

DIGITAL PLATFORMS FOR BUSINESS

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Zhelezniakova E. Y., Zmiivska I. V. Digital Platforms for Business

Under the influence of digital transformation, which consists in the digitalization of various spheres of human life, a new technological phenomenon arises – a digital platform. In the context of economic development, rapid changes in digital technologies and a new quality of society, modern business is based on technological digital platforms. The authors of the article analyzed the concept of “digital platform” in the context of its use in business in the context of digitalization. The current approaches to the interpretation of digital platforms proposed by various scientists are considered. A digital platform should be considered as one of the digital tools of modern business that contributes to the digital transformation of socioeconomic systems, which is carried out on the basis of digital platforms that integrate economic, social and technological processes. Also, a digital platform is a virtual site for business and a set of its users, software, hardware and network complexes, a business model of the company that implements it, which provides users with the opportunity to interact, exchange resources, goods, services or information using digital technologies at any time from anywhere in the world. It provides a basis for creating and managing various online services, and may also include tools for data processing, integration with other services and process automation. The key elements of a digital platform are: community (participants, i.e. producers and consumers); data (ensuring interaction between participants); infrastructure (services, tools, rules within the platform). The advantages and disadvantages associated with the functioning of digital platforms are identified. It is also noted that the overall success of a digital platform depends on a number of conditions: firstly, it is the intelligent management of positive network effects (simultaneous growth of suppliers and consumers of goods and services); secondly, the maximum simplification of the main procedures for interaction on the platform and the reduction of costs for all interested participants. Therefore, digital platforms are one of the most important tools in the digitalization process and are considered promising for the digitalization of business. They consist of technological, productive, and communicative elements. This allows for the effective development of modern business using network platforms based on the principles of the sharing economy – the economy, which consists in the acquisition, provision or shared access to goods and services, carried out using digital platforms based on the community, which has become especially relevant in the context of the COVID-19 pandemic and the full-scale invasion of Ukraine.

Keywords: digitalization, digital platform, business digitalization, sharing economy.

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Железнякова Е. Ю., Зміївська І. В. Цифрові платформи для бізнесу

Під впливом цифрової трансформації, яка полягає в цифровізації різних сфер життя людини, виникає новий технологічний феномен – цифрова платформа. В умовах економічного розвитку, стрімких змін цифрових технологій та нової якості соціуму сучасний бізнес базується на технологічних цифрових платформах. Авторами статті проведено аналіз поняття «цифрова платформа» у контексті використання його в бізнесі в умовах цифровізації. Розглянуто чинні підходи до інтерпретації цифрових платформ, що запропоновані різними науковцями. Встановлено, що цифрову платформу варто розглядати як один із цифрових інструментів сучасного бізнесу, що сприяє цифровій трансформації соціально-економічних систем, яка здійснюється на основі цифрових платформ, що інтегрують господарські, соціальні та технологічні процеси. Також цифрова платформа – це віртуальний майданчик для бізнесу і сукупність його користувачів, програмний, апаратний і мережевий комплекси, бізнес-модель компанії, яка надає користувачам можливість взаємодіяти, обмінюватися ресурсами, товарами, послугами або інформацією, використовуючи цифрові технології в будь-який час з будь-якої точки світу. Вона забезпечує основу для створення та управління різноманітними онлайн-сервісами, а також може включати інструменти для обробки даних, інтеграції з іншими сервісами та автоматизацію процесів. Ключовими елементами цифрової платформи є: спільнота (учасники, тобто виробники та споживачі); дані (забезпечення взаємодії учасників); інфраструктура (сервіси, інструменти, правила в рамках платформи). Визначено переваги та недоліки, пов'язані з функціонуванням цифрових платформ. Також зазначено, що загальний успіх цифрової платформи залежить від низки умов: по-перше, це розумне управління позитивними мережевими ефектами (одночасне зростання постачальників і споживачів товарів і послуг); по-друге, максимальне спрощення основних процедур взаємодії на платформі та скорочення витрат всіх зацікавлених учасників. Отже, цифрові платформи є одним із найважливіших інструментів процесу цифровізації та вважаються перспективними для цифровізації бізнесу. Вони складаються з технологічних, продуктивних і комунікативних елементів. Це дозволяє ефективно розвивати сучасний бізнес з використанням мережевих платформ на засадах економіки спільного користування – шерингової економіки, яка полягає в придбанні, наданні або спільному доступі до товарів і послуг, що здійснюється за допомогою цифрових платформ, заснованої на спільноті, що стало особливо актуальним в умовах пандемії COVID-19 та повномасштабного вторгнення в Україну.

Ключові слова: цифровізація, цифрова платформа, цифровізація бізнесу, шерингової економіка.

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Digitalization has covered all spheres of social life. In the world, business conditions are changing rapidly. These changes affect all existing business models and the process of relations between the main market participants. The existing technological capabilities of interpersonal and business communications, increasing requirements for the level of service and the speed of providing the necessary services dictate the need for radical changes in approaches to building a business. Therefore, more and more companies are coming to understand the need to introduce digital technologies and transform existing business models. Digital transformation of socio-economic systems is carried out on the basis of digital platforms that integrate economic, social and technological processes.

Today, the Ukrainian authorities announced digital projects in the areas of business, social sphere, medicine, education, public administration and industry. The National Economic Strategy of Ukraine 2030 emphasizes that the use of digital platforms is one of the ways to digitalize the economy. This direction allows you to create effective communication between users, eliminate time, territorial and language barriers, increase the efficiency of business processes and the competitiveness of business and educational activities.

The functioning of digital platforms is not limited by borders, is not based on the territorial principle, they can work from anywhere in the world. The physical location of servers and software necessary for the operation of a digital platform does not matter for a digital society, since thanks to the Internet it can work anywhere. The emergence of digital platforms is associated with the development of the sharing economy, which has changed the approach to the consumption of goods and services, associated with the transition from overconsumption to an economy of shared resources.

Under the influence of digital transformation, digitization of various spheres of human life, a new technological phenomenon arises - a digital platform.

The digital platform is one of the most important elements of the digitalization process and is considered as a promising business model consisting of technological and communicative elements. They are tools for the digital transformation of socio-economic systems at all levels that manage the network. It is thanks to digital platforms that the digitalization of the activities of state bodies, business, education, and society is ensured.

Digital platforms are a product of advanced technologies and the result of breakthrough technological innovations. The issue of theoretical and practical aspects of the application of digital platforms in any sphere of human activity due to their rapid development and transformation always remains in the focus of scientific research. In this regard, the relevance of studying this phenomenon is constantly growing. This issue has been investigated in the works of many foreign and domestic scientists: S. Mishra and A. Tripathi [14], P. Vardarlier and M. Ozsahin [16], J. Claussen and M. Halbinger [10], A. Gawer [11], J. G. C. Gomes and M. T. Okano [12], R. Mancha, S. Gordon and B. Iyer [13], C. Bonina, K. Koskinen, B. Eaton, A. Gawer [9], G. Parker, M. V. Alstyne [15], V. Kokhan [3], A. Semenog [5], K. Sichkarenko [6]. Research shows that digital platforms are mediated by technology, providing interaction between groups of users and allowing these groups of users to perform certain tasks, and their definition depends on the field of activity. Practical solutions are quickly adapted to the realities of digitalization of society, while theoretical foundations need to be reconsidered to reflect objective reality.

However, there is no consensus on the essence of such a concept as a “digital platform” in the context of the process of digital transformation of socio-economic systems, therefore, there is a need for further research on this issue.

The purpose of the article is to define the term “digital platform”, the advantages and disadvantages associated with its functioning in business.

Regulatory and legal basis of the digitalization process

Digitalization in the world is based on the general principles of the transformation of the digital economy, therefore it is important to create a legislative framework that supports the strategic directions of the reform and directs business to its use using the most modern technical innovations and technological solutions, in particular digital platforms. Ukraine supported the European initiative on the digitalization of society. In September 2022, an agreement was signed on Ukraine's participation in the European Union's Digital Europe Programme from 2021 to 2027 [19], which aims to support projects in five key areas: supercomputers, artificial intelligence, cybersecurity, advanced digital skills and ensuring the widespread use of digital technologies in the economy and society, in particular through digital technologies. Participation in this project will accelerate the digital transformation of society and the recovery of the economy. In this regard, the main goals of the development of the information society in Ukraine are gradually being aligned with the guidelines of European development. Among them are the initiative "Digital agenda for Europe" [17] for the decade 2020-2030, the political program «Europe's Digital Decade: digital targets for 2030» [21] with specific goals and objectives to manage the digital transformation of Europe in the following areas: a digitally skilled population and highly qualified digital professionals; secure and resilient digital infrastructures; digital transformation of business; digitalization of public services. The EU plans to promote its digital agenda on a global scale, and will also encourage other countries to harmonize or converge with EU rules and standards.

In order to integrate into the global processes of "digitalization", Ukraine supported the European initiative on the digitalization of society. Thus, in 2019, the Ministry of Digital Transformation of Ukraine was established to form and implement the state policy of Ukraine in the field of digitalization of society. This is evidenced by the documents "Digital Agenda for Ukraine 2020" and the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020. Digitalization processes have become particularly relevant in the context of the COVID-19 pandemic and the introduction of martial law.

The use of digital platforms in the process of digital transformation as a factor in the development of the digital economy. Defining the essence of the concept of "digital platform"

The use of digital platforms, the degree of mastery of their capabilities is one of the factors of the global competitiveness of national economies and

businesses today. Digital platforms are key tools for the digital transformation of business processes and the formation of new business models and models of functioning of business entities in the context of the conditions of digitalization of the economy within the framework of the approach of digital transformation of society. That is why they are gradually becoming the dominant organizational form of the digital economy. Digital platforms shape the main trends of development and its interaction with various economic entities and are fundamental for many digital business models. Saving on the lack of production capacity, digital platforms are actively investing in the development of algorithms for analyzing data on customer preferences and desires. Together with the network effect, this allows us to achieve exponential growth, the level of which in recent years has provoked serious risks for the existence of classic businesses and companies, which makes it relevant to study the factors and methods of influencing digital platforms on the transformation of economic relations in the country. Increasing the speed and distribution of broadband access to the Internet, the spread of mobile devices and applications are forming new types of business, which are commonly called virtual, information, digital and network. However, over the past ten years, the trends of virtual business have changed from a partial continuation of the business model in the internal business network to the full coverage of business models by the global Internet.

The prerequisites for platformization are: reducing the cost of technologies and IT technology costs; rapid creation of new applications or software products; development of big data and big data analytics, which allows information to be accumulated and promptly processed and used by all stakeholders. The prerequisites for platformization also include the values that platforms create and their benefits.

The phenomenon of the "digital platform", the phenomenon of "platformization" became possible due to the emergence of new business models, cross-border processes, network effects, models of shared consumption, the potential of financial technologies, the reduction of investment cycles, the transformation of trade, production and logistics chains, the life cycle of digital assets and open innovation.

Platforms and collaborative networks are at the heart of the new digital economy: 60-70% of new value created in the next ten years is expected to be based on digital platforms. Platforms include not only social networks, but also platform environments in education, industry, supply chains, employment, financial services and healthcare, etc. The growing role and influence of platforms creates

a number of trade-offs that challenge the traditional understanding of business. This has changed the rules of business organization and led to the introduction of new forms of business organization: technological digital platforms (including network platforms based on the sharing economy), which are widespread in many areas of the economy and have led to a change in the consumption paradigm, and therefore regulation in general. The sharing economy is an economic model defined as a peer-to-peer (P2P) activity that involves the purchase, provision, or sharing of goods and services, often through an online, community-based platform. A particular advantage of the sharing economy model for small and medium-sized businesses is the ease of access to the global market, which is what is driving the rapid growth of this model. According to PwC, the sharing economy market will reach \$335 billion by 2025, growing by 35% annually in Europe alone [1]. The sharing economy makes it possible to create reliable connections between any number of people, reduce transaction costs, time and distance to almost zero, creating a communication space that is instantly accessible from a smartphone or computer anywhere and at any time. And the main players in this «field» are sharing Internet platforms. Thanks to such Internet platforms that connect a huge number of like-minded people and allow for the creation of trust online, people are increasingly sharing goods, knowledge, money, skills, networks, content and other consumer values. With the help of such platforms, people's ability to make even greater contributions to society and the economy is restored. In the sharing economy, unlike the traditional one, the consumer does not determine, but adapts to the service provider. The sharing economy as a model of «joint participation» has characteristic features: the nature of customer behavior, the use of social media and online platforms, the integration of producers of goods and services and consumers, the spread of information and telecommunications technologies, mobile applications [7, P. 2-4]. The sharing economy is based on the Win Win principle [8], when both parties involved in economic activity benefit. Due to the fact that the emergence of the sharing economy is relatively new, not all methods of monetization have yet been tested.

Thus, it can be argued that the sharing economy as a modern trend phenomenon emerged along with the development of communication technologies and the digitalization of society. The spread of digital platforms led to the emergence of a shared economy - the sharing economy.

There is no consensus in the scientific literature on the definition of a digital platform, the reason for this is the multifaceted nature of the concept. Currently, a

digital platform is considered as: 1) a business model of the digital economy [13], 2) a technological construct [11]; 3) a platform ecosystem [5].

The core business units and business models of the digital economy (especially the sharing economy) are technology platforms that are present in most sectors of the economy and perform many different functions. Most sharing economy services use digital platforms to use resources more efficiently, ensuring that supply and demand are matched on a large scale.

Sometimes in the scientific literature, the concept of a digital platform is understood as an information and communication platform for communication, exchange of thoughts and ideas, located on a single web page. Such a platform contains information-rich content that facilitates consultations and coordination of stakeholders in solving various issues (business platform, scientific platform, educational platform, smart specialization strategy platform, etc.).

In the era of industrial production, the linear production model dominated. In it, the process of value creation occurs in stages and has a clear direction - from the producer to the consumer. Companies used their own production facilities, technologies and resources. Unlike linear businesses, platforms create value by using resources that they do not own. They involve a large number of producers and consumers in interaction, establish effective communication between them, provide them with innovative tools and control the quality of their work.

A distinctive feature of a digital platform as a business model is its fundamental nature – the ability to share underlying assets with a large number of participants simultaneously, which provides economies of scale in the digital economy.

Based on the above, we can formulate the main differences between a digital platform and a traditional one:

- ✦ the traditional business model aims to produce and/or sell goods or services, the platform one organizes the interaction between the seller and the buyer;
- ✦ the value of a traditional business model is in its products or services (the product is valuable in itself), the value of a platform business model is in the number of participants, with its growth the value of the platform increases (the need to create a network effect);
- ✦ the platform business model focuses on maintaining its functioning and promotion;
- ✦ in traditional business models, the roles of «producer - consumer» are clearly defined, in a platform business model these roles can change.

A digital platform, as a technological phenomenon, is defined by a combination of the following criteria: algorithmization of the interaction of platform participants; mutually beneficial nature of the relations between platform participants (win-win strategy [8]); specific weight of the number of participants (scale) using the platform; presence of a single information environment in which the interaction of participants and the corresponding information and technological infrastructure takes place; presence of an activity effect in the form of a reduction in transaction costs during the interaction of platform participants - compared to the same interaction without platforms.

Scientists Parker G., Van Alstyne M. [15] distinguish four main types of platform participants: 1) platform owners; 2) providers (managers); 3) complementors (developers of the core and peripheral elements of the digital platform); 4) end-users (consumers, suppliers).

It is worth noting, according to the scientist Sichkarenko K.O. [6], that a digital platform differs from other software products in that its design is oriented towards a fundamentally wider range of services. In those areas of consumption where it is possible to create a single information space, and the service (or product) itself is unified, it is very difficult to compete with digital platforms and structures built on the network principle. Everything that is not based on complex technology is more profitable to organize on the basis of platforms.

If we talk about the essence of the concept of "digital platform", then there is no single approach to defining a digital platform. In general, a digital platform is a space, an ecosystem that ensures the formation of a system of relationships between platform participants.

A digital platform is a web-centric platform for delivering content (e.g., Facebook, Twitter, blogs, websites, and sometimes SMS) as presented in the scientific study by Mishra S. and Tripathi A. R. [14], where a significant part of the world's population spends time online every day using these digital platforms. The article by scientists Vardarlier P., Ozsahin M. demonstrates that the digital transformation of human resource management is possible with the help of digital platforms - modern communication tools (LinkedIn, Workplace, Microsoft teams, etc.) [16], digital communication between employers and future employees in the recruitment process. In addition, scientists Claussen J., Maria A. Halbinger emphasize that digital platforms also help to spread innovations [10].

On the other hand, a digital technology platform is "a building block that provides an essential function for

a technology system – acting as a foundation on which other companies can develop additional products, technologies or services" emphasizes Gawer A. [11]. Digital business platforms are developed with the aim of pleasing users and being convenient, according to scientists Gomes J. G. C. and Okano M. T. [12].

Scientists Mancha R., Gordon S. and Iyer B. [13] believe that a digital platform is a business model with technology that allows producers and consumers to exchange valuable information.

In the research of scientists Bonina C. et al. [9] it is presented that digital platforms have three main characteristics: technologicality; providing interaction between groups of users that allows these groups of users to perform certain tasks; the definition of opportunities depends on the industry.

In particular, the supply and demand functions offered on these platforms and how they differ from other types of market laws are important in economics.

The European Commission also defines online platforms through the prism of their functional purpose, as "search engines, social networks, e-commerce platforms, app stores, price comparison sites, etc." The European Commission has defined a digital platform as an enterprise operating in two-sided and multi-sided markets and which uses the Internet to enable interaction between two or more separate but interdependent groups of users [18].

Therefore, based on the considered approaches to defining digital platforms, they can be grouped as follows: first, this is a predominant emphasis on the communication properties of digital platforms, which include opportunities for a wide variety of interaction between participants, in particular, as far as possible, coordination of sellers and buyers; second, this is an emphasis on the properties of platforms related to the aggregation, storage and provision of a wide variety of information and ensuring information exchange.

Thus, digital platforms act as a kind of mechanism that ensures the transformation of modern socio-economic relations within the framework of the digitalization process.

Scientists Okano M. T. et al [20] consider the main characteristics of digital platforms:

1. External platforms based on software and hardware.
2. Applications offer services or systems to end users.
3. Through the Internet, they allow interaction between different groups of people, companies and organizations.

4. They introduce innovations through new business models, which are inherently based on information and technological features.
5. They create value by allowing direct communication and interaction between groups.

In its technical content, a platform is a system of “algorithmic mutually beneficial relationships of a significant number of independent participants in an economic sector (or field of activity), which are carried out in a single information environment, which leads to a reduction in transaction costs through the use of a package of digital technologies for working with data and a change in the division of labor system”. The existence of multifunctional digital platforms and their constant improvement has determined their typology: transactional, integrated, innovative, investment. So, in other words, the main types of platforms include: product creators, service creators, technology creators, and network interaction creators.

The classification of digital platforms is presented by the scientist Gawer A. [11]:

1. **A transaction platform** is a technology, product, or service that acts as a channel (or intermediary) that facilitates exchanges or transactions between different users, buyers, or suppliers. A transaction platform, sometimes called a multi-party marketplace or trading platform, is designed to facilitate transactions between different organizations, entities, and individuals, such as connecting buyers with sellers, drivers with passengers, composers with music companies, and so on.
2. **An innovation platform** is a technology, product, or service that is the foundation upon which other firms (loosely organized into an innovation ecosystem) develop additional technologies, products, or services. Innovation platforms form technological building blocks that provide the foundation for the development of services and products. A typical example of an innovation platform is the Android mobile operating system, which allows third-party developers to create applications based on the operating system. Innovation platforms provide third-party developers with their own set of tools and resources that developers combine and use to create new applications for commercial or other use.
3. **An integrated platform** is a technology, product, or service that is both a transactional platform and an innovation platform. Companies like Apple fall into this category. It has both platforms: the App Store and a large ecosys-

tem of third-party developers that support the creation of content (information content) on the platform. Integrated platforms combine aspects of two main types of platforms: transactional and innovation platforms.

4. **Investment platforms** consist of companies that have developed a platform portfolio strategy and act as a holding company, an active investor in the platform, or combine both functions.

From an economic, entrepreneurial, and managerial perspective, the following types of platforms are distinguished [7]

- 1) open platforms, accessible to all market participants, and corporate platforms focused on the efficiency of internal interaction;
- 2) open-access platforms (with free registration) and monetized platforms, i.e., those that generate income from providing access to participants;
- 3) platforms whose profitability is ensured by activities unrelated to the subject of exchange, and platforms that are independent of non-core income, including charity;
- 4) peer-to-peer platforms (of equal participants) and hierarchical platforms, in which, in addition to the hierarchy of consumers, the institutional environment, the platform itself, and its users are also distinguished;
- 5) industry-wide platforms and platforms specialized in the subject of exchange.

So, in our opinion, a digital platform is a virtual platform for a business and a set of its users, software, hardware and network complexes, a business model of the company implementing it that provides users with the opportunity to interact, exchange resources, goods, services or information using digital technologies at any time from anywhere in the world. It provides a basis for creating and managing various online services, and may also include tools for data processing, integration with other services and process automation. The key elements of a digital platform are: community (participants, i.e. producers and consumers); data (ensuring interaction of participants); infrastructure (services, tools, rules within the platform).

For any business, a digital platform can be an information and communication space that provides communication and interaction between employees, management, contractors, and any persons that provides their communication and interaction. In addition, a digital platform should be defined as software and hardware that provides access to the digital environment of individuals in which interac-

tion and other activities of these individuals take place, their software is developed or functions, or their goods and services, including educational ones, are sold. Of course, the key factors that determine the effectiveness of these platforms are high-speed Internet, the digital culture of users, and the digital readiness of businesses to implement innovative technologies and business models.

The advantages of digital platforms include [7]: stimulating innovation (diversification of goods, innovative business models, flexible organizational structure); creating consumer value (increasing choice, convenience, market transparency, allocation of resources and financial assets); opening markets (possibility of access to the market for small and medium-sized businesses, expanding export opportunities); reducing transaction costs (low information, communication, logistics costs); improving welfare (allocation efficiency, standardization, trust, effective use of technologies, generation of high-quality information data that can be added value); transforming the institution of intermediaries through the integration and unification of interaction processes throughout the value chain; increasing labor productivity and efficiency of entrepreneurial activity; increasing the density of heterogeneous economic agents, intensification of interactions thanks to digital technologies in large cities; transforming the role and meaning of the state, changing the relations between society, business, science and the state.

The disadvantages of digital platforms can manifest themselves in negative network effects. A network effect is an economic effect that describes a product or service when additional users increase the value of the network. According to this effect, the value of the platform increases in line with the increase in the number of participants on it (both sell-

ers and buyers). A negative network effect manifests itself in the fact that with the increase in the number of participants, it becomes more difficult to establish contacts between the producer and the consumer. In this case, moderation ("screening") of participants becomes necessary, for example, by setting a registration fee, differentiating levels of access to the platform by setting subscription or registration rates, etc. Negative platform effects also manifest themselves when there are more sellers than buyers or vice versa - thus the conjuncture formed on the platform can change.

So, a digital platform has advantages and disadvantages. In general, the advantages of online platforms based on sharing include: lower price for the service, high speed, convenient and high-quality service, protection of the interests of project participants. The disadvantages are the existence of certain risks: insecurity of data of transaction participants, increased competition, dependence on platform owners, etc.

Modern platform companies and their business models (review)

The pace of innovation is very high, and therefore those technologies that could have been breakthroughs for an enterprise a few years ago may no longer guarantee its success in a highly competitive innovation environment. The fact that digital technologies can significantly change the rules of the game in the market and the role of its key players is evidenced by the fact that today the leaders in terms of market capitalization are "digital" companies, while in 2020 their rating looked different. The growth in the use of digital platforms is reflected in the ratings of companies by capitalization for the period 2020-2024, which are presented in Table 1.

Table 1

Top 10 companies by market capitalization as of 2024 and 2020

Place in the rating	2024 year [4]	Market capitalization (billion dollars)	2020 year [1]	Market capitalization (billion dollars)
1	Microsoft Corp	3289	Saudi Arabian Oil	1741
2	Apple	3258	Apple Inc	1568
3	Nvidia	3244	Microsoft Corp	1505
4	Alphabet (Google)	2192	Amazon.Com Inc	1337
5	Amazon.Com Inc	1911	Alphabet Inc-A	953
6	Saudi Aramco	1786	Facebook Inc-A	629
7	Meta platforms (Facebook)	1278	Tencent	599
8	TSMC	895	Alibaba Grp-Adr	577
9	Berkshire Hathaway	875	Berkshire Hathaway	430
10	Eli Lilly & Company	835	Visa Inc-Class A	372

Thus, a comparison of the top 10 companies by market capitalization as of the end of 2024 and the end of 2020 reflects general trends: the shift of economic levers from traditional industries to high-tech industries related to digital technologies and innovations; the growth of technology and platform companies that are actively developing due to digitalization, innovations in the fields of artificial intelligence, cloud technologies and e-commerce. Many platforms can be characterized as technological solutions (application, website), aggregators, which are aimed at meeting demand and supply by forming the possibility of customer and consumer contact and the activities, content and rules of operation of which are regulated by the owner and developer.

Technology companies (especially Microsoft, Apple, Nvidia) have emerged as major leaders with huge capitalization growth, reflecting the global trend towards digitalization, the use of artificial intelligence and cloud technologies. Oil company Saudi Aramco has lost its dominant position due to the shift to more sustainable and technological sectors. Pharmaceutical companies such as Eli Lilly are showing significant growth against the backdrop of the pandemic and demand for medical solutions.

The role of platforms is difficult to overestimate, at least given that the leading companies in terms of market capitalization include digital platforms - Microsoft, Apple, Amazon, Facebook. One of the

components of their success is the combination of the main business model with the business model of network interaction based on the digital platform, which allowed these companies to achieve a synergy effect within their model, differentiate key elements of services in terms of growth, profitability and market value, and become "digital supercompanies."

The transition to digital transformation will not be easy for Ukraine. All enterprises are faced with the reluctance to confront the challenge of the pandemic and military invasion. But despite this, the business of the Ukrainian state does not stop and the Diia application [2], digital healthcare reform, distance learning, transition to digital document management, digital wallet, digital signature, digital services have been actively implemented. The business of the Ukrainian state based on digital platforms covers various areas in which the state implements digital technologies to ensure the efficiency of management, the provision of services to citizens and the development of the Ukrainian economy.

An overview of existing technological digital platforms from different countries of the world, including Ukraine, with a distribution by areas, functions, scale of distribution and type of platform is presented in Table 2. This table contains examples of technological platforms operating in different areas, with functions related to transactional, innovative, integrated and investment types.

Table 2

Technological digital platforms for business

Field	The name of the platform	Platform capabilities	Platform scale and country of origin	Platform type
1	2	3	4	5
Electronic commerce	Amazon	Online trade, delivery of goods, cloud services	Global, USA	Integrated
	eBay	Online auctions, purchase/sale of goods	Global, USA	Transactional
	Rozetka	Online trade, delivery of goods,	Ukraine	Transactional
	AliExpress	Online trade, delivery of goods	Global, China	Integrated
Education	Coursera	Online courses, educational programs, certification	Global, USA	Transactional
	Prometheus	Online courses, educational programs in Ukrainian	State, Ukraine	Transactional
	Edx	Online courses, informative, educational	Global, USA	Transactional
	Preply	International educational institution, tutoring	Global, USA	Transactional
Real estate	Flatfy	Sale, rent of housing	Ukraine	Transactional
	Airbnb	Private housing rental, online booking	Global, USA	Transactional
	LiquidSpace	Online marketplace and workplace network for renting office space	Global, USA	Transactional

1	2	3	4	5
Food delivery	Feastly	Delivery of homemade healthy food	State, USA	Transactional
	Glovo	Delivery of food, goods, courier services	Global Spain, cooperation with Ukraine	Transactional
Finances	M-Pesa	Mobile financing	State, Kenya	Transactional
	PayPal	Online payments, money transfers, digital wallets	Global, USA	Transactional
	Monobank	Mobile banking, digital cards, lending	Ukraine	Transactional
Crowdfunding	Shared cost	Collective financing of projects	State, Ukraine	Transactional
	Great idea	Attracting joint funds	State, Ukraine	Transactional
	Seedrs	Investments in startups	Global, UK	Transactional
	Kickstarter	Investments in projects	State, USA	Transactional
Charity	Tablets	Financial and informational support for children with cancer in Ukraine	State, Ukraine	Transactional
	ICF "Ukrainian Charity Exchange"	A nationwide social infrastructure of online charity	State, Ukraine	Transactional
Medicine	Apple Health	Health monitoring, fitness trackers	Global, USA	Integrated
	Helsi	Medical online service for patients and doctors	State, Ukraine	Integrated
State	Diia. Government services online	Diya's single portal of digital public services	State, Ukraine	Transactional
Transport	Uber	Transport services, taxi booking, car sharing	Global, USA	Transactional
	BlaBlaCar	Joint trips with travelers for reimbursement of expenses	Global, France	Transactional
	Uklon	Taxi order, transfer	State, Ukraine	Transactional
Work	LinkedIn	Professional networks, vacancies, publication of resumes	Global, USA	Innovative
	Work.ua	Job search, job posting	State, Ukraine	Transactional
Programming	GitHub	Web service for hosting IT projects and their joint development	Global, USA	Innovative
	GitLab Inc	Joint software development	Global, Germany	Innovative

Global and Ukrainian companies are using digital platforms to transform traditional business models, create new business opportunities, and integrate modern technologies into everyday operations, as well as demonstrating how digital platforms help businesses grow, automate operations, and improve customer engagement around the world.

Thus, modern platform companies represent a new type of business model, where companies create ecosystems that connect users, suppliers and other participants to exchange goods, services or information.

The main idea of platform companies is that they act as intermediaries that lower barriers to entry and optimize interaction between different participants. Platform companies create business models that reduce the costs of launching new initiatives and provide rapid access to the market through technology and interaction with users and partners.

Digital platforms are rapidly gaining popularity because they benefit all participants:

- ✦ service providers (platform providers) receive many potential consumers, the

number of which increases with the increase in the number of providers. At the same time, there is no need to bear the costs of paying for a domain name, developing your own website and spending time and effort on its promotion;

- ✦ consumers can choose one or more suppliers in one place, analyze prices, get feedback on products or sellers, contact suppliers directly;
- ✦ the platform forms its own combination, because the more supplier participants, the stronger the competition and the price level can be equalized;
- ✦ the consumer receives personalized offers, because the platform can analyze information about him, his experience on the platform, his behavior and this data to provide similar products and services;
- ✦ the cost of using the platform service for consumers is absent or very low. Similarly, the supplier spends a minimum of money on promoting his product.

The overall success of a digital platform depends on a number of conditions. First, it is the intelligent management of positive network effects (simultaneous growth of suppliers and consumers of goods and services). Second, the maximum simplification of the basic procedures of interaction on the platform and reduction of costs for all interested participants. As the practical experience of successful digital platforms shows, the more participants are involved in the interaction, the higher the positive network effect, the greater the benefit for all platform participants and the lower the costs of the platform operator. Therefore, a digital transformation platform is a complex information system that provides a specific way to perform a certain function and is open for use by customers and partners, including application developers, merchants (a program for paying for online services) and agents. Such a platform includes users, developers, owners, providers, advertisers, regulators and is the basis for a digital ecosystem. It can be used directly or through applications created on its basis by owners or third parties.

CONCLUSIONS

The development of digital platforms is one of the priority areas of digitalization of the Ukrainian economy. Therefore, tools to stimulate the growth of digital technologies in the economy should: harmonize data protection standards and rules; simplify cross-border data exchange; promote international e-commerce; invest in digital infrastructure.

Several directions of development of national platform solutions can be distinguished:

1. Expansion of the range of online services by large digital platforms with a large and stable consumer base. At the same time, there is a high chance to capture new service markets and occupy leading positions in existing markets.
2. Creation of Ukrainian platform solutions for basic sectors of the economy, such as industry and agriculture, as well as for the social sphere, construction, public administration and the provision of public services, education.
3. Integration of own and third-party digital platforms to attract and use additional resources and implement individual target areas. At the same time, new business models are implemented as effectively as possible, the level of competencies is increased due to reusable systems, elements and templates.
4. Integration on the platform of small and medium-sized enterprises, with the possibility of transferring business processes of accounting, personnel, tax accounting to the platform. This ensures the release of resources by these enterprises for business development and access to information about the state of the market.

Thus, the considered features of the development of digital platforms in the context of digitalization allowed us to systematize approaches to defining the essence of digital platforms as an environment for cooperation between more than two parties, to identify general types of digital platforms by field of use, to highlight the advantages and disadvantages of the functioning of digital platforms based on the sharing economy and commercial platforms, which form a new economic foundation of the digital economy, which contributes to increasing the competitiveness of any business.

In the future, it is planned to investigate the structural components of digital platforms for organizing business in the context of digital transformation. ■

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