

THE INFLUENCE OF THE PANDEMIC AT THE DEVELOPMENT OF THE DIGITAL ECONOMY

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This article objectively analyzes the development level and influencing factors of digital economy during the pandemic, makes relevant action plans, and predicts the development trend of digital economy during the pandemic. These measures have great practical significance to realize the digitalization of enterprise activities and improve the market environment.

Keywords: digital economy; COVID-19 outbreak; digital technology; digital transformation; big data analytics; digital tools; digital platform; artificial intelligence; e commerce.

In recent years, with the rapid development of emerging digital technologies such as the Internet of Things, big data and artificial intelligence, the digital economy has spread from the information industry to many aspects of the society, and the digital economy has become the mainstream economic development direction of the world; The sudden impact of the outbreak of COVID-19 in 2020 has caused great damage to human life and the world economy, showing the fragility of the world economy. The COVID-19 epidemic and its containment have confirmed the important role of digital technology and the need to transition to a digital economy and society, and the digital transformation has brought new tools and opportunities to address the impact of the pandemic and the recession. Digital technology can help contain the pandemic and mitigate the impact of the pandemic. Digital tools can be used to communicate test results and track infected people: Digital technology can enable parts of the population to continue to work or study from home in isolation, thus allowing access to updated information, public services and educational programs while following social alienation measures. Internet, digital platforms, and e-commerce play an important role in promoting business transactions, financial services, communications services and social networks, travel and hosting services, application development, and work sessions. Big data analysis helps governments track recovery and facilitate research on policy effectiveness. Digital technology can also play an important role in the economic recovery while addressing the continuing challenges of low productivity.

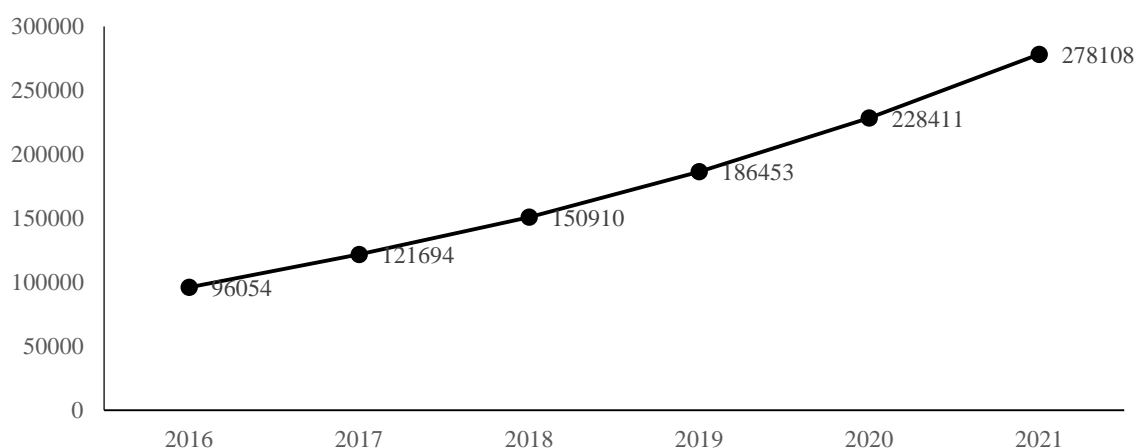
The digital economy is a global network of economic activities, business transactions and professional interaction supported by information and communication technology (ICT). It can be summarized as a digital economy.

In the early days of its existence, the digital economy was sometimes called an Internet economy, a new economy, or a network economy, due to its reliance on Internet connectivity. In the late 1990s, Don Tapscott «Digital Economy: Prospect and Risks in the Era of Internet Intelligence», Manuel Castells «The Information Age Trilogy: Economy, Society and Culture» and Nicholas Negroponte «Digital Survival», the analysis of the digital economy in a series of works represented by them focuses on the use of the Internet and early thinking on its economic impact. In 1998, the US Department of Commerce released its first official agency report on the digital economy, «The Emerging Digital Economy»; Since the mid-2000s, reports published by major institutions have been increasingly focused on the role of the Internet and ICT technologies in economic development. The definition of the digital economy has gradually evolved to include the analysis of different policies and digital technologies on the one hand, and the growth of ICT and digital-oriented companies as key players on the other. After the first decade of the 2000 century, with the development of digital technology, the discussion of digital economy turned more to the application of digital technology in economic and social work, namely digitalization, for example, artificial intelligence (AI), Internet of Things (IOT), cloud computing and big data analysis, these new technologies are collectively known as «digital technologies».

The digital economy continues to grow at an incredible rate, thanks to its ability to collect, use, and analyze large amounts of machine-readable information (digital data) about almost anything. This digital data is collected based on the analysis of digital footprints retained on various digital platforms due to the activities of individuals, social groups, or businesses. Global Internet Protocol (IP) traffic, providing a rough scale of data streams. At present, with the cloud computing, big data, the Internet of Things, and the digital transformation of traditional industries, the growth rate of data traffic is accelerating, and the pressure on data centers is increasing. Data show that from 2016 to 2021, the global IP data traffic showed an increasing trend (fig. 1). Moreover, although the data-driven economy is still in the early stages of development. By 2022, global IP traffic is expected to reach 337,700 (pb / m), driven by the impact of the COVID-19 pandemic and the increasing number of new Internet users.

From the perspective of patents, according to OECD's definition of information and communication technology patents, the search of ICT invention patent application data from 2011–2020 in IncoPat patent database shows that the total number of ICT invention patents disclosed in the past 10 years, accounting for 17,6 % of the total global invention patents disclosed in the same period. As shown in fig. 2, the number of ICT invention patents disclosed has increased steadily year by year, with a compound annual growth rate of 7,3 %.

Nowadays, it is very common for any project, including digital technology to be marked as a digital transformation, which involves some of the changes taking place in the business. Digital transformation clearly means the use of



digital technology to drive major changes in the company's business model. The COVID-19 background accelerates the digital transformation of businesses and the entire industry (such as retail, catering, and education).

Fig. 1. Global IP data traffic, 2016-2021 (Pb/m)

Note – Figure was created by author based on source [1].

For example, while e-learning existed before the pandemic, the COVID-19 pandemic accelerated and expanded the digital transformation of traditional educational organizations at all levels, the only possible way to continue their activities during the lockdown and under the new normal.

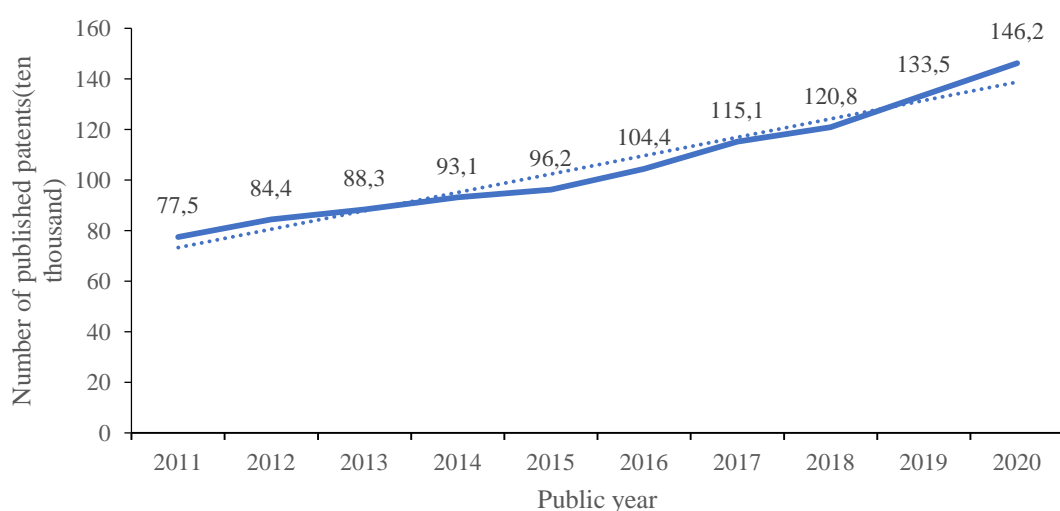


Fig. 2. Annual development trend of I C T invention patent (unit:10 thousand pieces)

Note – Figure was created by author based on source [1].

The pandemic has forced many jobs to be performed remotely, and although digital technology that can support telecommuting has become available, it has forced its accelerated adoption and implementation. For example, Zoom has become one of the most used applications around virtual meetings. There are other industries severely affected by the COVID-19 pandemic, such as entertainment and retail food, that have implemented or strengthened digitization to avoid significant losses. Overall, especially during the lockdown period, online shopping and home delivery have experienced unprecedented growth. So, through digitization, some companies will certainly increase their business volume, turning the threat of the COVID-19 outbreak into opportunities.

To sum all mentioned above, the rapid progress of digital technology and the booming scale of the digital economy. In particular, the epidemic has accelerated the digital transformation and promoted the development of the digital economy. Digital transformation has become an inevitable trend. On the one hand, the digital upgrading of traditional industries will greatly improve the production efficiency of traditional industries and realize high-quality development of industries. On the other hand, digital industrialization will constantly give birth to new forms of business and inject new forces into economic development.

References

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