# The Role of the EU in the Development of E-Business in the Eastern Partnership Countries

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#### Abstract

The article analyzes the influence of the EU on the development of the e-business system in the Eastern Partnership countries. The key challenges and threats to the Eastern Partnership countries in the field of e-business development are analyzed. The main instruments of EU influence on e-business development in Eastern Partnership countries are studied. The schemes of external and internal factors affecting the future digitalization of the Eastern Partnership countries in the sphere of E-business have been presented. The level of digitalization of the economic sphere in the Eastern Partnership countries has been analyzed according to various global indices of digital transformations. The main threats to the e-business implementation in the countries of the region are identified. Recommendations for improving cooperation between the EU and Eastern Partnership countries in the e-business sphere have been presented. A forecast of the prospects of the e-business development of the Eastern Partnership countries has been made.

#### **Keywords**

E-business, EU digital market, Eastern partnership, digitalization

#### 1. Introduction

Globalization and the scientific and technological revolution have brought about significant changes in the functioning of any sphere of public life. One of them is digitalization, without which it is now difficult to imagine the normal functioning of any sector of the economy. The economy and business sector is a key area of the EU's integration policy. Digitalization is a priority both for the EU's internal market and for cooperation with neighbouring countries.

Today, digital technologies have covered almost all areas of social life, including the economy. Most countries around the world are committed to free trade. This can only be ensured if digital technologies are introduced into economic relations, which will make corruption impossible and speed up trade with other countries. The EU is a leading institution in the development of e-business and digitalization. The EaP countries and their economic and digital development are an important objective of the EU's Eastern Policy. An important task for EU is to build a sustainable e-business system in the EaP countries, to develop a common strategy for overcoming challenges and threats, mainly in the field of cybersecurity.

The EU, as a global economic leader, is trying to cooperate closely with countries around the world in economic matters and form joint free trade areas. Taking into account the conceptual framework of the EU Digital Compass and the EU Digital Strategy, its policy is aimed at full digital integration of all member states. Through its Eastern Partnership Initiative, the EU aims to integrate the digital market of the EaP countries into the European one. The EU uses a number of initiatives, finances digitalization

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programmes, and provides technological support to the EaP countries in developing the digital economy. The study of the specifics of EU policy on e-business development in the Eastern Partnership countries is an important task for national science.

#### 2. Related Works

In order to study the EU's influence on the development of e-business in the Eastern Partnership countries, we analysed a number of sources of information that served as the theoretical and practical basis for this article.

The first group of sources includes data from global indices that characterise the state of digital technologies development and innovations in the EaP countries. We have analysed the E-government development Index, Global Innovation Index, and Multidimensional Index of Digitisation[3; 9; 30].

The next group of sources for our research were scientific articles analysing the specifics of the development of the digital market and the e-business market in the Eastern Partnership countries. The main aspects of the EU influence in the field of digitalisation on the Eastern Partnership countries were highlighted in the work of O. Tsebenko, O. Ivasechko, Ya. Turchyn and R. Holoschuk [24]. The level of digitalisation of Eastern Partnership countries is analysed in the paper written by T. Akhvlediani [29]. Researchers have explored the peculiarities of e-business development in the EU, including scholars such as O. Hillel [22], O. Mazurenko [3], J. Jędrzejczak-Gas, A. Barska, M. Siničáková [17].

The third group of sources for our study was EU law governing digital policy and digitalisation. In particular, we analysed the Digital Single Market Strategy for Europe, EU Digital Compass [2; 21].

The fourth group of information for this study was the data from the EU4Digital and EU4Business initiatives, which are actually one of the key instruments of the EU's influence on the Eastern Partnership countries to develop E-Business [11; 13].

We also studied the websites of the EU's Eastern Partnership Initiative, the European Commission, and the OECD, which allowed us to analyse the EU's instruments for developing E-Business in the EaP countries. Another source was analytical reports and articles in the media [1; 2; 4; 10; 14; 21; 22; 27; 28; 32].

To sum up, we can say that there are no comprehensive works that study the EU's impact on the development of E-business in the Eastern Partnership countries.

## 3. Proposed methodology

In order to comprehensively analyse the topic of the study, we used a number of scientific methods and research methodologies. The method of information analysis helped to identify the specifics of ebusiness development in the Eastern Partnership countries. The method of comparison helped to compare the level of digital technologies development in different EaP countries. The synthesis method helped to draw conclusions and provide recommendations for improving the development of the digital economy in the region. The analysis of digitalization indices helped to determine the degree of digital technologies development in the EaP countries. The prognostic method helped to identify the prospects for harmonization of the EU and EaP countries' markets in the field of e-business. The systemic method helped to analyze the specifics of the relationship between the EU and the EaP countries in the field of digitalization and e-business. The structural-functional method helped to identify the mechanisms of EU influence on the development of e-business in the EaP countries.

The methodological basis of the study was an analysis of the country's position in global digitalization indices. We considered the Global Innovation Index (analyzing the level of implementation of innovative and digital technologies), the E-government development Index (analyzing the degree of e-government development and digital technologies), and the Multidimensional Index of Digitisation (analyzing the degree of implementation of digital technologies) [3; 9; 30].

Another methodological basis in our study was the construction of structural and logical schemes and programmes that helped us to comprehensively analyze EU instruments in supporting e-business development in the Eastern Partnership countries. In particular, we have built the following: 1) Diagram of analysis of the EU influence on Eastern Partnership countries E-business development (a sequential analysis of systemic changes in EU policy to achieve success in the field of E-business in the Eastern Partnership countries. The programme helps to identify possible problems and risks, and to restart EU policy or add new instruments); 2) Diagram of the influence of external and internal factors on the Common EU and EaP countries E-business market (analysis of factors that influence the ultimate success of EU policy, as well as possible scenarios for its development); 3) Sequential scheme of ebusiness policy implementation in EaP countries: European integration context (the programme allows adding new variables (instruments, policies, risks) and new players. The ultimate goal is overall success) [developed by the authors].

The methodological basis was also based on the following categories: the EU's normative power - spreading European values, democracy, human rights, and sustainability in domestic and foreign policy (explains the desire for change in the EaP countries); the EU's transformative power (spreading economic integration in the region, integrating them into European markets); the spread of free trade policy (a key principle of the EU market, which underlies the construction of free trade areas with the EaP countries. The main element of this policy is the development of E-business); the EU as a global economic leader (the Union is a leading leader in economic and digital development, so its key task is to develop economic cooperation and disseminate technologies with countries around the world) [2; 4; 5; 15; 17; 19; 24]. An important element of the EU's digital foreign policy EU's digital foreign policy is the introduction of electronic services, such as e-governance, e-elections, e-democracy, e-commerce, etc. [18; 22; 23; 25; 27].

## 4. Results

The development of digital technologies and the introduction of e-business in the Eastern Partnership countries enable them to develop economically. The EU is a powerful player in the international arena. The Eastern Partnership is an important region for the EU foreign policy. The EU's Eastern Partnership Initiative was launched in 2009 to build democratic states in the region and promote their economic development. This instrument is intended to integrate the countries of the region into European markets and standards. The priority area is digitalization. Also in 2015, the European Commission adopted the EU Single Digital Market Strategy, which aims to digitalize all spheres of public life and the economy also. The European digitalization policy also extends to the neighbouring countries of the Eastern Partnership. In 2021, the EU Digital Compass 2030 was adopted, where e-business development was identified as one of the priorities. The EU's Neighbourhood Policy and the Eastern Partnership Initiative aim to transform the economies of the region's countries and introduce digital technologies. Intensive cooperation between the EaP countries and the EU in the field of digitalization and e-business enables them to develop economically, improve competitiveness, integrate into the EU digital market, ensure transparency of economic operations and technological development. A comprehensive analysis of the EU's impact on e-business development in the Eastern Partnership countries will help identify key areas of cooperation, potential risks, identify strengths and weaknesses and draw conclusions about the prospects for further digital integration [1; 2; 7; 16; 19; 20; 26].

The priority areas of cooperation between the EU and the countries of the Eastern Partnership in the E-business sphere are: 1. E-Economy development; 2. Cybersecurity of E-commerce operations; 3. Consumer data protection; 4. Development of online trade platforms; 5. Implementing payment system; 6. Improving digital system; 7. Digitalization of SME's; 8. Legal Framework of Ecommerce [11-13; 16; 24; 25; 31; 27].

The key mechanisms for the implementation of the EU E-business Policy in the Eastern Partnership countries are: 1. The EU Eastern Partnership Initiative; 2. EU4Business Program; 3. EU4Digital Program; 4. Thematic Panel Harmonization of Digital Markets, HDM within the framework of the activities of Platform No. 2 "Economic integration and rapprochement with EU politicians"; 5. EU financial and technology support to EaP countries; 6. Multilateral and Bilateral forms of cooperation between EU and EaP countries; 7. EU Digital Single Market Strategy; 8. Technology exchange; 9. Economy and Digital reforms; 10. EU Free economy policy [1; 2; 4; 10; 11; 14; 17; 19; 20; 24; 32].

To analyse the prospects of E-business development in the Eastern Partnership countries, we used structural and logical diagrams (Fig. 1; Fig. 2; Fig. 3), which allowed us to identify the factors and EU instruments that influence its development and possible scenarios for their development.



**Figure 1:** Diagram of analysis of the EU influence on Eastern Partnership countries E-business development [developed by the authors]



**Figure 2:** The influence of external and internal factors on the Common EU and EaP countries E-business market [developed by the authors].

In order to analyze the degree of digitalization, E-business development of the Eastern Partnership countries, we studied global development indices, in particular the Global Innovation Index, E-government development Index and Multidimensional Index of Digitization.

The data analysis of the Global Innovation Index (Fig. 4) indicates the degree of the innovation technologies implementation in the country. According to the analysis of the data in Fig. 4, we can conclude that the most developed innovative countries are Republic of Moldova and Ukraine. The indicators are approximately the same in all other countries of the Eastern Partnership – Armenia, Belarus, and Georgia. Azerbaijan is a country with a low level of innovation.





In general, the degree of development of the Innovations (including E-business sphere) is observed at approximately the same level among all countries of the Eastern Partnership, which have middle positions of indicators compared to other countries of the world. EaP countries need more innovations reforms, which could be given by the EU [30].



Figure 4: Global Innovation Index 2022 ranking [30]

The analysis of the E-government development Index indicates the degree of implementation of innovative digital technologies in the national economy and government. The data analysis (Fig. 5) indicates that Ukraine was the leader in the introduction of the innovations in 2022. The positions are approximately the same in Belarus, Georgia, the Republic of Moldova and Armenia. The situation in Azerbaijan is somewhat worse. In the overall rating, the countries of the Eastern Partnership occupy positions from 49th (Ukraine) to 80th (Azerbaijan), which indicates an average level of innovation development in the countries of the region [9].



Figure 5: E-government development Index, 2022[9]

The goal of the Multidimensional Index of Digitalization aims to capture the global evolution of digitization. According to the analysis of data (Fig. 6), Azerbaijan is the leader in this indicator, and Ukraine and Republic of Moldova are in last place. In general, all countries of the Eastern Partnership have approximately the same indicator of digitization, which is in a middle position in the world. All Eap countries need to implement more reforms [3].



Figure 6: Multidimensional Index of Digitization, 2022 [3]

Threats to the implementation of the EU policy in the Eastern Partnership countries in the sphere of E-business are: 1) Low level of economic development; 2) Large number of cyberattacks on digital infrastructure, mainly from Russia; 3) Problems with the development of digital infrastructure in the EaP countries; 4) Political instability, wars, conflicts in the EaP countries; 5) Lack of an adequate level of digital technologies in the countries of the region; 6) Unwillingness of some countries to implement reforms proposed by the EU; 7) Outdated digital technologies; 8) Personal data protection issues; 9) Low level of trust in online commerce; 10) High level of crime in online commerce; 11) Trade barriers; 11) Lack of a single digital market in the EaP countries and the EU [6; 11; 12; 13; 16; 20; 23; 24; 27; 29].

The effects of the EU and Eastern Partnership E-business cooperation. Possitive: 1) EaP countries economic development; 2) EU-EaP countries economic integration; 3) EaP countries integration to EU; 4) Increasing of EaP countries GDP; 5) EU-EaP countries common E-business single market; 6) EaP countries free economy; 7) EaP countries digital transformation; 8) Increasing of export/import operation between EU and EaP countries; 9) Investments to EaP countries; SME's development. Negative: 1) Disintegration of EaP countries; 2) Problems with national producers who do not have digital technologies; 3) Weak competitiveness of national producers with European ones [6; 11; 12; 13; 22; 24; 27; 31].

**Recommendations for strengthening of E-business development in the Eastern Partnership countries:** 1. Increasing the financial and technical assistance from the EU; 2. EU support for cybersecurity of electronic transactions; 3. Strengthening the protection of personal data; 4. EaP countries Internal reforms in the fields of e-governance, e-economy, e-commerce; 5. Development of E-business online trade platforms; 6. Extension of the free trade area to all EaP countries; 7. Integration to EU digital market; 8. Development and adoption of national legislation in the field of E-business; 9. Implementation of the European digital course and standards [6; 8; 11; 12; 16; 19; 20; 24; 25; 27; 29; 31].

## 5. Conclusion

In summary, the EU plays a key role in the process of economic and digital transformation in the Eastern Partnership countries. According to the EU's Digital Single Market policy and EU Digital Compass 2030, the development of digitalisation is a priority for the coming years. The EU aims to develop digital technologies and the digital economy in the framework of bilateral and multilateral cooperation with the EaP countries. The priority areas of cooperation are: E-Economy development; Cybersecurity of e-commerce operations; Consumer data protection; Development of online trade platforms; Implementing payment system; Improving digital system; Digitalization of SME's; Legal

Framework of e-commerce. The key mechanisms for the implementation of the EU E-business Policy in the Eastern Partnership countries are: The EU Eastern Partnership Initiative; EU4Business Program; EU4Digital Program; Thematic Panel Harmonization of Digital Markets, HDM within the framework of the activities of Platform No. 2 "Economic integration and rapprochement with EU politicians"; EU financial and technology support to EaP countries; Multilateral and Bilateral forms of cooperation between EU and EaP countries; EU Digital Single Market Strategy; Technology exchange; Economy and Digital reforms; EU Free economy policy. The analysis of the structural logic diagrams helped us to determine the sequence of implementation of EU policies aimed at achieving success in e-business development, and to identify successes and challenges in implementing such policies.

By analyzing the Global Innovation Index 2022 ranking, it was found that, in general, we observe approximately the same level among all countries of the Eastern Partnership, which have middle positions of indicators compared to other countries of the world. The data of the E-Government Development Index indicates that Ukraine was the leader in the introduction of the innovations in 2022, The situation in Azerbaijan is somewhat worse. The data of the Multidimensional Index of Digitization indicates that in general, all countries of the Eastern Partnership have approximately the same indicator of digitization, which is in a middle position in the world. The analysis of the three indices shows that the EaP countries are in the middle of the pack and need to reform the digitalization sector. The EU can serve as the main driving force behind the development of e-services and the digital economy in the region.

The implementation of the EU's e-business policy in the Eastern Partnership countries poses certain risks: Low level of economic development; Large number of cyberattacks on digital infrastructure, mainly from Russia; Problems with the development of digital infrastructure in the EaP countries; Political instability, wars, conflicts in the EaP countries; Lack of an adequate level of digital technologies in the countries of the region; Unwillingness of some countries to implement reforms proposed by the EU; Outdated digital technologies; Personal data protection issues; Low level of trust in online commerce; High level of crime in online commerce; Trade barriers; Lack of a single digital market in the EaP countries of the region into the EU E-business market: increasing the financial and technical assistance from the EU; EU support for cybersecurity of electronic transactions; Strengthening the protection of personal data; EaP countries Internal reforms in the fields of e-governance, e-economy, e-commerce; Development of E-business online trade platforms; Extension of the free trade area to all EaP countries; Integration to EU digital market; Development and adoption of national legislation in the field of E-business; Implementation of the European digital course and standards.

As for the future development of the EaP countries in the e-business sector, Ukraine and the Republic of Moldova, as candidate countries, have the best chance of integrating into the EU market in this area, which will significantly help them develop economically. Georgia, despite its high achievements in the digital economy, is still in a suspended status in terms of active European integration. Armenia and Azerbaijan are closed economies, so it is unlikely that they will develop their e-economies quickly. Belarus is unlikely to cooperate with the EU and implement digital technologies in the near future.

#### 6. References

- [1] 2030 Digital Compass the European way for the digital decade. 2021. URL: https://www.digitales.es/wpcontent/uploads/2021/07/kk0521014enn\_002\_double\_paged\_81E59A7C-C5D9-65D8-2BAFF66AFB1A4D54\_75375.pdf.
- [2] A Digital Single Market Strategy for Europe, 2015. URL: https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:52015DC0192.
- [3] A Multidimensional Index of Digitization 2022, 2022. URL: https://www.bbvaresearch.com/en/publicaciones/digix-2022-update-a-multidimensional-indexof-digitization/.

- [4] A stronger Digital Europe, 2019. URL: https://www.digitaleurope.org/wp/wpcontent/uploads/2019/02/DIGITALEUROPE---Our-Call-to-Action-for-A-DIGITAL-EUROPE.pdf.
- [5] A. Dimitrova, H. Mazepus, M. Boroda, T. Chulitskaya, V. Berbeca, T. Parvan, Soft, normative or transformative power: What do the EU's communications with Eastern partners reveal about its influence?. EU-STRAT, 2017. URL: https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5b5 3b9d8f&appId=PPGMS.
- [6] Advancing Digital Business Transformation in the Eastern Partner Countries, OECD, 2021. URL: https://www.oecd.org/eurasia/Covid19\_%20Advancing%20digital%20business%20transformatio n%20in%20the%20EaP%20countries.pdf.
- [7] Digital Transformation in the EU 2035, 2019. URL: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/strategy/deloitte- future-ofdigital-transformation-eu-2035.pdf.
- [8] Economic benefits from integration into the EU Digital Single Market: the real numbers, 2020. URL: https://thedigital.gov.ua/news/ekonomichni-perevagi-vid-integratsii-v-ediniy-tsifroviy-rinok-es-nazvani-realni-tsifri.
- [9] E-Government Development Index (EGDI), 2022. URL: https://publicadministration.un.org/egovkb/en-us/Data-Center.
- [10] EU Eastern Partnership program EU4digital, 2022. URL: https://eufordigital.eu/.
- [11] EU publishes 2022 EU4Business Report on SME Support in Eastern Partnership, EU4BUSINESS, 2022. URL:https://eu4business.eu/reports/eu4business-annual-report-2022/.
- [12] EU4Digital harmonizes e-commerce between the EU and the Eastern partner countries. STRATEGAEAST, 2020. URL: https://www.strategeast.org/eu4digital-harmonizes-e-commerce-between-the-eu-and-the-eastern-partner-countries/.
- [13] EU4Digital: e-commerce pilot between Armenia, Azerbaijan, Georgia and Germany to increase volumes, 2021. URL: https://ecommerce-europe.eu/news-item/eu4digital-e-commerce-pilot-between-armenia-azerbaijan-georgia-and-germany-to-increase-volumes/.
- [14] Europe's Digital Decade: digital targets for 2030, 2021. URL: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digitaldecade-digital-targets-2030\_en.
- [15] I. Manners, Normative power Europe reconsidered: beyond the crossroads, Journal of European Public Policy 13(2) (2006) 182-199.
- [16] I. Yehorov, V. Hryha, Comparative analysis of digitalization indicators in Ukraine and other EU Eastern Partnership countries, Statistics of Ukraine 9 (2019) 56-62. doi: 10.31767/su. 3(86)2019.03.06.
- [17] J. Jędrzejczak-Gas, A. Barska, M. Siničáková, Level of development of e-commerce in EU countries, Journal of Management 23(1) (2019) 209-224.
- [18] M. Buchyn, Peculiarities and problems of measuring the level of democratic elections. Balkan Social Science Review 21 (2023) 105-125. URL: https://heinonline.org/HOL/LandingPage?handle=hein.journals/bssr21&div=9&id=&page=.
- [19] M. Dzurinda, Europe's digital future: Navigating opportunities and challenges, European View 20(2) (2021) 117–120. doi:10.177/1781685211063961.
- [20] M. Kitsing, Digital Futures for Europe, ECIPE policy brief 3 (2021). URL: https://ecipe.org/wpcontent/uploads/2021/03/ECI\_21\_PolicyBrief\_03\_2021\_LY03-1.pdf.
- [21] Mapping a New World with the EU Digital Compass, 2021. URL: https://ert.eu/wp-content/uploads/2021/05/ERT-Digital-Transformation-Paper\_May-2021\_FINAL.pdf.
- [22] O. Hillel, Market Gap Analysis: Uncover Untapped e-Commerce Opportunities, Algopix (2023). URL: https://algopix.com/blog/market-gap-analysis.
- [23] O. Mazurenko, Assessment of the development of the digital economy in the Baltic States and Eastern Europe based on the methodology, DESI 52 (2021) 74-80. URL: https://doi.org/10.51582/interconf.21-22.04.2021.007.
- [24] O. Tsebenko, O. Ivasechko, Ya. Turchyn, R. Holoschuk, EU Digital Market: the Future of Eastern Partnership, CEURWorkshop proceeding 3286 (2022) 4-17. URL: https://ceur-ws.org/Vol-3296/paper1.pdf.

- [25] O.Tsebenko, N. Lukach, Y. Zavada, O. Stadnichenko, Model for Assessing Development of E-Government in Eastern Partnership Countries, in: N. Kryvinska, M. Greguš (Eds.), volume 421 Developments in Information & Knowledge Management for Business Applications. Studies in Systems, Decision and Control, Springer, Cham, 2022, pp.425-448. doi: 10.1007/978-3-030-97008-6.
- [26] Reflections on 2030 Digital Compass: the European way for the Digital Decade, 2021. URL: https://www.ewi-

vlaanderen.be/sites/default/files/bestanden/reflectiepaper\_digital\_compass\_2030.pdf.

- [27] Resilient digital transformation in the Eastern Partnership region: State of play in 2022 and recommendations, PROSMA, 2022. URL: https://prismua.org/en/english-resilient-digital-transformation-in-the-eastern-partnership-region-state-of-play-in-2022-and-recommendations/.
- [28] Shaping the Digital Transformation in Europe, 2020. URL: https://www.ospi.es/export/sites/ospi/documents/documentos/Sstudy\_Shaping\_the\_digital\_transf ormation\_in\_Europe\_Final\_report\_202009.pdf.
- [29] T. Akhvlediani, Digital Literacy in times of the COVID-19 in the Eastern Partnership Countries, 2020. URL: https://eap-csf.eu/wp-content/uploads/Digital-Literacy-in-times-of-the-Covid-19-in-the-Eastern-Partnership-Countries.pdf.
- [30] The Global Innovation Index 2022, 2022. URL: https://www.wipo.int/pressroom/en/articles/2022/article\_0011.html.
- [31] V. Nochvai, M. Koriavets, I. Kulchytskyi, Problems and prospects of harmonization of the digital market of Ukraine with the markets of the EU and Eastern Partnership countries, 2019. URL: https://cid.center/wp-content/uploads/2019/02/аналітичний-звіт-СхП.pdf.
- [32] Website EU Eastern Parnership Initiative, 2022. URL: https://euneighbourseast.eu/policy/.