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INTEGRATION OF DIGITAL MANAGEMENT AND RESOURCE EFFICIENCY OF ENTERPRISES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

Abstract. In this study, we examine the integration of digital management and resource efficiency within the framework of sustainable development and the concept of natural resource efficiency (NRE). We analyze how enterprises can move from fragmented management practices toward integrated, data-driven systems that simultaneously increase productivity and reduce environmental pressure. We argue that digital transformation should not be treated as a purely technological shift but as a structural reconfiguration of managerial models that embeds sustainability into operational decision-making. We systematize the core characteristics of digital management, including process digitalization, the creation of new value propositions, and the development of digital partnerships. We evaluate modern approaches to measuring resource efficiency, such as Data Envelopment Analysis (DEA), benchmarking, Life Cycle Assessment (LCA), and Carbon Footprint Analysis. We demonstrate how enterprises can combine these methods with digital twins and artificial intelligence tools to construct a real-time monitoring and adaptive management system. We show that digital twins enable continuous data collection and process modeling, DEA and benchmarking provide quantitative efficiency diagnostics, and AI algorithms generate dynamic optimization scenarios. Unlike existing studies that consider digital transformation and resource efficiency separately, this article proposes for the first time an integrated three-level model that combines digital twins (for monitoring and modeling processes), DEA and benchmarking (for quantitative performance assessment), and artificial intelligence (for dynamic adjustment of management decisions). We find that this integrated architecture strengthens operational resilience, reduces waste, optimizes energy consumption, and improves ESG indicators. We illustrate the practical applicability of the model through the case of a large telecommunications enterprise operating under conditions of infrastructural risk and rapid digital expansion. We also identify the rebound effect as a critical risk, arguing that enterprises must monitor behavioral responses alongside technical indicators to avoid offsetting environmental gains. We conclude that enterprises need to develop rational models for integrating digital management platforms with AI-based resource efficiency assessment tools in order to minimize waste, reduce costs, and strengthen the synergy between digital transformation and sustainable development.

Keywords: *Digital Management, Resource Efficiency, Enterprise, Sustainable Development, Artificial Intelligence.*

JEL Classification: O33; M15; Q01.

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Introduction. The evolution of the scientific discourse on the efficiency of the use of resources in the activities of enterprises and organizations in recent times reflects a paradigm shift from economic growth without taking into account the consequences on society, the environment, the economy to sustainable development (SD) - a concept that emphasizes the need to build economic growth taking into account the impact on the future, which means the optimal use of limited resources and use of environmentally friendly, energy- and material-saving technologies, including the extraction and processing of raw materials, the creation of environmentally acceptable products, minimization, processing and destruction of production waste.

The rapid growth rate of digital management of enterprise processes gives an impetus to consider ways to use resources and find new ways to evaluate and optimize them according to the SD concept. This concept is closely related to resource conservation (NRE), since achieving a balance between current needs and future generations is impossible without the efficient and responsible use of natural resources, which includes minimizing waste and consumption.

Scientific research highlights that NRE integrates environmental and social dimensions, becoming the basis for a “double transformation” that requires organizations and regions not only to access resources, but also to optimize them taking into account the environment.

In this context, digital business management, which has become widespread among 28% of businesses in Ukraine due to access to the Internet and digital platforms, is able to provide flexibility and automation of sustainable resource management (Vyshnevskiy, 2025¹).

There is a need to find the most rational model of combining digital management platforms, artificial intelligence capabilities to evaluate the efficiency of resource use, reducing waste and costs, which enhances synergy with NRE. This synergy is critical

to Ukraine’s post-war recovery, where sustainability and technology are driving economic growth. In addition, rational use of enterprise resources and improvement of environmental performance can be a competitive advantage.

The object of research is the processes of digital transformation of enterprise management systems in the context of transition to a sustainable development model.

The subject of research is the theoretical and methodological foundations and applied mechanisms for integrating digital management platforms, artificial intelligence tools, and analytical models for assessing resource efficiency.

The purpose of the article is to scientifically substantiate the relationship between digital transformation and resource efficiency indicators, as well as to develop an integration model that allows enterprises to simultaneously increase productivity and meet the requirements of sustainable development.

To achieve the goal, you need to complete the following tasks:

- 1) to determine the main characteristics of digital control;
- 2) to analyze methods for assessing resource efficiency;
- 3) to propose a model of their synergy on the basis of the concept of sustainable development and to determine the prospects for further research.

Literature Review. Modern scientific research treats digital transformation as a systemic reconfiguration of business models and governance mechanisms rather than a simple technological upgrade. Vial (2019) conceptualizes digital transformation as a process in which digital technologies generate strategic imbalances that require organizational responses. Verhoef et al. (2021) extend this perspective by emphasizing strategic renewal and value creation. However, resource efficiency remains an implicit rather than explicit objective.

Elkington (2018) revisits the triple bottom line framework, advocating the integration of economic, environmental, and social dimensions. Yet, these approaches do not provide operational mechanisms for embedding digital technologies into resource management systems.

1 Vyshnevskiy I. Cloud technologies are used by about 28% of Ukrainian businesses, and AI — by more than 24%. What else the survey shows. November 20, 2025. URL: <https://dev.ua/news/khmarni-tekhnologii-vykorystovuiut-blyzko-28-vsikh-ukrainskykh-biznesiv-a-shi-ponad-24-shcho-shche-pokazuie-sotsdoslidzhennia-1740215422> (date of access: 15.01.2026).

Recent international studies highlight the concept of “twin transition,” integrating digital and environmental transformation. Aklilu, Dussaux & Verrier (2025) and Calvino, Dechezleprêtre & Haerle (2025) provide empirical evidence that digital innovation supports net-zero transitions. The authors argue that digital innovations directly correlate with the growth of environmental performance of enterprises. This idea is further developed by other researchers (Ben Youssef A., 2025; Schallmo D. et al., 2025; Chen Hanqin, 2025), who study the mechanisms of integrating sustainable innovations, emphasizing that digital tools act as catalysts for creating new, resource-saving business models. Despite these advances, most studies focus on macro-level indicators, while enterprise-level measurement frameworks for resource efficiency remain underdeveloped.

Applied research (Bresciani et al., 2018; Bag et al., 2021) shows that IoT and AI enhance operational efficiency. Iranshahi et al. (2025) highlight the potential of Digital Twins for real-time modeling and resource optimization. Zhang & Zhou (2025) analyze macroeconomic resource constraints, emphasizing the need for integrated efficiency assessment tools.

However, existing research rarely integrates digital modeling tools with comprehensive enterprise-level resource efficiency evaluation systems.

Ukrainian studies primarily examine digital transformation as a driver of competitiveness. Holushko (2025) explores digital management trends in Ukraine. Bobro et al. (2025) use empirical data to demonstrate that the introduction of cloud computing and business process automation significantly reduces costs for companies in various sectors of the economy and increases productivity. Buiak (2024) analyzes the impact of digitalization on the agricultural sector, emphasizing its importance for the innovative development of the country as a whole. Rybak & Garafonova (2025) argue that digital tools increase the adaptability of enterprises to changes in the external environment, promoting flexible resource management and process optimization. Shashyna & Kocherga (2024) consider digital technologies as a strategic resource for the long-term development of an enterprise.

Overall, the literature review indicates a consistently positive impact of digital technologies on resource optimization, productivity improvement, and support for sustainable development. However, much of the research either focuses on specific

aspects (e.g., productivity or ESG) or considers general conceptual frameworks without specific models for integrating digital platforms with resource use assessment and waste management systems in terms of environmental, social, and economic impacts. In addition, there is a gap between theoretical concepts (overview models) and practical recommendations for implementing digital platforms in real organizations. Thus, there is a need to find the most rational model for combining digital management platforms and artificial intelligence capabilities to assess resource efficiency, reducing waste and costs at the individual enterprise level.

Research Methodology. The methodological basis of the study is a wide range of general scientific methods: generalization, analysis and synthesis – for reviewing international scientific research and works of scientists on the digitalization of business processes, assessing the efficiency of the use of resources on the basis of the concept of sustainable development. The following methods for evaluating the efficiency of the enterprise as a whole and the use of resources in particular: Data Envelopment Analysis (DEA), Benchmarking, Life Cycle Assessment (LCA) and Carbon Footprint Analysis are analyzed. For modeling and optimization of enterprise management processes and efficiency analysis, the analysis of digital twins and artificial intelligence tools are used. For data processing and visualization tabular and graphical methods were used

Main Results.

1. Digital business management is characterized by three key aspects: digitization of processes, creation of new forms of value, and digital partnerships.

Digitization automates operations, for example, through CRM systems, which 15% of Ukrainian companies use for customer service (OECD Economic Surveys: Ukraine 2021¹).

New forms of value are emerging from personalized offerings, and digital partnerships such as B2B platforms are optimizing supply chains. These characteristics form digital twins – virtual models of business processes that reflect the functioning, basic business and its support, creating a holistic ecosystem.

Research (Ben Youssef, 2025) shows that digital platforms increase the efficiency of resource allocation in industry, reducing waste by 15–20% through environmental awareness. This integration with NRE allows

1 OECD economic surveys: Ukraine 2021. OECD: OECD Publishing, 2021. <https://doi.org/10.1687/27653a1a-en>

Table 1. Comparative analysis of methods for assessing resource efficiency

| Method | Scope of application | Key contribution |
|---------------------------------|---|---|
| Data Envelopment Analysis (DEA) | Assessment of the efficiency of enterprises taking into account environmental factors | Identification of the most efficient technologies and processes |
| Benchmarking | Comparison of departments or companies to optimize resources | Identifying best practices and reducing waste |
| Life Cycle Assessment (LCA) | Analysis of the environmental impact of a product during the life cycle | Identification of critical steps to reduce environmental burden |
| Carbon Footprint Analysis | Estimating greenhouse gas emissions | Development of decarbonization strategies |

Source: compiled by the authors

businesses to adapt to a “twin transformation” where technology is combined with sustainability.

The practice of managing modern corporations confirms the effectiveness of the use of digital platforms. One of the leading companies in Ukraine, Kyivstar Group, in its Q3 2025 reporting, reports that its “direct digital revenue increased by 526% to USD 35 million, reaching 11.9% of total income”; and “the number of users connecting to at least one digital service increased by 24.8% year-on-year to 6.6 million, which now represents 31.7% of active mobile customers within one month.” The report focuses on the fact that digital platforms allow expanding and transforming Kyivstar into an exemplary digital ecosystem that is increasingly integrated into the daily lives of customers (Kyivstar Group Ltd., 2025¹; Annex A).

2. Resource estimation methods in 2025 are moving from purely economic calculations to integrated approaches that take into account environmental impact and sustainability – this is the «evolution to sustainability». Let’s analyze some broad methodologies for evaluating the effectiveness of activities in general and the use of resources in particular.

Data Envelopment Analysis (DEA) allows you to evaluate the performance of business entities in multiple inputs and outputs without the need for factor pricing; well suited to environmental and resource assessments (including «undesirable» emissions). This methodology allows the comparison of productivity through the ratio of resources and results, integrating environmental factors, such as CO₂ emissions in the energy sector. For example, research by scientists (Koronakos, Dula, & Despotis, 2024; Wang & Zelenyuk, 2024) shows that DEA can be

dominant in large and high-density data sets.

Another common methodology for evaluating and comparing activity processes is benchmarking. Internal benchmarking optimizes resources at the regional level by comparing units for the rational allocation of budgets, which is especially important for decentralized communities in Ukraine. Papers published in the OECD (Aklilu et al., 2025; Calvino et al., 2025) emphasize the role of benchmarking in the circular economy, which contributes to reducing waste by comparing best practices for resource conservation and rational use of natural resources of a country/region/community.

The above techniques, as well as the Life Cycle Assessment and Carbon Footprint Analysis methods, complement digital management, allowing the integration of data from digital twins for accurate estimation (Table 1).

Digital transformation and artificial intelligence act as catalysts for changing resource management systems, enabling their transition from traditional, fragmented approaches to integrated, data-centric, real-time models. This increases resource allocation efficiency, improving ESG performance in industry, where environmental awareness reduces waste by 15–20% (Aklilu et al., 2025). AI streamlines solutions, reducing customer support costs to 30%, and promotes the circular economy through big data analysis.

As shown in the study (Zhang & Zhou, 2025), the use of artificial intelligence is one of the key factors contributing to reducing the technological gap between developed and resource-limited regions. This happens through several mechanisms that are directly related to the digital transformation of enterprises and management systems.

First, machine learning algorithms provide access to high-level optimization solutions without the need for significant infrastructure investments. AI technologies allow small businesses and regional governments to use

¹ Financial results Q3 2025. Kyivstar Group Ltd. 2025. URL: <https://investors.kyivstar.ua> (date of access: 04.12.2025).

analytics models that were previously only available to large corporations with extensive resources. This reduces barriers to entry into modern resource management and energy efficiency practices.

Second, the use of AI compensates for the shortage of qualified analysts and data scientists, because models automate the collection, cleaning, and analysis of large amounts of information. In this way, regions with limited human resources are able to make data-driven decisions, increasing the overall performance of management systems.

Thirdly, AI-based systems create adaptive recommendations in real time, which is especially important for industries dependent on changes in external factors – agriculture, water resources, energy, and logistics. Adaptive models allow you to increase the accuracy of forecasting and respond quickly to risks, reducing dependence on outdated methods and local experience.

Finally, the development of cloud platforms, digital twin services, and open AI tools ensures the scalability of technologies even in regions with low digital maturity. Businesses and communities can innovate quickly without significant upfront costs by applying off-the-shelf models and APIs, accelerating digital transformation and leveling access to modern technologies.

Together, these mechanisms allow AI to act as a catalyst for improving efficiency and forming a new resource-efficient management paradigm, which is important for the sustainable development of Ukraine's regions. In businesses like digital platforms, AI drives entrepreneurial opportunities. This synergy supports where technology is combined with sustainability, allowing businesses to adapt to change.

3. Based on the analysis, it is proposed to combine the capabilities of digital twins, DEA and AI to create a closed cycle of continuous improvement of enterprise management processes (Fig. 1).

The relevance of developing an integration model of digital management and resource efficiency on the basis of the SD concept is best

illustrated by the example of large enterprises, for which “Twin Transition” is not just a trend, but a critical need. As the flagship of digital governance in the telecommunications industry of Ukraine and the leading digital operator in the Eastern European region,

Kyivstar PJSC is an ideal object for testing innovative approaches. The company, founded in 1994 and part of the international VEON group, serves more than 22.5 million mobile subscribers and 1.2 million fixed Internet users as of September 2025 (Kyivstar Group Ltd., Financial results Q3, 2025¹).

Kyivstar is the recognized leader in terms of mobile Internet coverage and speed according to Ookla (Speedtest Awards for the second half of

2024 and the first half of 2025), providing 4G access for 95.9% of the population of the government-controlled territory of Ukraine. In 2024, the company invested UAH 10.225 billion in the network (an increase of 60.7% compared to 2023), including the installation of more than 2.6 thousand generators and 176 thousand batteries to ensure the stability of communication in the face of military challenges and energy crises. This investment will not only maintain operational efficiency, but also optimize the energy consumption of base stations, reducing CO₂ emissions by 15–20% through the integration of energy-efficient technologies such as GPON and solar power plants (for example, the acquisition of a stake in a solar power plant with a capacity of 12.95 MW in 2025).

For Kyivstar, which is constantly facing the challenges of war - modernization of damaged infrastructure (828 new base stations in the first quarter of 2025), the introduction of 5G and the integration of AI (the development of a national Ukrainian-language LLM in partnership with the Ministry of Digital Transformation of Ukraine) - improving NRE processes is key to competitiveness, sustainability and security of operation. A large-scale network of base

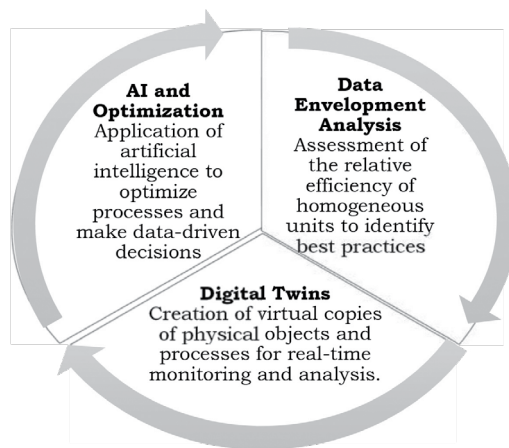


Fig. 1. Integration of digital technologies and resource efficiency in enterprise management

Source: compiled by the authors

¹ Financial results Q3 2025. Kyivstar Group Ltd. 2025. URL: <https://investors.kyivstar.ua> (date of access: 04.12.2025).

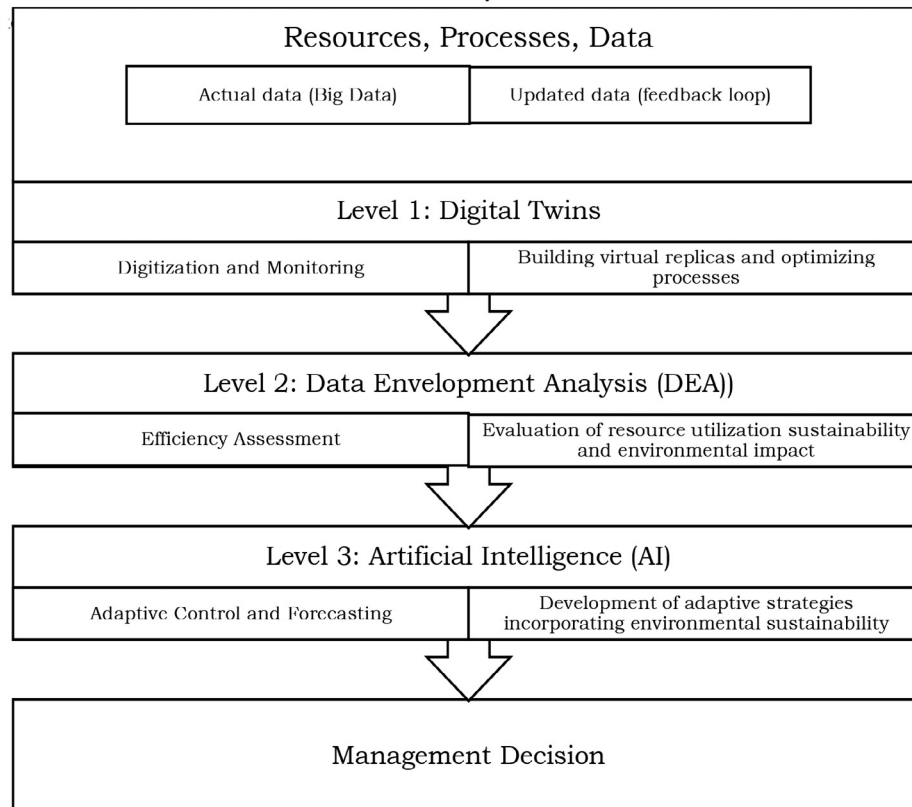


Fig. 2. Model of integration of digital management and resource efficiency of enterprise in the context of the concept of sustainable development

stations (the largest in Ukraine in terms of the number of 4G sites) requires constant optimization of resources: energy (for backup power), material (for antenna-feeder systems) and financial (capital investments in 2025 are projected at the level of 30–33% of revenues). Without an effective NRE, the risks increase: from operational losses due to outages (as in 2024 due to cyberattacks and blackouts) to environmental consequences such as excessive energy consumption. For example, in 2024, Kyivstar strengthened its energy independence by investing UAH 2.3 billion, but the transition to net-zero requires real-time tools for monitoring and correction (Kyivstar Group Ltd., 2025¹)

A three-level model of integration of digital management and resource efficiency, based on the SD concept, is proposed (Fig. 2). The model was developed taking into account the specifics of Kyivstar: its architecture covers a closed cycle of monitoring, evaluation and adjustment, adapted to the management of large infrastructure projects, optimization of energy consumption of base stations and modernization of the network in the post-war period.

Let's comment on the pain in detail levels 1-3, which are shown in Fig. 2, and their features using the example of Kyivstar.

Level 1 (Digital twins): Process monitoring and modeling. Digital twins create a virtual model of Kyivstar's infrastructure – base stations, antenna-feeder systems, and backbone networks—to predict load, coverage areas, and risks in real time. For the company, this means integrating sensor data from 4G/5G networks (power consumption, signal stability, local environmental parameters), which in 2024 made it possible to optimize the reconstruction of damaged networks in the regions, reducing costs by 15%. Twins provide a continuous flow of data for further analysis, minimizing operational losses.

Level 2 (DEA/Benchmarking): Quantitative assessment of achieved efficiency. The Data Envelopment Analysis (DEA) method and internal benchmarking allow comparing the efficiency of Kyivstar's divisions (e.g., regional base station clusters) across multiple inputs (energy, materials) and outputs (productivity, CO₂ emissions). In the context of the company, this identifies bottlenecks such as inefficient energy consumption in rural areas where 4G is expanding (139 new settlements in Q1 2025). Benchmarking against global standards (e.g.,

¹ Financial results Q3 2025. Kyivstar Group Ltd. 2025. URL: <https://investors.kyivstar.ua> (date of access: 04.12.2025).

VEON) promotes rational budget allocation by integrating environmental factors to meet ESG criteria.

Level 3 (Artificial Intelligence): Dynamic adjustment of management strategies. AI algorithms analyze data from twins and DEA, offering adaptive recommendations: traffic optimization, resource reallocation, or modernization scenarios. For Kyivstar, this is implemented through IEPMS (Integrated Enterprise Project Management System), where AI coordinates recovery projects (as in 2024), reducing support costs by 30% and promoting a circular economy. The closed loop feeds the updated data back, ensuring continuous improvement.

The proposed model is an applied basis for Kyivstar, where its implementation can increase the NRE by 20–25%, especially in the context of investments of USD 1 billion from VEON for 2023–2027. At the same time, its versatility makes it a tool for a wide range of companies in Ukraine and abroad, moving to sustainable business formats: from industrial enterprises (energy optimization) to service enterprises (logistics). The model scales through cloud platforms, compensating for the scarcity of resources in regions with low digital maturity, and integrates with global standards (LCA, Carbon Footprint), contributing to the “double transformation” at the level of the national economy.

It should be noted that implementing the proposed model may require organizational changes in corporate management, particularly in cases where processes have been digitized only in a piecemeal fashion or where the corporate culture lacks a focus on the application of the latest digital management technologies. Implementing necessary changes may encounter resistance from employees, who may be reluctant to adopt new, innovative ways of working. In such cases, it would be helpful to apply the methodology proposed by researchers

for identifying staff attitudes toward organizational change and measuring the level of motivation for change (Shapa et al., 2025).

In a business context, in particular in digital ecosystems, the application of such models can increase entrepreneurial viability. The main idea is that the combination of digital platforms, AI analytics, and agile collaboration models allows companies to adapt faster to market changes, create new forms of value, and reduce uncertainty in decision-making. Such integration strengthens ecosystems through the dynamic circulation of resources, knowledge and data between market participants.

Conclusion. The study confirms the feasibility of integrating digital management with resource efficiency based on NRE and “dual transformation”. Digital twins optimize business processes, DEA and benchmarking ensures sustainability and AI and digital transformation, enhanced by environmental awareness, maximize the effect.

The key results of the work are the development and analytical substantiation of a three-level model for the integration of digital management and resource efficiency of the enterprise in the context of the concept of sustainable development. The scientific novelty of the proposal lies in combining three separate elements (digital twins for process optimization, DEA for sustainability assessment and AI for dynamic adaptation) into a single integration mechanism with a closed loop. The practical value of the model is that it provides businesses with a tool to simultaneously achieve operational efficiency (through doubles) and meet NRE criteria (through DEA and AI).

Prospects for further research include the analysis of behavioral factors and mechanisms of the circular economy within the framework of the proposed model.

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ІНТЕГРАЦІЯ ЦИФРОВОГО УПРАВЛІННЯ ТА РЕСУРСЕФЕКТИВНОСТІ ПІДПРИЄМСТВ У КОНТЕКСТІ СТАЛОГО РОЗВИТКУ

У статті досліджено взаємозв'язок цифрової трансформації управління підприємством та підвищення ресурсоефективності в контексті концепції сталого розвитку. Авторами обґрунтовано, що сучасні виклики економіки, зокрема повоєнне відновлення та екологічні обмеження, потребують переходу від фрагментарних підходів до інтегрованих моделей управління ресурсами, заснованих на цифрових технологіях, аналітиці даних та принципах ресурсозбереження (NRE). У роботі систематизовано ключові характеристики цифрового управління, зокрема оцифровку процесів, формування нових моделей створення вартості та розвиток цифрових партнерств. Проведено порівняльний аналіз сучасних методів оцінки ресурсоефективності, включаючи Data Envelopment Analysis (DEA), бенчмаркінг, Life Cycle Assessment (LCA) та Carbon Footprint Analysis. Обґрунтовано доцільність їх інтеграції з цифровими двійниками та інструментами штучного інтелекту для формування системи безперервного моніторингу й адаптивного управління. На відміну від існуючих досліджень, що розглядають цифрову трансформацію та ресурсоефективність окремо, у статті вперше запропоновано інтегровану трирівневу модель, що поєднує цифрові двійники (для моніторингу й моделювання процесів), DEA та бенчмаркінг (для кількісної оцінки ефективності) і штучний інтелект (для динамічного коригування управлінських рішень). Запропонована модель формує замкнутий цикл управління, що забезпечує одночасне підвищення операційної продуктивності, зменшення відходів, оптимізацію енергоспоживання та покращення ESG-показників. Практичну апробацію підходу продемонстровано на прикладі телекомунікаційної компанії, що функціонує в умовах воєнних ризиків та масштабної інфраструктури. Показано, що інтеграція цифрових платформ, аналітики ШІ та методів ресурсної оцінки дає можливість забезпечити безперервний моніторинг, оцінювання та оптимізацію використання ресурсів і дозволяє усувати як операційні втрати, так і екологічні небажані наслідки. Доведено, що синергія цифрового управління та ресурсоефективності виступає ключовим чинником конкурентоспроможності підприємств і формування нової парадигми сталого розвитку.

Ключові слова: цифрове управління, ресурсоефективність, підприємство, сталий розвиток, штучний інтелект.

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Appendix A Kyivstar Group Ltd. Financial Results Q3 2025¹

Earnings Release
3Q25



KYIVSTAR: 3Q25 KEY HIGHLIGHTS

| | Unit | 3Q25 | 3Q24 | YoY | 9M25 | 9M24 | YoY |
|---|---------|--------|--------|-----------|--------|--------|-----------|
| Operating highlights | | | | | | | |
| Total customer base | | | | | | | |
| Mobile | mn | 22.5 | 23.3 | -3.6% | | | |
| Fixed broadband | mn | 1.2 | 1.1 | 2.9% | | | |
| Multiplay users | mn | 6.6 | 5.3 | 24.8% | | | |
| Total digital monthly active users | mn | 13.5 | 9.0 | 49.4% | | | |
| ARPU | UAH | 153.1 | 134.2 | 14.0% | | | |
| Churn rate annualised | % | 9.9% | 16.2% | (6.3p.p.) | | | |
| 4G penetration | % | 66.5% | 62.6% | 3.9p.p. | | | |
| Multiplay penetration | % | 31.7% | 24.8% | 6.9p.p. | | | |
| Data usage | GB/user | 13.0 | 10.9 | 18.3% | | | |
| Total employees | no. | 5,058 | 3,957 | 27.8% | | | |
| Financials Highlights (UAH) | | | | | | | |
| Revenue | mn | 12,332 | 10,203 | 20.9% | 34,773 | 26,577 | 30.8% |
| Digital revenue | mn | 1,464 | 232 | 531.3% | 3,056 | 594 | 414.6% |
| EBITDA ¹ | mn | 7,100 | 5,842 | 21.5% | 19,840 | 14,858 | 33.5% |
| Operating Profit ¹ | mn | 4,733 | 4,114 | 15.1% | 13,393 | 9,852 | 35.9% |
| EBIT ¹ | mn | 4,858 | 4,114 | 18.1% | 13,684 | 9,971 | 37.2% |
| Net Profit ¹ | mn | 3,031 | 3,373 | -10.1% | 8,140 | 7,548 | 7.8% |
| Capex | mn | 3,695 | 2,304 | 60.4% | 9,275 | 5,204 | 78.2% |
| Capex intensity | % | 30.0% | 22.6% | 7.4p.p. | 26.7% | 19.6% | 7.1p.p. |
| Equity Free Cash Flow (before Leases & License) | mn | 7,225 | 2,674 | 170.2% | 14,017 | 7,269 | 92.8% |
| Operating cash flow | mn | 5,977 | 5,102 | 17.2% | 16,888 | 12,871 | 31.2% |
| Cash & cash equivalents | mn | 19,502 | 21,036 | -7.3% | 19,502 | 21,036 | -7.3% |
| Shareholder's equity | mn | 51,069 | - | n.m | 51,069 | - | n.m |
| Key ratios | | | | | | | |
| Digital % of Revenue | % | 11.9% | 2.3% | 9.6p.p. | 8.8% | 2.2% | 6.6p.p. |
| EBITDA margin ¹ | % | 57.6% | 57.3% | 0.3p.p. | 57.1% | 55.9% | 1.2p.p. |
| Net profit margin ¹ | % | 24.6% | 33.1% | (8.5p.p.) | 23.4% | 28.4% | (5.0p.p.) |
| EPS ² | USD | (0.41) | 0.40 | n.m | 0.16 | 0.92 | -82.5% |
| Adjusted EPS ^{1,2} | USD | 0.33 | 0.40 | -16.0% | 0.93 | 0.92 | 1.1% |

Note:

- Adjusted figures for 3Q25 exclude the impact of a one-time, non-cash charge of \$162 mn (UAH 6.7bn) recognized in 3Q25 results related to the Kyivstar listing, 3Q25 loss for the period was USD 89 mn.
- Weighted average common shares outstanding for earnings per share (in millions): 219.3 (3Q25), 206.9 (3Q24) and 211.1 (9M25), 206.9 (9M24).

Notice: Please see Attachment A for reconciliations to Kyivstar's non-GAAP measures and Attachment D for a detailed description of such measures.