

JEL Classification: A12, O10, O39, C10, C53

DOI: <http://doi.org/10.34025/2310-8185-2024-1.93.07>

**Konon Bagrii**, Candidate of Economic Sciences,  
Associate Professor,  
<http://orcid.org/0000-0002-3516-9565>  
Chernivtsi Institute of Trade and Economics of SUTE,  
Chernivtsi

## **METHODOLOGICAL APPROACHES OF THE DIGITAL ECONOMY FROM THE PERSPECTIVE OF STATISTICAL FORECASTING METHODS**

### *Summary*

The spread of digital technologies over a long period determines the development trajectories of the economy and society and has more than once led to radical changes in people's lives. The formation of a digital economy is one of the priority directions for most countries of the world. As a rule, they are characterized by a long period of implementation of the "digital development agenda" and the succession of priorities - from the construction of the basic information and communication infrastructure to the formation of a coordinated policy in this area and programs to support the wide implementation of digital technologies. In recent years, the transformation of activity models in the business and social sphere has been unfolding, caused by the emergence of digital technologies of the new generation, which, due to the scale and depth of influence, have received the name "end-to-end": artificial intelligence, robotics, the Internet of Things, wireless communication technologies. According to estimates, their widespread implementation can significantly increase labor productivity. In the near future, it is the effective use of modern statistical methods of forecasting that will shape new methodological approaches to the digital economy and determine the competitiveness of both individual companies and entire countries that form the infrastructure and legal environment for further digitalization.

The article considers the methodological aspects of the use of multidimensional statistical methods, methods of economic statistics and information technologies in the study of the economic direction "digital economy". The peculiarities of the application of various statistical approaches, as well as the possibility of their combined use, are noted. Features of forecasting the main indicators of the socio-economic sphere are presented.

*Keywords:* multidimensional statistical methods, economic and statistical methods, forecasting indicators, digital economy.

*Number of sources – 16, number of tables – 2.*

## References:

1. Adamova, I.Z. (2014). Necessity of using statistical methods in the assessment of the quality of pedagogical products. *Visnyk Chernivets'koho torhovel'no-ekonomichnoho instytutu. Ekonomichni nauky [Bulletin of the Chernivtsi Trade and Economic Institute. Economic sciences]*, Issue 1, pp. 368-374. URL: [http://nbuv.gov.ua/UJRN/Vchtei\\_2014\\_1\\_49](http://nbuv.gov.ua/UJRN/Vchtei_2014_1_49) (Accessed 29 February, 2024) (in Ukr.).
2. Vdovichen, A.A., Vdovichena, O.G. (2020). Strategic priorities for the development of the national economy. *Visnyk Chernivets'koho torhovel'no-ekonomichnoho instytutu. Ekonomichni nauky [Bulletin of the Chernivtsi Trade and Economic Institute. Economic sciences]*, Issue 3, pp. 18-29. URL: [http://nbuv.gov.ua/UJRN/Vchtei\\_2020\\_3\\_3](http://nbuv.gov.ua/UJRN/Vchtei_2020_3_3) (Accessed 04 March, 2024) (in Ukr.).
3. Vdovichen, A. A., Kyfyak, V.F. (2022). Sphere of hospitality of Ukraine: recovery in the post-war period. *Scientia Fructuosa [Scientia Fructuosa]*, vol. 3, pp. 68-77. URL: [http://nbuv.gov.ua/UJRN/Vknteu\\_2022\\_3\\_7](http://nbuv.gov.ua/UJRN/Vknteu_2022_3_7) (Accessed 04 March, 2024) (in Ukr.).
4. Vilchynska, O.M. (2012). Statistical methods of forecasting indicators of poverty. *Naukovi pratsi NDFI [Scientific works of NDFI]*, Issue 4, pp. 94-100. URL: [http://nbuv.gov.ua/UJRN/Npndfi\\_2012\\_4\\_19](http://nbuv.gov.ua/UJRN/Npndfi_2012_4_19) (Accessed 29 February, 2024) (in Ukr.).
5. Holoborodko, A.Yu. (2022). Digital economy: approaches and features of development. *Biznes Inform [Business Inform]*, vol. 9, pp. 10-18. URL: [http://nbuv.gov.ua/UJRN/binf\\_2022\\_9\\_3](http://nbuv.gov.ua/UJRN/binf_2022_9_3) (Accessed 18 March, 2024) (in Ukr.).
6. Zhivko, Z.B., Rodchenko, S.S., Lelyuk, N.E. (2022). Digital economy: essence, features and tasks of management. *Naukovyj pohliad: ekonomika ta upravlinnia [Scientific view: economy and management]*, vol. 2, pp. 31-37. URL: [http://nbuv.gov.ua/UJRN/vamsue\\_2022\\_2\\_7](http://nbuv.gov.ua/UJRN/vamsue_2022_2_7) (Accessed 18 March, 2024) (in Ukr.).
7. Kilina, T. M. (2012). Comparative analysis of statistical and neural network methods of forecasting labor market indicators. *Rynok pratsi ta zajniatist' naselennia [Labor market and population employment]*, vol. 2, pp. 33-37. URL: [http://nbuv.gov.ua/UJRN/rpzn\\_2012\\_2\\_12](http://nbuv.gov.ua/UJRN/rpzn_2012_2_12) (Accessed 25 March, 2024) (in Ukr.).
8. Kozlov, V.V., Tomashevska, T.V. (2021). Digital economy: prerequisites, threats and prospects. *Statystyka Ukrainy [Statistics of Ukraine]*, vol. 2, pp. 58-66. URL: [http://nbuv.gov.ua/UJRN/su\\_2021\\_2\\_8](http://nbuv.gov.ua/UJRN/su_2021_2_8) (Accessed 18 March, 2024) (in Ukr.).
9. Kulnych, O.I., Kulnych, R.O. (2014). Statistical methods of forecasting macroeconomic indicators and methods of their evaluation. *Universytets'ki naukovi zapysky [University scientific notes]*, vol. 4, pp. 283-295. URL: [http://nbuv.gov.ua/UJRN/Unzap\\_2014\\_4\\_38](http://nbuv.gov.ua/UJRN/Unzap_2014_4_38) (Accessed 29 February, 2024) (in Ukr.).
10. Kulnych, O.I., Kulnych, R.O. (2019). Statistical methods of forecasting indicators of social and economic development and methods of evaluating their results. *Formuvannia rynkovykh vidnosyn v Ukraini [Formation of market relations in Ukraine]*, vol. 11, pp. 16-27. URL: [http://nbuv.gov.ua/UJRN/frvu\\_2019\\_11\\_4](http://nbuv.gov.ua/UJRN/frvu_2019_11_4) (Accessed 29 February, 2024) (in Ukr.).
11. Luchyk, S.D., Bagrii, K.L. (2020). The use of correlation-regression analysis in assessing the solvency of a business entity. *Visnyk Chernivets'koho torhovel'no-ekonomichnoho instytutu. Ekonomichni nauky [Bulletin of the Chernivtsi Trade and Economic Institute. Economic sciences]*, Issue 3, pp. 189-200. URL: [http://nbuv.gov.ua/UJRN/Vchtei\\_2020\\_3\\_17](http://nbuv.gov.ua/UJRN/Vchtei_2020_3_17) (Accessed 25 March, 2024) (in Ukr.).
12. Luchko, M., Shesternyak, M. (2021). Statistical methods of forecasting the development of demographic indicators of Ukraine: the context of application. *Zhurnal ievropejs'koi ekonomiky [Journal of European Economics]*, vol. 20(1), pp. 191-211. URL: [http://nbuv.gov.ua/UJRN/jee\\_2021\\_20\\_1\\_11](http://nbuv.gov.ua/UJRN/jee_2021_20_1_11) (Accessed 29 February, 2024) (in Ukr.).

13. Prydannikova, Yu.E. (2015). Forecasting on the basis of statistical methods (correlation-regression analysis and the method of statistical equations of dependencies). *Prykladna statystyka: problemy teorii ta praktyky [Applied statistics: problems of theory and practice]*, Issue 17, pp. 139-147. URL: [http://nbuv.gov.ua/UJRN/Pspttp\\_2015\\_17\\_20](http://nbuv.gov.ua/UJRN/Pspttp_2015_17_20) (Accessed 25 March, 2024) (in Ukr.).

14. Pugachev, M.I., Pugachev, V.M. (2023). Digital economy and its development in the world. *Efektyvna ekonomika [Effective economy]*, vol. 5. URL: [http://nbuv.gov.ua/UJRN/efek\\_2023\\_5\\_16](http://nbuv.gov.ua/UJRN/efek_2023_5_16) (Accessed 18 March, 2024) (in Ukr.).

15. Solomchuk, L.M. (2022). Statistical methods of forecasting the results of enterprise activity. *Formuvannia rynkovykh vidnosyn v Ukraini [Formation of market relations in Ukraine]*, vol. 6. pp. 146-151. URL: [http://nbuv.gov.ua/UJRN/frvu\\_2022\\_6\\_23](http://nbuv.gov.ua/UJRN/frvu_2022_6_23) (Accessed 29 February, 2024) (in Ukr.).

16. Us, G.O., Koval, O.O. (2021). Digital economy, its development and economic characteristics. *Visnyk Khmel'nyts'koho natsional'noho universytetu. Ekonomichni nauky [Bulletin of the Khmelnytskyi National University. Economic sciences]*, vol. 6(1), pp. 70-72. URL: [http://nbuv.gov.ua/UJRN/Vchnu\\_ekon\\_2021\\_6\(1\)\\_14](http://nbuv.gov.ua/UJRN/Vchnu_ekon_2021_6(1)_14) (Accessed 18 March, 2024) (in Ukr.).