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## **How EU does assess digital transformation?**

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## a. Introduction

Digital transformation has become a significant phenomenon in the contemporary world, reshaping industries and economies. It refers to the integration of digital technologies in various aspects of society, including businesses, governments, and individuals. In recent years, the European Union (EU) has placed a high priority on digital transformation, recognizing its potential to drive economic growth and societal progress. However, the process of assessing digital transformation is complex and multidimensional, involving multiple stakeholders and factors.

### **Relevance:**

The EU's emphasis on digital transformation is evident in its *Digital Single Market Strategy*, which aims to create a single market for digital goods and services across the EU. Additionally, the *COVID-19* pandemic has accelerated the need for digitalization, as many industries and activities have had to shift online to maintain

continuity. Therefore, it is crucial to understand how the EU assesses digital transformation to ensure effective policy formulation and implementation.

### **Aim and Objectives:**

The aim of this research paper is to examine how the EU assesses digital transformation and provide recommendations in digital transformation to Uzbekistan. To achieve this aim, the following objectives will be pursued:

1. To identify the key indicators and criteria used by the EU and Uzbekistan to assess digital transformation.
2. To analyze the strengths and limitations of the EU's and Uzbekistan's approach to assessing digital transformation.
3. To evaluate the effectiveness of the EU's and Uzbekistan's policies and initiatives to promote digital transformation.
4. To provide recommendations for improving the Uzbekistan's assessment and promotion of digital transformation.

### **Scientific Novelty:**

The assessment of digital transformation is a relatively new area of research, and there is limited literature on the topic. This research paper will contribute to the literature by providing a comprehensive analysis of how the EU assesses digital transformation. Additionally, the paper will provide insights into the strengths and limitations of the EU's approach, as well as recommendations for improving policy formulation and implementation. Therefore, the paper's scientific novelty lies in its contribution to the literature on the assessment of digital transformation, specifically in the EU context.

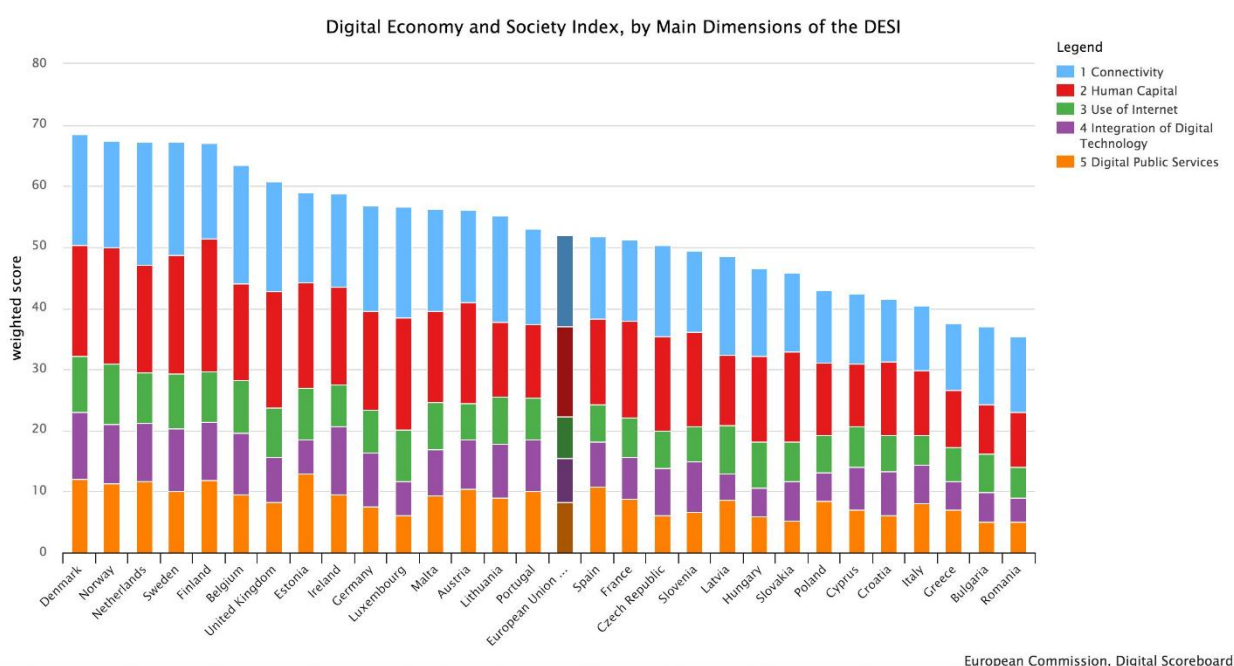
Overall, this research paper will provide valuable insights into the EU's approach to assessing digital transformation, contributing to the literature on the topic and informing policy discussions on the role of digital transformation in promoting economic growth and societal progress. The paper's findings will be of

interest to policymakers, industry representatives, and researchers in the field of digital transformation.

## b. Experience of EU in assessment tools of digital transformation

The European Union (EU) has been at the forefront of digital transformation initiatives, with a focus on creating a Digital Single Market (DSM) and promoting digital innovation. As part of its efforts, the EU has developed a range of assessment tools to measure the progress and impact of digital transformation. In this section, the experience of the EU in developing and implementing these assessment tools will be explored.

One of the most prominent assessment tools developed by the EU is the *Digital Economy and Society Index (DESI)*. DESI is a composite index that measures the digital performance of EU countries based on five key dimensions: connectivity, human capital, use of the internet, integration of digital technology, and digital public services. The index is based on a range of indicators, including broadband connectivity, digital skills, use of online services, and e-government services. DESI provides an overview of the progress made by EU countries in digital transformation and identifies areas for improvement.



This is results of the 2022 Digital Economy and Society Index (DESI) published by the *European Commission*. It can be seen that, Denmark, Norway, the Netherlands, and Sweden remain the EU frontrunners. However, even they are faced with gaps in key areas: the uptake of advanced digital technologies such as AI and Big Data, remains below 30% and very far from the 2030 Digital Decade target of 75%; the widespread skill shortages, which are slowing down overall progress and lead to digital exclusion. At the same time countries like Greece, Bulgaria and Romania are not performing well in digital transformation and showing result, which is more than 10 score lower than middle result of EU countries. However, there is an overall positive convergence trend: the EU continues to improve its level of digitalization, and Member States that started from lower levels are gradually catching up, by growing at a faster rate. In particular, Italy, Poland, and Greece substantially improved their DESI scores over the past five years, implementing sustained investments with a reinforced political focus on digital, also supported by European funding.

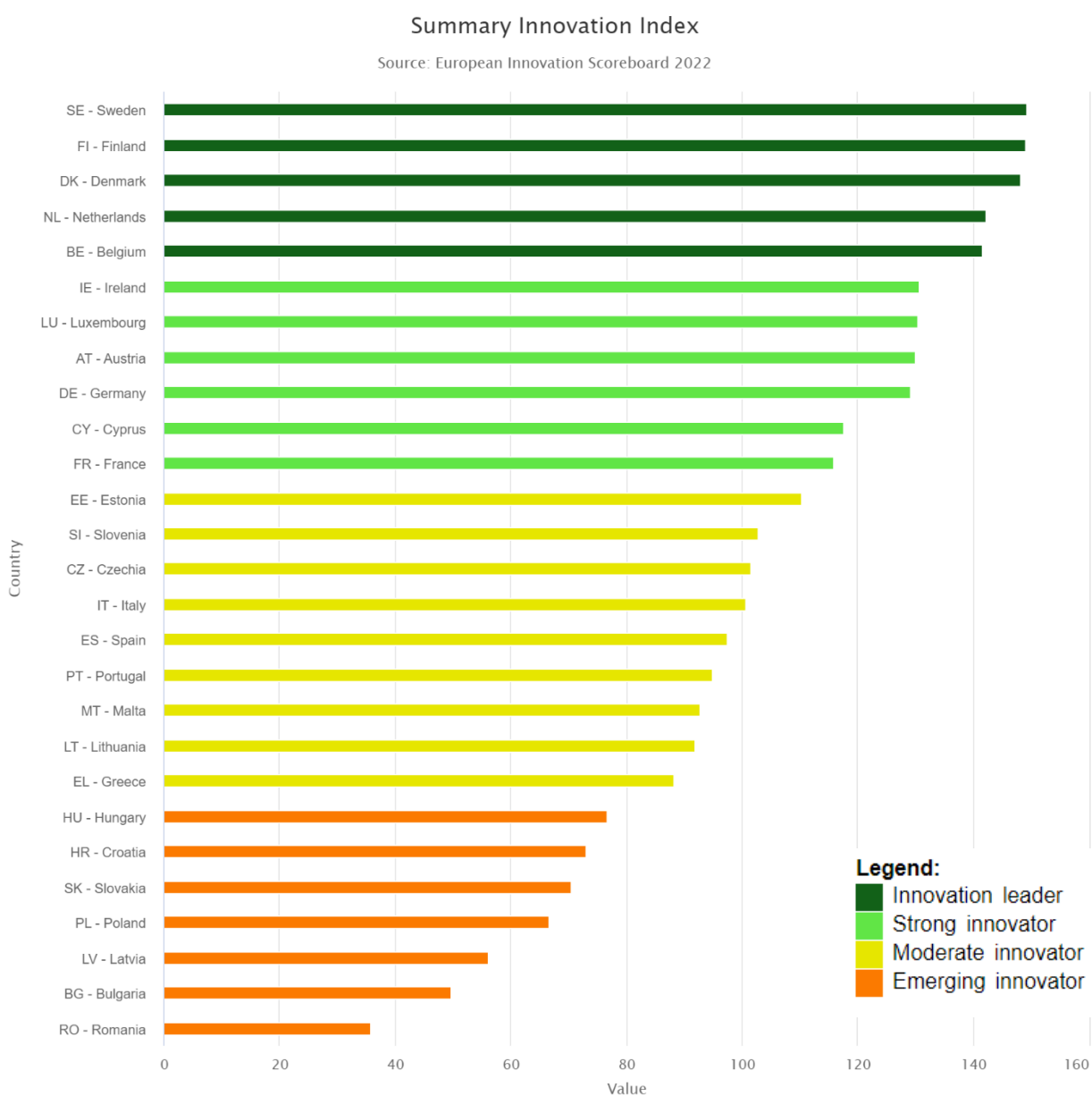
Another assessment tool developed by the EU is the *European Digital Innovation Hubs (EDIH)* initiative. EDIHs are one-stop-shops that provide support to companies, especially *small and medium-sized enterprises (SMEs)*, in adopting and implementing digital technologies. EDIHs aim to bridge the gap between businesses and research institutions and provide access to expertise, technology, and funding. The EU provides funding to establish and operate EDIHs across Europe, and they are evaluated based on their impact on the digital transformation of businesses.

The EU has also developed a range of other assessment tools, including the *European Innovation Scoreboard* (divide countries into performing groups), for example:

- Sweden continues to be the best performer in the EU. Other Innovation Leaders are Finland, Denmark, the Netherlands, and Belgium.

- Ireland, Luxembourg, Austria, Germany, Cyprus, and France are Strong innovators, performing above the EU average.
- Estonia, Slovenia, Czechia, Italy, Spain, Portugal, Malta, Lithuania, and, Greece are Moderate innovators.
- Hungary, Croatia, Slovakia, Poland, Latvia, Bulgaria and, Romania are Emerging Innovators;

the *Innovation Union Scoreboard* (divide countries regarding how innovative they are),



As it was with DESI, the Innovation Union Scoreboard also tells that Sweden, Finland and Denmark are leaders also in innovation activities with the value more than 140. Greece was one of the most lagging countries according to DESI, nevertheless in innovating this country is among middle innovating countries;

and the European Regional Innovation Scoreboard (shows best innovative cities). These assessment tools measure the innovation performance of EU countries and regions and include indicators related to digital transformation. Depending to the 2022 information the most innovative regions are typically in the most innovative countries. The overall most innovative region in Europe is Stockholm in Sweden, followed by Helsinki-Uusimaa in Finland, and Oberbayern in Germany.

The EU's experience in developing and implementing these assessment tools has been largely positive, with the tools providing valuable insights into the progress and impact of digital transformation. The tools have been used to inform policy development and identify areas for improvement, and have contributed to the EU's efforts to promote digital transformation.

However, there are also some limitations to the EU's approach to assessing digital transformation. One limitation is that the assessment tools primarily focus on measuring the adoption and use of digital technologies, rather than the wider societal impact of digital transformation. Another limitation is that the assessment tools may not capture the experiences of all stakeholders, particularly those from marginalized communities.

### **c. Experience of Uzbekistan in assessment digital transformation, comparative analysis**

Uzbekistan is a country in Central Asia that has been experiencing a rapid transformation in recent years due to its embrace of digital technologies. The government of Uzbekistan has been actively promoting digital transformation as a

means of modernizing the country's economy, improving the efficiency of government services, and enhancing the quality of life for its citizens.

One of the key components of Uzbekistan's digital transformation strategy has been the development of a comprehensive assessment framework to evaluate the effectiveness of digital initiatives and identify areas for improvement. The assessment framework is based on a set of *key performance indicators (KPIs)* that are used to measure progress and identify areas of success and potential challenges.

The KPIs cover a range of areas related to digital transformation, including infrastructure development, e-government services, digital literacy, and the development of a digital ecosystem. The assessment framework is designed to be flexible and adaptable, allowing it to be customized to the specific needs and goals of different government agencies and initiatives.

One of the main goals of Uzbekistan's digital transformation strategy is to increase access to high-speed internet and develop a robust digital infrastructure that can support the growth of e-commerce and other digital businesses. To this end, the government has launched several initiatives to improve the country's digital infrastructure, including the construction of a new fiber-optic network and the deployment of new mobile broadband networks.

The overall speed of access to international networks (Mbps) In Uzbekistan





Another key area of focus for Uzbekistan's digital transformation strategy is the development of e-government services that can streamline government operations and improve the delivery of public services. The government has launched several e-government initiatives, including a digital signature system that allows citizens to sign documents electronically and a portal that provides online access to a range of government services.

In addition to improving digital infrastructure and e-government services, Uzbekistan's digital transformation strategy also focuses on improving digital literacy among its citizens. The government has launched several initiatives to promote digital literacy, including training programs for teachers and the development of online resources to help citizens learn digital skills.

Uzbekistan has also been working to develop a vibrant digital ecosystem that can support the growth of digital businesses and promote innovation. The government has launched several initiatives to support the development of digital startups and has established several innovation centers to promote collaboration between entrepreneurs, researchers, and investors.

In general, Uzbekistan's experience in digital transformation provides a valuable case study for other countries looking to embrace digital technologies as a means of modernizing their economies and improving the quality of life for their citizens. The country's comprehensive assessment framework, focus on digital infrastructure and e-government services, and efforts to promote digital literacy and innovation all provide valuable lessons for other countries seeking to achieve similar goals.

## **Comparison**

The digital transformation experiences of the European Union (EU) and Uzbekistan present interesting similarities and differences that are worth exploring. While the EU has been a frontrunner in the adoption of digital technologies, Uzbekistan is relatively new to the game, but has made significant strides in recent years.

One of the primary similarities between the digital transformation experiences of the EU and Uzbekistan is the emphasis on digital infrastructure development. Both entities recognize that a strong digital infrastructure is essential for the growth of digital businesses and the delivery of high-quality digital services to citizens. The EU has invested heavily in the development of high-speed broadband networks and the deployment of 5G technology, while Uzbekistan has been working on the construction of a new fiber-optic network and the deployment of new mobile broadband networks.

Another similarity is the emphasis on e-government services. Both the EU and Uzbekistan recognize that e-government services can streamline government operations and improve the delivery of public services. The EU has developed a range of e-government services, including the European Single Digital Gateway, which provides access to a range of services from across the EU, while Uzbekistan has launched several e-government initiatives, including a digital signature system and an online portal for accessing government services.

However, there are also significant differences between the digital transformation experiences of the EU and Uzbekistan. One key difference is the level of digital maturity. The EU is a highly developed region with a well-established digital infrastructure and a high degree of digital literacy among its citizens. In contrast, Uzbekistan is still in the early stages of digital transformation, with a relatively low level of digital literacy and limited access to digital services.

Another key difference is the focus of digital transformation efforts. While the EU has a broad focus that includes a range of sectors, such as healthcare, finance, and education, Uzbekistan's focus is primarily on digital infrastructure development and e-government services. This reflects the fact that Uzbekistan is still in the early stages of digital transformation and has limited resources to devote to more ambitious projects.

Additionally, the EU's digital transformation efforts are largely driven by the private sector, with tech giants such as Google and Facebook playing a significant role in shaping the digital landscape. In contrast, Uzbekistan's digital transformation efforts are more government-led, with the government taking a central role in driving digital transformation initiatives.

In summary, while the EU and Uzbekistan share some similarities in their digital transformation experiences, such as the emphasis on digital infrastructure development and e-government services, there are also significant differences. The EU is a highly developed region with a well-established digital infrastructure and a broad focus on digital transformation, while Uzbekistan is still in the early stages of digital transformation with a narrower focus on digital infrastructure development and e-government services. However, both entities have valuable lessons to offer each other as they continue on their respective digital transformation journeys.

#### **d. Which methods of EU can be adapted in Uzbekistan in digital transformation assessment**

The European Union (EU) has been at the forefront of digital transformation, having established various initiatives, policies, and frameworks to support digitalization across the bloc. Uzbekistan, a country in Central Asia, has also been actively pursuing digital transformation, with a particular focus on improving digital infrastructure, promoting e-government services, and developing a vibrant digital ecosystem. As Uzbekistan seeks to advance its digital transformation strategy, there are several methods and practices used by the EU that could be adapted to enhance the country's digital transformation assessment.

One method used by the EU that could be adapted in Uzbekistan is the development of a comprehensive digital agenda. The EU's Digital Single Market strategy, for example, is a comprehensive plan that seeks to remove barriers to cross-border digital services, promote investment in digital infrastructure, and increase the

use of digital technologies across different sectors. Uzbekistan could develop a similar strategy that outlines specific goals, targets, and KPIs for its digital transformation agenda. This would provide a clear roadmap for the country's digital transformation and help to ensure that progress is tracked and evaluated effectively.

Another method used by the EU that could be adapted in Uzbekistan is the development of a comprehensive assessment framework for digital transformation initiatives. The EU has established several frameworks and methodologies for evaluating the impact of digitalization, including the Digital Economy and Society Index (DESI) and the *European Innovation Scoreboard (EIS)*. These frameworks assess different aspects of digital transformation, including digital infrastructure, digital skills, and the use of digital technologies in different sectors. Uzbekistan could develop a similar assessment framework that covers different aspects of digital transformation and establishes clear KPIs for measuring progress.

The EU has also emphasized the importance of promoting digital skills and literacy, which is an area where Uzbekistan could benefit from adopting similar practices. The EU has established several initiatives to promote digital skills, including the Digital Skills and Jobs Coalition and the EU Code Week. Uzbekistan could develop similar initiatives to promote digital literacy among its citizens, particularly in rural areas where access to digital technologies may be limited.

Finally, the EU has established several initiatives to promote the development of a digital ecosystem, including support for digital startups, the establishment of innovation centers, and the development of a supportive regulatory environment for digital businesses. Uzbekistan could adopt similar initiatives to encourage the growth of digital businesses and promote innovation. This could include the establishment of startup incubators, the development of a regulatory framework that supports digital businesses, and the provision of funding and support for digital innovation.

So, Uzbekistan could benefit from adopting several methods used by the EU in digital transformation assessment. These include the development of a comprehensive digital agenda, the establishment of a comprehensive assessment framework, the promotion of digital skills and literacy, and the development of a supportive digital ecosystem. By adapting these methods, Uzbekistan could accelerate its digital transformation agenda and position itself as a leader in the region in the use of digital technologies.

#### **e. Conclusion**

In The Research Paper, the crucial indexes and standards of assessment of digital transformation implemented by EU and Uzbekistan were identified and it is discovered that there are several commonalities and differences in their approaches. Both the EU and Uzbekistan consider factors such as the availability of digital infrastructure, the development of digital skills, and the implementation of e-government services as important indicators of successful digital transformation. However, the EU places greater emphasis on the protection of digital rights and privacy, as well as the promotion of innovation and entrepreneurship, while Uzbekistan prioritizes the modernization of traditional industries and the development of a digital economy.

Also, power and restrictions of EU and Uzbekistan in assessing digital transformation were considered and it is found out that while both the EU and Uzbekistan have the strength to influence and shape the digital transformation process within their respective jurisdictions, they also face certain restrictions and limitations. instance, the EU has a strong regulatory framework that allows it to set standards and guidelines for digital transformation initiatives, but it also has to navigate complex political and legal environments within member states, which can sometimes slow down the implementation of policies. Similarly, Uzbekistan has made significant strides in promoting digital transformation in recent years, but it

still faces challenges related to infrastructure development, digital literacy, and bureaucratic inefficiencies that can impede progress

Moreover, how effective policies and initiatives of EU and Uzbekistan in order to contribute digital transformation was analyzed, as a result it became clear that in the case of the *EU*, the Digital Single Market strategy has played a key role in harmonizing digital regulations across member states and promoting cross-border data flows. This has facilitated the growth of digital businesses and entrepreneurship in Europe. Additionally, the EU has prioritized investments in areas such as 5G connectivity and artificial intelligence, which have the potential to drive innovation and economic growth. However, some have criticized the EU for being too focused on regulation and not doing enough to support the development of digital skills and entrepreneurship at the grassroots level. There are also concerns around the effectiveness of the EU's data protection framework, particularly in light of recent high-profile data breaches. In the case of *Uzbekistan*, the government has taken steps to modernize traditional industries and promote the growth of a digital economy through initiatives such as the Digital Uzbekistan program. This has included investments in areas such as broadband infrastructure, e-commerce, and e-government services. Nevertheless, there are still challenges around digital literacy and access to technology in Uzbekistan, particularly in rural areas. Additionally, there have been concerns around the government's ability to fully implement its digital transformation agenda in a transparent and inclusive manner.

As well, EU practices and rules was used to provide guidelines to Uzbekistan in assessment and promotion of digital transformation. As an outcome it was revealed that Uzbekistan could adopt initiatives like creating programs to support the growth of new businesses, setting up rules and regulations that encourage the development of digital companies, and providing financial and other types of assistance for digital entrepreneurship.

Finally, the way in which EU assessed digital transformation was examined, and it revealed that the EU assesses digital transformation through a variety of indicators

and criteria, including the availability of digital infrastructure, the development of digital skills and literacy, and the promotion of innovation and entrepreneurship. In addition, the EU places a strong emphasis on issues such as data protection, privacy, and the digital rights of citizens. Overall, analysis highlights the EU's comprehensive and multifaceted approach to assessing digital transformation, which takes into account not only economic and technological factors, but also social and cultural considerations. By doing so, the EU is better equipped to foster a sustainable and inclusive digital future for all citizens.

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