

DIGITAL PLATFORMS FOR SUPPORTING ENTREPRENEURSHIP: EU EXPERIENCE FOR UKRAINE

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ABSTRACT

The aim of this research is to assess the impact of the use of digital platforms for entrepreneurship on business flexibility in the European Union (EU) and to provide recommendations for Ukraine. The study employed the following methods: correlation, regression, comparative, statistical analysis. The regression analysis found that digital technologies by themselves have a smaller impact on business flexibility than in combination with other important factors. These factors included talent, capital, regulation, technological infrastructure. The uniqueness of the Ukrainian resource Diia is noted, which integrates state services, services for businesses and citizens, and documents in one platform. A further direction for the platform's development is proposed through the integration of AI-based technologies for intelligent form filling, automatic data verification, personalization of services, and provision of business advice. The results of the study may be useful for the development of digitalization policies at the state and enterprise levels by increasing the focus on the identified influencing factors.

Keywords: *Digital Platforms, Entrepreneurship, Artificial Intelligence, Capital, Regulation, Technological Infrastructure.*

1. INTRODUCTION

Rapid technological development has led to significant changes in entrepreneurial activity, as digitalization has become not only a matter of choice, but a mandatory requirement for maintaining competitiveness. As Steininger et al. [1] noted, identifying and using opportunities is the basis of entrepreneurial activity, and new digital technologies significantly expand these opportunities. Christofi et al. [2] added that technological innovations in the form of digital technologies have completely changed several economic sectors. The COVID-19 pandemic was the most tangible impetus to accelerating digitalization. In the context of global restrictions, conducting

business online has become almost the only chance for many entrepreneurs to maintain their activities.

At the same time, the pandemic has opened up new opportunities for business, when most companies have experienced significant benefits from digitalization not only in times of crisis. New technologies contribute to improved forecasting and analysis, communication and convenience for customers, reduce costs and increase the efficiency of business processes, contributing to rapid adaptation to change.

Digitalization is one of the main priorities of the European Union (EU) and is a driving force for the development of the economies of its member states. As a result, the implementation of digital

technologies by companies has become a necessary requirement for their sustainable development [3]. The development and use of digital platforms are one of the key areas of digitalization in the entrepreneurship, as they provide a comprehensive ecosystem for enterprises [4]. By combining different technologies, digital platforms automate processes and provide a single space for collaboration, exchange of experience, technologies, and interaction with customers and partners. Entrepreneurs can use digital platforms to find financing [5], training [6], e-commerce [7], and partner search. [8]

The regulatory framework for digital platforms in the EU is one of the most developed in the world, which makes the EU experience valuable for Ukraine, especially in view of European integration. The main principles for regulating digital platforms are enshrined in the European Commission (EC) document “Online platforms and the Digital Single Market. Opportunities and challenges for Europe” in 2016. These principles relate to creating a level playing field for the provision of digital services, ensuring responsible behaviour of platforms to protect fundamental values, and strengthening trust and transparency.

In 2019, Regulation (EU) 2019/1150 of the European Parliament and of the Council of 20 June 2019 “On Promoting Fairness and Transparency for Business Users of Online Intermediation Services” entered into force. This document aims to protect companies dependent on digital platforms by clearly defining the requirements for intermediaries and platform providers. The Digital Services Act ensures the protection of consumer rights, increasing transparency and stimulating innovation and competitive opportunities. The Digital Markets Act defines qualification criteria for large digital platforms, in particular, Google and Facebook.

Regulation of online platforms in Ukraine continues to develop, adapting to EU norms. The definition of a digital platform is not enshrined in regulatory acts, in particular, the Laws “On Electronic Communications”, “On Information Protection in Information and Communication Systems”. The Law “On Electronic Commerce” defines the key principles of legal regulation, but does not contain provisions on state regulation in the relevant area. [9] The EU experience is valuable for Ukraine in terms of addressing these and other shortcomings in the legislative framework, which will contribute to increasing the efficiency of the

functioning of digital platforms for entrepreneurship. Given Ukraine’s significant successes in the development of digital entrepreneurship, it should be noted that the integration of EU experience can deepen and consolidate the results obtained.

Given that the rapid development of digital platforms in the EU coincided with the pandemic, the experience of their use in crisis conditions is valuable for Ukraine, which is experiencing a crisis because of the war. This may concern regulatory, technological, organizational, and other aspects. The main hypothesis of the study: digital platforms have a significant impact on business flexibility, but it is most fully realized under the conditions of creating an appropriate environment (regulation, infrastructure, capital, talent). The aim of the study was to assess the impact of using digital platforms for entrepreneurship on business flexibility in the EU and to provide recommendations for Ukraine. The academic novelty of the study is the adaptation of the experience of leading countries in using digital platforms for entrepreneurship in times of crisis to the realities of martial law. Research objectives:

- assess the impact of digitalization of entrepreneurship on business flexibility in the EU;
- compare existing digital platforms for entrepreneurship in Ukraine and the EU;
- provide recommendations for Ukraine.

2. LITERATURE REVIEW

Many researchers studied digital platforms and their role in developing entrepreneurship, solving social problems and stimulating progress. Fernandes et al. [10] explored aspects of the use of digital platforms and digital platforms for co-creation of entrepreneurship. Sánchez-García et al. [11] conducted a literature review that proves the crucial role of digital platforms in democratizing innovation, enhancing inclusiveness, and stimulating social and technological progress. These studies reveal key directions of development of digital entrepreneurship, but their conclusions need empirical substantiation. Chandna [8] focuses on social entrepreneurship, value sharing and digital platforms, but the study mainly concerns crowdfunding, omitting other categories of platforms. According to Battisti et al. [12], AI platforms have the potential to solve social problems by accelerating economic growth and productivity in a competitive environment. However, scholars focus

mainly on AI-based innovations, which is somewhat different from the issue under research.

Mhlongo et al. [13] examined the impact of digital platforms on entrepreneurship in Africa. The researchers noted expanded market access and the promotion of inclusive participation among the main benefits. However, the authors' conclusions may be less relevant to other regions given the regulatory, technological and other specific features of African countries. Baran and Berkowicz [14] and Gregori et al. [15] also emphasized the ability of digital platforms to solve social problems. Li and Long [16] noted that digital platforms accelerate the resolution of social and environmental problems and offer new opportunities for co-creation of value. However, the main focus of these studies is on sustainability aspects, which is somewhat beyond the scope of this study, which concerns the functioning of digital entrepreneurship in times of crisis.

A number of papers emphasized the critical importance of digital platforms and the need for government support in times of crisis. Ratten [17] explores the issue of transformative entrepreneurship and the rise of digital platforms in the context of COVID-19. The paper examines the use of the ClickforVic platform in Australia for rural farmers during the pandemic crisis. However, the narrow focus of the paper does not give grounds for drawing conclusions about the impact of digital platforms on entrepreneurship in general. Cueto et al. [18] noted that the pandemic has created significant challenges for entrepreneurs, while also opening up significant opportunities through the transition to digital platforms. The researchers' findings are useful for developers of government support programmes for the economic recovery of countries, but are reduced to the data from Filipino entrepreneurs.

Reza-Gharehbagh et al. [19] demonstrated the importance of government intervention to increase the effectiveness of platforms for finding financing, but have not tested their findings on other types of platforms. Sahut et al. [20] noted that understanding the drivers of digital entrepreneurship drives public policy, but the study examines digital entrepreneurship mainly at the micro level. Purbasari et al. [21] analysed digital entrepreneurship in the context of COVID-19 using the example of Indonesian SMEs. The work identifies key areas of public policy to improve the effectiveness of small and medium-sizes enterprises' (SMEs') transition to digital platforms, but they may not be relevant for

other countries because of the regional characteristics. Parra-Sánchez and Talero-Sarmiento [22] noted the intention of SMEs to integrate technologies such as AI, big data, cloud computing, data analytics, e-commerce, and the Internet of Things (IoT). However, the study lacks empirical analysis to support the conclusions.

The issue of digitalization and digital platforms for entrepreneurship is also widely studied in by Ukrainian researchers. Strilets et al. [23] examined state support for SMEs in international practice, however, they did not take into account the impact of the war given the period of writing the paper. Andrukhovych [24] noted the use of Diia. Business to assist enterprises during martial law, but the conclusions are purely theoretical and mainly concern assistance with the relocation of enterprises. Mosumova et al. [25] analysed the international experience of digitalization, in particular, noted the high attention to regulation, cybersecurity and personal data protection in the EU. The researchers provided statistical evidence, but did not assess the specific impact of digitalization.

Some studies dealt with numerous mediating factors that may affect the effectiveness of using digital platforms for entrepreneurship. Park et al. [26] studied the consequences of using digital platforms for entrepreneurial clients and platform providers. The researchers suggested options for charging for platform use, which would provide benefits for both parties, but have not considered the larger effects of popularizing digital platforms. Sitaridis and Kitsios [27] explored how entrepreneurship education meets the practical requirements of digital entrepreneurship, but the study lacks empirical analysis.

As the literature analysis shows, previous studies have presented numerous approaches to studying the impact of digital platforms on supporting entrepreneurship. Scholars have examined the topic from the perspective of social entrepreneurship, inclusiveness, and sustainability, as well as regional specifics, technical aspects, and SME support policies. Most studies focus on conceptual issues or country-specific examples, but they lack a comprehensive analysis of the impact of digital platforms on entrepreneurship in times of crisis.

The review revealed that the existing academic contribution to the issue under research remains fragmented, focusing on different goals, regions, and audiences. The role of digital platforms during martial law remains unexplored.

Accordingly, the first research objective of the study is to assess the impact of digital platforms and digitalization in general on entrepreneurship in the EU. This will identify general trends that may have high practical value for Ukraine as a state with European integration intentions. The second objective is to assess the use of digital platforms for entrepreneurship in Ukraine in wartime using the example of the Diia platform.

The uniqueness of the study lies in the implementation of regression analysis in two stages with an expanded number of variables. This made it possible to compare the impact of technology both in isolation from other factors and in the context of its interaction with regulation, capital, and talent. The proposed approach showed that the impact of technology is not automatically positive and that it depends heavily on the existence of a favorable environment.

Thus, the approach allowed us to assess not only the impact of specific technologies but also to identify the conditions under which this impact is positive. In addition, the study is unique in that it takes into account Ukrainian practice and compares it with European practices. This made it possible to take into account the specifics of countries with economies in transition and to demonstrate the usefulness of digital platforms for business in times of war.

3. METHODOLOGY

3.1. Research Design

The preparatory stage of the study was data collection and cleaning. The main stage involved conducting regression analysis and comparative analysis. The regression analysis was conducted in two stages: the impact of digital technologies on business flexibility was analysed at the first stage. The second stage involved changing the model by adding indicators of the associated impact. The comparative analysis concerned the most popular digital platforms in the EU and Ukraine and identifying their main tasks and characteristics. The final stage of the study was drawing conclusions and providing recommendations based on the obtained results.

3.2. Sample

The sample of countries for the study covered 27 EU countries and Ukraine (Appendix A). The choice of countries was guided by the issue under research, so the main inclusion criterion was the country's membership in the EU. The study of

the EU experience is the most relevant example for Ukraine, as the state strives to integrate into the European economic and technological space. The study covers the period of 2024 because of the availability of data on the Business Agility indicator.

A set of indicators for the study was based on the criteria of relevance, data availability, measurability, comparability, connection with the factors under research, and representativeness. Business Agility was the dependent indicator, which described the enterprise's ability to quickly adapt to changes in the external environment, effectively respond to challenges and use new opportunities. Two groups of independent indicators were also formed that have a potential impact on Business Agility – SME digitalization indicators and related impact indicators. The SME digitalization indicators included the extent of use of the Internet of Things, AI, 3D printers and robotics, Big Data, and cloud services. In addition, the integration of business processes into electronic processes, digital integration with customers and suppliers, as well as supply chain management were taken into account.

Among the mentioned indicators, the integration of business processes into electronic processes and digital integration with customers and suppliers are directly related to the use of digital platforms. The focus on SMEs is explained by the dependence of these business units on digital platforms and the opportunities that digital platforms provide to SMEs. These are access to technologies without significant investments, the ability to adapt, scale, access to markets and capital, etc. The indicators that have a concomitant impact on business flexibility included regulation, technological infrastructure, talent, capital. Analysis of the impact of the described groups of indicators on business flexibility identified key factors that affect the ability of a business to adapt to changes in the current digital environment.

3.3. Methods

Linear regression analysis was used to analyse the impact of SME digitalization and related factors on business flexibility. This made it possible to identify the role of digital technologies and digital platforms in improving the enterprise's ability to adapt and respond to the challenges of the external environment. Correlation analysis using the Pearson coefficient assessed the strength and direction of the relationship between variables in the regression models. The reliability of the models was checked

using the Durbin Watson statistic, variance inflation factor (VIF), Shapiro-Wilk, and Breusch-Pagan test.

The tests confirmed the absence of significant autocorrelation of residuals, heteroscedasticity and multicollinearity, and demonstrated the compliance of the residuals with a normal distribution. Comparative analysis was used to identify similar and different characteristics and features of digital platforms in the EU and Ukraine. Statistical analysis made showed the growth in the popularity of using Diia through the dynamics of the share of individual entrepreneurs registered through the platform.

3.4. Instruments

Regression analysis was conducted in Excel using the XLMiner and StatPlus add-ins.

4. RESULTS

The first stage of the regression analysis involved the analysis of the impact of SME digitalization on business flexibility as a key characteristic of resilience in the face of various challenges. The correlation coefficient for the model shows the strength of the relationship between the digitalization rate and business flexibility. The coefficient of determination reflects what proportion of the variation in the dependent variable is explained by the model. The regression coefficients for the independent variables show the strength and direction of the relationship between the SME digitalization rate and business flexibility. Positive coefficient values indicate that the increase in the level of digitalization contributes to the increased enterprises' adaptability. Negative values indicate that the relationship between the indicators is inverse and may indicate potential risks or limitations associated with digitalization. Table 1 contains the regression results.

Table 1: Results of the Regression Analysis of the Impact of SME Digitalization on Business Flexibility

	Coefficients	Standard error	t-stat.	p	H0 (5%)	Beta
Y-intercept	93.1107	13.4250	6.9356	0.0000	rejected	
IoT	-0.0885	0.3811	-0.2323	0.8189	accepted	-0.0417
Integration of business processes into electronic processes	-0.8655	0.4141	-2.0898	0.0511	accepted	-0.4650
AI	0.7069	0.9689	0.7296	0.4750	accepted	0.1632
Digital integration with customers and suppliers, supply chain management	0.1083	0.1736	0.6238	0.5406	accepted	0.1323
3D printers and robotics	3.6635	3.2557	1.1253	0.2753	accepted	0.3048
Big Data	-1.2597	0.5954	-2.1157	0.0486	rejected	-0.4047
Cloud services	-0.8061	0.3030	-2.6601	0.0159	rejected	-0.6721

Source: calculated by the author based on IMD World Competitiveness Center [28]; OECD [29]

Regression statistics show a close relationship between the model variables at 0.7584 and a moderate explanatory power of the model according to the coefficient of determination — 0.41. Regression analysis revealed that Big Data and cloud services have a statistically significant impact on business flexibility. Moreover, the impact is inverse: flexibility decreases with the implementation of the mentioned technologies. This result can be explained by the fact that the strength and direction of the impact of technologies significantly depend on other accompanying factors,

in particular those that provide conditions for the development of digitalization. Such factors include the level of development and quality of technological infrastructure, regulatory features, the availability of capital and human capabilities. The use of technologies can have negative consequences without the necessary conditions, such as proper regulation, developed infrastructure, access to talent and financing. This can lead to data chaos, dependence on external suppliers, and increased information risks. It reveals the need to improve the model by adding new variables: Technological

framework, Regulatory framework, Capital, Talent (Table 2).

Table 2: Results of Regression Analysis of the Impact of SME Digitalization on Business Flexibility Taking into Account the Impact of Regulation, Capital, Talent, Technological Infrastructure

	Coefficients	Standard error	t- stat.	p	H0 (5%)	Beta
Y-intercept	-19.1938	18.4318	-1.0413	0.3154	accepted	
IoT	-0.3639	0.2092	-1.7392	0.1039	accepted	-0.1712
Integration of business processes into electronic processes	0.1944	0.2648	0.7340	0.4750	accepted	0.1044
AI	1.4770	0.5267	2.8043	0.0141	rejected	0.3410
Digital integration with customers and suppliers, supply chain management	-0.1154	0.1009	-1.1439	0.2718	accepted	-0.1410
3D printers and robotics	-2.2014	2.0096	-1.0955	0.2918	accepted	-0.1831
Big Data analysis	-0.0385	0.3809	-0.1010	0.9210	accepted	-0.0124
Cloud services	0.2624	0.2317	1.1329	0.2763	accepted	0.2188
Technological framework	0.0052	0.2230	0.0234	0.9817	accepted	0.0032
Regulatory framework	0.2233	0.2186	1.0215	0.3244	accepted	0.1915
Capital	0.3074	0.1555	1.9769	0.0681	accepted	0.2699
Talent	0.8971	0.2339	3.8360	0.0018	rejected	0.7707

Source: calculated by the author based on IMD World Competitiveness Center [28]; OECD [29]

Regression statistics showed a significant improvement in the model after adding new variables. The correlation between the variables in the model (0.9538) increased significantly, as did the explanatory power of the model (0.8387). A statistically significant and direct effect of two variables was found: AI and Talent. The Capital variable is actually on the verge of significance ($p=0.0681$).

So, when the model explained Business Agility through technological factors only, the influence of other significant factors remained underestimated. Adding new variables that took into account the influence of regulation, capital, talent, technological infrastructure significantly improved the model. This is especially true for the Talent and Capital variables. Therefore, the availability of qualified personnel and financial capabilities creates conditions for more effective integration of technologies. In turn, this increases the enterprises' flexibility and ability to respond to challenges. Considering the results of the regression analysis in the context of the issue under research, exceptional importance of implementing effective digital platforms for business should be noted.

Digital platforms not only contribute to technological development, but also take into account socio-economic and regulatory factors that allow enterprises to adapt to environmental challenges. Given the high development of digital platforms for business in the EU, a comparison of existing digital platforms for entrepreneurship support in Ukraine and the EU deserves special attention. These can be platforms for financing, consulting, partner search, e-commerce, etc. (Table 3).

Table 3: Comparison of Ukrainian and European Platforms for Entrepreneurship Support

Ukraine	EU
Platforms for searching funding	
<p>Diia. Business provides a catalogue of grants and credit programmes for entrepreneurs. Diia.City is a unique space for IT companies, providing opportunities to find investors.</p> <p>Numerous crowdfunding platforms, for example, the Spilno platform are designed to attract financing for innovative projects and the implementation of digital solutions.</p> <p>The InVenture and Startup Network platforms specialize in attracting investments for start-ups.</p>	<p>Access2Finance – helps to find loans or venture capital.</p> <p>InvestEU Portal – unites investors and project promoters on a single platform within the EU. The Ideas Powered for Business SME Fund – a grant scheme designed to protect the intellectual property rights of SMEs.</p>
Platforms for consulting, advice, and training	
<p>The online business school from Diia. Business provides free consulting services and educational materials for entrepreneurs. Coursera for Business and Prometheus offer specialized courses in various areas.</p>	<p>Access2Markets is the EC’s tool that provides information on exports and imports.</p> <p>The Enterprise Europe Network (EEN) helps with innovation and advises on international development.</p> <p>Your Europe Advice – provides advice on individual rights in any EU language. EDPB Data Protection Guide for small businesses – provides advice on data protection. European Digital Innovation Hubs (EDIHs) – provide opportunities for learning, networking, digitalization. SOLVIT – provides free services for companies that have difficulty exercising their rights in the EU.</p> <p>European IP Helpdesk – provides advice on intellectual property.</p> <p>International IP SME Helpdesks – support SMEs doing business across borders.</p>
Partner search platforms	
<p>BePartner, CodeUA, Horizon Europe Office in Ukraine are intended for the search for partners for business, startups, and international cooperation.</p>	<p>Erasmus for Young Entrepreneurs – a business exchange programme for international internships.</p> <p>European Cluster Collaboration Platform – supports industrial clusters by promoting mergers and collaborations.</p> <p>Cassini Initiative – supports entrepreneurship in space in the EU.</p>
E-commerce platforms	
<p>Prom.ua, Rozetka, Kasta, OLX are the largest marketplaces. Financial services are provided by Monobank Business, Privat24 for business. Nova Poshta API, Ukrposhta API, Meest API provide logistics solutions for business. Ukrainian platforms Shop-Express, Horoshop and international Tilda, Shopify are used to create online stores.</p>	<p>Zalando, Amazon Europe, eBay – the largest marketplaces. Shopify, WooCommerce, Magento – platforms for creating online stores. Stripe, Adyen, PayPal – financial services for online trading.</p>

Source: summarized by the author based on Diia.Business [30]; European Union [31]

The review confirms a developed infrastructure to support entrepreneurship in Ukraine and the EU. Ukrainian initiatives are mostly focused on the development of local business. EU platforms offer opportunities for integration into global markets and support for international cooperation. The uniqueness of the Ukrainian platform Diia is worth noting, as it integrates state services, services for business and citizens, and documents in one platform. Diia offers a comprehensive approach to the digitalization of administrative processes and

interaction with the state. The closest analogue of Diia in the EU is Your Europe, but this resource is only an information portal.

The main services of Diia for business include registration of individual entrepreneurs and companies. The demand for this service is evidenced by the statistics of opening individual entrepreneurs through Diya". In 2024, the share of individual entrepreneurs opened through Diya is over 25% (Figure 1).

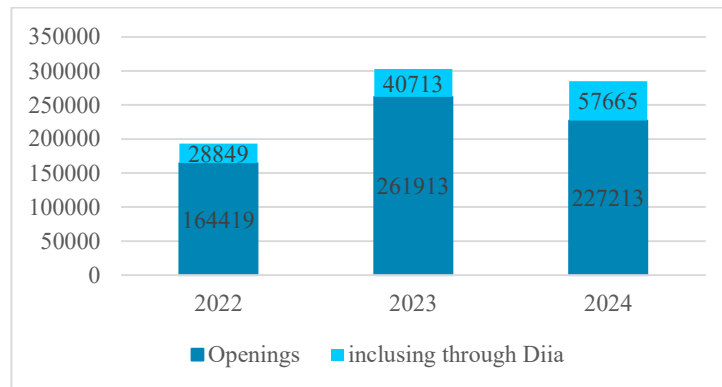


Figure 1: Dynamics of Opening an Individual Entrepreneurship, Including through Diia

Source: created by the author based on Diia.Business [32]; Ekonomichna Pravda [33]

Other services of Diia for business include reporting and tax services, obtaining an electronic signature, licenses and permits, providing information on grants and loans. In the context of the war in Ukraine, it is important to provide services to support business relocation. Furthermore, entrepreneurs are given the opportunity to register and participate in tenders on ProZorro. Diia also provides information on regulatory acts and provides services for startups (support programmes, grants, consultations).

Noting the revolutionary significance of Diia for the digitalization of public services for citizens and businesses in Ukraine, its potential for further development should be noted. So, the results of the regression analysis conducted in this study gives grounds to propose the AI integration into Diia. AI can be used for intelligent form filling, automatic data verification, personalization of services and provision of advice for business. It may also be appropriate to introduce AI-based consultants or chatbots. An example of European experience in using AI to optimize public services and automate processes is the e-Estonia platform in Estonia. The task of AI is to automatically process financial documents, enabling quick access to information for entrepreneurs.

5. DISCUSSION

The results suggest that technology alone does not ensure high business flexibility. Companies should invest in human capital development and ensure their financial sustainability. The regulatory environment and the level of infrastructure development play a mediating role in these interdependencies, being catalysts for innovation and investment, creating a favorable climate for development. These findings are confirmed by

Purbasari et al. [21], who identified the main directions of state policy to increase the efficiency of the transition of SMEs to digital platforms. According to the researchers, the state should provide fast and equitable Internet through infrastructure development, develop human resources (HR), and ensure network security. The author of this study confirmed the influence of capital and HR on business flexibility, but no significant influence of regulation and infrastructure was found.

However, a significant improvement in the regression model with the addition of relevant indicators proves their important role in creating a favourable environment for the development of entrepreneurship and the introduction of digital technologies. This is confirmed in the study of Mhlongo et al. [13], who emphasized the importance of government involvement and regulatory aspects to support the development of digital entrepreneurship in Africa. Reza-Gharehbagh et al. [19] also proved that SMEs' use of FinTech platforms to seek financial support is more effective with government intervention. Cueto et al. [18] found that the main challenges to the development of digital entrepreneurship are the lack of quality technological infrastructure, digital skills, and pandemic constraints. Ben Arfi and Hikkerova [34] proved the importance of using digital platforms as a basis for capabilities, opportunities and motivation, which creates a favorable environment for knowledge sharing. The results of the mentioned studies support the author's conclusions and confirm complex relationships between digitalization, entrepreneurial efficiency, regulation, digital skills, capital, and infrastructure.

The author's study was significantly based on the findings of Strilets et al. [23], who revealed

key trends in the use of digital platforms for entrepreneurship in world practice. The researchers also paid attention to the characteristics of state support for the digitalization of SMEs in EU countries. However, their study was prepared before the war and does not take into account new challenges associated with ongoing hostilities.

The study by Horváthová and Mokrišová [3] noted that less developed countries are more effectively implementing elements of digitalization at the current stage of development than developed EU countries. This is confirmed by the author's findings, who showed significant development of digitalization of entrepreneurship in Ukraine. In some areas (in particular, further improvement of Diia), the pace of digitalization in Ukraine does exceed the European ones. However, Zhylin et al. [35] aptly noted that AI is being implemented more intensively in Europe and the USA. According to the author's findings, the AI implementation could provide an additional vector for the development of Ukrainian digital platforms.

The obtained results give grounds to confirm the research hypothesis regarding the significant impact of digital platforms on business flexibility in a favourable environment. The practical value of the conducted research is the identified key influencing factors on the effectiveness of digitalization of entrepreneurial activity. This will contribute to more effective development of digitalization policies at both the state and enterprise levels. Further research may concern the study of entrepreneurs' motivation to use digital platforms. This area is referred to by Ratten [17], who explored the perception of digital platforms and their use by farmer entrepreneurs in the context of COVID-19. Research prospects may include the micro-level approach to the study of digital entrepreneurship, initiated in the work of Sahut et al. [20] This approach complements existing studies at the system level, which concerns the economics of digital platforms and the ecosystem of digital entrepreneurship.

5.1. Limitations

A major limitation of the study is the lack of quantitative data on the effectiveness of the studied online platforms. Expanding access and increasing transparency of this information could significantly contribute to comparability across platforms and identifying promising areas for improvement. Also, the analysis in this paper was based on aggregate macroeconomic and institutional

indicators that do not fully reflect the intra-industry specifics of digital transformation.

Despite these results, questions remain about the impact of specific characteristics of digital platforms (e.g., algorithms used, level of data security) on business agility. Further research could focus on the micro-level and analyze the impact of digital platforms on individual businesses, as well as examine the motivations of entrepreneurs to use platforms.

5.2. Recommendations

- increase focus on human capital development both through government programmes and through the implementation of training in enterprises;
- ensure proper financial sustainability by providing access to capital for SMEs at the government level, and by improving financial management at the enterprise level. This will not only affect the overall efficiency and stability of enterprises, but will also contribute to more effective integration of technologies;
- for the state and platform providers – introduce the AI in digital platforms to improve customer experience, automatic document filling, support, etc.

6. CONCLUSIONS

The use of digital platforms is one of the key vectors of entrepreneurship development in the face of constant crises, as they allow for effective adaptation to changes. Regression analysis of the impact of digitalization on business flexibility in the EU showed that technologies alone have less impact than in combination with other important factors. Such factors include talent, capital, regulatory features, infrastructure. Adding the relevant variables increased the explanatory power of the model from 41% to 83.87%. Talent and capital have a direct impact on business flexibility, enhancing the positive effect of integrating technologies such as AI. Regulation and infrastructure do not have a direct impact on business flexibility, but they create conditions for more effective development and implementation of innovations.

A comparison of digital platforms in Ukraine and the EU revealed that Ukrainian initiatives are mostly focused on the development of local business. EU platforms focus on integration into global markets and support for international cooperation. The study emphasized the uniqueness of the Diia platform in Ukraine, which integrates

state services, services for businesses and citizens, as well as documents in one platform. According to the results of the regression analysis, the further vector of development of Diia may include the integration of AI-based technologies.

Further research may concern the development of a micro-level approach to the study of digital entrepreneurship, taking into account the motivation of entrepreneurs to use platforms. Valuable insights can be provided by comparing the obtained conclusions with the results of applying the macro-level approach used in this study.

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APPENDIX A

	Business agility	Internet of Things	Integration of business processes into electronic processes	Artificial intelligence	Digital integration with customers/suppliers, supply chain management	3D printers and robotics	Analysis Big Data	Cloud services	Technological framework	Regulatory framework	Capital	Talent
Austria	20	48	44	7	19	3	5	37	23	32	41	23
Belgium	15	25	56	8	21	5	19	49	33	30	18	15
Bulgaria	57	14	21	3	9	1	5	10	49	61	37	61
Croatia	62	21	22	8	39	3	11	36	47	54	33	57
Cyprus	66	32	33	2	12	5	2	48	36	60	58	63
Czech Republic	27	28	35	3	9	4	7	42	39	38	22	26
Denmark	3	17	49	20	55	8	21	62	8	7	9	5
Estonia	37	16	22	2	61	2	7	55	20	29	43	33
Finland	24	39	47	12	81	6	17	71	18	19	14	16
France	16	20	44	5	21	3	18	26	31	15	21	25
Germany	19	34	36	9	15	6	15	38	43	22	25	29
Greece	60	21	34	4	8	2		20	48	50	51	54
Hungary	65	20	19	3	12	3	5	23	40	40	54	55
Ireland	11	31	23	6	16	2	20	56	19	16	40	12
Italy	39	31	31	5	95	4	6	59	44	35	53	50
Latvia	45	25	38	5	12	2	5	25	27	43	56	32
Lithuania	13	24	43	3	25	3	8	29	32	25	36	21
Luxemburg	42	20	38	12	12	3	15	29	17	21	34	37
Netherlands	14	18	41	10	22	5	23	62	13	13	6	4
Norway	20	22	38	9	63	3	16	61	10	6	5	22
Poland	43	15	30	2	11	2	6	24	28	46	44	40
Portugal	61	20	51	16	16	4	9	31	42	26	50	28
Romania	56	9	16	1	15	1	4	13	41	47	64	45
Slovak Republic	59	24	30	4	14	3	4	33	45	65	61	52
Slovenia	48	46	34	9	57	3	4	39	37	55	49	42
Spain	33	26	48	6	32	5	5	27	26	34	30	34
Sweden	9	38	33	8	43	5	11	7	14	10	8	7