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Article

Studying The Experience of Developed Countries in Digitalizing Business Process Management in Joint-Stock Commercial Banks

Khalmuradov Elmurod Dilmuradovich*[1]

1. Independent Researcher of the Academy of Public Administration, Uzbekistan

* Correspondence: exalmuradov@sqb.uz

Abstract: In the world economy, the digital economic system is regularly supported by the country as an integral part of the economy. In Uzbekistan, the digital economy is an essential factor for increasing the share of innovation in the gross domestic product, producing competitively differentiated quality products and improving the quality of public services. It is given the trends in the digital economy of countries such as France, South Korea, and Japan, where digitalization is high in the world economy in this article. In the economy of Uzbekistan, the study of the implementation of digital systems of foreign countries, such as South Korea, Japan, and Russia is relevant in the branches and sectors of the economy.

Keywords: Innovation, Digital System, Digital Economy, Electronic Service, Germany "Industry-4.0", Japan's Society 5.0, Smart City, Digital Technology By Businesses, SME and Others

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1. Introduction

The study of foreign countries' method of digital economic systems will help to solve the following problems in the economy of Uzbekistan:

a. Implementation of a network of indicators and methods of calculating the level of digitization of the economy by extensive study of the strategy of foreign countries' digitization;
b. Calculation of the average level of digitization in the branches and sectors of the economy based on the experience of foreign countries;
c. Preparation of the strategic program "digital-2050" of Uzbekistan, like the strategic programs of Japan's Society 5.0 or Germany "Industry- 4.0".

The purpose of this research is to develop proposals for the development of the digital economy in Uzbekistan based on extensive analysis of the digital experience of economies of developed countries.

According to the information above, it is given exploring below in the process of scientific explore:

a. Analysis of trends of state support for the digital economy in European countries and the role of European countries in the global digital economy rankings;
b. Study of the peculiarities of digital systems in South Korea and the possibilities of their implementation in Uzbekistan;
c. Depth analysis of the essence and social orientation of Japan's "team- 5.0" strategy.

Based on the study of the experience of foreign countries on the development of digital systems, we conclude the following:

a. Each country has a different approach and orientation to the introduction of digital systems based on their level of economic development and their competitive advantages;
b. Any innovative technology should serve the benefit of the people. Thus, international digital rankings are key indicators of access to digital technologies, households with Internet access, and digital education systems.

Measures of improving Uzbekistan's position in the Global Competitiveness Index and Global Innovation Index of the World Economic Forum aimed at development of scientific and innovative activity, protection of intellectual activity results, increasing the share of the sector of informative communications technology as the gross domestic product of the country, all these require the creation of a digital system with a high level of security.

In the development of global digital systems, first of all, the agencies of state and economy, local government agencies with the introduction of the necessary information systems and resources, software and electronic services through the establishment of digital economy, information technology market, including technology parks and coworking centers based on public-private partnerships, creation of favorable conditions for attracting foreign investments, development of modern telecommunication infrastructure, telecommunication technologies and networks, coordination of development of advanced telecommunication services, enhancement of digital economy through introduction of electronic services in public administration and economy, development of e-commerce and software market - developing proposals for technical and economic development, city and region y infrastructure management, in particular, housing and utilities, transport logistics, development of "smart" systems for a safe and "smart city", improving the training of qualified personnel (Lex.uz online, 2018) are becoming more critical.

For this reason, the study of the implementation of digital systems in various sectors of the economy of foreign countries, such as South Korea, Japan and Russia, is relevant in the economy of Uzbekistan. Studying the method of introduction of digital economic systems of foreign countries gives a chance to solve the following problems in the economy of Uzbekistan:

a. Developing a network of indicators and methods of calculating the level of digitalization of the economy by extensive study of the economic digitalization strategy of foreign countries;
b. Calculating the average level of digitization in various sectors of the economy based on the experience of foreign countries;
c. Preparation of the project of the Strategic Program "Digital-2050" of Uzbekistan like the strategic programs of Japan's Society 5.0 or Germany "Industry- 4.0".

Based on the above, the research aims to explore below:

a. Analysis of the trends of state support for the digital economy in European countries and the role of European countries in the global numeric economy ratings;
b. To study the features of digital systems in South Korea and the possibilities of their implementation in Uzbekistan;
c. Analyzing deeply the content and social orientation of Japan's "Team-5.0" strategy.

Digitization, Sustainability and Economic Growth

In an era marked by rapid technological advancements and global challenges, digital development stands as a cornerstone of resilience and economic growth for nations worldwide. As the world endeavors to transform into a more sustainable and equitable place, the role of digital technologies becomes ever more critical in achieving this balance

without sacrificing economic growth. From electric vehicles and cloud computing to comprehensive egovernment systems, digital innovations are pivotal in driving the green transformation that our global society urgently needs. Artificial intelligence, in particular, stands out as a crucial enabler, offering powerful capabilities that can optimize resource efficiency, enhance productivity, and spur economic development, all while supporting sustainable practices. By automating complex processes, enabling data-driven decision-making, and fostering innovative solutions across industries, AI not only elevates productivity but also propels businesses and governments towards achieving more with less—ensuring economic activities align with sustainability goals.

This year's report places special emphasis on digitization as a necessary condition for leveraging the transformative potential of artificial intelligence (AI) and its far-reaching implications for productivity and social wellbeing. The Infrastructure dimension of DiGiX, which includes variables such as 5G Population Coverage, Mobile Download Speeds, and Mobile Upload Speeds, underscores the foundational role that robust digital infrastructure plays in enabling AI technologies.

These infrastructure components are essential for the seamless integration of AI across various sectors, facilitating real-time data processing, improving connectivity, and ensuring that AI-driven innovations can be effectively deployed at scale. Moreover, the Enterprise Adoption dimension includes GitHub usage, reflecting the level of activity in software development, including AI-related projects, as well as Top-Level Domains, which indirectly suggest a readiness for AI adoption, as companies with a strong online presence are more likely to leverage AI technologies. By establishing a strong digital foundation, countries can unlock new avenues for innovation, streamline operations, and enhance service delivery, thereby accelerating their journey toward digital maturity and societal prosperity.

How to Measure Digitization: The Dimensions

DiGiX is structured into six dimensions, encompassing a total of 24 indicators. This design is intentional, aiming to keep the index straightforward to ensure both interpretability and continuity over time and across different countries. By focusing on a concise set of dimensions and indicators, DiGiX remains a practical tool for comparing digitization progress while retaining its relevance and clarity across various contexts. Moreover, it is important to consider that digitization is a dynamic process, and to accurately measure it, we recognize the need for flexibility within the index. While the dimensions in DiGiX remain consistent over time, the indicators within these dimensions evolve to reflect the latest technological advancements. For instance, while DiGiX 20202 included 3G coverage as a part of the infrastructure dimension, the current update uses 5G instead.

This approach means that DiGiX is not directly comparable over time; however, maintaining consistent dimensions allows for meaningful comparisons and insights across different periods. Each indicator has been carefully selected to capture a specific aspect of Update DiGiX 2024: A Multidimensional Index of Digitization 3 digitization, ensuring that the index provides a comprehensive and nuanced view of a country’s digital environment.

The weighting scheme of this index is not arbitrarily set but derived from data through a two-stage PCA3 . This datadriven approach ensures that the index remains grounded in real-world conditions and outcomes. Each dimension's weight—Infrastructure (16%), Users Adoption (18%), Enterprise Adoption (16%), Cost (16%), Regulation (17%), and Government Adoption (18%)—reflects a balanced contribution across dimensions, avoiding any bias toward a particular aspect. This approach underscores the index's view that all facets of digitization are equally important. Similar balance is also observed among the indicators within each dimension.

2. Materials and Methods

In the process of the research, they widely used such methods as analysis and synthesis, induction, deduction, grouping in order to analyze deeply digital systems, introduction and experience of state stimulation in foreign countries.

The Extent Which The Subject Studied

According to M.L: "Digital economy is the communication environment of economic activity on the Internet, as well as forms, methods, means and results".

According to Castells, digital economics is the second phase of the information economy, and its definition has been used since 2016 as the World Bank's definition of digital economics. The definition is as follows: "Digital economy is a system of economic, social and cultural relations based on the use of information and communication technologies" and concludes that "Digital economy is a new paradigm of rapid economic development."

According to a study by Thomas Mezenburg, there are three main components of the digital economy concept: Infrastructure support, e-business and e-commerce.

In the developed countries, because digital systems are widely used in various sectors and branches of the national economy, this topic has been widely researched by economists, technologists, and scientists who are the expert of information and communication. That is why there are countless publications and research papers on the subject.

3. Results and Discussion

Based on the experience of such digital countries which digital economies are rapidly developing (China, UAE, Saudi Arabia) (Denmark, Singapore, South Korea, Germany, USA), four types of tools can be distinguished:

a. It is eliminated the inefficient zones of the current economic system to upgrade the resources "Digital production" and increase its competitiveness. The tasks are solved with the help of the most interested and capable players.
b. Because of the creation of conditions for "Digital leap"-new business development and the rapid development of modern technologies, big data, artificial intelligence, neural networks, block chain originate.
c. "Digitalization" increases the efficiency and transparency of all processes of cooperation with the state, facilitates business in the country, which has a broad positive impact on the economy.
d. "Digital Reinvestment". As a result of the first three tasks, value added, transaction costs were reduced, and significant inter-sector impacts were created.

Information and Communication Technology Development Index (IDI) - Index published on the basis of internationally accepted information and communication technologies (ICT) indicators by the United Nations International Telecommunication Union. It is an important tool for comparing the most important indicators for measuring the information society.

As of 2024, the European Union (EU) continues to monitor and assess its digital progress through the Digital Economy and Society Index (DESI). The DESI evaluates EU countries across four primary dimensions:

a. **Human Capital**: Assesses digital skills and the development of advanced digital competencies among the population.
b. **Connectivity**: Evaluates the deployment and quality of broadband infrastructure and access.
c. **Integration of Digital Technology**: Measures the adoption of digital technologies by businesses and e-commerce activities.
d. **Digital Public Services**: Examines the digitization of public services and e-government initiatives.

In 2023, the DESI was integrated into the "State of the Digital Decade" reports, aligning with the EU's Digital Decade Policy Programme 2030. This integration aims to provide a comprehensive overview of the EU's progress toward its digital targets for 2030.

While specific composite scores for 2024 are not available in the provided sources, the EU continues to focus on enhancing its digital infrastructure, skills, and services to meet its ambitious 2030 digital objectives.

As of 2024, the European Union (EU) has made significant strides in enhancing its digital landscape, as reflected in the latest Digital Economy and Society Index (DESI). The DESI evaluates EU countries across four primary dimensions: Human Capital, Connectivity, Integration of Digital Technology, and Digital Public Services.

Connectivity

The EU has witnessed substantial improvements in connectivity:

a. **High-Speed Broadband**: The proportion of households with internet connections exceeding 1 Gbps has reached 15.09% in 2024.

b. **5G Coverage**: 5G mobile services now encompass a significant portion of the EU population, enhancing mobile internet speeds and reliability.

Digital Skills and Human Capital

Advancements in digital skills among EU citizens include:

a. **Basic Digital Skills**: A growing percentage of the population now possesses at least basic digital competencies, enabling more effective participation in the digital economy.

b. **ICT Specialists**: The share of Information and Communication Technology (ICT) specialists in the total workforce has seen an upward trend, reflecting the increasing demand for digital expertise.

Integration of Digital Technology by Businesses

Businesses across the EU are increasingly adopting digital technologies:

a. **Artificial Intelligence (AI)**: In 2024, 13.48% of EU enterprises reported using AI technologies, indicating a growing trend in the adoption of advanced digital tools.

b. **Cloud Computing and Big Data**: A significant number of companies are utilizing cloud services and big data analytics to enhance operational efficiency and competitiveness.

Digital Public Services

The EU continues to enhance its digital public services:

a. **E-Government Services**: A higher percentage of internet users are interacting with public authorities online, reflecting improved accessibility and user-centric design of e-government services.

b. **Open Data Initiatives**: Efforts to make public data more accessible have progressed, promoting transparency and innovation.

While these developments are promising, challenges remain. A notable portion of the population still lacks basic digital skills, and disparities persist between member states in digital infrastructure and service adoption. The EU's Digital Decade Policy Programmer 2030 aims to address these issues by setting ambitious targets, such as ensuring that more than 90% of SMEs achieve at least a basic level of digital intensity and that 75% of EU companies utilize cloud computing services, big data analysis, or AI.

Continued investment and policy efforts are essential to bridge existing gaps and to fully harness the potential of the digital economy across all EU member states.

Thus, according to the European Commission, 41% of businesses do not currently use digital technology, and only 2% of companies fully realize their benefits. That is why European businesses are trying to create new opportunities for businesses, accelerate the

"digital" business landscape, encourage the use of new digital technologies to improve processes, create new business models, deepen business analytics, enhance growth rates, and create jobs. The last task is related to the high unemployment rate of youth, especially by 20% in the EU, and more than 55% in Spain and Greece.

As of 2024, the Digital Economy and Society Index (DESI) has been integrated into the Digital Decade Policy Programme 2030, serving as a comprehensive tool to monitor the digital progress of EU member states across four key dimensions:

a. **Human Capital**: Evaluates digital skills among the population and workforce.
b. **Connectivity**: Assesses the deployment and quality of broadband infrastructure.
c. **Integration of Digital Technology**: Measures the adoption of digital technologies by businesses.
d. **Digital Public Services**: Examines the availability and use of e-government services.

While the specific DESI rankings for 2024 have not been released, recent reports provide insights into the digital standings of various countries:

a. **DiGiX-2024 Report**: This report evaluates digitalization across 98 countries using 24 indicators. According to the report, the top five countries are: Hong Kong, Singapore, Denmark, Switzerland and Netherlands.

These nations excel due to their robust digital infrastructures, high adoption rates, and favorable regulatory environments. In contrast, countries like Honduras, Cameroon, Zimbabwe, Nigeria, and Nicaragua face significant challenges, including limited access to technology and less supportive regulatory frameworks.

Persistent digital divide across different regions, despite significant heterogeneity within each region. Consistent regional leaders over time. Similar to 2020 and 2022, a selected group of countries continue to lead their respective regions. The United States remains the leader in North America. In South East Asia and Oceania, Hong Kong now appears as a top performer, overtaking previous leaders like Singapore. Denmark and the Netherlands continue to lead in Europe. In Latin America and the Caribbean, Uruguay and Chile outperforms. UAE and Israel consolidate their position in the regions of Northern Africa and Western Asia.

No single country ranks in the top 10 across all six dimensions, highlighting that while nations may excel in specific areas, none has uniform strength across the board. This diversity in performance underscores the complexity of achieving balanced digital development and provides valuable insights for refining digital strategies based on each country's unique strengths and challenges.

Several European countries have shown significant improvements in their digitization rankings. These advancements might be due to the impact of the Next Generation EU funds to enhance digital infrastructure and adoption across the region. Croatia saw the most remarkable progress, climbing 30 positions, followed by Greece, which advanced 27 positions. Hungary and Italy also made substantial gains, moving up 19 and 16 positions, respectively. Other notable improvements include Latvia (15 positions), Portugal (13 positions), the Slovak Republic (12 positions), and Spain (7 positions).

Within the European context, Denmark and the Netherlands continue to lead in digital performance. Notably, countries such as Croatia, Greece, and Italy have shown remarkable improvements, attributed to investments from initiatives like the Next Generation EU funds. For instance, Croatia advanced 30 positions, while Greece moved up 27 spots in the digital rankings.

It's important to recognize that different reports may use varying methodologies and indicators, leading to differences in rankings. For the most current and detailed information, consulting the official Digital Decade Policy Programme and related publications is recommended.

The rankings for each dimension of the DiGiX index reveal a diverse set of leaders across different aspects of digitization.

Infrastructure: Countries like Kuwait, the Netherlands, Switzerland, and Qatar achieve the maximum score, highlighting their exceptional digital infrastructure, which is critical for supporting advanced digital services.

Access for Individuals: Japan leads this dimension, followed by the United Arab Emirates and Hong Kong. These results indicate strong individual-level digital engagement in these countries, driven by widespread usage of digital services.

Access for Firms: Hong Kong and Singapore are at the forefront, emphasizing their role as global business hubs with robust digital capabilities that support enterprises.

Affordability: Luxembourg and Hong Kong top this dimension, suggesting that these countries offer affordable digital services, a key factor in driving widespread adoption and digital equity.

Regulation: Denmark, Switzerland, and Finland lead the way, demonstrating their strong governance frameworks that support and protect digital environments.

Government Adoption: Denmark, Finland, and South Korea excel in digitizing government services, which is crucial for enhancing public service delivery and encouraging broader digital adoption.

This diversity in performance reflects the varied paths nations take toward digital maturity and highlights the inherent complexity in achieving balanced digital development. Disaggregated rankings by dimension offer crucial insights for policymakers and stakeholders, guiding them in refining and enhancing their digital strategies based on specific strengths and areas needing improvement.

DiGiX stands out among other digitization indices for two key reasons: its ease of interpretation and its methodologically sound approach. Unlike many other indices, such as the GSMA Mobile Connectivity Index, the State of the Digital Decade Report (DESI), and the Global Innovation Index by WIPO, DiGiX is specifically designed to offer clear insights that are easily accessible to policymakers, researchers, and stakeholders. The structure of DiGiX, with its six well-defined dimensions and a transparent weighting system, ensures that the results are not only straightforward to interpret but also actionable. Moreover, DiGiX is methodologically rigorous, with its weights derived from data through a two-stage Principal Component Analysis (PCA). This data-driven approach avoids arbitrary assignments of importance to different aspects of digitization. In contrast, while the other indices also offer valuable insights, they may rely on more complex structures, making them harder to interpret and apply in policy contexts.

Business Digitization Index 2024" in European countries

Integrating digital technologies into all areas of a business enables companies to improve their products and services, and to gain competitiveness, for example by shifting their sales online.

The EU has set itself 2 main goals for the digital transformation of businesses by 2030: more than 90% of SMEs should reach at least a basic level of digital intensity, and 75% of EU companies should use cloud computing services, perform big data analysis, or use artificial intelligence.

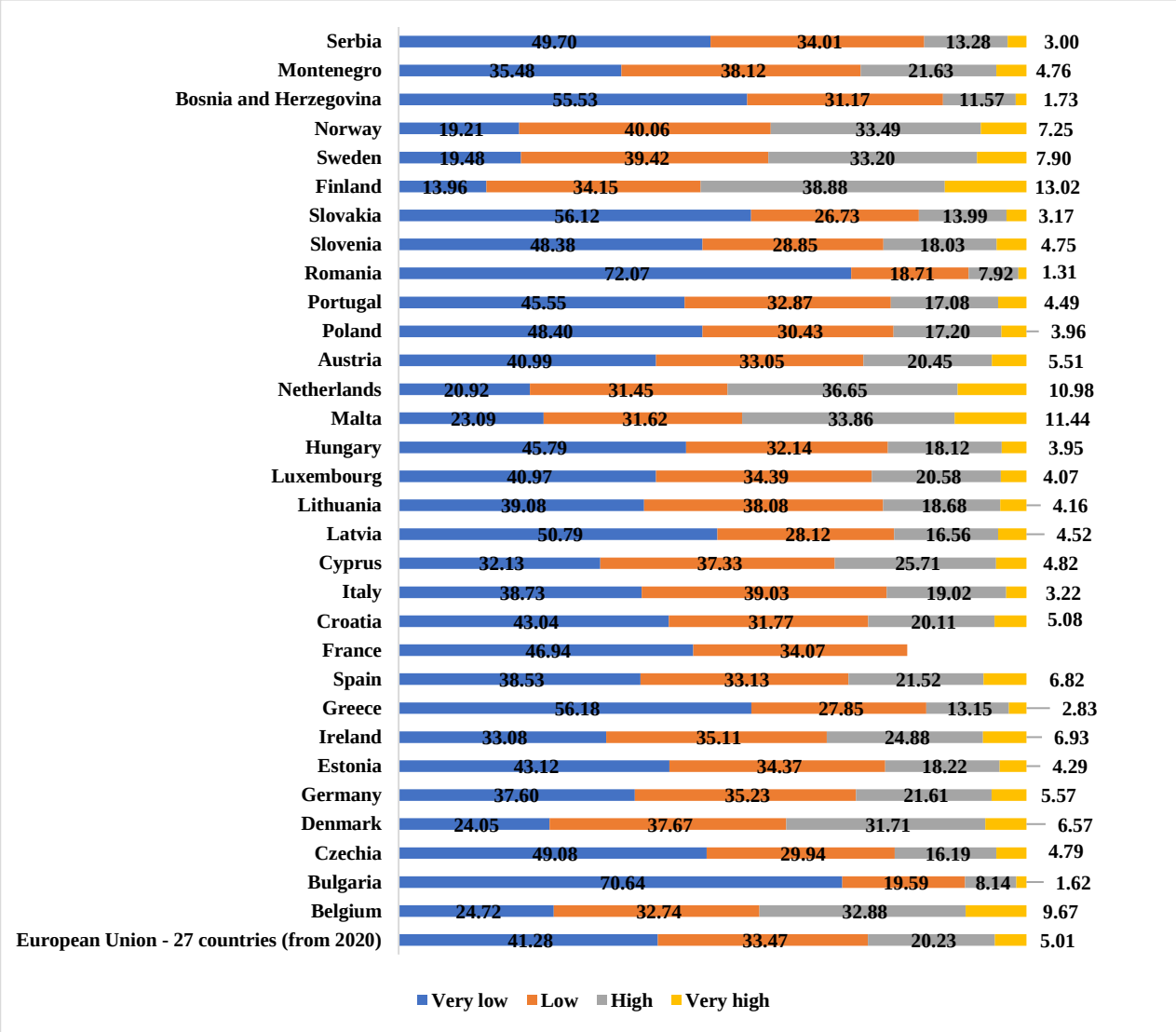
The digital intensity of businesses is monitored by the digital intensity index (DII), which measures the use of 12 different digital technologies by businesses, for example using artificial intelligence or making e-sales.

The index scores businesses depending on how many digital technologies they use:

a. 0-3: very low
b. 4-6: low
c. 7-9: high

d. 10-12: very high

A minimum score of 4 means that the business has a basic level of digital intensity. Therefore, a basic level includes all businesses with a low, high, and very high level of digital intensity, excluding the very low level.



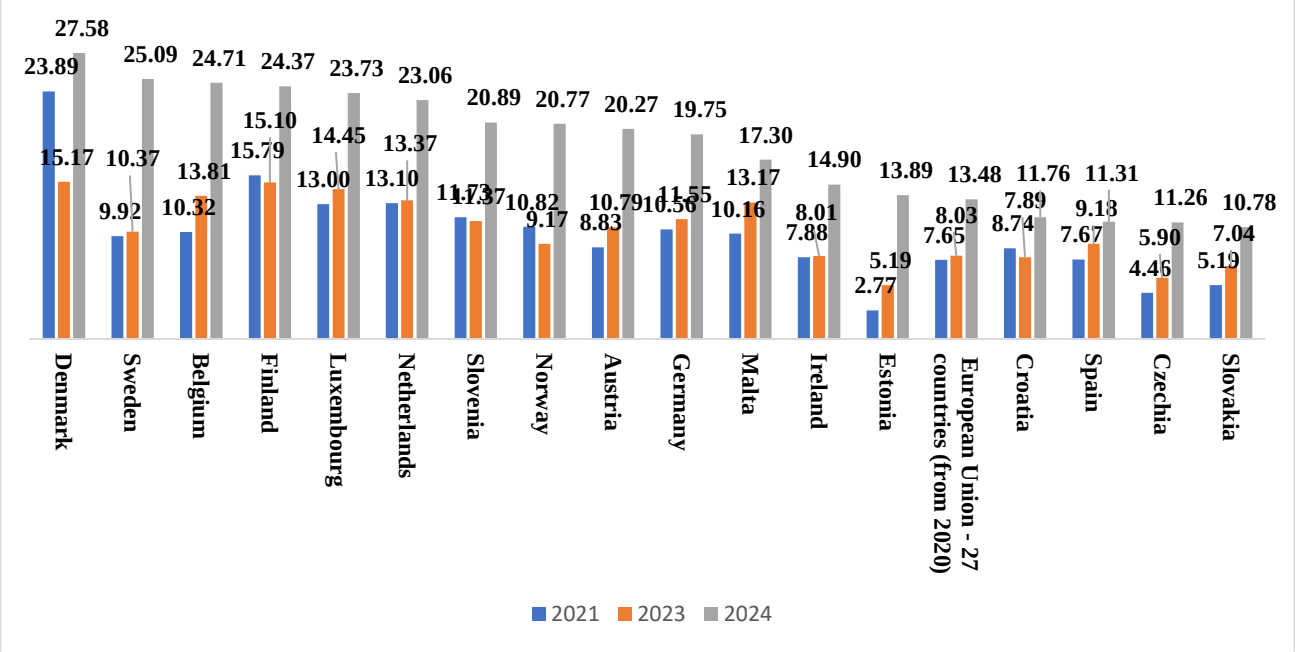
Source: https://ec.europa.eu/eurostat/web/interactive-publications/digitalisation-2024#technology-uptake-in-businesses

Figure 1. Digital intensity level in businesses, 2023 (as % of total businesses).

Nearly 60% of EU SMEs reach basic digital intensity

In 2023, 59% of all EU businesses reached a basic level of digital intensity. The share for SMEs was 58%, around 30 percentage points (pp) below the EU 2030 target, while for large businesses it stood at 91%.

Large businesses had a bigger share for very high (26%) and high digital intensity (42%) compared with only 4% of SMEs with a very high level and nearly 20% with a high level of digital intensity. Most of the SMEs recorded low (34%) or very low (42%) digital intensity levels.



Source:https://ec.europa.eu/eurostat/web/interactive-publications/digitalisation-2024#technology-uptake-in-businesses.

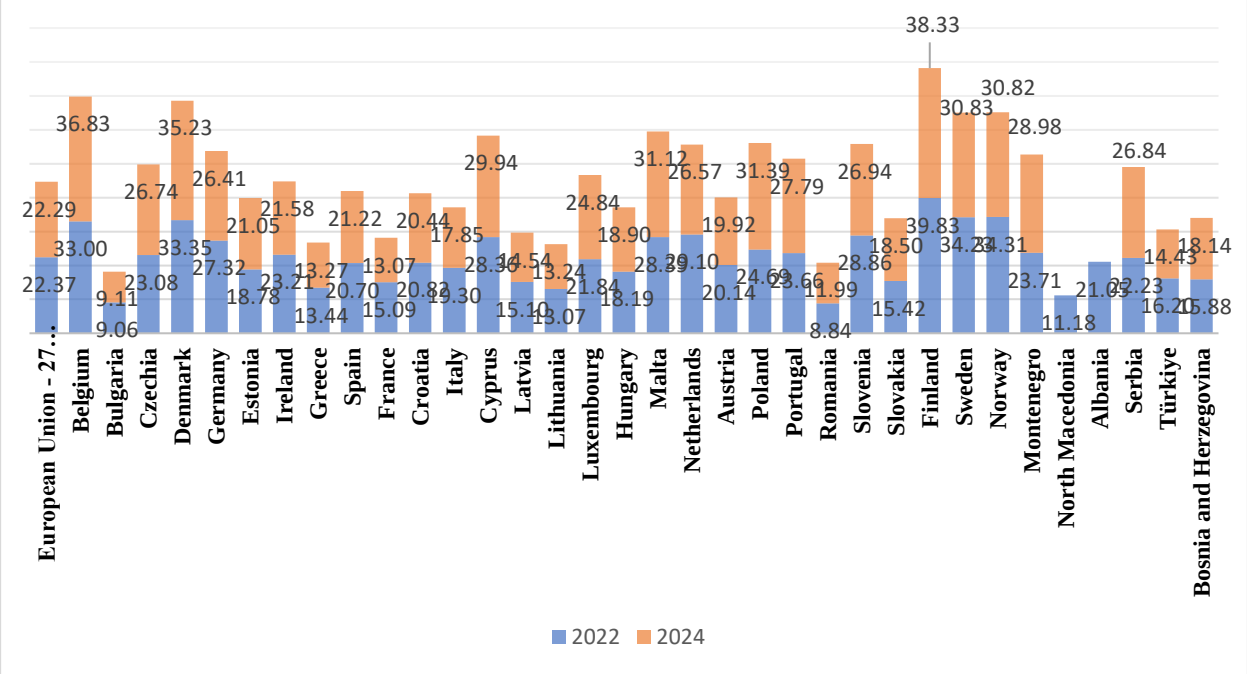
Figure 2. Businesses using AI technologies, 2023 (as % of businesses).

The proportion of SMEs with a basic level of digital intensity ranged from 27% in Romania and 28% in Bulgaria to 80% in Sweden and 86% in Finland.

As of 2024, the European Union continues to monitor and assess the digital transformation of businesses through various indices and reports. While there isn't a specific "Business Digitization Index 2024," several key publications provide insights into the current state of digitalization among European enterprises:

Digitalisation in Europe – 2024 Edition: This interactive publication by Eurostat offers comprehensive statistics on how businesses across Europe are adopting digital technologies. It highlights that in 2023, 59% of all EU businesses achieved at least a basic level of digital intensity. Specifically, 58% of Small and Medium-sized Enterprises (SMEs) reached this level, which is approximately 30 percentage points below the EU's 2030 target. In contrast, 91% of large businesses attained a basic level of digital intensity. The index categorizes businesses based on their adoption of digital technologies into four levels: very low, low, high, and very high. Notably, large enterprises have a higher proportion of high (42%) and very high (26%) digital intensity levels compared to SMEs, where only 4% exhibit very high digital intensity. The majority of SMEs fall into the low (34%) or very low (42%) digital intensity categories.

SME Digital Growth Index 2024: Published by Webidoo, this report delves into the digital growth trajectories of SMEs within the EU. It emphasizes the significance of digital commerce, online presence, and the integration of advanced technologies, such as artificial intelligence, as pivotal factors for SME development. The index not only measures digital presence and technology adoption but also analyzes how these dimensions influence the economic performance of SMEs across the EU.



Source: https://ec.europa.eu/eurostat/web/interactive-publications/digitalisation-2023

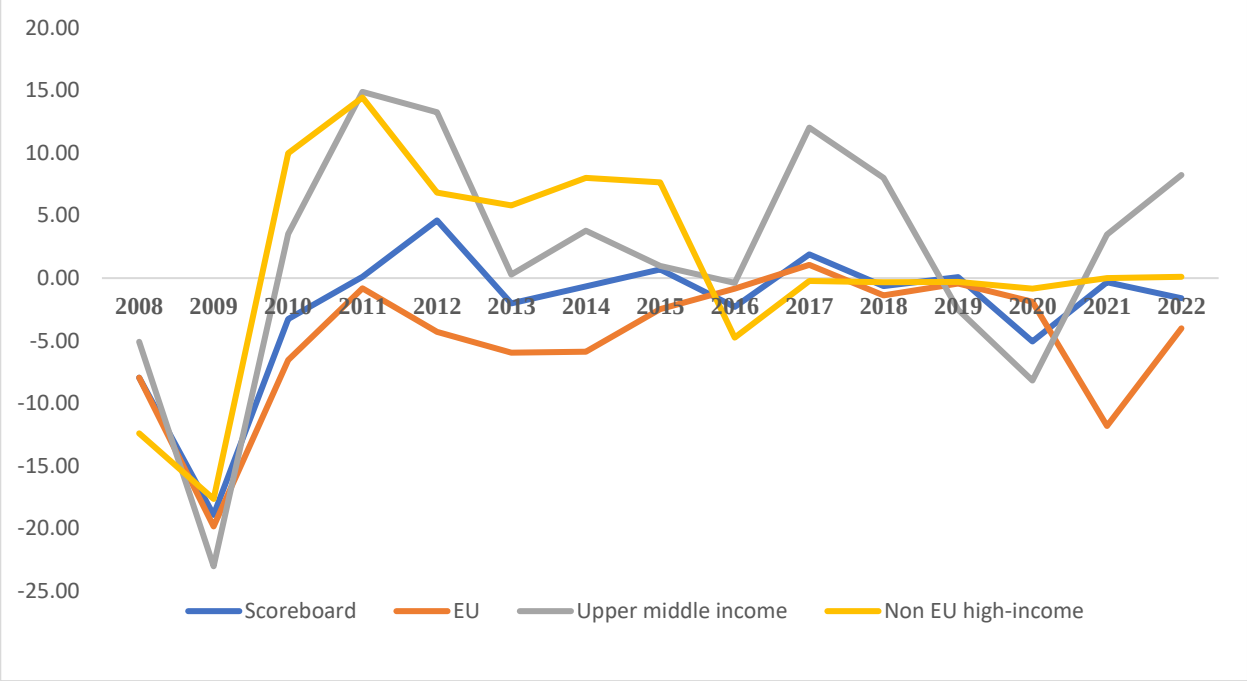
Figure 3. Businesses that provide ICT training to their staff, 2023 (as % of businesses).

2024 State of the Digital Decade Report: This annual report by the European Commission evaluates the EU's progress toward its digital transformation goals as outlined in the Digital Decade Policy Programme 2030. The 2024 edition identifies several challenges, including insufficient advancement toward set objectives and notable disparities among member states. The report underscores the need for accelerated efforts, particularly in areas such as digital skills, high-quality connectivity, adoption of artificial intelligence, data analytics by businesses, semiconductors, and startup ecosystems. It also highlights that the full potential of the Digital Single Market remains untapped, partly due to the incomplete digital transition.

These publications collectively provide a nuanced understanding of the current state of business digitization in Europe, highlighting both progress made and areas requiring focused attention to achieve the EU's digital transformation objectives by 2030.

An algorithm for the development of e-learning in South Korea was launched: Electronic-education (E-learning), Mobile-learning (M-learning),Ubiquitous-learning (U-learning) and Smart education.

In South Korea, information and communication technologies are limited to primary, secondary education institutions. 83% of all universities in the country are covered by the “E-learning” system. In addition, there are 17 cyber universities that have 40,000 hours of online education at the age of 18 to 60 years. There is a software for monitoring these students. EDUNET web portal for digital copies of e-books, e-books and educational materials. people use it. Every day, 410,000 people visit the portal and they earn $ 27 million. pagespreferences and other educational materials.



Source: https://www.oecd.org/en/topics/sme-financing-business-conditions-and-growth.html

Figure 4. Growth in new SME lending (Median year-on-year growth rate, as a percentage, 2008-22).

South Korea is recognized in the global scale of education. Great Britain's "Pearson" has supported Japan, which has recently failed to take the lead in the international education-sharing group. This is the most highly effective ICT development activity in South Korea, see Table 1.

Table 1. The latest available digitalization index data

Place	Country	Index
1	Hong Kong	9.02
2	Singapore	8.95
3	Denmark	8.85
4	Switzerland	8.80
5	Netherlands	8.75
6	Iceland	8.73
7	Great Britain	8.70
8	Norway	8.65
9	Luxembourg	8.62
10	Japan	8.55
95	Uzbekistan	5.02
109	Kyrgyzstan	4.50

Index of the use of information and communication technologies in the world 2024

Japan's **Society 5.0** initiative, introduced in the 5th Science and Technology Basic Plan, aims to create a human-centered society that integrates cyberspace and physical space to achieve both economic development and the resolution of social challenges. This strategy focuses on enhancing the quality of life through technological advancements,

ensuring that digital transformation benefits all sectors of society, including urban and rural areas.

A key component of Society 5.0 is the widespread adoption of digital systems across various industries and societal segments. This includes promoting scientific collaboration between public and private sectors, increasing government transparency, and preventing future social issues. The strategy emphasizes improving the human factor, enhancing living standards, and preventing unemployment while maintaining the competitiveness of national products.

As a result of policies supporting digital systems, Japan has seen a significant increase in internet accessibility. As of January 2023, there were approximately 102.5 million internet users in Japan, representing an internet penetration rate of 82.9% of the total population.

The Japanese government is also investing heavily in research and development and subsidizing local semiconductor production, notably in partnership with Taiwanese manufacturer TSMC, to secure its supply chain amid global geopolitical tensions.

These concerted efforts reflect Japan's commitment to advancing its digital infrastructure and technological capabilities, ensuring it remains competitive in the global digital economy.

As of January 2024, Japan's internet landscape has seen notable growth. Here's an updated table reflecting the percentage of internet users relative to the total population over recent years:

Table 2. Table reflecting the percentage of internet users.

Year	Percentage of Internet Users
2016	83.5%
2017	83.3%
2023	82.9%
2024	84.9%

This data indicates a steady increase in internet penetration, with 104.4 million users accounting for 84.9% of Japan's population in 2024.

The slight decline observed in 2017 compared to 2016 has been offset by consistent growth in subsequent years, underscoring Japan's commitment to enhancing digital accessibility nationwide.

Digital development strategies vary by country depending on economic conditions and competitive strengths, with global indicators such as internet access, digital literacy, and technology integration in education being key benchmarks. As illustrated in Figure 1, Japan’s Society 5.0 envisions a human-centered society that integrates cyber and physical systems, evolving from traditional models (Society 1.0–4.0) toward innovation for public welfare. Drawing from this, Uzbekistan is encouraged to begin digital transformation through education by retraining teachers, introducing a “Digital Systems” curriculum, and formulating a long-term strategy similar to Japan’s vision. Additionally, a national digital performance index—modeled after European standards—should be implemented to measure progress.

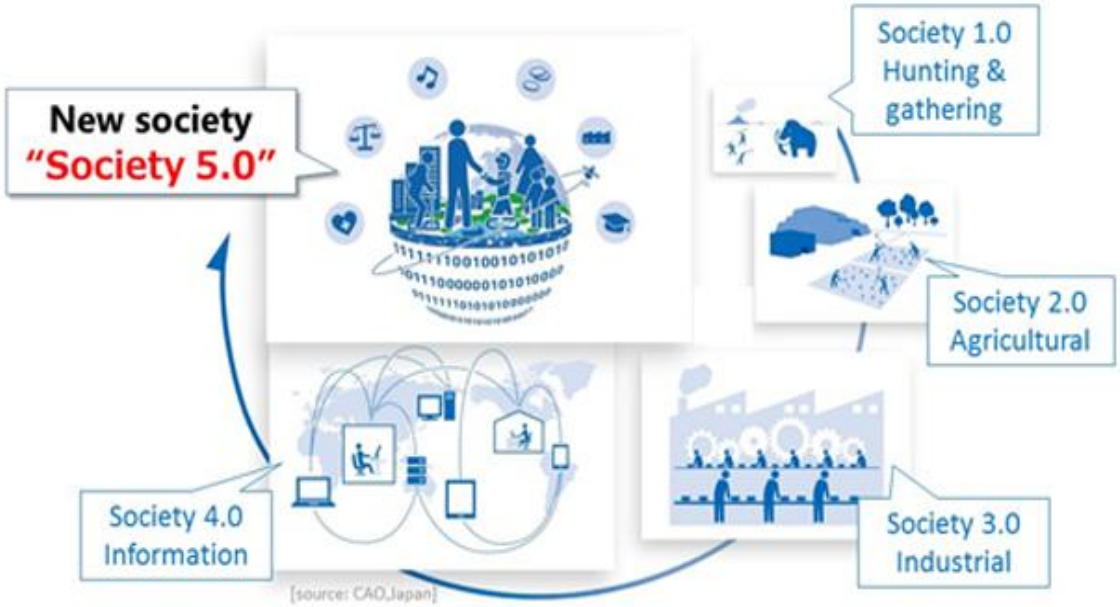


Figure 1. New society 5.0.

4. Conclusion

Based on the experience of foreign countries in digital system development, it can be concluded that each nation tailors its digital approach to fit its economic structure and strengths. Any technological innovation should ultimately benefit people, making indicators like internet access, digital tool usage, and integration in education essential. For Uzbekistan, a strategic focus on digitising education, enhancing digital literacy, and implementing a long-term transformation plan is critical to achieving sustainable digital progress.

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