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THE IMPACT OF DIGITALIZATION ON STRATEGIES FOR ENSURING ECONOMIC SECURITY OF RURAL AND URBAN AREAS IN UKRAINE

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ВПЛИВ ЦИФРОВІЗАЦІЇ НА СТРАТЕГІЇ ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ СІЛЬСЬКИХ ТА МІСЬКИХ ТЕРИТОРІЙ УКРАЇНИ

In the context of modern global digital transformation, the issue of the impact of digitalization on socio-economic processes in both urban and rural areas is becoming particularly relevant. Although each area differs in terms of digital infrastructure and access to digital services (with these differences sometimes being striking), digital technologies are becoming a key factor in the modernization of the local economy, local governance processes, and related security strategies. This study aims to analyze the impact of digitalization processes on the approaches to forming economic security strategies in rural and urban areas of Ukraine. Digitalization significantly transforms approaches to ensuring the economic security of territories, creating a foundation for the transition to next-generation strategies — digitally oriented, innovative, flexible, transparent, and capable of rapid adaptation in conditions shaped by both military threats and global technological trends. In Ukraine, especially in the context of the full-scale war, digital strategies are becoming crucial for strengthening the economic resilience of communities, minimizing losses, and mobilizing local resources. The author has identified six basic digital transformation strategies at the territorial level that contribute to strengthening economic security: the strategy of digital monitoring and

resource management; the strategy of transparent electronic governance; the strategy of supporting digital entrepreneurship and innovation; the strategy of socio-economic reintegration through digital services; the strategy of digital security of territories; and the strategy of digital engagement in markets and export activities. These strategies should shape a comprehensive digital policy for community development, be adaptable to conditions of war and recovery, help reduce regional disparities, and ensure the integration of territories into the national and global economic space. The prospects for further research lie in an in-depth analysis of the effectiveness of implementing digitally-oriented strategies in different types of local territories in Ukraine, taking into account the specific characteristics of rural and urban communities.

В умовах сучасної глобальної цифрової трансформації особливої актуальності набуває питання впливу цифровізації на соціально-економічні процеси як у міських, так і в сільських територіях. Незважаючи на суттєву різницю у рівні цифрової інфраструктури та доступі до цифрових послуг, цифрові технології стають ключовим чинником модернізації локальної економіки, управлінських процесів та відповідних безпекових стратегій. Метою цього дослідження є аналіз впливу цифровізації на підходи до формування стратегій економічної безпеки у сільських і міських територіях України. Цифровізація суттєво трансформує підходи до забезпечення економічної безпеки територій, створюючи основу для переходу до стратегій нового покоління — цифрово орієнтованих, інноваційних, гнучких, прозорих і здатних швидко адаптуватися в умовах змін, викликаних як воєнними загрозами, так і глобальними технологічними трендами. В Україні, особливо в умовах повномасштабної війни, цифрові стратегії набувають ключового значення для зміцнення економічної стійкості громад, мінімізації втрат та мобілізації локальних ресурсів. Виділено шість базових стратегій цифрової трансформації на рівні місцевих територій, які сприяють посиленню економічної безпеки: стратегія цифрового моніторингу та управління ресурсами; стратегія прозорого електронного врядування; стратегія підтримки цифрового підприємництва та інновацій; стратегія соціально-економічної реінтеграції через цифрові сервіси; стратегія цифрової безпеки територій; стратегія цифрового залучення до ринків та активізації експорту. Ці стратегії мають формувати цілісну цифрову політику розвитку громад, бути адаптивними до умов війни та процесів відновлення, сприяти зменшенню регіональних диспропорцій і забезпечувати інтеграцію територій у національний та глобальний економічний простір. Перспективи подальших досліджень полягають у глибшому аналізі ефективності впровадження цифрово орієнтованих стратегій у різних типах локальних територій України з урахуванням особливостей сільських і міських громад.

Key words: global technological trends; socio-economic processes; community resilience; cost minimization; mobilization of local resources; security strategie; territory.

Ключові слова: глобальні технологічні тренди; соціально-економічні процеси; стійкості громад; мінімізація втрат; мобілізація локальних ресурсів; безпекові стратегії; територія.

PROBLEM STATEMENT

In the current context of global digital transformation, the issue of the impact of digitalization on socio-economic processes in both urban and rural areas is becoming particularly relevant. Although there are significant differences in the levels of digital infrastructure and access to digital services across various regions, digital technologies are increasingly becoming essential for modernizing local economies, improving governance processes, and enhancing relevant security strategies. They open up new opportunities for improving resource utilization efficiency, ensuring transparent governance, stimulating entrepreneurship and innovation, as well as promoting social integration and the recovery of communities affected by military actions.

For Ukraine, which is undergoing systemic transformation and facing external threats, it is also important to develop effective economic security strategies that take into account the impact of digitalization (which can accelerate economic recovery and development and serve as a foundation for strengthening economic cooperation, among other things). These strategies should consider the specifics of regional development, the unevenness of digital transformation, and the demographic and socio-economic characteristics of the territories.

ANALYSIS OF RESEARCH AND PUBLICATIONS

The issues of economic security in rural and urban areas have been examined by Kyrylenko S.V. [3], Buryk M.M.,

Table 1. Comparison of key areas of economic security in rural and urban territories of Ukraine

Direction of economic security	Rural territories	Urban territories
Food security	Production of agricultural products, preservation of agro-potential	Ensuring food supply, logistics, processing.
Economic structure	Predominantly agricultural sector, small and medium-sized businesses in the service sector.	Diversified economy: industry, IT, services, finance.
Access to markets and finance	Limited access to sales markets, credit, and investments.	Developed business infrastructure, better access to financing/
Infrastructure	Insufficient development of transport, digital, and energy infrastructure.	Advanced engineering, transport, digital, and communal infrastructure.
Innovation	Low level of innovation implementation, limited access to technologies/	Active development of innovation, research centers, and technology parks.
Employment and labor resources	High levels of labor migration, seasonal employment, aging population.	Higher employment levels, but risks of overpopulation and social strain.
Social stability	Vulnerability to socio-economic shocks, dependence on state support.	Higher level of social infrastructure, but risks of social differentiation.
Environmental security	Impact of climate change on crops, soil erosion, pollution from agricultural production.	Urbanization, industrial pollution, shortage of green spaces.
Governance and self-government	Limited resources of territorial communities, need to enhance local government competencies.	Urbanization, industrial pollution, shortage of green spaces.

Source: compiled based on [1; 3; 5].

and Popov O.V.[1], Piletska S.T. Arefiev S.O., Petrovska S.V., and Kolesnykov S.O. [6]. These scholars have addressed various aspects of the topic, including:

- Outlining the threats and challenges to the economic security of local areas in the context of globalization and armed conflicts;
- Issues related to the development of economic security strategies for rural and urban communities;
- The role of institutional support and state governance mechanisms in maintaining the stability of local economies;
- The challenges of ensuring food security and developing the agricultural sector in rural communities.

Thus, the contributions of these authors are important for a comprehensive understanding of current challenges and for identifying effective ways to ensure economic security at the local level in Ukraine. Additionally, the specific effects of digitalization on the strategies for ensuring economic security in both rural and urban areas of Ukraine have not been thoroughly examined. In most cases, this is because a significant portion of scientific research is focused on national-level economic security or specific sectors (such as agriculture, industry, and energy). The local level-territorial communities, villages, and cities- is often overlooked by researchers.

FORMULATION OF THE ARTICLE'S OBJECTIVES

This study aims to analyze the impact of digitalization processes on approaches to the formation of economic security strategies in rural and urban areas of Ukraine.

THE PAPER MAIN BODY

Within the scope of the study, the authors emphasize that the economic security of territories is a state of stable and resilient economic functioning at the corresponding level (village, city, community, region [1]), which:

- ensures protection against internal and external threats (economic, social, technological, natural [2; 4—5]);
- local resilience of territories to crisis phenomena;
- local capacity for self-reproduction and development;
- preservation of critical infrastructure, employment, and financial stability.

It should be emphasized that, overall, the internal focus of economic security differs between rural and urban territories. For rural areas, this includes, in particular, food security, preservation of agricultural production, access to markets, and support for small businesses, whereas for urban areas, it involves a diversified economy, innovation development, secure digital infrastructure, stable business operations, and reliable functioning of transportation and social systems.

This is illustrated through a comparison of the key areas of economic security in rural and urban territories of Ukraine, reflecting their specific characteristics, needs, and priorities (see Table 1).

Ukraine is currently in a difficult situation, as the military aggression by the Russian Federation has disrupted the functioning of entire economic sectors and territories, while internal migration processes (forced displacement from conflict zones) have placed a burden on urban communities.

Table 2. Characteristics of the impact of digitalization on strategies for ensuring economic security in rural and urban territories of Ukraine

Areas of digitalization impact	Nature of impact	Significance for rural territories	Significance for urban territories
Timely accounting and monitoring of resources	Use of digital systems for collecting, processing, and visualizing data on the condition of infrastructure, land, and businesses.	Online mapping of damaged lands, accounting of agro-potential, and logistical losses.	Monitoring of housing stock, social facilities, and transport infrastructure.
Digital integration into the economic space	Integration of local economies into national and global markets through digital platforms.	Access to e-commerce, agricultural marketplaces, and platforms for farmers.	Participation in digital industries, service exports, and development of startup ecosystems.
Transparent governance and electronic administration	Implementation of electronic services in local self-governance.	Access to electronic applications, budget transparency, and citizen participation in decision-making.	Efficient management of urban resources, electronic budgeting, and anti-corruption control.
Enhancing the effectiveness of local decisions	Analytical tools for making informed strategic and operational decisions.	Optimization of land use, subsidies, grants, and investments.	Planning for infrastructure, transport, and utilities development, integration with urban planning policies.
New opportunities for affected communities	Use of digital tools for social, economic, and administrative reintegration.	Online education, electronic support services, IDP registration, and platforms for rural community recovery.	Digital platforms for IDP integration, rapid restoration of social services, and engagement in new projects.

Source: compiled based on [1–3].

Since the beginning of the full-scale war, millions of people have been forced to leave their homes. According to the International Organization for Migration, as of 2025, over 3.8 million individuals are registered as internally displaced persons, leading to the overloading of social infrastructure in certain areas (schools, hospitals, housing), rising rental prices, housing shortages, and increased pressure on local budgets. New residents require support, while resources are limited. In addition, numerous rural areas are experiencing destruction, landmining, and loss of agro-potential [1; 3].

According to estimates by the Ministry of Economy, about 25% of agricultural land in Ukraine was temporarily unsuitable for cultivation as of 2024. Mined fields in the Izium, Kupiansk districts, and Kherson region make farming impossible without demining. Rough estimates indicate that Ukraine has lost over 35% of its agricultural exports due to the temporary occupation of territories and the blockade of ports. In fact, the economic security of Ukraine's territories is under systemic threat because of the war.

Cities in Ukraine are experiencing social and infrastructural overload, while rural areas face extensive physical destruction, landmining, and loss of agricultural potential.

The local economic security of both rural and urban communities serves as the foundation of national security.

It plays a crucial role in post-war economic recovery, fosters social resilience and community cohesion, and helps mitigate risks such as depopulation, unemployment, and increasing poverty. Consequently, there is an urgent need for new adaptive strategies that combine digital coordination of resources, support for local businesses, systematic demining, and the implementation of innovative governance solutions.

Digitalization plays a key role in modernizing these strategies — it ensures the timely accounting and monitoring of resources, the digital integration of local economies into national and international markets, promotes transparent governance, enhances the efficiency of decision-making at the local level, and opens new opportunities for communities affected by hostilities (see Table 2).

Digitalization is transforming approaches to ensuring the economic security of territories, creating conditions for a new generation of strategies — digitally oriented, focused on innovation, flexibility, transparency, and rapid adaptation to changes [2].

Among such strategies for ensuring the economic security of local territories in Ukraine, we have identified [7]:

1. The strategy of digital monitoring and resource management focuses on utilizing digital platforms

Table 3. Digitally oriented strategies for the economic security of rural and urban territories in Ukraine

Strategy name	Implementation in rural territories	Implementation in urban territories
Strategy of digital monitoring and resource management	GIS mapping of agricultural lands, damaged areas, and water resources	Smart cities, intelligent management systems for transport, utilities, and social facilities.
Strategy of transparent electronic governance	E-document flow within communities, access to government programs, electronic land management	E-budget, e-decisions by city councils, public electronic maps for development and planning.
Strategy of supporting digital entrepreneurship and innovation	Online incubators for farmers, agro-startups, marketplaces for local products.	IT clusters, technology parks, accelerators, industrial parks.
Strategy of socio-economic reintegration through digital services	E-platforms supporting farmers, online registration of humanitarian aid.	Digital solutions for integrating internally displaced persons (IDPs) into the city economy, digital education and healthcare services.
Strategy of digital security of territories	Development of basic IT infrastructure, digital literacy training in communities.	Integration of cybersecurity into smart city systems, secure communication channels for management structures.
Strategy of digital engagement in markets and export activities	E-commerce for local producers, agro-platforms, digital product certification.	Digital logistics, development of export-oriented services, support for small businesses in the global digital economy.

Source: compiled based on [1; 6—7].

(such as GIS, Big Data, and drone monitoring) to account for, control, and effectively use natural, land, infrastructure, and human resources within community territories.

1. The strategy of transparent electronic governance involves the digitalization of local government processes with a focus on data transparency, citizen participation in decision-making, and ensuring integrity through e-services, e-budgets, and public platforms.

2. The strategy of supporting digital entrepreneurship and innovation stimulates the development of small businesses, startups, and technological initiatives through access to digital infrastructure, cloud services, online financing, incubators, and educational programs.

3. The strategy of socio-economic reintegration through digital services aims to support communities affected by the war. This is achieved through electronic platforms for social assistance, IDP registration, online education, remote employment, and various recovery services.

4. The strategy of digital security of territories focuses on protecting critical digital systems, community data, communications, and services from cyber threats, taking into account the risks of wartime and hybrid attacks.

5. The strategy of digital engagement in markets and export activities focused on integrating local businesses into e-commerce, export platforms, and global supply chains through e-trade tools, online marketplaces, digital certification, and more.

More detailed descriptions of the digitally oriented strategies for economic security of rural and urban territories in Ukraine are outlined by us in Table 3.

The outlined digital-oriented strategies differ in priorities between rural and urban communities, but in both cases, they are crucial for ensuring the long-term economic resilience of the territories.

In particular, the strategy of digital monitoring and resource management, implemented by the Smizka rural community (Rivne region), enabled the introduction of a GIS system for land and property accounting. As a result, more than 200 hectares of unregistered plots were identified, which significantly increased local budget revenues and improved resource management control.

The strategy of transparent electronic governance, implemented in the Shatsk settlement community (Volyn region), involved the introduction of an electronic document management system, e-petitions, and online citizen appeals through the iGov portal. This allowed for increased transparency of management decisions, reduced corruption risks, and activated residents' participation in policy-making. Thus, the community not only optimized administrative processes but also strengthened trust in the local government.

The strategy of supporting digital entrepreneurship and innovation, implemented in the Baranivka community (Zhytomyr region), enabled the creation of an agro-incubator for farmers. This provided local agricultural producers with access to digital consultations, e-commerce platforms, and agrotechnologies. In the urban context, a successful example of this strategy is the city of Lviv, where an IT cluster operates with business acceleration programs, startup hubs, and digital innovation services.

The implementation of digitally-oriented economic security strategies enables not only a prompt response to the challenges of wartime but also lays the foundation for post-war recovery and sustainable development of rural and urban territories in Ukraine.

CONCLUSIONS

The research results indicate that digitalization significantly transforms approaches to ensuring the

economic security of territories. It lays the groundwork for moving towards next-generation strategies that are digitally focused, innovative, flexible, transparent, and able to quickly adapt to challenges posed by military threats and global technological trends.

In Ukraine, especially under the conditions of full-scale war, digital strategies are becoming crucial for strengthening the economic resilience of communities, minimizing losses, and mobilizing local resources.

The author identified six fundamental digital transformation strategies at the territorial level that contribute to strengthening economic security:

- Digital monitoring and resource management strategy.
- Transparent e-governance strategy.
- Support strategy for digital entrepreneurship and innovation.
- Socio-economic reintegration strategy through digital services.
- Digital security strategy for territories.
- Digital engagement strategy for markets and export activities.

These strategies should form a comprehensive digital development policy for communities, be adaptable to conditions of war and recovery, contribute to reducing regional disparities, and ensure the integration of territories into the national and global economic space.

The prospects for further research lie in an in-depth analysis of the effectiveness of implementing digitally oriented strategies in different types of local territories in Ukraine, taking into account the specific characteristics of rural and urban communities.

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