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COMPARATIVE ANALYSIS OF DIGITAL ECONOMY DEVELOPMENT IN DEVELOPING AND DEVELOPED COUNTRIES

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Annotation
The digital revolution has significantly changed the global economic landscape, ushering in the era of the digital economy. The purpose of this article is to provide a comprehensive analysis of the development of the digital economy in both developing and developed countries, considering key trends, challenges and opportunities. In this article, countries such as Singapore and Thailand are taken as examples. We analyzed how different the methods of developing the digital economy are as representatives of countries with developed and developing economies.

Keywords: digital economy, e-commerce, blockchain, information and communication technologies (ICT), smart nation, investment.

Introduction

The rapid development of digital technologies in recent decades has revolutionized the global economic paradigm, giving rise to what is now commonly referred to as the digital economy. This transformation has transcended geographical boundaries, with a unique impact on both developing and developed countries. The digital economy encompasses a wide range of activities, from e-commerce and digital communications to cutting-edge technologies such as artificial intelligence and blockchain. As we delve deeper into the complex structure of the digital economy, it becomes imperative to distinguish between the paths taken by countries at different stages of economic development.

The purpose of this scientific article is to provide an overview of the trends, challenges and opportunities that have shaped the digital economy in both developing and developed countries. Through comparative research, we aim to identify patterns and lessons that can inform policy makers, business leaders, and researchers about effective strategies to promote sustainable digital growth.

The digital economy is not just a technological phenomenon; it is a multi-faceted force that affects social structures, economic policies, and global competitiveness. As we embark on this research, we recognize the dynamic nature of the digital landscape and the need for adaptive approaches to address ever-evolving challenges and innovations. This paper therefore serves as a roadmap for understanding the complex dynamics of the digital economy in the context of various global economies, with the hope of making a valuable contribution to the ongoing discourse on digital transformation and its implications for future economic development.

Methods and Materials

In the scientific article "Comparative analysis of the development of the digital economy in developing and developed countries", a comparative method was used, that is, the digital economy of developed and developing countries was studied separately and its features were highlighted. To form the information base of the study, a thorough analysis of scientific articles and collections was carried out, such as "Using the digital economy for developing countries" - C Dahlman, S Mealy, M Wermelinger[1], "Features of building a digital economy in developed and developing countries" - Benciici, S., Kitsay, Y.. A.Karbekova, Karbekova, A.. B., Giyazov A.[2], "Digital society as a basic institute of the digital economy of the 21st century" - Osipov, V.. S., Tutaeva, D.. R., Diakonova, O.. S., Krupnov, Y.. A., & Khrunova, A.. L.[3], dedicated to the study of the development of the digital economy in developed countries and developing countries. This stage of research allowed us to cover the subject of study with maximum depth and relevance, relying on authoritative scientific research and opinions of experts in the field of digital technologies. Additionally, countries such as Singapore and Thailand were taken for analysis as examples of advanced and emerging economies, and the data provided by the Ministry of Digital Technologies of these countries were carefully studied. This stage of research has become an integral part of ensuring the accuracy and reliability of the information obtained. The results of this analysis have become an important tool for forming an objective picture of the current situation of the digital economy in countries.

Results and Discussions

The digital economy is a complex ecosystem consisting of several interrelated components, each of which plays a key role in shaping the landscape of economic activity. Understanding these key components is essential for analyzing the mechanisms that drive digital growth in both developing and developed countries. One of these key components is considered to be e-commerce, which is the cornerstone of the digital economy, facilitating online transactions

and changing traditional retail structures. Developing countries often see an increase in the number of small and medium-sized enterprises (SMEs) using e-commerce platforms to access global markets, while developed countries see a continuous evolution of online retail giants[2].

The second component is digital infrastructure. Infrastructure is considered the basis for successful development of any branch of the economy, and just as the basis of the digital economy is a reliable digital infrastructure, including high-speed Internet, data centers and communication networks. Developing countries face challenges in building and expanding this infrastructure, while developed countries benefit from mature and extensive networks that form the basis for cutting-edge digital services.

The next component is data analytics. The emergence of big data and analytics capabilities in the digital economy has brought significant changes to decision-making processes. This revolution affects not only developed countries that have already implemented sophisticated data analysis systems, but also developing countries that may be striving to build the necessary analytical capabilities. The difference in data usage approaches between these two groups of countries is an important aspect of modern economic development. In developing countries, where infrastructure and resources may be limited, efforts are focused on building and expanding analytical capabilities. This may include deploying data collection and processing systems, training analytics professionals, and developing appropriate legislative and institutional frameworks. Creating an analytical ecosystem allows developing countries to make better use of available resources, make better informed decisions, and improve their competitiveness. On the other hand, developed countries, which already have advanced analytical capabilities, use data not only to optimize current processes, but also to stimulate innovation. Sophisticated analytical tools allow you to predict trends, identify potential opportunities for new products and services, and adapt more effectively to changes in the market environment. Developed countries integrate data analytics into a wide range of areas such as health, finance, education and science, which contributes to sustainable and innovative economic growth.

The fourth component is new technologies. Cutting-edge technologies such as artificial intelligence (AI) and blockchainare catalysts for digital transformation. Developing countries often face a dual challenge: to implement these technologies while taking into account ethical and regulatory aspects, while developed countries invest in research and development to maintain technological leadership[3].

Digital literacy and education also play a crucial role in shaping a workforce prepared for the demands of the digital economy. Developing countries are focused on closing digital skills gaps and improving educational infrastructure, while developed countries are constantly adapting their education systems to keep up with technological advances.

A thriving digital economy encourages entrepreneurship and innovation. Developing countries can witness the emergence of startupsthat solve local problems, while developed countries create an environment that supports research and development, stimulating continuous innovation.

Understanding the interaction of these components provides the basis for analyzing the differences and convergence in the digital economy of different countries. Next, we look at how these components interact in the context of both developing and developed countries, shedding light on the factors that influence their trajectories in the global digital landscape.

Digital Economy in Developing Countries

Developing countries are experiencing dynamic changes in their digital economy, characterized by a combination of challenges and promising trends. Understanding the changing situation in these countries provides valuable insights into the factors driving their digital trajectories. Digital inclusion remains a major trend in developing countries, with efforts focused on providing access to digital technologies to a wider segment of the population. Initiatives ranging from mobile phone projects to affordable Internet access play a key role in bridging the digital divide and expanding economic opportunities. Many developing countries face the challenge of creating and developing digital infrastructure. Investments in high-speed Internet, telecommunications networks, and data centers are essential to provide a solid foundation for digital services. Infrastructure trends often reflect the level of commitment to driving digital growth. Parallel to the development of infrastructure, there is also widespread adoption of mobile technologies, which is a noticeable trend in developing countries due to factors such as affordability and accessibility. Mobile devices serve as the main gateway to the digital world, facilitating not only communication, but also access to financial services, education, and e-commerce. In turn, it is worth noting that e-commerce is a growing trend in developing countries, offering SMEs new opportunities to access markets. Online platforms provide an opportunity for local businesses to reach consumers around the world, stimulating economic growth and creating employment opportunities[1].

Governments in developing countries are increasingly recognizing the key role of the digital economy in promoting social and economic development. National strategies often include policies and initiatives aimed at improving digital literacy, supporting entrepreneurship, and creating an enabling environment for technological innovation. And as digital activities expand, cybersecurity concerns are also growing. Developing countries face increased risks associated with cyberthreats, which requires a concerted effort to build robust cybersecurity systems and regulatory mechanisms to protect digital assets and user data. In some developing countries, there is a tendency to jump in traditional technologies, skip certain stages of development and directly implement more advanced digital solutions. This jump is often driven by the need to urgently address pressing issues and take advantage of economic opportunities. Understanding these trends provides a detailed view of the digital transformation process in developing countries[2].

Digital Economy in Developed Countries

Developed countries demonstrate a mature and sophisticated digital economy, shaped by years of investment, developed infrastructure, and a culture of innovation. Studying trends

in these countries provides insight into the challenges and successes associated with established digital ecosystems.

Developed countries can boast a well-developed digital infrastructure, characterized by high-speed Internet, extensive broadband networks and advanced communication systems. This mature foundation serves as a catalyst for the smooth functioning of digital services and new technologies. The digital economy of developed countries has gone beyond basic e-commerce and includes a wide range of digital services. Sectors such as finance, health, and education have undergone significant digital transformation, which has increased efficiency and accessibility. Technological innovation centers and research clusters are widely distributed in developed countries, which facilitates collaboration between academia, industry, and government. These centers serve as incubators for cutting-edge technologies, startups, and research initiatives, providing a continuous cycle of innovation[2].

Today, developed countries are at the forefront of integrating artificial intelligence and automation into various industries. From manufacturing to finance, the use of AI increases productivity, efficiency, and competitiveness, with a particular focus on maintaining a balance between technological progress and ethical considerations. It is worth noting that traditional industries in developed countries have adopted digitalization as a means of maintaining competitiveness. Integrating digital technologies into manufacturing, agriculture, and logistics optimizes processes, reduces costs, and increases overall efficiency. As far as the education system is concerned, developed countries prioritize digital literacy, ensuring that the workforce is equipped with the skills needed for the digital economy. Special attention is paid to continuous learning and adaptability, which reflects the dynamic nature of technology. Developed countries also often have well-defined regulatory frameworks and standards governing the digital economy. These regulations balance the need for innovation with the need for consumer protection, privacy, and cybersecurity.

Leadership in the global digital landscape is typical for developed countries. Tech giants headquartered in these countries influence global trends, and their innovations often set benchmarks for the rest of the world.

While these countries serve as a benchmark for digital success, it is important to consider the unique challenges and contexts that may differ in developing countries. Next, we look at the challenges and opportunities that arise from the digital landscapes of both developing and developed countries.

The digital economy in both developing and developed countries presents a range of challenges and opportunities that determine the trajectory of technological progress and economic growth. Studying these factors provides a comprehensive understanding of the dynamics of the digital landscape. Digital inequality is considered to be one of the main problems resulting from the development of the digital economy. Developing countries often face digital inequality, where access to technology, Internet connectivity, and digital education is unevenly distributed. This gap exacerbates existing socio-economic differences, limiting the inclusive potential of the digital economy[6].

Угрозы Cybersecurity threats. The ubiquity of digital transactions and data in the digital economy exposes countries to increased cybersecurity risks. Both developing and developed countries face the challenge of protecting critical infrastructure, sensitive information, and privacy from evolving cyberthreats.

Gaps in digital skills. The rapid pace of technological change leads to skills shortages in both developing and developed countries. Bridging these gaps is essential to maximize the benefits of the digital economy and ensure that the workforce is equipped with the skills required by new technologies.

Based on the principle that every change has both negative and positive aspects, I would like to note the opportunities of the digital economy as well:

Inclusive economic growth. The digital economy opens up opportunities for inclusive economic growth by providing access to markets, financial services, and educational resources. Developing countries, in particular, can use digital technologies to uplift marginalized communities and foster entrepreneurship [7].

Innovation and entrepreneurship: both developing and developed countries can use the digital economy to drive innovation and entrepreneurship. Digital platforms and ecosystems create fertile ground for startups and SMEs to thrive, contributing to economic dynamism.

Global Connectivity: Digital technologies provide global connectivity, facilitating international trade, collaboration, and knowledge sharing. Countries, regardless of their stage of economic development, can benefit from participating in the global digital economy by expanding their reach and influence.

Improve efficiency and productivity: The introduction of digital technologies, such as automation and data analysis, can lead to significant improvements in efficiency and productivity across industries. This is a common opportunity for both developing and developed countries to streamline processes and increase production volumes[5].

As an example of our research, we cite the following countries: Thailand as an emerging economy and Singapore as an advanced economy.

Level of development of selected components of the digital economy in the country: Singapore and Thailand

	Singapore	Thailand
Infrastructure		
E-commerce		
New technologies		
Digital literacy		
Data Analytics		
Investments		

HIGH LEVEL
MEDIUM LEVEL
LOW LEVEL

Figure 1 Level of development of the selected components of the digital economy in the country: Singapore and Thailand (made by the authors)

Thailand, as it seeks to actively develop the digital economy, is among the countries that are making increased efforts to integrate modern technologies and digital innovations into their economic and social order. Although Thailand is a developing country, its strategy is aimed at enriching traditional industries with digital solutions and stimulating new areas of development.

Figure 2 Thailand 4.0 Strategy [12]

Thailand has all the above-mentioned problems related to developing countries, and to address these problems, a Thailand 4.0 strategy has been developed. The Thai Government has allocated a budget under the Thailand 4.0 strategy to create a national broadband network covering every village. This broadband network, within the framework of e-commerce, will support modern economic growth and reduce the digital divide. Thailand also plans to develop new digital applications such as e-government, e-payments, and e-marketplace to support and encourage onlineactivities. Government support and increased use of smartphones will contribute to the spread of digital wallets.

The digital economy in Thailand has an impact on the country's GDP, efficiency, innovation and inclusiveness. The digital economy is expected to account for 30% of Thailand's GDP by 2030, generating an annual economic revenue of US $ 65 billion. The Government aims to support this growth through various policies, such as tax breaks, subsidies, and improved regulatory frameworks. The Digital Economy Promotion Agency (DEPA) plays an important role in this process by providing information on policies and initiatives, and Digital Park

Thai serves as a hub for technology and innovation, attracting startups and technology companies. In addition, the Government is actively investing in skills development programs for citizens, providing access to educational resources and encouraging businesses to invest in training their employees. These steps demonstrate the desire of the Thai government to develop the digital economy, promote business growth and improve the quality of life of its citizens[4].

In the field of data protection, Thailand has relevant laws designed to protect residents ' personal data, which is emphasized by the Personal Data Protection Act of Thailand. Policies and initiatives such as the National Digital Economy Policy, the Digital Park of Thailand, the promotion and development of e-commerce, skills development, cybersecurity and regulation of the digital economy demonstrate the Thai Government's commitment to developing the digital economy and using technology to boost economic growth and improve the quality of life of citizens.

Singapore is an example of a country with a highly developed digital economy, where the active use of modern technologies and digital innovations plays a key role in stimulating economic growth and ensuring competitiveness. As a global hub for finance and technology, Singapore is successfully integrating digital solutions into various areas of its society.

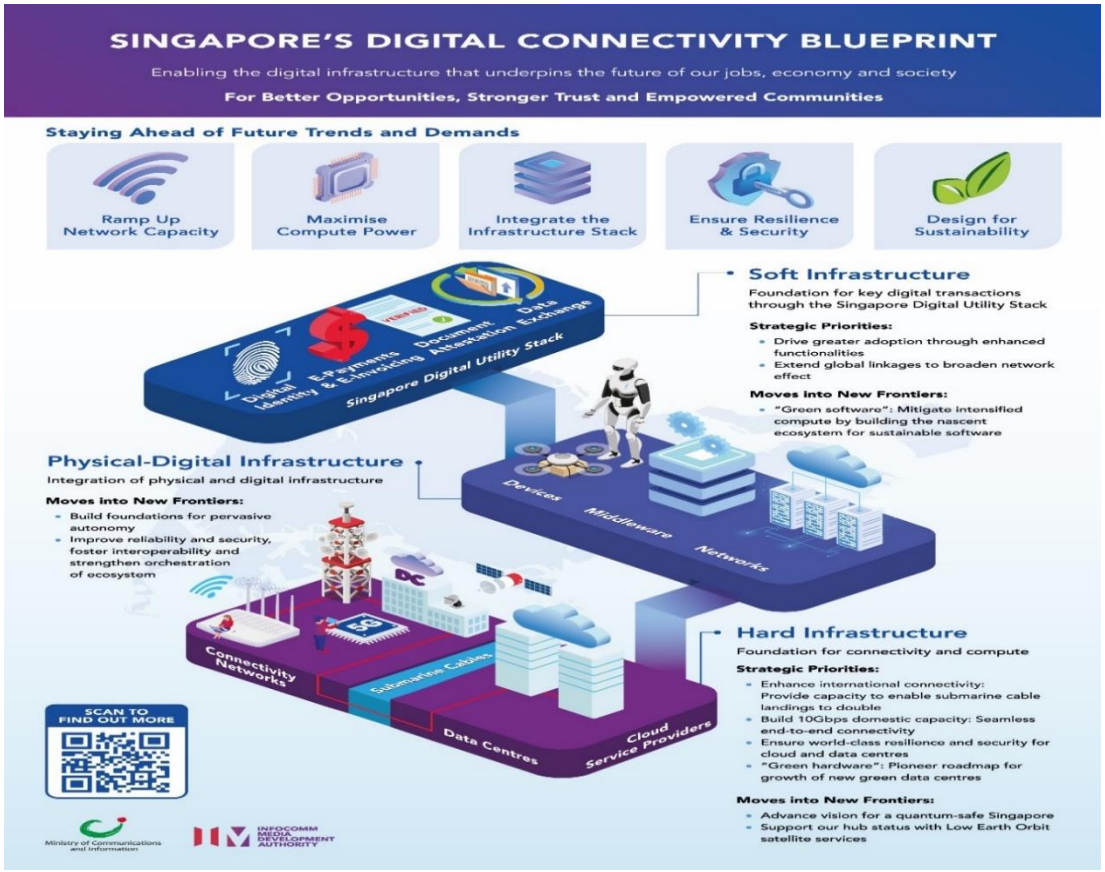

Figure 3 Singapore's Digital Connectivity Plan [13]

In Singapore, attention is focused around the digital economy, as the government actively supports and invests in it as a key driver of economic growth and employment. Singapore is positioned as the digital hub of Southeast Asia, with many initiatives such as investing in digital infrastructure, supporting local tech startups, and encouraging the adoption of digital technologies by businesses and government agencies.

Singapore has also launched several key programs, including the Smart Nation Initiative covering transport, health, and the public sector, the Digital Economy Action Framework to support the transformation of traditional industries to digital ones, and actively supporting digital transformation in finance, health, and tourism through initiatives such as the Digital Economy Plan. financial Sector Technology and Innovation (FSTI) and tourism technology. At the same time, the government is investing in digital infrastructure, expanding high-speed communication networks and introducing 5G technologies[4].

A culture of innovation is promoted through initiatives such as the Technical Skills Accelerator, Infocomm Media Development InfocommOffices (IMDA), and the SG talent Program:D, aimed at developing skills to participate in the digital economy. Data privacy and cybersecurity are becoming particularly important, reflected in laws such as the Personal Data Protection Act (PDPA) and the Cybersecurity Act, as well as initiatives including кибербезопасностиthe Singapore Cybersecurity Agency (CSA) industry Partnership Program.

Overall, the digital economy is seen as an important driver of Singapore's economic growth and competitiveness. The government is actively working to create a favorable ecosystem for the growth of digital businesses and technologies, which is of great interest among enterprises, investors and the public in Singapore.

The digital economy has had a significant impact on Singapore's economy and society, and has made significant contributions to key areas such as gross domestic product(GDP), efficiency, innovation, and inclusion. According to the Infocomm Media Development InfocommAuthority (IMDA), the digital economy accounted for approximately 17% of Singapore's GDP in 2022, and is projected to grow further in the coming years. In addition, the digital economy has become a key source of job creation in the country, especially in the technology and digital sectors.

Efficiency improvements were noted in various areas, such as retail, logistics and financial services, thanks to the introduction of e-commerce, which allowed businesses to expand their customer base and optimize operations. The use of digital tools and platforms has reduced costs and increased the speed and accuracy of transactions. The digital economy is an important driver for innovation, enabling the development of new technologies and services that transform traditional industries. The Government is actively investing in research and development in the digital sector, focusing on artificial intelligence, cybersecurity and the Internet of Things.

Overall, both countries are actively developing their digital ecosystems in an effort to strengthen their economic position in the region. The ways and directions of developing the digital economy in these countries differ from each other, but government support,

investment in infrastructure and promotion of digital entrepreneurship have made the digital economy a key driver of growth and competitiveness of Singapore and Thailand can be considered a factor that unites them in the development of the digital economy.

Conclusion

In conclusion, based on the above, it is important to note that the development of the digital economy in developed and developing countries differs from each other, but there are similar problems such as cyberthreats.

Developing countries are experiencing dynamic changes in the digital economy. The inclusion of digital technologies, especially mobile, plays a key role in bridging the digital divide. Governments recognize the digital economy as a driver of development, but face increased cybersecurity risks. The trend to jump into cutting-edge digital solutions is driven by urgent challenges and economic opportunities. It provides a detailed look at the digital transformation process in developing countries.

The analysis of developed countries reveals the maturity and complexity of their digital ecosystems formed by investment and infrastructure. Technological innovations and clusters promote continuous innovation. Developed countries are leading the way in integrating artificial intelligence, ensuring a balance between technological progress and ethical considerations. Digitalization is seen as a means of maintaining competitiveness, leading to production optimization and strengthening education. A strong regulatory framework balances innovation with consumer protection and cybersecurity. The leadership of developed countries in the global digital landscape is emphasized by the influence of technology giants and the establishment of global standards.

If we talk about Thailand and Singapore, it is important to note that these countries are considered the countries with the most developed digital economy in Southeast Asia. Both countries see the future of the economy in close connection with technology and therefore actively continue to develop the digital economy, investing in infrastructure and innovative projects. Thailand is currently in a catch-up position, compared to Singapore. The proof is that Singapore no longer wants to become a country with a developed digital economy, but wants to lead in this direction by influencing global standards.

References

1.Dahlman C., Mealy S., Wermelinger M. Harnessing the digital economy for developing countries. – 2016.

2.Benčič S. et al. Specifics of building the digital economy in developed and developing countries //Digital Economy: Complexity and Variety vs. Rationality 9. – Springer International Publishing, 2020. – C. 39-48.

3.Osipov V. S. et al. Digital Society as the Basic Institution of the Digital Economy of the 21 st Century //Modern Global Economic System: Evolutional Development vs. Revolutionary Leap 11. – Springer International Publishing, 2021. – C. 1133-1141.

4.Putri S. O. et al. Digital economy growth in Singapore and Thailand following the post-COVID-19 pandemic //Journal of Eastern European and Central Asian Research (JEECAR). – 2023. – T. 10. – №. 4. – C. 557-568.
5. Maimina E. V., Puzynya T. A. Features and trends of digital economy development //Bulletin of the Belgorod University of Cooperation, Economics and Law. 2017, no. 6, pp. 37-45.
6. Khetagurova T. G., Khetagurova I. Yu. Modern problems of digital economy development //Economics and entrepreneurship. – 2017. – №. 9-2. – Pp. 763-767.
7. Bakhman D. A. Prospects of digital economy development //New technologies. 2019, no. 2, pp. 149-157.
8. Alimov R. M. Some aspects of digital transformation of economic strategies of Southeast Asian countries//Organizational and economic problems of regional development in modern conditions. - 2023. - p. 9-11.
9. Chistaleva T. A. Restrictions of the digital market of South-East Asia-2020. - pp. 210-214.
10. Vasina A. N., Demina Yu. A. Politika v tselyakh razvitiya tsifrovoi ekonomiki v planovykh i strategicheskikh dokumentakh ASEAN [Policy for the development of the digital economy in planned and strategic documents of ASEAN].4. – C. 49-68.
11.Charoen D. Digital Thailand //NIDA Case Research Journal. – 2018. – T. 10. – №. 2.
12.www.thailandnow.in.th
13.A Singapore Government Agency Website www.mci.gov.sg