Електронний журнал «Ефективна економіка» включено до переліку наукових фахових видань України з питань економіки (Категорія «Б», Наказ Міністерства освіти і науки України № 975 від 11.07.2019). Спеціальності – 051, 071, 072, 073, 075, 076, 292.
Ефективна економіка. 2026. № 2.
ISSN 2307-2105

DOI: http://doi.org/10.32702/2307-2105.2026.2.94
УДК 339.13-044.922:330.341.1

I. Hanechko,
PhD in Economics, Associate Professor, Associate Professor of the Department of Economics and Business Finance,
State University of Trade and Economics
ORCID ID: https://orcid.org/000-0002-1918-3164

GLOBAL COMMERCIAL REAL ESTATE DEVELOPMENT MARKET: TRENDS AND EVOLUTION PROSPECTS

І. Г. Ганечко,
к. е. н., доцент, доцент кафедри економіки та фінансів підприємства,
Державний торговельно-економічний університет

ГЛОБАЛЬНИЙ РИНОК ДЕВЕЛОПМЕНТУ КОМЕРЦІЙНОЇ НЕРУХОМОСТІ: ТРЕНДИ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

A comprehensive analysis of global transformations in the commercial real estate market has been conducted, and their specific impact on development approaches and practices has been identified. It has been established that the global commercial real estate market is undergoing a profound transformation *under the influence of economic instability, digitalization, urbanization processes, the implementation of sustainable development principles in construction, and changes in consumption models. The paper proposes a classification of global trends in commercial real estate development under conditions of new challenges and increased uncertainty, which takes into account socio-behavioral, investment-financial, and managerial aspects of market transformation. Key trends are systematized into five directions: spatial-urban, market-consumer, technological, investment-economic, and environmental-social. An important conclusion is the transition to mixed-use development, which combines retail, residential, and service spaces to increase the efficiency of area utilization. The study showed that due to rising construction costs and disruptions in logistics chains, developers are increasingly choosing adaptive reuse—the reconstruction of existing facilities instead of new construction. Technological changes lead to the necessity of transitioning to "smart buildings" using Building Management Systems (BMS), the Internet of Things (IoT), and digital technologies and platforms (PropTech) to optimize the tenant mix and increase operational efficiency.It is noted that the development of e-commerce forces physical retail spaces to transform into "experiential" and "lifestyle" formats, where the emphasis shifts from transactions to consumer experience. Special attention is paid to the influence of Generation Z on modern formats of commercial real estate, which meets demands for flexibility, digital integration, and social orientation, stimulating the development of ecological projects that comply with ESG standards.*

Research results are critically important for Ukraine in the context of post-war recovery and the adaptation of domestic development to European standards of energy efficiency and sustainable development.

Проведено комплексний аналіз глобальних трансформацій на ринку комерційної нерухомості, визначено їхній специфічний вплив на підходи та практики в сфері девелопменту. Встановлено, що світовий ринок комерційної нерухомості переживає глибоку трансформацію під впливом *економічної нестабільності, цифровізації, урбанізаційних процесів, та впровадження принципів сталого розвитку в будівництво об'єктів та зміни моделей споживання. В роботі запропоновано класифікацію глобальних трендів розвитку комерційної нерухомості в умовах нових викликів та підвищеної невизначеності, яка враховує соціально-поведінкові, інвестиційно-фінансові та управлінські аспекти трансформації ринку. Ключові тренди систематизовано за п'ятьма напрямами: просторово-містобудівні, ринково-споживчі, технологічні, інвестиційно-економічні та екологічно-соціальні. Важливим є висновок про перехід до багатофункціонального (mixed-use) девелопменту, що поєднує торговельні, житлові та сервісні простори для підвищення ефективності використання площ. Дослідження показало, що через зростання собівартості будівництва та порушення логістичних ланцюгів девелопери все частіше обирають адаптивне повторне використання (adaptive reuse) - реконструкцію існуючих об'єктів замість нового будівництва. Технологічні зміни призводять до необхідності здійснення переходу до «розумних будівель» із використанням систем управління (BMS), Інтернету речей (IoT) та цифрових технологій і платформ (PropTech) з метою оптимізації структури орендарів (tenant-mix) та підвищення операційної ефективності. Зазначено, що розвиток електронної комерції змушує фізичні торгові площі трансформуватися у «досвідницькі» (experiential) та lifestyle-формати, де акцент зміщується з транзакцій на споживчий досвід. Окрему увагу приділено впливу покоління Z на сучасні формати комерційної нерухомості, яка відповідає запитам щодо гнучкості, цифрової інтеграції та соціальної орєнтованості, що стимулює розвиток екологічних проєктів, які відповідають стандартам ESG.*

Результати дослідження є критично важливими для України в контексті повоєнного відновлення та адаптації вітчизняного девелопменту до європейських норм енергоефективності та сталого розвитку.

Keywords: *commercial real estate, development, global trends, digitalization, ESG standards, mixed-use, urbanization, investment climate.*

Ключові слова: *комерційна нерухомість, девелопмент, глобальні тренди, цифровізація, стандарти ESG, mixed-use, урбанізація, інвестиційний клімат.*

Problem statement in a general form and its connection with important scientific and practical tasks.The global commercial real estate and development market is undergoing profound transformation under the influence of economic instability, geopolitical risks, digitalization, and changing models of consumption and business operations. Commercial real estate is not only an indicator of business activity but also an important factor in shaping investment flows, employment, urban development, and the structural modernization of national economies. In the context of Ukraine's European integration, the issues of adapting domestic real estate development to EU standards in the fields of urban planning, energy efficiency, sustainable development, and investment activity are becoming increasingly important. During the full-scale war, the need for the reconceptualization of land plots, as well as the construction and restoration of damaged real estate assets, has significantly increased. Under such conditions, the study of global commercial real estate market trends and their impact on development is essential for understanding the directions of further evolution of this field and for enhancing the market's resilience to global challenges.

Analysis of recent research and publications. Commercial real estate acts as the material basis for ensuring entrepreneurial activity, so the issues of formation and development of the real estate market and its impact on development attract significant attention from scientists. Theoretical and applied aspects of development activity are highlighted in the works of domestic researchers: in particular, in the works of Vysochyn I. V., modern concepts of revenue management in the field of development were analyzed [1], and the investment attractiveness of retail real estate projects was investigated [2];

Fisunenko P. A. and Gerasymenko O. V. substantiated the feasibility of an iterative approach and the use of structural optimization in development processes [3]. In study [4], a comparative analysis of the state of residential and commercial real estate was conducted, and the feasibility of implementing new construction concepts, European standards, and environmental norms in Ukraine's development activities was substantiated to improve the investment climate.

In recent years, a significant number of scientific works have been devoted to the study of the features of the functioning of the commercial and residential real estate market under martial law [5; 6], which causes its structural transformations, changes in factors influencing the current state, and determination of further development prospects. The stages of transformations of the domestic real estate market, advantages and disadvantages from the point of view of entrepreneurial and commercial activity are analyzed in work [7]. The study covers several periods: the crisis period of 2008, 2014-2015, the COVID-19 pandemic, and the full-scale Russian invasion of 2022.

In an article by Chinese scientists [8], it is shown how, during the period 2007–2024, the importance of transactions in the segment of commercial objects grew compared to plots for development, and key challenges and opportunities for investors in this market were determined. In many scientific publications, researchers focus on transformation trends in the real estate market caused by the rapid development of digital technologies, artificial intelligence, and the Internet of Things. In particular, study [9] contains important methodological developments regarding the automation of real estate appraisal using artificial intelligence. In the context of the global commercial real estate market, the implementation of such technologies can have a significant impact not only on the speed of valuation but also on the effectiveness of development decisions.

Article [10] summarizes the consequences of digital transformation in the real estate sector, focusing on the use of artificial intelligence (AI), Internet of Things (IoT), blockchain technology, augmented reality (AR), virtual reality (VR), and digital twins. The authors explore how digital transformation changes traditional business models in the real estate sector, forming new approaches to asset management, valuation, and development. In work [11], it is proven that the processes of digitalization, compliance with environmental and other requirements of sustainable development (ESG), and the integration of artificial intelligence can be used to optimize retail space and warehouse logistics.

The issues of the evolution of trading systems, their impact on urban processes, interaction with consumer behavior, and the role of physical trading environments in the conditions of growing online trade are analyzed in article [12]. Analytical assessments of the state and key development trends of global and national commercial real estate markets are formed by specialists from leading international consulting companies. At the same time, to guarantee the sustainable development of Ukrainian development, expand the possibilities of attracting foreign investment, and integrate the domestic market into the global economic environment, research on the impact of global trends in the functioning of commercial real estate on the development sphere is of particular importance.

Formulation of article goals (task setting). The goal of the article is to analyze global changes in the commercial real estate market and identify their impact on development. To achieve this goal, the study provides for the implementation of the following tasks:

- conduct a study of global trends in the commercial real estate market;
- determine key directions of transformation and their impact on development.

Presentation of the main research material. Global transformation processes in the economy and technology lead to the formation of new trends in the field of commercial real estate development, which determine modern approaches to planning, financing, and functional content of projects. The impact of factors such as digitalization of business processes, implementation of sustainable development standards (ESG), as well as changes in consumer patterns forms a new paradigm of development activity in the international space. The main global trends determining the modern development of retail real estate and development are systematized and presented in Fig. 1.

Among the key global trends, it is advisable to single out *spatial and urban planning trends* related to urbanization processes, mixed-use development, and reconstruction of existing real estate objects. Urbanization is a key driver of development for all sectors of commercial real estate. The growing share of the population living in cities stimulates the demand for multifunctional urban spaces, including retail facilities. The expansion of urbanization development processes stimulates the spread of multifunctional objects that combine retail, residential, and service spaces in a single spatial structure in order to increase the efficiency of space use and increase attractiveness for consumers.

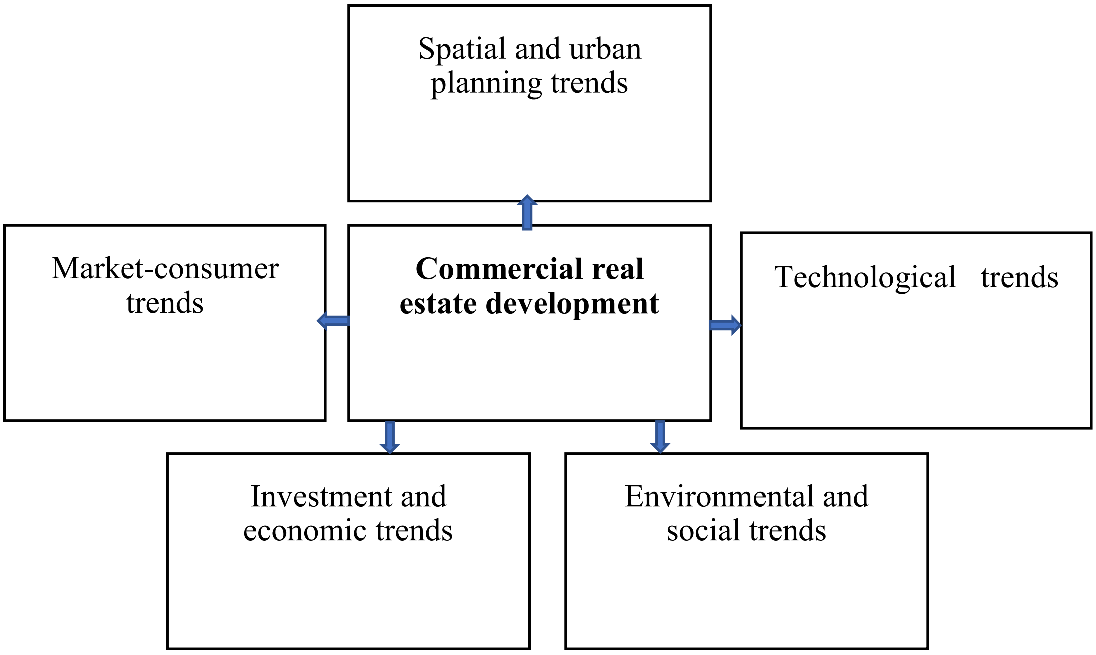

Fig. 1. Global trends in the development of commercial real estate in 2022–2025

Source: created by the author based on [12-16]

Market experts more and more often declare the feasibility of adaptive reuse of previously built objects through their reconstruction, rather than demolition and new construction. According to Colliers International, reconstruction, rather than new construction, stimulates supply in the USA [13]. In 2021-2022, building material prices rose sharply not only due to the impact of inflation but also due to the disruption of global logistics supply chains. This led to an increase in construction costs and a limitation of resource supply, i.e., structural inability of the market to quickly provide developers with the necessary land, financial, and material-technical resources, which is especially evident in the implementation of large-scale development projects in attractive urban locations. Developers are increasingly focused on adaptive reuse of existing space: transformation of shopping centers, conversion of large stores into mixed or other commercial use, integration of warehouse or logistics functions into retail objects, which restrains oversupply and strengthens the positions of existing assets.

Market-consumer trends are formed under the influence of the convergence of physical and online trade, the development of "experiential" and lifestyle formats. Global retail continues to move towards the integration of online and offline formats, where physical objects serve not only for traditional sales of goods but are also part of complex omnichannel customer service strategies. Accordingly, retail space is becoming more flexible, click-and-collect tools and local micro-platforms for Last-Mile logistics are being actively implemented. The development of e-commerce puts pressure on traditional retail real estate formats, changing the spatial structure of demand and the level of economic feasibility of physical stores [14].

Physical commercial spaces, in particular retail objects, are gradually transforming from places of transactions into spaces of consumer experience, which is a response to the growth of online sales channels [15].

Global research indicates that the commercial real estate market is actively moving towards "experiential" and lifestyle formats, where retail space combines shopping with leisure, entertainment, and social events. Such spaces attract visitors and create competitive advantages for developers.

Technological trends play an increasingly important role in the development of commercial real estate, causing the transformation of both development processes and object operation. Key directions include the implementation of smart technologies, building management systems (BMS), the use of big data (Big Data), PropTech solutions, and the Internet of Things (IoT), which form the technological basis of modern development, contribute to increasing operational efficiency, cost optimization, and consumer experience acquisition.

Digitalization of spaces allows developers and asset owners to create an optimal, functionally grounded tenant-mix of commercial real estate that accounts for consumer demand, the object concept, and economic efficiency goals. It increases the efficiency of customer flow management and asset resilience under growing competition in the conditions of digital transformation of all spheres of activity.

Investment and economic trends of recent years were formed under the influence of changes in the economic landscape since the beginning of the COVID-19 pandemic, which affected all sectors of commercial real estate. Due to the slowdown in economic growth, increased construction costs, and decreased real estate values, the volume of investment in construction sharply decreased in the post-covid period (2023-2024). Office real estate was the least in demand during that period, but other commercial real estate sectors also lost tenants and investors.

However, the results of recent global reviews indicate growing demand for commercial real estate from investors, despite overall economic challenges. In some key markets (USA, Europe), retail real estate is showing growth in rental volumes, and investments in yield-attractive assets in 2025 increased compared to the previous period, indicating a return of investors to physical commercial real estate assets. According to industry experts, construction costs, availability of suitable assets/land, and economic growth are among the main factors influencing investment in Europe [12]. In response to high rental rates in major metropolises, a significant part of the market is oriented towards secondary and regional markets, where more active demand growth, more attractive lease terms, and lower entry barriers for tenants and investors are observed.

Environmental and social trends. Sustainable development is becoming an integral part of development strategies. Sustainable retail development requires the implementation of environmentally efficient solutions, reduction of energy consumption, and optimization of resource use in the design and operation of objects. Regional markets cannot ignore sustainable development requirements, which are becoming a competitive advantage. The pandemic became a catalyst for structural changes in the commercial real estate market, strengthening the need for flexible, multifunctional, and sustainable development solutions [16]

Characteristics of the key directions of retail real estate market transformation are given in Table 1.

Table 1. Key directions of retail real estate market transformation

Directions of transformation of the commercial real estate market	Brief description	Impact on development
Urbanization and mixed-use	Integration of trade, housing, technological spaces, and additional services	Changing shopping center formats, creating multifunctional spaces
Limited supply	High construction costs	Adaptive reuse
E-commerce	Hybrid offline-online models	Reformatting of spaces
Sustainable construction	Energy efficiency, ESG	Growth in capitalization
Smart technologies	BMS, IoT, PropTech	Change in the business model of real estate development, cost optimization
Experiential approach	Focus on consumer experience	Growth in object attractiveness, its footfall, and value
Regionalization	Focus on secondary markets	Lowering entry barriers for tenants and investors

Source: developed by the author

Colliers International research results showed that, despite global trends, individual markets demonstrate specific adaptive solutions. Thus, in the Asia-Pacific region, innovations in omnichannel formats are a priority, while in Europe, the issues of retail space stability (ensuring a steady level of demand, rental income, and functional relevance amidst structural changes in retail) as well as flexible lease terms are more relevant [13].

In the context of global transformational changes, the trajectory of retail real estate development in the coming years will be associated with cost reduction, limited supply, the use of experience as a key value driver, the implementation of artificial intelligence systems, and the "energy transition" concept, which will contribute to achieving sustainable development goals. An expansion of investment opportunities for a wider range of participants is expected due to the democratization of investments influenced by the growth of the digital economy and relevant regulatory changes in certain countries.

Various segments of commercial real estate are being influenced by Generation Z, leading to a change in approaches to forming the functional and spatial characteristics of objects. This generation's orientation toward flexible employment formats, digital integration, and work-life balance stimulates the development of adaptive office spaces, coworking spaces, and multifunctional complexes. At the same time, there is a growing demand for objects with developed social infrastructure, shared interaction spaces, and a high level of technological equipment. An important feature is also Generation Z's increased attention to environmental friendliness and social responsibility, which strengthens the importance of sustainable development principles in commercial real estate development.

Conclusions and prospects for further exploration in this area. Global transformations taking place in the economy are leading to a rethinking of approaches to the development of commercial real estate. In such conditions, the role of development is growing, which is a complex process that combines spatial planning, functional diversification, and the implementation of digital and sustainable solutions. Among the key transformation directions changing commercial real estate formats and influencing the development sphere, the following should be highlighted:

- urbanization processes and shared use of space by various market entities;
- the growing role of sustainable construction;

- integration of Smart technologies;
- changing consumer behavior trends.

Understanding the impact of modern trends on commercial real estate development allows for the substantiation of strategic approaches to forming competitive objects that meet the changing needs of the market, users, and the investment environment. For Ukrainian development in the sphere of commercial real estate, taking into account the need for post-war reconstruction and European integration processes, the issue of transformations in the global market is particularly relevant, as it directs towards creating modern, stable, and competitive objects that can be easily integrated into the European economic and spatial context.

A promising direction for further research is the analysis of the possibilities of using artificial intelligence in commercial real estate development: from demand forecasting and location selection to optimization of design solutions and data-driven asset management.

Література

1. Височин І.В. Сучасні концепції управління доходами у сфері девелопменту. *Міжнародний науковий журнал «Грааль науки»*. 2025. № 56. С. 103-112. DOI: 10.36074/grail-of-science.19.09.2025.011
2. Височин І.В. Інвестиційна привабливість проєктів девелопменту торговельної нерухомості в умовах високої волатильності. *Бізнес Інформ.* 2025. № 8. С. 164171. DOI: 10.32983/2222-4459-2025-8-164-171
3. Фісуненко П.А., Герасименко О.В. Ітеративний підхід до оптимізації девелоперської діяльності. *Економіка та суспільство*. 2024. Вип. 59. DOI: 10.32782/2524-0072/2024-59-135 (дата звернення: 02.02.2026).
4. Hanechko, I. (2023). Real estate development: European trends. *Foreign trade: economics, finance, law*. Vol. 130(5). Pp. 97–112. DOI: 10.31617/3.2023(130)07

5. Боднарук І.Л., Платко А.М. Функціонування ринку комерційної нерухомості в умовах війни. *Український журнал прикладної економіки та техніки.* 2024. Том 9. № 2. С. 12-15. URL: https://ujae.org.ua/wp-content/uploads/2024/05/ujae_2024_r02_a1.pdf

6. Красневич О. А., Павлов К. В., Ющак А. В. Теоретичні аспекти дослідження ринку житлової нерухомості України під час воєнної економіки. *Економіка та суспільство*. 2023. № 48. DOI: 10.32782/2524- 0072/2023-48-34 (дата звернення: 02.02.2026).

7. Фененко Н.С., Койбічук В.В., Педченко Н.С., Ченцов А.В., Мужев О.О. Сучасні тенденції ринку нерухомості України. *Актуальні проблеми економіки*. 2022. № 10-11 (256-257). С. 166-175. URL: https://eco-science.net/wp-content/uploads/2022/10/10.22._topic_Nazar-S.-Fenenko-Vitalia-V.-Koibichuk-Natalia-S.-Pedchenko-166-176.pdf

8. Newell, G., and Marzuki, M.J. (2025). The evolving dynamic of development sites and commercial real estate in China. *Journal of European Real Estate Research*. DOI: 10.1108/JERER-01-2025-0014

9. Teikari, P., Jarrell, M., Azh, M., and Pesola, H. (2025). The Architecture of Trust: A Framework for AI-Augmented Real Estate Valuation in the Era of Structured Data. (Preprint. arXiv). URL: https://doi.org/10.48550/arXiv.2508.02765

10. Al-haimi, B., Khalid, H., Zakaria, N. H., and Jasimin, T. H. (2025). Digital transformation in the real estate industry: A systematic literature review of current technologies, benefits, and challenges. *International Journal of Information Management Data Insights.* Vol. *5*(1), 100340. URL: https://doi.org/10.1016/j.jjimei.2025.100340

11. El Bhilat, E. M., and Hamidi, L. S. (2025). Achieving efficiency and sustainability in digital retail supply chains: a systematic literature review and research agenda. *International Journal of Productivity and Performance Management*. Vol. 74, №1. DOI: 10.1108/IJPPM-07-2024-0486

12. Guimarães, P. (2023). Cities and Retail: Sustainable Transformation of Retail in Urban Environments. *Sustainability.* Vol. 15(17), 12743. URL: https://doi.org/10.3390/su151712743

13. Colliers. (2025). *Global Retail: 2025 Trends & 2026 Outlook Report*. Colliers International. URL: https://www.colliers.com/en/research/nrep-usret-global-retail-trends-outlook-report-2025 (дата звернення: 02.02.2026).

14. Chung, J. (2023). The spillover effect of e-commerce on local retail real estate markets. *Regional Science and Urban Economics*. Vol. 101, 103919. URL: https://doi.org/10.1016/j.regsciurbeco.2023.103919

15. Park, S., and Lee, K. (2021). Examining the impact of e-commerce growth on the spatial distribution of fashion and beauty stores in Seoul. *Sustainability.* Vol. 13(9), 5185. URL: https://doi.org/10.3390/su13095185

16. Wen, Y., Fang, L., and Li, Q. *(2022).* Commercial real estate market at a crossroads: The impact of COVID-19 and the implications to future cities. *Sustainability.* Vol. 14(19), 12851. URL: https://doi.org/10.3390/su141912851

References

1. Vysochin, I.V. (2025), “Modern concepts of revenue management in the development sector”, *Mizhnarodnyj naukovyj zhurnal* “*Hraal' nauky*”, vol. 56, pp. 103-112. DOI: 10.36074/grail-of-science.19.09.2025.011

2. Vysochin, I.V. (2025), “Investment attractiveness of commercial real estate development projects in conditions of high volatility”, *Biznes Inform,* vol. 8. pp.164-171. DOI: 10.32983/2222-4459-2025-8-164-171

3. Fisunenko, P.A. and Gerasimenko, O.V. (2024), “Iterative approach to optimization of development activities”, *Ekonomika ta suspil'stvo,* **vol**. 59. DOI: 10.32782/2524-0072/2024-59-135.

4. Hanechko, I. (2023), “Real estate development: European trends”, *Foreign trade: economics, finance, law,* vol. 130(5), pp. 97–112. DOI: 10.31617/3.2023(130)07

5. Bodnaruk, I.L. and Platko, A.M. (2024), “The functioning of the commercial real estate market in wartime”, *Ukrains'kyj zhurnal prykladnoi ekonomiky ta tekhniky,* vol. 9, no. 2, pp. 12-15, available at: https://ujae.org.ua/wp-content/uploads/2024/05/ujae_2024_r02_a1.pdf (Accessed 2 Feb 2026).

6. Krasnevych, O. A., Pavlov, K. V. and Yushchak A. V. (2023), “Theoretical aspects of studying the residential real estate market of Ukraine during the war economy”, *Ekonomika ta suspil'stvo,* vol. 48. DOI: 10.32782/2524-0072/2023-48-34

7. Fenenko, N.S., Koibichuk, V.V., Pedchenko, N.S., Chentsov, A.V. and Muzhev, O.O. (2022), “Current Trends in the Real Estate Market of Ukraine”, *Aktual'ni problemy ekonomiky,* vol. 10-11(256-257), pp. 166-175, available at: https://eco-science.net/wp-content/uploads/2022/10/10.22._topic_Nazar-S.-Fenenko-Vitalia-V.-Koibichuk-Natalia-S.-Pedchenko-166-176.pdf (Accessed 2 Feb 2026).

8. Newell, G., and Marzuki, M.J. (2025), “The evolving dynamic of development sites and commercial real estate in China”, *Journal of European Real Estate Research*. DOI: 10.1108/JERER-01-2025-0014

9. Teikari, P., Jarrell, M., Azh, M., and Pesola, H. (2025). “*The Architecture of Trust: A Framework for AI-Augmented Real Estate Valuation in the Era of Structured Data*”, (Preprint. arXiv). https://doi.org/10.48550/arXiv.2508.02765

10. Al-haimi, B., Khalid, H., Zakaria, N. H., and Jasimin, T. H. (2025). “Digital transformation in the real estate industry: A systematic literature review of current technologies, benefits, and challenges”, *International Journal of Information Management Data Insights,* vol. *5*(1), 100340. https://doi.org/10.1016/j.jjimei.2025.100340

11. El Bhilat, E. M., and Hamidi, L. S. (2025). “Achieving efficiency and sustainability in digital retail supply chains: a systematic literature review and research agenda”, *International Journal of Productivity and Performance Management*, vol. 74, no. 1. DOI: 10.1108/IJPPM-07-2024-0486

12. Guimarães, P. (2023). “Cities and Retail: Sustainable Transformation of Retail in Urban Environments”, *Sustainability,* vol. *15*(17), 12743, available at: https://doi.org/10.3390/su151712743

13. Colliers. (2025). *Global Retail: 2025 Trends & 2026 Outlook Report*. Colliers International, available at: https://www.colliers.com/en/research/nrep-usret-global-retail-trends-outlook-report-2025 (Accessed 2 Feb 2026).

14. Chung, J. (2023). “The spillover effect of e-commerce on local retail real estate markets”, *Regional Science and Urban Economics*, vol. 101, 103919. https://doi.org/10.1016/j.regsciurbeco.2023.103919

15. Park, S., and Lee, K. (2021). “Examining the impact of e-commerce growth on the spatial distribution of fashion and beauty stores in Seoul”, *Sustainability*, vol. 13(9), 5185. https://doi.org/10.3390/su13095185

16. Wen, Y., Fang, L., and Li, Q. (2022). “Commercial real estate market at a crossroads: The impact of COVID-19 and the implications to future cities”, *Sustainability,* vol. 14(19), 12851. https://doi.org/10.3390/su141912851

Отримано редакцією журналу / Received: 06.02.26
Прорецензовано / Revised: 11.02.26
Схвалено до друку / Accepted: 19.02.26