UDC 33

THE ESSENCE OF DIGITAL ECONOMY AND INNOVATION APPROACH AS A CONSEQUENCE

Almaz Faig gizi Hajiyeva
doctoral student
Azerbaijan State Agricultural University
almaz.hajiyeva.f@gmail.com
https://doi.org/10.30546/SJSD.2025.5.1.013

Abstract: *All facets of society's economic life are now impacted by new digital technologies and creative business models, which have an effect on the economy's core and lead to qualitative structural changes. A digital economy, which is characterized by the active use of technical advancements and the distribution of distinctive electronic goods, thus arises as a subsystem of the traditional economy. The competitiveness of the nation is closely correlated with the level of development of the digital economy, so businesses and the government must pay particular attention to this sector's growth. Digitalization is being integrated into social processes; people's lives of achievement are becoming increasingly dependent on it; additionally, digital technology is being widely implemented in the operation of government organizations and institutions. However, there are both positive and negative aspects of technology advancements in the digital economy that affect our daily lives.*

The article discusses the essence of the digital economy, its determinants, and the results as consequences.

Keywords: *digital economy, innovations, technology, unemployment, ICT*

Introduction

Global economic development is now significantly influenced by digital technology, and issues with the digital economy are also commonplace. Numerous scholars assert that the Massachusetts Institute of Technology scientist Nicholas Negroponte is credited with coining the term "digital economy" in 1995 when he made a metaphorical reference to the shift away from atom processing. According to some experts, Canadian scientist Don Tapscott coined the phrase "digital economy" in 1995 when writing "Electronic Digital Society: Promise and Perl in of the Age of Networked Intelligence" [1]. A digital economy is formed as a result of the Internet, big data, 5G, and artificial intelligence contributing to the integration of the global economy. Any idea or discovery's exceptional worth and significance are unquestionably measured by how well it advances human well-being and economic prosperity. The benefits of digital technology are indisputable in this regard. Digital technologies are critical because they increase the rapidity and quality of operations during any economic cycle. In addition to bringing completely original and inventive consumer items onto the market, digital technologies have also produced new ways of manufacturing. As a result, the economy of today differs from that of a few decades ago. The information technologies that permeate the modern world drastically alter the daily lives of average people.

Furthermore, the character of the market economy and socio-economic interactions are both profoundly altered by these processes. The creation of a "new economy" is occurring without substituting the amount of information for the physical weight of items; manufacturing areas and production costs are being lowered; and the speed at which electronic goods and services are moved is rapidly expanding. The phrase "digital economy" has been used to refer to all of these procedures. The digital economy offers benefits and drawbacks, much like any innovation.

The fundamentals of the digital economy and how it affects consumption and production are covered in this article.

1. The digital economy's determinants and economic essence

The concept of the "digital economy" remains unclear despite being covered by a sizable number of articles. We are able to categorize opinions on the digital economy by comparing different definitions and using the following characteristics:

- a type of economy defined by the active application and practical use of digital technologies facilitate information gathering, storage, processing, exchange, and transfer in all aspects of human activity.;
- a collection of business activities, such as the national economy's sector for the manufacture and distribution of virtual products and services;
- an intricate web of organizational-technical and socio-economic linkages focused on the real-time usage of digital communication and information technologies and networks;
- and a complex interplay of different elements (technical, organizational, legislative, regulatory, and so on) in along with the real economy with the goal of achieving sustainable economic development.

According to I.Uzhinsky, the digital economy is one in which the cyber-physical system functions as a production complex, an industrial structure that generates goods and services and allows people and the general public a place where they may feel comfortable [2]. As stated by Д. V. Evtianova and M. V. Tiranov, the digital economy is defined as "a way of life based on effective information management of the production system; an automated administration of the economy based on advanced information technologies" [3]. Hyper-connectivity is at the core of the digital economy, which refers to the growing interconnectivity of people, companies, and machines as a result of the growth of the web and smartphones and other mobile devices. The global economy is currently being impacted by the digital economy across a wide range of industries, such as financial services, retail, electricity, transport, publishing, the mass media, education, and healthcare. As fixed, mobile, and broadcast networks merge and the Internet of Things takes shape, ICT is altering our interactions and personal connections with more linked gadgets and objects. ICT is a key driver of economic growth and serves as the foundation for the rise of the internet based economy. ICT`s support the expansion of the digital economy and play an increasingly essential role in economic development. A growing number of nations' governments are realizing how critical it is to capitalize on the digital economy's advantages for social progress, economic expansion, and innovation. A system of social, cultural, technological, and financial connections between the government, business community, and the general public that operates in the global information space and creates digital production and marketing through significant use of networked digital technology is known as the "digital economy." This leads to ongoing, creative modifications in technology and managerial strategies to increase the effectiveness of systemic socioeconomic processes. It can be noted that there are three main components of the digital economy are as follows:

- infrastructure, which includes things like hardware, software, and telecommunications;
- electronic business transactions, which are business operations conducted through computer networks within the context of online communication between participants in the virtual the marketplace;
- Digital technologies facilitate information gathering, storage, processing, exchange, and transfer in all aspects of human activity.

ICT is present everywhere in a variety of ways and is now necessary for human advancement. According to Bukht and Heeks, the digital economy has really altered the way that the economy functions today, including systems, industries, consumer behavior, corporate partnerships, and business models [4]. Many refer to the digital economy as the "new economy," the "Internet economy," or the "information economy" [5]. Whatever the term, it encompasses a wide range of activities, including online and mobile banking, payment wallets, e-governance, e-payment systems, e-banking, e-knowledge processing, and more.

The digital economy encompasses all economic activity involving information technology, such as the establishment of new markets, the extension of existing marketplaces, and the production of digital goods and services. The amount of money used or invested in technological innovations, the availability, quality, and speed of ICT, the percentage of households with personal computers, and access to ICT are the main factors that can influence the growth of the digital economy. Other factors that may have an impact include the percentage of households with broadband Internet access, the percentage of households with Internet access, and the number of cell phones per 1,000 people.

Modern technologies like the Internet, cloud computing, big data, AI, and IoT power the digital economy. Organizations can effectively handle, store, transfer, and analyze data thanks to these technologies. The following are the key components of the digital economy:

1. Online resources. Platforms connecting providers and consumers of products and services are the foundation of the digital economy [6]. These platforms facilitate effective information exchange and teamwork, opening up new commercial prospects.

2. Big Data. A lot of statistical information is being produced by the digital economy, which may be utilized to optimize procedures and make wiser judgments. Big data analytics aids in trend identification, demand forecasting, and process optimization for businesses.

3. Internet of Things (IoT): The Internet of Things refers to a network of gadgets that have connections to the Internet and may share data. The Internet of Things is utilized in the digital economy to monitor and control resources, as well as automate industrial processes.

4. AI, or artificial intelligence. Artificial intelligence is utilized in the online economy to automate jobs, make judgments, and streamline operations. Artificial intelligence can handle vast volumes of data and uncover hidden patterns thanks to machine learning and neural networks [7].

The digital economy may be divided into the following categories:

- E-commerce refers to an innovative kind of online trade in goods and services that is conducted through electronic stores;

- E-marketing is a collection of marketing initiatives linked to the utilization of electronic tools, with the goal of promoting information-analysis and expert research operations of an enterprise (organization, company);

- E-banking refers to technologies for delivering banking services based on customer orders. Three primary components make up the institutional framework of the digital economy: institutional subjects, institutional objects, and institutional mechanism.

The digital economy offers numerous methods for providing digital services to end customers, and it is simpler as well as quicker than other sectors of the economy. The House of Commons defined the digital economy in a way that takes into account both digital support for enterprises and digital access to products and services [8]. The previously mentioned concept highlights that the digital economy functions as a digital means of advancing the traditional economy. The digital economy is therefore not specifically named among the economic branches, or even sub branches of these branches. Contribution of the digital economy, such as reduced transaction costs as a result of digitization or saving time from conducting business online, among other things. It is not listed individually when determining GDP volume.

The digital economy is largely focused on producing digital goods and providing digital technology-related services [9]. According to data from Organization for Economic Cooperation and Development (OECD) countries, company expenditure on digital-related research is increasing, demonstrating that the digital technology sector is crucial for innovation. As 5G and fiber optic technologies are implemented, the quality of communication networks improves, particularly with lower pricing for mobile services, and the use of mobile devices decreases. An rising number of people have access to the internet, which ultimately indicates how far digital technology will advance globally [10]. The digital economy is distinct from the traditional economy in terms of processes, subjects and objects, and reciprocal economic repercussions. In actuality, the digital and

traditional economies are developing simultaneously. As such, it would be misleading to think of the traditional economy and the digital economy as entirely distinct ideas.

2. Digital economy is a result of the innovation strategy

2.1. Positive impact of technological innovation on the economy

According to Parviainen et al., a digital transformation may have an effect on various levels, ranging from the processes to society. On an inner level, this might yield performance indicators like enhanced work procedures, reconsidered processes, removal of manual labor from manufacturing processes, increased task accuracy due to better data, etc. [11].The positive changes that occur from the adoption of digital technologies in the manufacturing sector may be defined as changes in the production structure and work environment, and they are assessed as follows:

- To begin with, the industry's structure is evolving to allow for mass customization. Artificial intelligence and data analytic, creative automation, and mass customization are now possible because to developments in digital information technology and digital transformation. To facilitate the prompt delivery of required services, for instance, new business models driven by platform firms have evolved.

- Second, production costs go down as a result of digital transformation. Manufacturing was a sequential process before to the digital economy, but digitization now allows for the simultaneous execution of online sales, product enhancement, procurement, and marketing. Consequently, it is possible to lower business expenses or generate new value along the whole value chain.

- Third, new industrial structures alter how individuals operate as well. New approaches to business are evolving that replace existing employment while also creating new ones. For instance, the mix of flexible work schedules and the platform economy is generating new employment and altering the nature of existing ones. By reviving in-person, contact-less, and online encounters, digital transformation — with an emphasis on platforms and networks—has the potential to further revolutionize the workplace.

Reddy and Reinartz predict a number of both favorable and adverse outcomes for the organization, potential customer, individual, and society. Their rationale is predicated on numerous assumptions concerning digital transformation. They anticipate that the use of digital technologies will reduce the expenses of engagement. This lower cost should lead to more encounters, exchanges, and benefits [12]. The digital marketplace increasingly influences social development and increases the simplicity of transactions for all participants in the interactions:

- Small businesses;
- People;
- Medium and large enterprises;
- Public authorities.

Many services, goods, or job duties can be easily found on the internet, paid for through the internet, and obtained at the appropriate location. This conserves resources and time. The additional benefits include the following:

- Concentrating on client needs, from selecting the proper service at a reasonable price to resolving socially significant issues.

- Individuals and legal companies can now access any service with more convenience. The supplier can now engage directly with the consumer via advancements in technological innovation. Involving middlemen is not required. Almost everything (from food to tickets, perks to passports) may be provided on the Internet.

- Openness and honesty in corporate dealings. The majority of transactions in the digital economy take place online, and financial data is transmitted to tax authorities. This contributes to the reduction of "black" proceeds, as well as the battle against corruption and fraudulent activities.

- Increasing the competitiveness of indigenous production and broadening commercial operations.

Changes are occurring in the consuming sector, as well as in the production sector. First, sharing is replacing possession as the content of consuming. The sharing economy is a prime

example. Regional restrictions used to be a barrier to the sharing economy, but developments in digital technology are opening up more sharing options globally. Digital technology-based sharing economies have a big influence on how value is created and consumed. Among other things, the sharing economy is reshaping the industrialized economy, which was previously focused on money and enterprise, into a digital economy that emphasizes individual experience and knowledge. Second, consumers' values are evolving. In the initial stages of the digital economy, the sharing economy started with the sharing of underutilized resources. However, in response to shifting consumer attitudes, the sharing economy is currently receiving attention as a new sustainable business model.

2.2. The negative consequences of technological progress on the economy

In order to accomplish an effective digital change, businesses must address and overcome certain problems. Adopting digital technologies might pose challenges for traditional, laborious, and time-consuming procedures [13]. There are greater dangers associated with something that has more opportunities. The most significant problem with the internet-based economy is information leakage and legal limits in some areas of legislation.

Worldwide digitalization of the economy has the following drawbacks as well:

- The primary issue is that labor will be replaced by automated procedures. Automation technologies, such as artificial intelligence and robots, are replacing black labor and high-risk employment. Specifically, the replacement of labor by artificial intelligence technology could negatively impact worker welfare and decrease the workers' income share of the total national income. As a result, over time, the difference in pay between low- and high-skilled workers will likely grow, and the average wage's proportion of the economy will probably decrease.

- Secondly A rise in the quantity of fraud. Several studies identify cybersecurity threats as a barrier to digital transformation and technology utilization [13,14,15] . Big data and analytics can boost productivity and improve customer services, but they can also compromise privacy by exchanging private data as a commodity [15]. Data protection through cryptography, technology, law, and physical safeguards must all be guaranteed for information security.

- Growing unemployment. In contrast to the growth of new professions and occupations, other specialties and sectors are becoming obsolete, losing importance.

- The technological gap. If the right things happen, it is feasible to guarantee that digital technology will fully permeate the economy.

Leading a digital transformation requires more than just introducing technology; a lack of understanding and qualifications in integrating technology might hinder success [13] . First and foremost, the contemporary digital stage necessitates the development of an innovative information society. These include, but are not limited to: the adoption of new digital currencies; the vitality of economic linkages; the elimination of traditional marketplaces; the necessity for large, cumbersome transportation infrastructure; and a reduction in company expenses. The emergence of a creative information society is the primary implication of the current digital stage. The utilization of new digital currencies and the virtualization of business relationships form the foundation of this environment:

- the elimination of traditional marketplaces;

- a decrease in company expenses;

Benefits include reduced transportation infrastructure, lower company costs, and the elimination of traditional marketplaces.

Access to a competitive, high-quality communications infrastructure is necessary to fully realize the digital economy's potential for innovation and growth. This infrastructure serves as the basis for services and applications within the digital economy. Privacy and observance of consumer rights are also necessary, as is a reasonable level of trust in the dependability and security of networks. Addressing concerns about privacy and security as well as economic and societal risk is crucial when it comes to expanding large-scale data collecting and analysis. It is crucial to handle

digital security and privacy as an economic and social risk given the growing scope of data collecting and analysis.

An economy's ability to innovate and flourish is ultimately determined by citizen participation in innovation processes, the level of complexity of demand, and the readiness to accept and understand the possibilities of science and technology. Enabling society to innovative entails fostering involvement in the digital economy. The rapid growth of digital applications creates unique obstacles for monitoring the use of new technology and its effects. The role individuals play as online consumers and e-citizens becomes especially essential when assessing society's readiness to participate in innovation processes. That is, successful innovation requires early access to and use of technology.

Conclusion

A brand-new class of economic relationships known as the "digital economy" is currently present in all global market sectors and is rapidly growing. The digital economy has the potential to rise to prominence in the near future and propel the expansion and advancement of the global economic system. This is because there are certain benefits that the digital economy offers over actual commodity transactions, like faster delivery times for commodities and nearly instantaneous service offering. Another advantage of the digital economy is that low cost of production and operation. Electronic products are virtually limitless and accessible in a virtual world, but physical things are nearly always more scarce and more challenging to obtain. This is one of the primary benefits of the digital economy over the old economy. In modern times, electronic commerce encompasses more than just financial transactions. The successful living of individuals rely more and more on digitization, which is a part of social processes. Digital technologies are also extensively employed in the operations of state institutions and organizations.

As a whole, the digital transformation has provided numerous advantages to consumers and businesses, but it has also introduced new obstacles and regulatory concerns. It is vital to recognize digital economy drawbacks, which include inequality in access to technology, privacy issues, automation, reliance on technology, a lack of regulation, cyber dangers, and the complexity of competition. For the digital economy to thrive, appropriate solutions must be developed to mitigate these risks and ensure society's long-term viability under digital transformation conditions. It is currently difficult for policymakers to address these new issues.

References

1. Tapscott, D., 1995. The Digital Economy: Promise and Peril in the Age of Networked Intelligence, McGraw-Hill, New York, NY;

2. Цифровая экономика: как специалисты понимают этот термин. URL: https://ria.ru/20170616/1496663946.html;

3. Евтянова Д.В., Тиранова М. В. Цифровая экономика как механизм эффективной экологической и экономической политики // Науковедение. 2017. Т. 9. № 6. С. 14–18;

4. Bukht, R.; Heeks, R. Defining, Conceptualising and Measuring the Digital Economy; Development Informatics Working Paper; Global Development Institute: Manchester, UK, 2017; Volume 68;

5. Raphael L'Hoest The European Dimension of the Digital Economy 2001;

6. Борисов А.В., Козырев А.А. Наукоемкий бизнес как конкурентное преимущество региона // Научные труды Северо-Западного института управления РАНХиГС. 2014. Т. 5. № 2 (14). С. 75–82;

7. Васецкий А.А., Иванов Д.Ю. Цифровая экономика Российской Федерации: перспективные проекты развития избирательной системы // Управленческое консультирование. 2020. № 10. С. 35–44;

8. The Digital Economy, House of Commons Business, Innovation and Skills Committee, House of Commons. London, 18 July, 2016, pp.37;

9. Сухарев О.С. Информационная экономика, трансакционные издержки и развитие // Журнал экономической теории. 2012. № 1. С. 50-61;

10. Варнавский В.Г. Цифровые технологии и рост мировой экономики // Друкеровский вестник. 2015. № 3 (7). С. 73-80;

11. Parviainen, P., Tihinen, M., Kääriäinen, J. and Teppola, S. (2017), "Tackling the digitalization challenge: How to benefit from digitalization in practice,"International Journal of Information Systems and Project Management, SciKA, Vol. 5 No. 1, pp. 63–77;

12. Reddy, S.K. and Reinartz, W. (2017), "Digital Transformation and Value Creation: Sea Change Ahead," GfK Marketing Intelligence Review, Walter de Gruyter GmbH, Vol. 9 No. 1, pp. 10–17.

13. Albukhitan, S. (2020), "Developing Digital Transformation Strategy for Manufacturing," Procedia Computer Science, Vol. 170, Elsevier, pp. 664–671;

14. Kane, G.C., Palmer, D., Phillips, A.N., Kiron, D. and Buckley, N. (2015), "Strategy, Not Technology, Drives Digital Transformation Becoming a Digitally Mature Enterprise," Sloan Management Review;

15. Strange, R. and Zucchella, A. (2017), "Industry 4.0, global value chains and international business," Multinational Business Review, Emerald Publishing, Vol. 25 No. 3, pp. 174–184.

RƏQƏMSAL İQTİSADİYYATIN MƏHİYYƏTİ VƏ İNNOVASİYA YANAŞMALARININ NƏTİCƏSİ KİMİ

A.F.Hacıyeva
doktorant
Azərbaycan Dövlət AqrarUniversiteti

Xülasə: *Cəmiyyətin iqtisadi həyatının bütün sahələri indi yeni rəqəmsal texnologiyaların və kreativ biznes modellərinin təsirinə məruz qalır ki, bunlar iqtisadiyyatın əsasına təsir edir və keyfiyyət struktur dəyişikliklərinə səbəb olur. Texniki nailiyyətlərin aktiv istifadəsi və fərqli elektron məhsulların yayılması ilə xarakterizə olunan rəqəmsal iqtisadiyyat ənənəvi iqtisadiyyatın alt sistemi kimi yaranır. Ölkənin rəqabət qabiliyyəti rəqəmsal iqtisadiyyatın inkişaf səviyyəsi ilə sıx əlaqəlidir, ona görə də biznes və hökumət bu sektorun böyüməsinə xüsusi diqqət yetirməlidir. Rəqəmsallaşma sosial proseslərə inteqrasiya olunur; insanların nailiyyət həyatı getdikcə ondan asılı olur; Bundan əlavə, rəqəmsal texnologiya dövlət təşkilatlarının və qurumlarının fəaliyyətində geniş şəkildə tətbiq olunur. Bununla belə, rəqəmsal iqtisadiyyatda texnologiya inkişafının gündəlik həyatımıza təsir edən həm müsbət, həm də mənfi tərəfləri var.*

Məqalədə rəqəmsal iqtisadiyyatın mahiyyəti, onun determinantları və nəticələri müzakirə olunur.

Açar sözlər: *rəqəmsal iqtisadiyyat, innovasiyalar, texnologiya, işsizlik, İKT*

СУЩНОСТЬ ЦИФРОВОЙ ЭКОНОМИКИ И ИННОВАЦИОННОГО ПОДХОДА КАК СЛЕДСТВИЕ

А.Ф.Гаджиева
докторант
Азербайджанский государственный аграрный университет

Резюме: *Все стороны экономической жизни общества сегодня подвержены влиянию новых цифровых технологий и креативных бизнес-моделей, которые оказывают воздействие на ядро экономики и приводят к качественным структурным изменениям. Таким образом, цифровая экономика, характеризующаяся активным использованием технических достижений и распространением отличительных электронных товаров, возникает как*

подсистема традиционной экономики. Конкурентоспособность страны тесно связана с уровнем развития цифровой экономики, поэтому бизнес и государство должны уделять особое внимание росту этого сектора. Цифровизация интегрируется в социальные процессы, от нее все больше зависят достижения людей, кроме того, цифровые технологии широко внедряются в работу государственных организаций и учреждений. Однако в цифровой экономике есть как положительные, так и отрицательные стороны развития технологий, которые влияют на нашу повседневную жизнь.

В статье рассматри-вается сущность цифровой экономики, факторы, ее определяющие, и результаты как последствия.

Ключевые слова: *цифровая экономика, инновации, технологии, безработица, ИКТ*

Elmi redaktor: i.e.d., prof. E.Sadıqov
Çapa təqdim edən redaktor: i.f.d., dos. N.Qədimli
Daxil olub: 14.04.2025
Çapa qəbul edilib: 21.04.2025