheless, measurement approaches vary widely: some rely on market capitalization gaps, others on internal scorecards like the Balanced Scorecard. While these tools integrate non-financial drivers into management, critics argue they often oversimplify or fail to capture the dynamic and sector-specific character of intangibles [7]. In the Ukrainian context, scholars underline that intangible assets are still a relatively new object of financial accounting. Local legislation has gradually adopted international standards, yet practitioners face unresolved issues.

The strengths of current research lie in highlighting legal and institutional barriers. Weaknesses include the scarcity of empirical data and the lack of tested valuation models suited to transitional economies [8]. More recent discussions stress the growing importance of software and digital platforms as intangible drivers, but warn that regulation lags behind innovation [9–10]. Ultimately, the literature reflects both the promise and the tension of intangibles. They clearly represent the core of modern competitive advantage, linking innovation, technology, and reputation to financial outcomes. Yet across all countries and industries, the recurring challenges are visible: inconsistent disclosure, weak comparability, and absence of universal measurement standards. Analysts, managers, and regulators continue to call for harmonization of reporting rules that would allow investors to see the "hidden half" of corporate value.

Formulation of the purpose of the article. The objective of the study is to identify and substantiate the role of intangible assets in ensuring the sustainable development of industrial production, with particular reference to the case of PJSC Zaporizhstal.

Presentation of the main material. The growing attention in scholarly debate to the challenges of recognition, valuation, and management of intangible assets clearly demonstrates that these resources have moved to the center of economic discourse. While earlier research emphasized their theoretical nature, more recent contributions underline their measurable impact on firm performance, competitiveness, and sustainability. At the same time, questions remain regarding the comparability of indicators across industries and the adequacy of accounting standards that were originally designed for tangible assets.

To ground these theoretical considerations in practical evidence, it is useful to refer to the experience of leading international corporations. Statistical evaluations conducted by Ernst & Young provide a representative snapshot of how intangible assets shape the structure of company value in different sectors of the global economy. The figures summarized in Table 1 capture the scale of intangible components in capitalization and allow for a comparative perspective between technology-driven firms, consumer brands, and diversified industrial conglomerates.

The evidence presented here illustrates that intangible assets are not an isolated phenomenon limited to high-tech start-ups but rather a systemic feature of global corporate finance. In the entertainment sector, Disney demonstrates that creative content, brand equity, and reputation account for two-thirds of invested capital, thus confirming the decisive importance of non-material drivers of competitiveness. A similar trend, but even more pronounced, is evident in Microsoft, where 84 percent of invested capital is tied to intangible resources – software development, patents, and digital platforms – indicating the central role of innovation in value creation.

The example of Yahoo! is particularly noteworthy: with over 90 percent of invested capital attributed to intangible assets, the company epitomizes the digital economy, where databases, user trust, and platform technologies outweigh any physical infrastructure. At the same time, this extreme dependence reveals vulnerabilities, since the erosion of reputation or technological obsolescence may cause dramatic shifts in valuation.

Nike offers a perspective from the consumer goods industry, where 76 percent of value derives from intangible resources such as brand recognition, design innovation, and marketing capabilities. This highlights that even in sectors producing tangible goods, the decisive contribution comes from intangible factors that shape consumer perception and loyalty. Finally, 3M, an industrial conglomerate traditionally associated with material production, shows a striking 79 percent share of intangibles, driven by a broad portfolio of patents and research intensity. Taken together, these results confirm several important observations. First, intangible assets consistently represent the majority of corporate value, regardless of sector. Second, the relative weight varies, with internet-based and technology companies showing the highest reliance, while consumer goods and diversified industry maintain a slightly lower but still dominant share. Third, the universality of these findings points to a structural transformation of the global economy, where the capacity to generate, protect, and leverage intangible resources has become the primary condition of long-term competitiveness. At the same time, the high dependence on non-physical resources creates significant managerial and

Table 1

The Volume of Intangible Assets in Foreign Companies, USD million

Company	Industry	Capitalization	Invested Capital	Market Value of Intangibles	Intangibles as % of Invested Capital
Disney	Entertainment	58,380	67,775	44,713	66%
Microsoft	Software	290,714	290,714	244,417	84%
Yahoo!	Internet	52,375	53,125	48,160	91%
Nike	Footwear	23,948	24,654	18,635	76%
3M	Industry	63,393	66,214	52,415	79%

Source: Ernst & Young [11]

methodological challenges. Valuation remains contested, disclosure practices differ widely, and traditional accounting often fails to reflect the real contribution of brands, reputations, or knowledge capital. The Ernst & Young data therefore not only illustrate the scale of intangible assets in modern corporations but also underline the urgency of improving conceptual frameworks and reporting systems to ensure that these crucial resources are fully integrated into strategies for sustainable development.

While the data on global corporations clearly demonstrates the dominance of intangible assets across industries, the question remains how these tendencies are reflected in the realities of Ukrainian industrial enterprises. Unlike digital or technology firms, domestic companies still face institutional, methodological, and managerial barriers in recognizing the full strategic value of intangibles. To illustrate this point more concretely, it is useful to turn to the case of PJSC Zaporizhstal, one of the largest metallurgical enterprises in Ukraine. The company possesses a considerable portfolio of intangible resources, including software, licenses, innovative developments, and web-based solutions, yet their representation in financial statements remains limited. Therefore, a closer analytical perspective is needed in order to evaluate how intangible assets contribute to the firm's performance and sustainable development.

In order to adapt factor analysis of intangible assets to the specifics of industrial enterprises, it is not sufficient to rely solely on numerical indicators. A more comprehensive approach should also consider those influences that cannot be easily expressed in monetary terms but nonetheless play a decisive role in performance. To achieve this, the proposed methodology is structured into three main stages, each of which ensures a systematic evaluation of both quantitative and qualitative drivers.

The first stage is preparatory in nature and focuses on the formation of a working group. Importantly, this group should include specialists from different fields: experts in intellectual property law, professionals in accounting, and leading engineers. Such multidisciplinary participation guarantees that the analysis reflects not only financial but also legal and technical perspectives.

The second stage involves the analytical process itself, which unfolds through several steps. Each member of the working group independently identifies the factors they believe influence the effective use of intangible assets. Among these, some are recognized as factors whose impact cannot be measured in financial units but still must be considered. Once identified, every expert independently assigns ratings to each factor, evaluating both the degree of impact and the likelihood of occurrence. The ranking is carried out on a scale from 1 to 9, where values 1–3 indicate a low level, 4–6 a medium level, and 7–9 a high level of importance or probability.

Based on these ratings, the factors are then plotted on an "Importance/Probability" matrix, which contains four distinct zones. The first zone represents factors with high probability but low impact, the second includes factors with both high probability and strong impact, the third consists of those with both low probability and weak impact, and the fourth reflects rare but highly consequential influences. This visualization allows managers to clearly distinguish between critical issues requiring urgent attention and those that, while present, may be less strategically significant.

The third stage of the methodology focuses on interpreting the results. Here, the working group discusses the position of each factor within the matrix and formulates appropriate managerial responses aimed at improving the efficiency of intangible asset utilization. This step is crucial because it transforms analytical findings into practical recommendations that can inform strategic decision-making.

The practical application of this model has been illustrated using the case of PJSC Zaporizhstal. For this enterprise, several qualitative factors were identified and ranked according to their importance and probability of influencing intangible asset efficiency. The summarized results are shown in Table 2, which provides a structured overview of these non-measurable but strategically relevant determinants.

The results presented in Table 2 provide an important insight into the types of qualitative factors that significantly affect the efficiency of intangible asset utilization at PJSC Zaporizhstal. Unlike conventional financial indicators, these factors cannot be expressed in monetary terms, yet their influence on strategic outcomes is substantial. The analysis shows that among the selected factors, some emerge as particularly critical for management attention, while others, though relevant, play a more supportive role.

The impact of moral depreciation stands out as one of the most pressing concerns. With high scores for both importance (8) and probability (7), this factor highlights the risk that intangible assets – such as software or technological licenses – may lose their value not due to physical wear but because of obsolescence or the rapid pace of innovation. For an industrial enterprise like Zaporizhstal, this means that assets which formally remain on the balance sheet might already be outdated in practice, thereby reducing the accuracy of financial reporting and the effectiveness of strategic planning. Management must therefore pay close attention to monitoring the actual relevance of intangible resources and adjusting amortization methods accordingly.

Another factor of considerable significance is the intellectual potential and qualification of staff, which received high scores for probability (8) and a medium level of importance (5). This reflects the reality that even the most advanced intangible assets, such as new technologies or information systems, cannot generate returns without a skilled workforce capable of operating and developing them. For Zaporizhstal, the training and continuous development of engineers and specialists is thus a decisive condition for maximizing the value derived from its intangible portfolio.

The demand for specific types of products is also positioned as a factor of medium-to-high influence (importance

Table 2

Ranking of Factors Whose Impact on the Efficiency of Intangible Assets Cannot Be Quantified

Factor	Importance	Probability
Impact of moral depreciation	8	7
Legal barriers	5	2
Possibility of technological diversification	8	2
Intellectual potential, staff qualifications	5	8
Demand for specific types of products	6	6

6, probability 6). Consumer demand directly shapes the effectiveness of intangible resources by determining whether innovative designs, technologies, or brand investments actually translate into higher market returns. Although this factor is external to the company, it requires constant monitoring and the ability to adjust production processes and marketing strategies in response to changing preferences.

In contrast, factors such as legal barriers (importance 5, probability 2) and possibility of technological diversification (importance 8, probability 2) are assessed as less probable in the current environment. Their overall influence is therefore secondary compared to the issues mentioned above. Nevertheless, they cannot be entirely ignored, as regulatory changes or sudden technological disruptions could still impose constraints on the company's ability to fully utilize its intangible assets.

Taken together, these findings suggest several important managerial implications. First, intangible asset management at Zaporizhstal must go beyond formal accounting procedures and integrate continuous monitoring of qualitative factors. Second, the company needs to strengthen its internal capacity – especially through human capital development to ensure that intangible resources are effectively transformed into competitive advantages. Third, attention should be paid to the dynamics of consumer demand and market trends, as these external conditions determine the ultimate economic return of intangible investments. Finally, even less probable factors, such as legal or diversification-related risks, should remain within the scope of strategic oversight, since their impact may become more pronounced under changing market or regulatory circumstances.

Therefore, the use of the Importance/Probability matrix enables management to prioritize attention and resources, distinguishing between factors that demand immediate strategic action and those that require only routine monitoring. For Zaporizhstal, the evidence clearly indicates that intangible asset performance is shaped not only by financial inputs but also by qualitative drivers – above all, asset relevance, workforce competence, and consumer demand. Integrating these insights into decision-making processes can help the enterprise achieve more balanced, resilient, and sustainable development.

Having identified and ranked the qualitative factors influencing intangible assets at PJSC Zaporizhstal, the next logical step was to examine how their inclusion alters the quantitative assessment of efficiency. To achieve this, a special adjustment coefficient was introduced, derived from the aggregated ratings of importance and probability. This coefficient, calculated at 0.4, allowed the translation of non-quantifiable influences into a form that could be integrated into factor analysis. The application of this coefficient produced a noticeable effect on performance indicators. When assessing the profitability of intangible assets, the decline observed between 2022 and 2023 was estimated at more than 320 units if only measurable factors were considered. However, once the qualitative influences were incorporated, the decrease was adjusted to roughly 105 units, suggesting a more moderate and realistic trajectory. A similar pattern emerged in the analysis of capital productivity: with adjustment, the reduction amounted to about 1,052 units, compared to only 324 units without the correction. These discrepancies highlight an essential point: ignoring factors that cannot be expressed directly in monetary terms leads to distortions in managerial evaluation. By contrast, their integration provides a more balanced and credible picture of intangible asset performance. This approach does not replace traditional financial analysis but rather complements it, ensuring that both tangible and intangible drivers are properly reflected in strategic decision-making. Taken together, the results confirm that the efficiency of intangible assets at Zaporizhstal is shaped not only by formal accounting values but also by qualitative dimensions such as relevance, workforce competence, and market responsiveness. Recognizing these influences through combined quantitative and qualitative methods enhances the reliability of analysis and strengthens the foundation for managerial decisions. Such an integrated framework therefore represents a necessary step toward improving the management of intangible assets in Ukrainian industrial enterprises and aligning local practices with international standards of sustainable development.

Conclusion. The study has confirmed that intangible assets are becoming the key factor of sustainable development for industrial enterprises. In the context of global competition and economic transformation, it is brand, reputation, human capital, innovative technologies, and organizational solutions that shape long-term competitive advantages. International evidence demonstrates that leading corporations derive up to 80–90% of their market value from intangible assets. This proves that strategic management of such resources is not an additional tool but rather the foundation of successful development. The analysis of PJSC Zaporizhstal revealed that, despite possessing a considerable portfolio of intangible resources, their use is still insufficiently integrated into the overall management system. The most critical influences are technological obsolescence, workforce qualification, and sensitivity to consumer demand. Incorporating these factors into managerial models provides a more realistic assessment of efficiency and enables more balanced decision-making. Therefore, the development of intangible asset management requires a shift from a formal approach to a strategic one. This implies: continuous investment in human capital, fostering innovation activity, strengthening brand and reputation, and integrating ESG principles into corporate strategy. Only through comprehensive management can enterprises not only maintain competitiveness but also ensure sustainable growth and gain trust from both investors and society.

REFERENCES

1. Lev B. (2001). *Intangibles: Management, Measurement, and Reporting.* Brookings Institution Press. DOI: https://doi.org/10.1353/book.4460

2. Shmygol N., Galtsova O., Krylov D., Semenov A., Shaposhnikov, K. (2021). Assessment of the prospects for restoring the financial security of the state. *Financial and Credit Activity: Problems of Theory and Practice,* vol. 5(40), pp. 226–235.

3. Shmygol N. M., Rybalko O. M., Yeremenko P. V. (2015). Current problems and ways to improve cost accounting at enterprises. *Visnyk of Zaporizhzhya National University. Economic Sciences,* no. 3, pp. 108–114.

4. Barth M. E., Kasznik R., McNichols M. F. (2001). Analyst coverage and intangible assets. *Journal of Accounting Research,* vol. 39(1), pp. 1–34. DOI: https://doi.org/10.1111/1475-679X.00001

5. Gu F. (2001). Disclosure of Intangible Assets. *European Accounting Review,* vol. 10(4), pp. 559–580. DOI: https://doi.org/10.1080/09638180127400

6. Ocak M., Fındık D. (2019). The Impact of Intangible Assets on Sustainable Growth and Firm Value. *Sustainability,* vol. 11(19), p. 5359. DOI: https://doi.org/10.3390/su11195359

7. Kaufmann L., Schneider Y. (2004). Intangibles: A synthesis of current research. *Journal of Intellectual Capital,* vol. 5(3), pp. 366–388. DOI: https://doi.org/10.1108/14691930410550354

8. Kirichenko O. A. (2019). Nematerialni aktyvy u systemi bukhhalterskoho obliku: problemy ta perspektyvy rozvytku [Intangible assets in the accounting system: problems and development prospects]. *Finansy, oblik i audit,* vol. 1(33), pp. 121–128. DOI: https://doi.org/10.32702/2306-6814.2019.1.121

9. Diachenko T. O. (2021). Oblik nematerialnykh aktyviv: suchasnyi stan i perspektyvy udoskonalennia [Accounting for intangible assets: current status and prospects for improvement]. *Bukhhalterskyi oblik i audit,* no.10, pp. 30–35. DOI: https://doi.org/10.33271/eba20211030

10. Shvets V. I., Melnykит I. Yu. (2021). Nematerialni aktyvy u tsyfrovii ekonomitsi: problemy obliku ta otsinky [Intangible assets in the digital economy: accounting and valuation problems]. *Finansy Ukrainy,* no. 6, pp. 78–87. DOI: https://doi.org/10.33763/finukr2021.06.078

11. Ernst & Young. Sustainability is Everybody's Business. Available at: https://www.ey.com/en_ua/services/sustainability (accessed on 20 August 2025).

СПИСОК ЛІТЕРАТУРИ

1. Lev B. (2001). Intangibles: Management, Measurement, and Reporting. Brookings Institution Press. 2001. DOI: https://doi.org/10.1353/book.4460

2. Shmygol N., Galtsova O., Krylov D., Semenov A., Shaposhnikov, K. Assessment of the prospects for restoring the financial security of the state. *Financial and Credit Activity: Problems of Theory and Practice.* 2021. Vol. 5(40). P. 226–235.

3. Shmygol N. M., Rybalko O. M., Yeremenko P. V. Current problems and ways to improve cost accounting at enterprises. *Visnyk of Zaporizhzhya National University. Economic Sciences.* 2015. № 3, P. 108–114.

4. Barth M. E., Kasznik R., McNichols M. F. (2001). Analyst coverage and intangible assets. *Journal of Accounting Research.* 2001. Vol. 39(1). P. 1–34. DOI: https://doi.org/10.1111/1475-679X.00001

5. Gu F. (2001). Disclosure of Intangible Assets. *European Accounting Review.* 2001. Vol. 10(4). P. 559–580. DOI: https://doi.org/10.1080/09638180127400

6. Ocak M., Fındık D. The Impact of Intangible Assets on Sustainable Growth and Firm Value. *Sustainability.* 2019. Vol. 11(19). P. 5359. DOI: https://doi.org/10.3390/su11195359

7. Kaufmann L., Schneider Y. (2004). Intangibles: A synthesis of current research. *Journal of Intellectual Capital.* 2004. Vol. 5(3). P. 366–388. DOI: https://doi.org/10.1108/14691930410550354

8. Кіріченко О. А. Нематеріальні активи у системі бухгалтерського обліку: проблеми та перспективи розвитку. *Фінанси, облік і аудит.* 2019. Вип. 1(33). С. 121–128. DOI: https://doi.org/10.32702/2306-6814.2019.1.121

9. Дяченко Т. О. Облік нематеріальних активів: сучасний стан і перспективи удосконалення. *Бухгалтерський облік і аудит.* 2021. №10. С. 30–35. DOI: https://doi.org/10.33271/eba20211030

10. Швець В.І., Мельник І.Ю. Нематеріальні активи у цифровій економіці: проблеми обліку та оцінки. *Фінанси України.* 2021. №6. С. 78–87. DOI: https://doi.org/10.33763/finukr2021.06.078

11. Ernst & Young. Sustainability is Everybody's Business. Available at: https://www.ey.com/en_ua/services/sustainability (accessed on 20 August 2025).

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