# The influence of digital economy on the transformation and upgrading of traditional industries and the path choice

## **Echo Zhang**

Business School, Wuhan College of Arts and Science, Wuhan, Hubei, China

Keywords: Digital economy; traditional industries; transformation and upgrading

Abstract: This paper aims to explore the profound impact of digital economy on the transformation and upgrading of traditional industries, and analyze how the traditional industries should choose a suitable path in this process. With the rapid development of information technology, the digital economy has become an important engine of the global economy. It has brought about the reform of production mode, organization mode and business model, and provided new development opportunities for traditional industries. In order to realize transformation and upgrading, traditional industries can be deeply integrated with the digital economy by strengthening information construction, promoting intelligent production and expanding digital services, so as to improve industrial efficiency and innovation ability. In addition, attention should also be paid to the training of digital talents, strengthening policy support and improvement of relevant laws and regulations to ensure the smooth transformation and upgrading of traditional industries. Under the context of digital economy, traditional industries need to actively respond to challenges, seize opportunities, and achieve transformation and upgrading by strengthening information construction, promoting intelligent production and expanding digital services. This will help to improve the competitiveness and market share of enterprises, but also to promote the healthy development of the digital economy, and to realize the sustainable development of the economy and society.

## **1. Introduction**

Digital economy is an economic form based on digital technology, which has an important impact on the transformation and upgrading of traditional industries. The characteristics of digital economy are mainly reflected in the following aspects: First, digital economy has the characteristics of a high degree of informatization. <sup>[1]</sup>Digital technology collects, stores, analyzes and operates the data in traditional industries, which improves the level of intelligence of the industry. Secondly, the digital economy is characterized by high connectivity. Through the Internet, the Internet of Things and other technological means, the collaborative cooperation and resource sharing among different industries have been realized, breaking the boundary of traditional industries. In addition, the digital economy is also highly personalized and customized. <sup>[2]</sup>Through big data and artificial intelligence and other technologies, it can be personalized based on the needs of individual users to provide

products and services that more meet the needs of consumers. To sum up, the definition and characteristics of digital economy provide new opportunities and challenges for the transformation and upgrading of traditional industries, and lay a foundation for further discussion of their influence and path selection.

#### 2. The impact of the digital economy on traditional industries

#### **2.1. Improve production efficiency**

The impact of digital economy on traditional industries is mainly reflected in improving production efficiency. With the development and application of digital technology, traditional industries can optimize the production process through digital, information and intelligent means, so as to improve the production efficiency. First of all, digital technology enables traditional industries to obtain and analyze data more accurately and realize the fine management of the production process. Through the Internet of Things, big data, cloud computing and other technologies, traditional industries can monitor the production link in real time, find problems in time and take corresponding measures, so as to improve production efficiency. Secondly, digital technology can also realize automatic production, reduce human input and improve production efficiency. Through the application of automation equipment and intelligent machinery, the traditional industries can realize the automatic control of the production process, improve the production efficiency and quality stability, and reduce the production cost. In addition, digital technology can also realize the collaborative management of the industrial chain, make the information sharing between different links more convenient, and improve the efficiency of resource utilization. To sum up, the impact of digital economy on traditional industries is mainly reflected in the improvement of production efficiency. Through digital, information and intelligent means, traditional industries can realize fine management of production process, automatic control and collaborative management of industrial chain, so as to improve production efficiency.

## 2.2. Automation and intelligent production

Automation and intelligent production is an important influence of digital economy on traditional industries. With the rapid development of digital technology, traditional industries are facing the transformation and upgrading of production mode. The application of automation and intelligent technology enables traditional industries to manage production and operation more efficiently. First of all, through the automation technology, the traditional industries can realize the automatic control and management of the production process, reduce the dependence on manual operation, and improve the production efficiency and quality. Secondly, the application of intelligent technology can realize the intelligent monitoring and optimization of the production process. Through data analysis and algorithm optimization, the optimal allocation and resource utilization of the production process can be realized, so as to further improve the competitiveness and economic benefits of the industry. In addition, the application of automation and intelligent technology can also improve the innovation ability of traditional industries, realize the industrial transformation and upgrading with the digital economy through the depth of integration, and accelerate the transformation of traditional industries into digital enterprises. [3]To sum up, automation and intelligent production is an important influence of the digital economy on the traditional industries, which will lead the traditional industries to a more efficient and intelligent development path.

#### 2.3. Data analysis and optimization

The rise of the digital economy has had a huge impact on traditional industries. Among them, data analysis and optimization have become an important driving force for the digital economy in the transformation and upgrading of traditional industries.<sup>[4]</sup>

Data analysis refers to the discovery of potential commercial values and development opportunities by collecting, organizing and analyzing large amounts of data. The rapid development of digital economy enables traditional industries to more accurately understand and grasp the information of market demand, consumer preferences and behavior patterns, so as to make more reasonable production and operation decisions.

Data analysis can help the traditional industries to optimize the production process. Through the analysis of the production link data, enterprises can realize the reasonable allocation of resources and process optimization, and improve the production efficiency and quality. At the same time, through the analysis of sales data, enterprises can more accurately predict the market demand, to avoid inventory backlog and overcapacity problems.

In addition, data analysis can also help traditional industries to precision marketing. By analyzing data such as consumer behavior and preferences, enterprises can more accurately formulate marketing strategies to improve market competitiveness. At the same time, data analysis can also help enterprises to understand consumer feedback and demand changes, timely product innovation and service improvement, to meet the changing needs of consumers.

To sum up, data analysis and optimization are important aspects of the impact of digital economy on traditional industries. Through data analysis and optimization, traditional industries can realize the optimization of the production process and the precision of marketing, so as to improve the competitiveness and profitability, and achieve the goal of transformation and upgrading.

## 2.4. The Application of the industrial Internet

The application of industrial Internet is an important part of the transformation and upgrading of digital economy to traditional industries. With the continuous development of digital technology, the application of industrial Internet has brought great influence and opportunities to traditional industries. First of all, the industrial Internet can realize the intelligent upgrade of traditional industries, through the Internet of things, big data, cloud computing and other technologies, to achieve the interconnection of equipment, improve production efficiency and quality. <sup>[5]</sup>Secondly, the industrial Internet can realize the optimization of the production process and fine management. Industrial Internet optimises the supply chain, production planning and other aspects of the supply chain through data analysis and forecasting to reduce costs and improve efficiency. In addition, the industrial Internet can also realize the coordination and innovation of the industrial chain, promote the industrial cluster development and cross-border cooperation, and promote the transformation and upgrading of traditional industries. Therefore, traditional industries should actively make use of the application of industrial Internet to accelerate the pace of digital transformation and enhance competitiveness.

#### 2.5. Create a new business model

The impact of the digital economy on traditional industries is obvious. Under the wave of digital economy, traditional industries are facing great challenges and opportunities. Among them, building a new business model has become an inevitable choice for the transformation and upgrading of traditional industries. The construction of new business models requires using the digital technology to improve the efficiency and competitiveness of traditional industries; on the other hand, it also

needs to rethink the way of value creation and value distribution. In the era of digital economy, traditional industries need to use the Internet, the Internet of Things, big data and other technological means to realize the deep integration of traditional industries and digital economy. Through digital transformation, <sup>[6]</sup>traditional industries can better interact with users, provide personalized and customized products and services, and change the production mode and business model of traditional industries. At the same time, traditional industries can also use digital platforms to expand sales channels and realize the integration of online and offline development

The impact of digital economy on traditional industries reflects the integration of online and offline development. With the rapid development of digital economy, traditional industries are facing great changes and challenges. Through the integration with the digital economy, traditional industries can realize the seamless connection between online and offline, and break the limitations of the development of traditional industries. The integrated development of online and offline development enables traditional enterprises to directly face their products and services to consumers through the Internet platform, and realize the cross-border integration of online and offline development. Through the integrated development of online and offline industries, traditional industries can expand the market coverage and improve the communication effect of products and services. In addition, the integrated development of online and offline development can also improve the efficiency and efficiency of traditional industries, reduce operating costs, and enhance the competitiveness of enterprises. Through the promotion of digital economy, traditional industries can realize the transformation and upgrading from traditional to modern, so as to achieve sustainable development.

#### 2.6. The rise of the platform economy

The influence of digital economy on traditional industries is mainly reflected in the rise of platform economy. With the rapid development of information technology, digital economy has become an important force to promote the transformation and upgrading of traditional industries. In the context of digital economy, platform economy, as a new business model, not only changes the operation mode of traditional industries, but also provides more business opportunities and opportunities for traditional enterprises. By breaking the barriers of traditional industries, the platform economy realizes the efficient flow of resources and information, promotes the integration and innovation of traditional industries, and improves the competitiveness and efficiency of the industry. The rise of platform economy has brought new business models, new profit models and new development paths to traditional industries. <sup>[7]</sup>Through the combination of digital technology, traditional industries can use the power of platform economy to realize industrial upgrading and transformation development, and constantly create higher economic benefits and social value. The rise of platform economy not only has a profound impact on the business model and market pattern of traditional industries, but also promotes the pace of the transformation of traditional enterprises to digital and intelligent enterprises, and further promotes the integrated development of digital economy and traditional industries.

#### 2.7. Data-driven innovation

The impact of the digital economy on traditional industries is mainly reflected in data-driven innovation. With the rapid development of the digital economy, traditional industries have realized the importance of data. <sup>[8]</sup>Data-driven innovation refers to improving the business processes and business models of traditional industries by collecting, analyzing, and utilizing big data. Through data-driven innovation, traditional industries can better understand market demand, optimize production processes, and improve product quality and service levels. For example, through data

analysis, companies can accurately grasp market trends and thus adjust their product strategies and sales models. At the same time, data-driven innovation also enables traditional industries to better meet the personalized needs of consumers and provide more competitive products and services. Through data-driven innovation, traditional industries can be more efficient, flexible and sustainable.

#### 2.8. Expand the market and increase the profit model

The impact of digital economy on traditional industries is mainly reflected in expanding the market and increasing the profit model. First, the digital economy has provided a broader market space for traditional industries. Through the application of Internet technology, traditional industries can expand sales channels with the help of e-commerce platforms and achieve global market expansion. In addition, the digital economy can also combine traditional industries with online and offline, realize integrated online and offline development, and improve the market coverage of products. Secondly, the digital economy has introduced diversified profit models for traditional industries. Through digital transformation, traditional industries can carry out online business, cloud computing, big data analysis and other new businesses, so as to realize the diversification and innovation of profit models. At the same time, the digital economy also combines traditional industries with the Internet to promote the extension of industrial chains and industrial upgrading, and further enhance profitability. In short, the impact of digital economy on traditional industries is multi-directional. By expanding the market and increasing the profit model, traditional industries can realize transformation and upgrading, and further develop and grow.

#### 2.9. The development of e-commerce

With the rise of the digital economy, e-commerce is playing an increasingly important role in the traditional industries. First of all, e-commerce provides a new sales channel for traditional industries. Through the online platform, traditional enterprises can directly push their products and services to consumers, breaking through the geographical and time restrictions. Secondly, e-commerce has changed the supply chain management of traditional industries. <sup>[9]</sup>Through direct contact with suppliers and distributors, traditional enterprises can achieve refined supply chain management, improve production efficiency and reduce costs. In addition, e-commerce has brought more business model innovation opportunities for traditional industries. Through e-commerce platforms, traditional enterprises can carry out innovations such as online marketing, unmanned retail and cross-border trade to make them more competitive. <sup>[10]</sup>Therefore, traditional industries need to actively respond to the impact of the digital economy, seize the opportunities of e-commerce development, strengthen brand building and technological innovation, and achieve transformation and upgrading.

#### **2.10.** The application of Internet finance

The impact of digital economy on traditional industries is mainly reflected in the application of Internet finance. With the rapid development of digital economy, Internet finance has become one of the important means for the transformation and upgrading of traditional industries. Through innovative fintech means, Internet finance has changed the operation mode and service mode of traditional financial services, and provided more efficient, convenient and intelligent financial services for traditional industries. On the one hand, the application of Internet finance enables traditional industries to better obtain financial support and accelerate technological upgrading and innovation; on the other hand, the channel innovation and data analysis ability of Internet finance promote traditional industries to realize fine operation and improve production efficiency and competitiveness. The application of Internet finance plays an important role in promoting traditional industries. Through e-commerce, supply chain finance, intelligent payment and other methods, the efficient docking of capital flow, logistics and information flow is realized, providing strong support for the transformation and upgrading of traditional industries. <sup>[11]</sup>The application of Internet finance not only contributes to the development of traditional industries, but also provides new possibilities for economic transformation and innovative development.

#### **3.** Conclusion

The digital economy has an important impact on the transformation and upgrading of traditional industries. First of all, the digital economy brings opportunities for technological innovation and business model change to traditional industries, promoting industrial upgrading and transformation. Through the application of digital technology, traditional industries can improve production efficiency, reduce costs and improve quality, so as to enhance competitiveness. Secondly, the digital economy has given birth to emerging industries and business models, providing the direction and opportunities for traditional industries to transform. Through industrial cooperation, technology introduction and innovation investment related to the digital economy, traditional industries can be integrated into the development trend of the digital economy and realize transformation and upgrading. In addition, the impact of the digital economy on traditional industries is also reflected in the change of market demand and consumption habits. Traditional industries need to upgrade and innovate their products and services according to the requirements of the digital economy, so as to meet the personalized and diversified needs of consumers. Therefore, the digital economy has an important impact on the transformation and upgrading of traditional industries. Traditional industries need to actively respond to the challenges and opportunities brought by the digital economy, strengthen their innovation ability and adaptability, and adapt to the development of the digital economy era.

#### References

[1] Sun Zhenxing. To accelerate the building of a "new economic map" in the digital era [N]. Huaxing Times, 2024-03-07 (004).

[2] Sun Wenyuan, Liu Haojie. Research on the influence of digital economy on the resilience of industrial chain—Also on the level of innovation and market segmentation mechanism [J/OL]. Financial economy, 1-12 [2024-03-07]. https://doi.org/10.14057/j.cnki.cn43-1156/f.20240229.009.

[3] Wu Liming. Actively promote the integration of digital and real information to create a digital economy and industrial ecology [N]. Ma on Shan Daily, 2024-03-04 (001).

[4] Shi Jian. Explore yuan Universe Industrial Park City input Bureau digital Economy [N]. China Business News, 2024-03-04 (B06).

[5] Yang Xiuyun. The integration of digital economy and real economy enables the high-quality development of the industry: theoretical logic, practical dilemma and practical approach [J]. Zhongzhou Academic Journal, 2023, (5): 42-49.

[6] Fan Zhou. China Cultural Industry and Tourism Development Report: Summary of 2022 and 2023 Trend [J]. Journal of Shenzhen University (Humanities and Social Sciences edition), 2023, 40 (2): 47-57.

[7] Liu Jianjiang, Li Yuanhao. How can the digital economy enable total-factor energy efficiency improvement?[J]. Financial Theory and Practice, 2023, 44 (2): 105-113.

[8] Zhou Shi. Research on the development trends, problems and support strategies of smes [J]. Macroeconomic Research, 2022, (7): 163-175.

[9] Tian Xiujuan, Li Rong. Digital technology enables the transformation and development of the real economy— Analysis framework based on Schumpeter's endogenous growth theory [J]. Management World, 2022, 38 (5): 56-74.

[10] Feng Suling, Xu Dehui. Analysis of the influence mechanism of digital industrialization on industrial structure upgrading—Based on the empirical analysis of China's inter-provincial panel data from 2010 to 2019 [J]. Dongyue Theory Cong, 2022, 43 (1): 136-149 + 192.

[11] Qi Yudong, Chu Xi. Digital economy development, economic structure transformation and crossing the middleincome trap [J]. Financial Research, 2021, 47 (7): 18-32 + 168.