Research on the Impact of Digital Transformation on Traditional Industrial Economic Models

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Abstract: *Technology is the primary productive force. In the current economic situation, the emergence of digital technology has broken the inherent thinking of traditional industries. Enterprises must rely on the power of technology to establish themselves in the market. At present, digital transformation has become an important issue in various industries worldwide. This article aims to study the impact of digital transformation on traditional industrial economic models and explore its potential impact on enterprise competitiveness and sustainable development.*

Keywords: *Digital transformation, traditional industries, economic models*

1. Introduction

With the advent of the digital era, traditional industrial economic models have exposed many problems and shortcomings. In this situation, if we want to achieve sustainable development of the industrial economy, we must accelerate the speed of digital transformation and upgrading, in order to better meet the actual needs of consumers. Based on this, this article first provides an overview of digital transformation and traditional industrial economic models, and then analyzes the impact of digital transformation on traditional industrial economic models, including the impact on production and manufacturing fields, market and sales fields, and operation and management fields. Then, it discusses the successful elements of digital transformation of traditional industrial economic models, mainly including technical factors, organizational factors Management factors and market factors, finally proposing sustainable development strategies for the digital transformation of traditional industrial economic models, mainly including formulating digital transformation strategies and plans, strengthening talent cultivation and organizational capacity building, and strengthening cooperation and innovation with technology companies.

2. Digital Transformation and Traditional Industrial Economic Models

2.1 Definition and characteristics of digital transformation

Digital transformation refers to the transformation of the way enterprises create value for customers through modern technology and communication technology. In the process of promoting the integration of digital technology with products and services, it also innovates the delivery methods of customers. This process is called digital transformation. In the process of digital transformation, common technology carriers mainly include big data technology, artificial intelligence, Internet of Things technology, etc. With the assistance of modern technologies mentioned above, enterprises can redesign business processes, improve production efficiency, provide personalized services, and further accelerate business optimization and upgrading [1]. The characteristics of digital transformation include highly automated production processes, data-based decision-making, emphasis on customer experience, and the flexibility to quickly adapt to market changes. Through digital transformation, enterprises can better grasp market trends, improve competitiveness, and achieve sustainable development.

2.2 Overview of Traditional Industrial Economic Models

The traditional industrial economic model refers to an industrial model dominated by an extensive economic development model, characterized by low efficiency and low added value. In this model, enterprises usually adopt fixed production lines and labor, with relatively stable production scale and

market competition mainly relying on price and quality. From the perspective of basic characteristics, the traditional industrial economic model is a closed economic development model. In the development process, the goal is high-speed economic growth, with government administrative power as the leading force. Due to the tilted nature of the industrial economic structure, the development of agriculture, light industry and other industries has been greatly hindered, seriously restricting the comprehensive development of China's industrial economy [2]. In addition, in traditional industrial economic models, enterprises often respond slowly to market changes and find it difficult to flexibly adjust production and marketing strategies, which is extremely detrimental to strengthening the core competitiveness of enterprises. Therefore, in the context of the digital era, if enterprises want to achieve sustainable development, they must strengthen their emphasis on digital transformation, actively break free from the constraints of traditional industrial economic models, in order to expand their own development space.

3. The impact of digital transformation on traditional industrial economic models

3.1 The impact of production and manufacturing

3.1.1 Application of automated production lines and intelligent manufacturing

Traditional production lines typically rely on a large amount of manpower, while digital transformation enables robots and automation equipment to perform repetitive and labor-intensive tasks. This automation not only improves production efficiency and reduces production costs, but also reduces human errors and improves product quality. Intelligent manufacturing utilizes technologies such as sensors, data analysis, and artificial intelligence to make the production process more intelligent, enabling real-time adjustment of production plans according to demand, improving production flexibility and adaptability.

3.1.2 Data-driven production optimization and cost control

Digital transformation enables enterprises to collect a large amount of production data, enabling data-driven production optimization and cost control. By analyzing this data, enterprises can understand the bottlenecks and problems in the production process, optimize production processes, and improve production efficiency. At the same time, refined data analysis can also help enterprises better control production costs, avoid resource waste, and improve profit margins. Data-driven production optimization and cost control enable enterprises to better adapt to market demand and provide more competitive products and services [3].

3.2 The impact of market and sales areas

3.2.1 The rise of e-commerce and online platforms

The digital transformation has opened up new sales channels for traditional industries, especially through e-commerce and online platforms. Enterprises can open online stores globally, push their products to a wider market, break through geographical restrictions, and attract global customers. This sales model without time difference and geographical restrictions has greatly expanded the business scope of the enterprise and increased sales opportunities. At the same time, enterprises can also directly interact with consumers through online platforms, understand market demand, improve products, provide better after-sales service, and establish closer customer relationships.

3.2.2 Implementation of personalized marketing and precise positioning

Digital transformation provides enterprises with a large amount of customer data, making personalized marketing and precise positioning possible. By analyzing customer data, enterprises can understand their purchasing habits, interests, and needs, and achieve personalized customization of products and services. Personalized marketing not only improves customer satisfaction, but also increases customer loyalty, promoting repeat purchases. At the same time, enterprises can also use data analysis technology to achieve precise positioning, accurately push products to potential customers, improve marketing effectiveness, and reduce marketing costs [4].

3.3 Impact in the field of operations and management

3.3.1 Improvement of data analysis and decision support

Digital transformation enables enterprises to collect and analyze large-scale data, providing more information support and decision-making basis for management. Through data analysis, enterprises can gain a deeper understanding of market trends, customer needs, product performance, and other aspects of information. This deep insight enables enterprises to more accurately predict market demand, adjust product strategies, and develop more targeted marketing plans. At the same time, in terms of operational management, data analysis also helps enterprises identify bottlenecks and inefficient links in the production process, providing guidance for improving production efficiency.

3.3.2 Implementation of efficiency improvement and process optimization

Digital transformation has introduced advanced management tools and technologies, enabling enterprises to improve operational efficiency and optimize processes. Automated and intelligent production equipment, warehousing systems, and supply chain management systems greatly shorten production cycles, reduce inventory costs, and improve the response speed of production and supply chains. At the same time, digital transformation has also promoted the optimization of internal processes in enterprises. Through information systems, enterprises can more efficiently manage resources, coordinate departmental cooperation, and improve work efficiency.

4. The Successful Elements of Digital Transformation of Traditional Industrial Economic Models

4.1 Technical factors: application and innovation of digital technology

The success of digital transformation cannot be separated from technological factors, namely the application and innovation of digital technology. In traditional industries, the application of technology has a decisive impact on improving production efficiency, reducing costs, and optimizing product and service quality. Traditional industries usually accumulate a large amount of data, and through advanced data analysis techniques, enterprises can deeply explore the value of this data. By analyzing market data, companies can understand consumer demand and trends, and adjust product strategies accordingly. Meanwhile, in the production field, big data analysis can help enterprises optimize production plans, improve production efficiency, and reduce resource waste. In addition, through Internet of Things technology, enterprises can connect devices, products, and systems to the Internet, achieving remote monitoring and management [5].

4.2 Organizational factors: corporate culture and organizational structure adjustment

Digital transformation is not only a technological innovation, but also an innovation in the internal culture and organizational structure of enterprises. Successful digital transformation requires companies to establish a positive and innovative corporate culture, and flexibly adjust their organizational structure to adapt to rapidly changing market demands and the pace of technological progress. Firstly, traditional industries often have a stable and conservative corporate culture, which may resist change and hinder the advancement of digital transformation. Therefore, enterprises need to establish an open and innovative cultural atmosphere. Encourage employees to come up with new perspectives and suggestions, promote a culture of trial and error, and even failure is seen as an opportunity for learning. In this cultural atmosphere, employees are more willing to try new technologies and methods to promote the implementation of digital transformation. Enterprise leadership needs to set an example, actively participate in digital transformation, set an example for employees, and lead the company towards digital development. Secondly, the adjustment of organizational structure is the key to digital transformation. The traditional organizational structure may be relatively rigid and difficult to adapt to rapidly changing market demands. Digital transformation requires enterprises to establish flexible and adaptable organizational structures.

4.3 Management factors: leadership and change management capabilities

In the process of transitioning from traditional industrial economic models to digitalization, effective management factors are crucial. Among them, leadership and change management skills are key factors for the success of digital transformation, which can lead enterprises to smoothly respond to market challenges and create sustained competitive advantages. Leaders need to have strategic insight

and a deep understanding of the development trends and market demands of digital technology. By developing a clear digital strategy, leaders can set clear directions for the entire enterprise and provide clear guidance to employees. Secondly, digital transformation is often accompanied by profound changes in organizational structure, processes, culture, and other aspects, and change management capabilities can help enterprises efficiently respond to these changes [6]. Change management requires leaders to have clear ability to set goals, clearly define the goals and expected outcomes of digital transformation. Leaders also need to possess communication and coordination skills, establish an open communication channel, fully listen to employees' opinions and suggestions, form consensus, and enhance team cohesion.

4.4 Market factors: market demand and competitive environment

Market factors are the main factors affecting the digital transformation of traditional industries. In the process of digital transformation, a deep understanding of market demand and competitive environment, accurate grasp of market trends, is the key to successful transformation of enterprises. Market demand is the driving force behind enterprise transformation. Only by deeply understanding market demand can enterprises provide products and services that meet consumer expectations. In the process of digital transformation in traditional industries, sufficient resources need to be invested in market research to understand consumer purchasing habits, demand characteristics, preferences, and other information. Through big data analysis and other means, enterprises can obtain consumer behavior data, deeply explore potential demand, predict market trends, and provide strong support for product research and development and market promotion. Enterprises need to adjust their product design based on market demand, provide product features and experiences that better meet consumer expectations, and meet constantly changing market demands. Secondly, in a fiercely competitive market environment, enterprises need to have a deep understanding of the strengths and weaknesses of their competitors, and seize the opportunities and threats in the market. By analyzing competitors, enterprises can understand their product positioning, market share, market reaction speed, and other information, providing reference for enterprise strategy formulation.

5. Sustainable development strategies for digital transformation of traditional industrial economic models

5.1 Develop digital transformation strategies and plans

In today's digital era, the digital transformation of traditional industries has become a key strategy for maintaining competitiveness and achieving sustainable development. However, digital transformation is not a simple technological upgrade, but a complex system engineering that requires the development of wise digital transformation strategies and plans to ensure that enterprises can continue to adapt to rapidly changing market demands and technological progress. Before formulating a digital transformation strategy, in-depth market research is essential. Enterprises need to understand consumer needs, market competition patterns, and the development trends of new technologies. This in-depth insight can help enterprises grasp market dynamics, identify opportunities and pain points for digital transformation, and provide accurate market information for strategic formulation.

In addition, the goals of digital transformation should be consistent with the mission, vision, and values of the enterprise. These goals should not only focus on technical aspects, but also include multiple levels such as business goals, customer experience, and employee training. Clear goals can provide clear direction for digital transformation, help enterprises concentrate resources, and ensure the implementation of strategies. In addition, the digital transformation plan should include detailed planning in multiple aspects such as technology, manpower, resources, and time. Determine which digital technologies to use, which talents are needed, how to allocate the budget, and what is the project timeline [7]. A detailed plan can help enterprises arrange resources reasonably, maintain project progress, and ensure that the project can proceed smoothly as expected. Finally, cultivate organizational culture and employee abilities. Digital transformation is not only an update in technology, but also involves the improvement of organizational culture and employee capabilities. Enterprises need to adjust their organizational culture based on digital needs and encourage employees to innovate and change. At the same time, cultivate employees' digital literacy, provide training and development opportunities, so that they can adapt to the needs of digital transformation and maximize their potential.

5.2 Strengthen talent cultivation and organizational capacity building

In the process of digital transformation in traditional industries, strengthening talent cultivation and organizational capacity building are key factors to ensure success. The requirements of the digital era are not only technological updates, but also talents with innovative thinking, teamwork, and rapid adaptability. At the same time, organizational capacity building cannot be ignored, involving the adjustment of organizational culture, structure, and internal mechanisms, making the entire enterprise more flexible, innovative, and efficient. Enterprises need to invest resources to cultivate employees' digital skills, including knowledge in fields such as data analysis, artificial intelligence, and cloud computing. Continuous training and learning can equip employees with the ability to face complex digital environments and enhance their contribution in digital transformation. In addition, enterprises should encourage employees to learn independently, provide learning resources and academic support, so that they can continuously improve their knowledge level and adapt to the rapidly changing digital field.

In addition, recruiting external talents is an effective way to improve the digital level of organizations. Introducing external talents with advanced technological knowledge and rich experience can bring new perspectives and creativity to enterprises, and promote the pace of digital transformation. These talents usually possess the latest technological knowledge and can be quickly applied to actual production, bringing technological leadership advantages to the enterprise. Finally, the leadership needs to actively participate in digital transformation, not only as supporters, but also as role models. Their decisions and behaviors affect the culture and atmosphere of the entire organization. Through active leadership leadership, employees will be more receptive to new concepts and methods, enhance team cohesion, and provide a solid organizational foundation for digital transformation.

5.3 Strengthen cooperation and innovation with technology companies

Strengthening cooperation and innovation with technology companies is a key strategy for the digital transformation of traditional industries. Through cooperation, traditional industries can quickly acquire the latest technologies, broaden their thinking, reduce risks, and provide market opportunities for technology companies. This deep cooperation not only promotes positive interaction between industries, but also promotes the upgrading of the entire industrial ecosystem, laying a solid foundation for sustainable development in the digital era.

Firstly, cooperation with technology companies provides a direct way for traditional industries to introduce advanced technology. Technology companies typically possess cutting-edge technological knowledge and innovative thinking, and collaborating with them can quickly acquire new technologies and accelerate the pace of digital transformation. This cooperation is not only about technical support, but also includes joint research and innovation. Through deep cooperation with technology companies, traditional industries can organically combine market demand and technological innovation, and launch more competitive products and services. Secondly, cooperation with technology companies can broaden the thinking and horizons of traditional industries. Technology companies typically have cross industry experience and perspectives, which can provide new ideas and solutions for traditional industries. Communication and collision in cooperation can stimulate innovation and encourage both parties to jointly explore business opportunities in the future digital era. By drawing on the experience of technology companies, traditional industries can better understand market demand, predict industry trends, and make wiser strategic decisions [8]. Finally, cooperation also provides better market opportunities for technology companies. Traditional industries typically have a large customer base and market share, and collaborating with them can enable technology companies to quickly expand their business and push technology and products to a wider market. This win-win cooperative relationship encourages both parties to jointly create value and improve the efficiency of the entire industry chain.

6. Conclusion

This article emphasizes the important impact of digital transformation on traditional industrial economic models, and proposes key elements and sustainable development strategies for successfully implementing digital transformation. By formulating digital transformation strategies and plans, strengthening talent cultivation and organizational capacity building, and strengthening cooperation and innovation with technology companies, traditional industries can better adapt to the needs of the digital era and achieve sustainable development and innovation.

References

[1] Feng Nianqing, Cui Mengjie, Kong Lingran, Li Yuanyuan. Research on the Development Strategies of Traditional Industries in Anyang Driven by Digital Strategy [J]. Business Environment, 2023 (05): 31-33

[2] Chen Qiyan. Research on the Transformation and Upgrading Path of Traditional Industries under the Digital Background [J]. Industrial Economy, 2022 (21): 150-152

[3] Chen Qiyan. Research on Empowering Economic Development through Digital Supply Chain Management: Taking the South China Sea Home Furnishing Industry as an Example [N]. Northern Economic and Trade Journal, 2022 (4): 122-125

[4] Cao Xiaoyong, Li Siru. A Study on the Opportunities, Challenges, and Paths of Digital Economy Promoting the Transformation of the Service Industry: Based on the New Development Pattern of Domestic and International Double Circulation [J]. Journal of Hebei University of Economics and Trade, 2021,42 (05): 101-109

[5] John Humphrey, Hubert Schmitz. How does insertion in global value chains affect upgrading inindustrial clusters?[J]. Regional Studies, 2002, 36(9):147-152.

[6] L. Rachel Ngai, Christopher A. Pissarides. Structural Change in a Multisector Model of Growth[J]. The American Economic Review, 2007, 97(1):261-268.

[7] Simonen J, Svento R, Juutinen A. Specialization and diversity as drivers of economic growth: Evidence from High-Tech industries[J]. thesiss in Regional Science, 2015, 94(2):229-247.

[8] Michael E. Porter.Location,Competition,and Economic Development:Local Clusters in aGlobal Economy [J].Economic Development Quarterly,2000, 14(1):123-132.