

DOI: <https://doi.org/10.32782/2524-0072/2025-72-64>

UDC 339.9:004

# THE IMPACT OF DIGITALIZATION ON THE TRANSFORMATION OF INTERNATIONAL ECONOMIC RELATIONS: KEY TRENDS AND DISPARITIES IN THE GLOBAL ECONOMY

## ВПЛИВ ЦИФРОВІЗАЦІЇ НА ТРАНСФОРМАЦІЮ МІЖНАРОДНИХ ЕКОНОМІЧНИХ ВІДНОСИН: ОСНОВНІ ТРЕНДИ ТА РОЗБІЖНОСТІ У СВІТОВОМУ ГОСПОДАРСТВІ

**Mohylna Liudmyla**

Candidate of Economic Sciences, Associate Professor,  
Sumy National Agrarian University  
ORCID: <https://orcid.org/0000-0002-9053-5177>

**Могильна Людмила Миколаївна**

кандидат економічних наук, доцент,  
Сумський національний аграрний університет

The article examines digitalization as a key factor in transforming international economic relations, opening new opportunities for businesses and governments while simultaneously posing significant challenges. The main digital trends reshaping the global economy are highlighted, including e-commerce, financial technologies, artificial intelligence, automation, digital logistics, and new forms of employment. Strategies for adapting economic policies to digital transformation are proposed to ensure equal conditions for all market participants and prevent monopolization. The challenges related to data protection, digital platform regulation, and cybersecurity are outlined. Special attention is given to the role of artificial intelligence in the global economy, its impact on financial systems, and the labor market. The importance of balancing automation with job preservation and adapting educational systems to the demands of the digital economy is emphasized. It is noted that green digitalization, the metaverse, and quantum technologies create new opportunities for sustainable development. The uneven pace of digital transformation among countries is highlighted as a factor contributing to growing economic inequality. Measures for international cooperation are proposed to bridge the digital divide and ensure fair access to technology. The article concludes that digitalization is not only an economic process but also a social challenge requiring a comprehensive approach, inclusive policies, and global coordination to ensure the stable development of the world economy.

**Keywords:** digitalization, digital transformation, international economic relations, global economy, e-commerce, artificial intelligence, digital technologies, digital economy, digital inequality, enterprise.

Стаття присвячена питанням цифровізації, яка стала невід'ємною частиною глобальної економіки, трансформуючи міжнародні економічні відносини. Досліджено вплив цифрових трансформацій на світову економіку, визначено основні тенденції та виклики, пов'язані з цифровими платформами, фінансовими технологіями, штучним інтелектом, електронною комерцією, логістикою тощо. Запропоновано концептуальні підходи до ефективного управління цифровізацією в умовах глобальної економічної нестабільності та нерівномірного технологічного розвитку між країнами. Розглянуто питання впливу цифрових технологій на міжнародну торгівлю, фінансові потоки та конкурентоспроможність держав, а також окреслено ризики, пов'язані з нерівномірним доступом до цифрових інструментів, кібербезпекою та регуляторними бар'єрами. Наголошено, що швидкий розвиток технологій відкриває нові перспективи для підприємств, спрощуючи вихід на міжнародні ринки, прискорюючи фінансові транзакції та змінюючи підходи до ведення бізнесу. Разом з тим, цифровізація формує виклики, пов'язані з адаптацією національних економік до нових умов, необхідністю оновлення інфраструктури, розвитку цифрової грамотності та створення ефективної системи регулювання цифрової економіки. У статті акцентовано увагу на тому, що цифрова трансформація має комплексний характер і впливає не лише на макроекономічні процеси, а й на соціально-економічну сферу, змінюючи підходи до зайнятості, управління виробничими процесами, логістики та інтеграції держав у світовий економічний простір. Дослі-

дження демонструє, що успішна цифровізація вимагає узгоджених дій на міжнародному рівні, впровадження стратегій, які сприятимуть рівномірному розвитку технологій, мінімізації ризиків та створенню умов для сталого економічного зростання. Практична значущість дослідження полягає в можливості використання його результатів для формування стратегічних програм цифрового розвитку на рівні бізнес-спільноти, держав та міжнародних організацій. Висновки та рекомендації, сформульовані в статті, можуть слугувати основою для розробки ефективних підходів до регулювання цифрової економіки, адаптації бізнесу до змін та впровадження інноваційних рішень у міжнародні економічні відносини.

**Ключові слова:** цифровізація, цифрова трансформація, міжнародні економічні відносини, світове господарство, електронна комерція, штучний інтелект, цифрові технології, цифрова економіка, цифрова нерівність, підприємство.

**Problem statement.** The modern world economy is going through a period of global digital transformation, which is radically changing approaches to international economic relations. Technological breakthroughs are contributing to the expansion of e-commerce, financial technologies, production automation and the creation of new models of economic interaction between businesses and governments. However, this process is not uniform: developed countries are gaining significant benefits from digitalisation, while developing countries often face barriers in the form of technological lag, weak digital infrastructure and economic instability. In addition, cybersecurity threats, digital sovereignty and personal data regulation are becoming increasingly relevant in international economic policy.

Thus, the transformation of international economic relations under the influence of digitalisation is inevitable, and the task of the global community is to make this process as harmonious and balanced as possible. The issue is of both scientific and practical importance, as the efficiency of digital transformation affects the competitiveness of national economies, employment levels and the stability of international markets. The introduction of innovative technologies requires concerted efforts by governments, businesses and the scientific community to create a favourable regulatory environment that will facilitate the harmonious development of the digital economy.

**Analysis of recent research and publications.** In recent years, the academic world has been raising the issue of digitalization, which is fundamentally changing international economic relations. Particular attention is paid to analyzing the impact of digitalization on global trade relations, investment flows, financial markets, production processes, etc. Economic scholars also focus on how digital technologies facilitate the integration of countries into the global economy, while creating new challenges related to uneven development, cybersecurity,

and regulation of the digital economy. Among the domestic scholars who devoted their works to this topic were the following, namely: Amelina N. [1], Diachenko O. [2], Dovhal O. [3], Honcharenko O. [2], Hrabynskiy I. [4], Komchatnykh O. [1], Levishchenko O. [1], Makedon V. [5], Moskalyk R. [6], Novikova N. [2], Semenov A. [7], Sichkarenko K. [8], Tomareva-Patlahova V. [7], Trokhymets O. [7], Ukraynets L. [4] and others.

Thus, modern research focuses on the fact that digitalization is a powerful driver of transformation, but requires a balance between the openness of digital markets and its effective regulation to ensure the sustainable development of the global economy.

**Identification of previously unresolved parts of the overall problem.** The world is changing rapidly. Digital technologies have become the main catalyst for change. Digitalization is transforming international economic relations, creating not only opportunities but also new challenges. For example, the regulation of the digital economy due to the lack of unified standards in digital trade, taxation, and data protection. Another important unresolved issue is the growing digital divide between countries and regions. This increases the economic asymmetry between them. The issue of cybersecurity and digital sovereignty is also a concern. The increasing share of digital financial transactions, blockchain technologies, and artificial intelligence makes economies more vulnerable to cyberattacks, financial fraud, and even technological dominance by individual countries and corporations. We should also pay attention to social and labor transformations. Digitalization is changing the structure of the labor market: automation and artificial intelligence are replacing traditional professions, leading to job losses in some sectors and the need for constant retraining. However, the mechanisms for adapting the labor market to new realities remain imperfect, and government strategies for digital education vary considerably between countries.

Thus, the digitalization of international economic relations, along with positive changes, creates a new range of challenges that do not yet have universal solutions. Solving these problems requires further research, global dialogue, harmonization of digital regulations, and development of sustainable digital development strategies.

**Formulation of the objectives of the article.** The purpose of the article is to develop theoretical recommendations for managing the processes of digitalization in international economic relations, taking into account current trends and challenges of the world economy.

**Presentation of the main material.** In the near future, information will turn not only into the end product of the activities of the vast majority of people, but also into the main object of their labor. In other words, all areas of economic activity will increasingly depend on the use of information and scientific knowledge. This will contribute to the growth of the intellectual level of society, but will require significant changes in almost all aspects of life.

It should be emphasized that the term "digitalization" has become an integral part of the vocabulary of a modern person who is accustomed to such concepts as "digital economy", "digital education", "digital transport", "smart cities", "e-medicine", etc. Modern people are participants in this process, which covers all areas. But where did this interest in digitalization come from? We would like to emphasize that the history of digitalization can be seen as an alternative approach to describing the development of modern society, complementing information revolutions and technological changes.

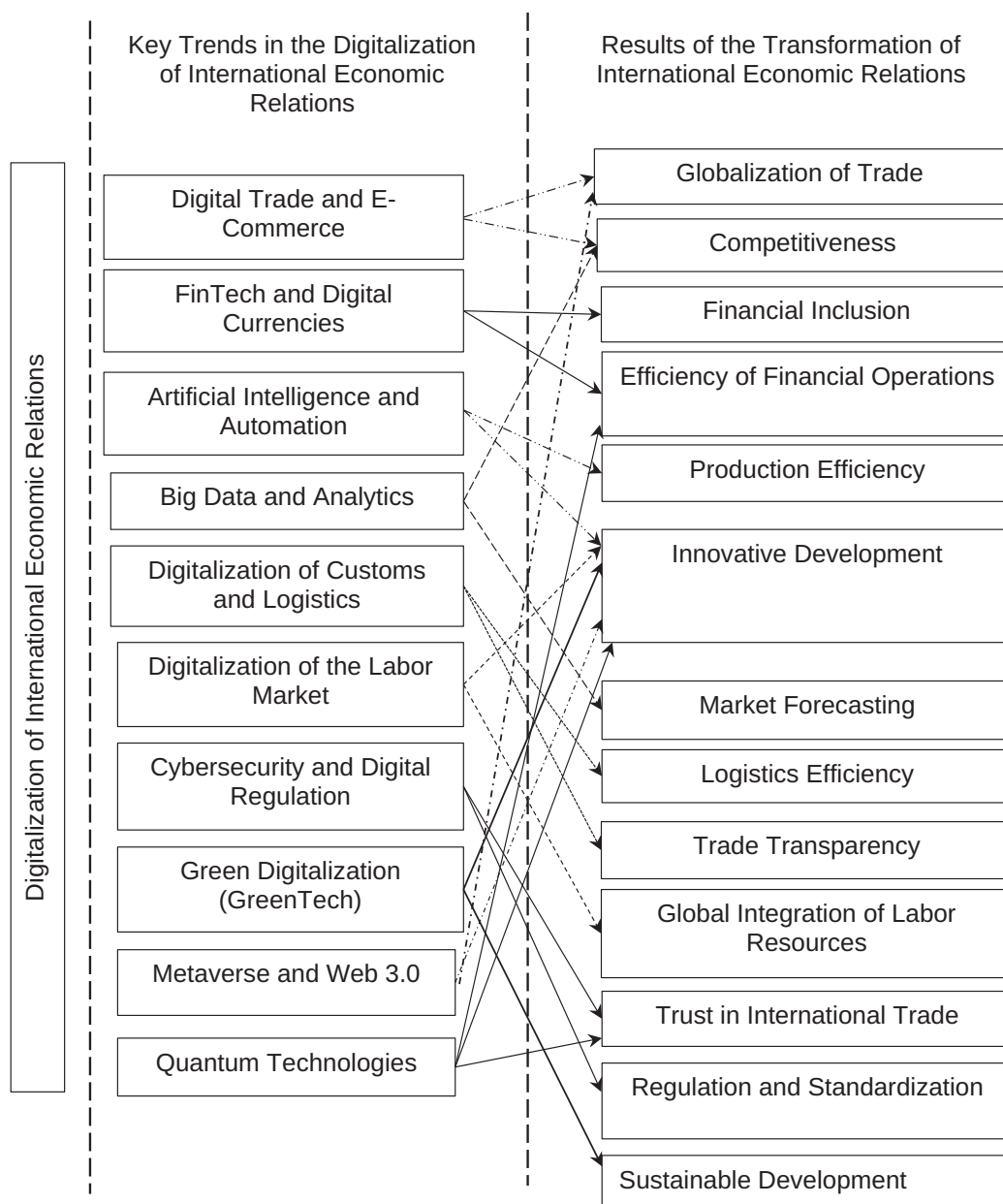
Today, digital data has become a strategically important economic resource, and therefore, digital development policy plays a key role in shaping economic strategies. It is aimed at stimulating production, creating new jobs, increasing labor productivity, developing both the public and private sectors, and implementing large-scale socio-economic reforms. It is the growing importance of digital technologies in the development of society that has led the world's leading countries to develop strategic programs for the development of their national economies over the past decade. Thus, digitalization has become a fundamental factor in economic development, covering all spheres of public life and transforming traditional approaches to business. This is particularly evident in international economic relations, where digital

technologies are contributing to changes in trade models, financial mechanisms, and regulatory approaches.

Let's identify the key digital trends that are shaping the new structure of the world economy, affecting the dynamics of global markets and the competitiveness of countries (Figure 1). Among them, e-commerce is particularly noteworthy, as it is one of the most striking examples of this transformation. It not only simplifies international trade but also changes the very concept of economic relations. Previously, to enter the international market, businesses had to go through complex bureaucratic procedures, look for partners, rent stores, and adapt to local market conditions. With the development of e-commerce, these barriers have largely disappeared. Thanks to digital platforms, businesses can interact directly with consumers in different parts of the world.

Ukrainians spend up to 150 euros on online purchases annually, while in the EU it is 800 euros (the maximum level is 2916 euros in Denmark, 2364 euros in Norway, and 2316 euros in the UK) [2]. In 2024, the global e-commerce market amounted to \$4,490.17 billion. It is projected to reach \$5060.7 billion in 2025, with a compound annual growth rate (CAGR) of 12.7%. This growth is driven by expanding Internet access, changing consumer behavior, the development of secure payments, the popularity of mobile devices, and the globalization of trade. The market is expected to grow to \$7856.66 billion by 2028, driven by diversification, the subscription economy, payment innovations, and AR/VR integration. Key trends include social commerce, dominance of mobile shopping, personalization, subscription-based models, and omnichannel commerce [9].

It should be emphasized that the three largest e-commerce markets have already been formed: China, the United States, and the European Union. China holds the position of the world leader. This is due to the platforms of Alibaba Group, JD.com, and Pinduoduo, which attract billions of consumers. The introduction of artificial intelligence and Big Data helps Chinese companies personalize their offers and create effective marketing strategies. It should be emphasized that the US remains a key player thanks to giants such as Amazon, eBay, and Walmart. The US market is characterized by a high level of trust in online shopping and innovative logistics solutions. This allows to reduce the delivery time to several hours. The third place is occupied by the European Union,



**Figure 1. Digital trends as a driving force for changes in international economic relations**

*Source: author's development*

which is characterized by strict standards for data security and competition. Products are offered on the Zalando, Otto, and Allegro marketplaces. Given a variety of choices, consumers choose the product that meets their needs, and international players such as Amazon and AliExpress actively compete with each other by offering a variety of delivery and payment methods.

It should be emphasized that thanks to digital platforms, any enterprise can enter the global market, competing with large corporations. However, there are problematic issues related to

e-commerce taxation, personal data protection, and regulation of international marketplaces.

Every online transaction involves the processing of users' personal information: names, addresses, payment details, and purchase history. Marketplaces such as Amazon, eBay, and AliExpress store and analyze this data, using it to personalize ads, improve service, and increase sales efficiency. However, it is not always clear how the information is processed and who has access to it. Hacker attacks, data leaks, and fraudulent schemes all jeopardize consumer safety and undermine trust



in e-commerce. For example, a personal data leak can lead to financial losses, identity theft, or illegal use of payment cards.

A number of regulations have been developed internationally to ensure the protection of personal data. One of the most influential is the General Data Protection Regulation (GDPR), a European Union law that sets clear rules for the storage and processing of personal information. In the United States, the California Consumer Privacy Act (CCPA) and other local regulations are in effect. However, global regulation is still uneven, which creates gaps in the legal framework.

That is why international marketplaces are implementing data encryption, two-factor authentication, and fraud detection systems to improve security. However, digital literacy of users plays an important role. Thus, personal data protection in international e-commerce is a matter of global importance. To effectively address it, a comprehensive approach is needed, including legislative regulation, implementation of technological solutions, and raising consumer awareness. Only in this way can we overcome this challenge and ensure transparency, security and trust in the world of digital commerce.

It should be emphasized that new challenges are forcing countries to adapt their economic policies to avoid market monopolization and ensure a level playing field for business. Thus, e-commerce continues to transform international economic relations, blurring borders between countries and opening up new horizons for businesses and consumers.

At the same time, e-commerce contributes to the development of financial technologies. Secure payment systems, cryptocurrencies, and blockchain technology make international payments faster, more transparent, and at minimal cost. In addition, big data makes it possible to predict consumer behavior, personalize offers and optimize business processes.

Artificial intelligence has also become a driving force of global change, transforming not only the domestic economy but also the structure of international economic relations. Its impact is manifested in many ways, from increasing trade efficiency to rethinking the role of human capital in the global economy. Artificial intelligence helps to optimize supply chains in international trade; use intelligent algorithms to analyze market trends and select clients; dominate stock exchanges and execute transactions in a split second, etc. Artificial intelligence is becoming the basis for the creation of digital currencies that change the traditional mechanisms of international financial

relations. For example, the development of central bank digital currencies (CBDCs) helps speed up interstate settlements, reducing dependence on the US dollar and other reserve currencies. AI is changing not only the economy but also the social aspects of international relations. On the one hand, intelligent systems open up new jobs in programming, data analytics, and digital marketing. On the other hand, automation and robotization are reducing the demand for human labor in many industries, creating challenges for countries that depend on cheap labor. Successful utilization of AI potential requires a balance between innovation and inclusiveness, which will become the basis for the sustainable development of the global economy in the era of digital transformation.

Big Data and analytics are used to forecast markets, optimize supply chains, and personalize services. These tools allow countries and companies to make informed decisions, which contribute to efficiency and competitiveness.

The digitalization of customs and logistics is significantly accelerating international trade through the automation of customs procedures, the use of blockchain for cargo tracking, and the integration of IoT into logistics. These measures reduce costs and increase transparency, which facilitates trade between countries and stimulates globalization.

The digitalization of the labor market is also a major trend in digitalization, as it changes traditional approaches to employment. Remote work, platforms for freelancers, and production automation create new opportunities. However, it also poses new challenges, such as unequal access to digital skills and the adaptation of workers to new labor market conditions. This requires new approaches to education and social protection.

Cybersecurity and digital regulation are becoming key aspects of the global economy. The growth of cyberattacks requires the development of international standards to protect data and financial transactions. Without this, it is impossible to ensure trust in international trade.

Green digitalization (GreenTech) is gaining momentum as the world strives for sustainable development. The use of energy-efficient technologies, the development of green data centers, and the integration of environmental standards into the digital economy are becoming an integral part of global policy.

The Metaverse and Web 3.0 open up new opportunities for international cooperation. The virtual environment allows for international

meetings, the creation of digital assets, and the development of new forms of economic activity.

Quantum technologies promise to revolutionize computing, encryption, and material science. They can significantly accelerate the development of the international economy, but require new approaches to regulation and cooperation.

Digital technologies are transforming international economic relations, creating new opportunities and challenges. Their impact on the global economy will only grow. That is why countries that effectively integrate these innovations will gain a competitive advantage.

However, the uneven development of digital infrastructure creates deep divisions in the global economy (Table 1). The digital divide between countries is becoming a major challenge. Developed countries, such as the United States, China, and the EU, are actively investing in artificial intelligence, blockchain, and quantum computing, while developing countries are lagging behind due to a lack of resources and infrastructure. This leads to growing economic inequality, with some countries benefiting from the digital economy and others remaining on the periphery.

That is why global international cooperation is needed to overcome these challenges.

Equitable digital transformation is not only a technical challenge, but also a social mission. It requires global solidarity, an inclusive approach, and long-term planning. This is the only way to ensure that digital technologies benefit all countries and contribute to stable international economic relations.

**Conclusions.** This study has shown that digital technologies have become a powerful catalyst for change in the global economy. They open up new opportunities but also pose serious challenges that require attention from the international community.

On the one hand, digital technologies allow businesses to enter new markets, optimize logistics, and attract a large number of consumers. However, these benefits are available mainly to countries with a high level of digital development, which deepens economic inequality. This leads to fragmentation of the world economy and complicates global integration. Developing countries need financial and technical support to develop their digital infrastructure.

Thus, to ensure a fair and inclusive digital transformation, global cooperation, investment in infrastructure and education, and the development of a common set of rules are needed. This requires political will, social responsibility, and global solidarity.

Table 1

#### Divergence in the global economy due to uneven digitalization

Aspects of uneven digitalization	Implications for the global economy				
	Growing economic inequality	Complications of global integration	Formation of new economic blocs	Risks to sustainable development	The need for international cooperation
Digital divide between countries	+	+	+		+
Different levels of access to the Internet and digital infrastructure	+	+		+	+
Differences in the regulation of the digital economy		+	+		+
Differences in the digital literacy of the population	+			+	
Economic consequences of uneven digitalization	+	+	+	+	+

Source: compiled by the author

## REFERENCES:

1. Amelina N. K., Komchatnykh O. V., Levishchenko O. S. (2024). Tsyfrovizatsiia yak osnovnyi faktor rozvytku ekonomiky biznesu [Digitalization as the main factor of business economy development]. *Akademichni vizii*, 35. DOI: <https://doi.org/10.5281/zenodo.14005665> (in Ukrainian)
2. Novikova N., Diachenko O., Honcharenko O. (2023). Tsyfrovi platformy yak draiver rozvytku ekonomiky [Digital platforms as a driver of economic development]. *Scientia fructuosa*, 4, 47–66. DOI: [https://doi.org/10.31617/1.2023\(150\)04](https://doi.org/10.31617/1.2023(150)04) (in Ukrainian)
3. Imperatyvy rozvytku mizhnarodnykh ekonomichnykh vidnosyn v umovakh hlobalnykh vyklykiv: kolektyvna monohrafiia / kol. avt.; za red. O. A. Dovhal. Kharkiv: KhNU imeni V. N. Karazina, 2022, 528. Available at: <https://international-relations-tourism.karazin.ua/themes/irtb/resources/6a9f33a07ff9a208743ba17bc6709d07.pdf> (in Ukrainian) (accessed February 27, 2025)
4. Hrabynskyi I. M., Ukraynets L. A. (2024). Evoliutsiia tsyfrovizatsii mizhnarodnykh ekonomichnykh vidnosyn [The evolution of digitalization in international economic relations]. *Ekonomika ta suspilstvo*, 70. DOI: <https://doi.org/10.32782/2524-0072/2024-70-94> (in Ukrainian)
5. Makedon V. V., Chabanenko A. V. (2022). Faktorni skladovi tsyfrovizatsii hlobalnoi ekonomiky ta makroekonomichnykh system krain svitu [Factor components of digitalization of the global economy and macroeconomic systems of countries]. *Efektivna ekonomika*, 1. DOI: 10.32702/2307-2105-2022.1.11 (in Ukrainian)
6. Moskalyk R., Balashova V. (2023). Tendentsii tsyfrovoy transformatsii u svitovii ekonomitsi [Trends of digital transformation in the global economy]. *Zovnishnia torhivlia: ekonomika, finansy, pravo*, 6, 42–55. DOI: 10.31617/3.2023(131)03 (in Ukrainian)
7. Trokhymets O., Tomareva-Patlahova V., Semenov A. (2024). Tsyfrova ekonomika ta transformatsiia tradytsiinykh industrii: vyklyky ta mozhlyvosti instytutsionalizatsii tsyfrovoy ekonomiky [Digital economy and transformation of traditional industries: challenges and opportunities for the institutionalization of the digital economy]. *Ekonomika ta suspilstvo*, 59. DOI: <https://doi.org/10.32782/2524-0072/2024-59-168> (in Ukrainian)
8. Sichkarenko K. O. (2018). Tsyfrovizatsiia yak faktor zmin u mizhnarodnykh ekonomichnykh vidnosynakh [Digitalization as a factor of changes in international economic relations]. *Pryazovskyi ekonomichnyi visnyk*, 3(08), 30–34. Available at: [http://pev.kpu.zp.ua/journals/2018/3\\_08\\_uk/8.pdf](http://pev.kpu.zp.ua/journals/2018/3_08_uk/8.pdf) (in Ukrainian) (accessed February 27, 2025)
9. E-Commerce Global Market Report 2025 (2025). *The Business Research Company*. Available at: <https://www.thebusinessresearchcompany.com/report/ecommerce-global-market-report> (accessed February 27, 2025)