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Digital Productivity Development, Factors and Business Rules Change

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Abstract: This study reviewed the evolution of digital productivity, its key components, its interaction with the process of digitalization and productivity improvement, the resulting business model changes, and its future development trends, in order to provide guidance for the theoretical research and practical application of digital productivity. Researching the evolution of digital productivity, key elements and digital processes, this paper explores the interaction between productivity and enterprise business models, and the impact of this interaction on business model change and future development trends, providing guidance for digital productivity theory research and practical application.

Keywords: digital productivity, digital factors, business models

1. Introduction

This study reviewed the evolution of digital productivity, its key components, its interaction with the process of digitalization and productivity improvement, the resulting business model changes, and its future development trends, in order to provide guidance for the theoretical research and practical application of digital productivity [1]. Digital productivity refers to the ability to transform traditional production models and improve production efficiency and competitiveness with the help of digital, network and artificial intelligence technologies under the digital wave. It originated in the 1980 s, the application of computer technology, improved production efficiency. With the popularization of the Internet, digital productivity has developed rapidly and become an important part of the modern productivity system.

Digital productivity is composed of digitization, networking, intelligence and integration. Digitalization integrates digital technology with traditional industries to lay a solid foundation for development; Networking connects global resources and promotes information sharing; Intelligent use of AI to achieve production automation; Integration and integration of resources in multiple fields to help industrial upgrading. Digital productivity and digitalization promote each other. Digital to provide technical support for digital productivity, digital productivity, drive the technology innovation and application, to promote digital in-depth development.

In terms of business model reform, digital productivity promotes the combination of traditional industries and digital technology, and promotes industrial upgrading and transformation. The

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interconnection of global resources enables efficient information exchange, automation and intelligence of production reduce costs, and enhance the competitiveness of enterprises.

2. The evolution and developing trend of digital productivity

2.1. Discussion on the correlation and differences between digital productivity and digitization of productivity

Digital productivity takes data-driven, artificial intelligence and machine learning as the core, relies on hardware and software collaboration, and relies on cutting-edge technologies to improve productivity. The digitalization of productivity is to transform the traditional production mode into digitalization, innovate the production mode, and make the production more intelligent and efficient. Both nature are interlinked, enhances productivity by emerging technologies, and promote each other in practice. In digital production, the use of cutting-edge technology to promote productivity, productivity and technology application development space, forming a virtuous circle [2].

However, both is different. On the focus, the digital productivity is focused on the productivity, productivity digitization production mode on. Emerging technologies research object, the former research on the development of productivity, the latter research production mode change process. In terms of research methods, digital productivity emphasizes the application of emerging technologies, while the digitalization of productivity emphasizes the intelligence and efficiency of production mode.

2.2. The influence and popularization of digital productivity in contemporary

At present, the digital productivity accelerate penetration in various fields. Internet, big data, such as technology, let digital productivity in manufacturing, medical and other fields, effectively improve the production efficiency, reduce operating costs.

In traditional industries, digital productivity brings all-round change. Manufacturing, compared with the traditional rely on a large amount of human model, using intelligent means, the production process was optimized, digital level of supply chain, enhance enterprise competitiveness [3]. In terms of business operation, digital productivity innovates the sales model. Electricity, mobile payment, online convergence acceleration, personalization, precise marketing, meet the demand of diverse consumers. In terms of business strategy, with the help of digital productivity, enterprises are transforming from the traditional model focusing on scale expansion to the knowledge-based economy focusing on knowledge and technological innovation.

3. The core elements of digital productivity

3.1. Data-driven productivity

Digital productivity strongly promotes the development of contemporary society [4]. The key is to embed digital technology into production process and improve production quality and efficiency. Data-driven productivity, relying on big data analysis, artificial intelligence and other technologies, carries out intelligent optimization of production.

Data driven productivity by collecting, processing, and analyze the vast amounts of data in the process of production, to achieve intelligent management. The data involved in the production process, equipment operation, the analysis can lock in production problems and bottlenecks, to optimize production, improve efficiency and quality.

The productivity of data driven is a collection of intelligent, automated and decentralization in the integration of production mode. It by using big data, artificial intelligence and other advanced

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technology, intelligent optimization of production process, all-round improve production efficiency and quality, to provide data for the enterprise insight, support enterprise decision-making, promote enterprise to intelligent, digital transformation.

3.2. Artificial intelligence

Digital productivity aims to improve production efficiency and quality with the help of digital technology in the digital environment. Artificial Intelligence (AI) play a key role in it, helping to realize production automation and intelligence, and greatly improving production efficiency[5].

Artificial intelligence (AI), a technology that simulates human intelligence, simulates human thinking through learning and reasoning, and realizes autonomous decision-making and problem solving. In the digital productivity scenario, the AI is widely used in automatic and intelligent production process. Such as automatic control of production line, automatic identification of product classification, independent, and optimizing production process, are inseparable from the AI technology support.

Machine learning as a branch of AI, focusing on making computer study, recognize patterns from the data, and independently complete the task. In digital workforce practices, this technology is used to predict and optimize the production process, decision making and automation. For example, machine learning is used to predict product supply and demand, automatically adjust production plans and supply chains, and optimize production processes to reduce costs.

Overall, the figures in the productivity system, AI by implementing production automation and intelligent, not only can realize automatic control and product classification identification, can also optimize the production process. They are pushing production automation, improve the production efficiency of the core technology.

3.3. Autonomous intelligence

Digital productivity breaks through the limitations of digitalization of productivity[6]. The core is to make software and hardware independent and intelligent with the help of data-driven, so as to improve production efficiency and quality. The model sustainable, efficient and precise and is the important driving force of the development of the industry in the future. This paper around a data driven software and hardware independent intelligent in optimizing productivity applications[7].

Firstly, data-driven enables autonomous optimization of productivity. Manual intervention from the traditional production, intelligent manufacturing using sensors, machine learning techniques, make production equipment real-time data collection, analysis and solve the production problems, automatically adjust parameters, improve the production efficiency and quality. Secondly, this model improves the sustainability of productivity. Traditional production often causes resource waste and environmental pollution, while the field of green manufacturing uses energy management and waste treatment technology to achieve green and low-carbon production and reduce environmental impact. At the same time, it also enhances production safety. In the field of production safety, real-time monitoring of production status and reduction of safety risks can be achieved through monitoring and alarm systems.

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4. The transformative impact of digital productivity on business models

4.1. Shift from focus on manufacturing to focus on services

4.1.1. Service-oriented transformation of revenue model

The development of digital productivity promotes the transformation of enterprises to the service field and improves the added value of products with the help of value-added services. In the present market is constantly changing, the traditional sales model of the disposable income is difficult to meet the needs of enterprises continue to grow, companies began to focus from a single customer for long-term and stable income. Therefore to SaaS (software as a service) as the representative of subscription service mode and comprehensive service mode "hardware + software" is emerging.

In this pattern, the client can choose a one-time purchase hardware, can also pay service charge apportion hardware cost, software and regular subscription software services, ensure the operation of the hardware and update. This not only revolutionizes the customer experience, but also provides a stable income for the enterprise. At the same time, enterprises supporting value-added services such as technical support, training courses, to help customers improve operational efficiency; We will offer personalized and customized services, allowing customers to choose functional modules as required.

4.1.2. Service-oriented transformation of organizational form

Enterprises to adopt innovative service mode, will be in the product, process and architecture, management, team cause profound changes. To adapt to the new model, enterprises need to take a multi-pronged approach. Product model from single sales to provide comprehensive solutions and meet customers' diversity requirements; Business strategy focuses on customer relationship and service to improve customer satisfaction. Team building emphasizes cross-department collaboration and innovation to improve work efficiency. The pursuit of flexible and efficient business processes, through optimization to improve response speed. The organizational structure will be flattened, with fewer levels and more flexibility in decision-making. Through this a series of adjustment, the enterprise can better fit the innovation service mode, to enhance their competitiveness.

4.2. The rise of new model

4.2.1. Service-oriented manufacturing

4.2.1.1. Digital productivity promotes the intelligence of service-oriented manufacturing

In the field of production, the enterprise to build intelligent, automated production process, not only improve the production efficiency and product quality, can accurate insight into the market demand, the rational allocation of resources, reduce the loss, enhance market competitiveness.

In the field of service, effective intelligence service process. Relying on natural language processing and machine learning technology, intelligent customer service can quickly respond to customer inquiries and provide round-the-clock service. In some scenarios, it is more efficient and accurate than human customer service, greatly improving customer experience. Intelligent after-sales system can automatically detect the product fault, predicting maintenance requirements, customized programs are given, shortening the period of service, maintain customer relationship and improving customer loyalty.

In conclusion, digital productivity promotion and the application of artificial intelligence technology, is to make a profound effect on service. Digital productivity and artificial intelligence

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depth fusion, enable enterprises to develop and meet customers' diversity requirements and to promote manufacturing to high-end upgrades.

4.2.1.2. Digital productivity promotes innovation in service-oriented manufacturing

Big data and artificial intelligence power enterprise innovation. By analyzing big data, enterprises can gain insight into customer needs, achieve precise market positioning, develop products and services that meet customer needs, and improve customer satisfaction and loyalty. Artificial intelligence service for the products, fu can enhance the level of intelligent and personalized and enhance the customer experience. In addition, the data used to predict the market trend, artificial intelligence, reduce operating costs, the two together, promote the competitiveness of the enterprise.

A service-oriented manufacturing adhere to the concept of customer demand as the center, promote the service and manufacturing depth fusion. Digital productivity with big data analytics, cloud computing and other technical support, help enterprises to accurately grasp the needs of customers, efficient service. The application of intelligent technologies such as artificial intelligence, machine learning, realize the automation of production and service process and intelligent, both to reduce costs, improve efficiency, and create conditions for service innovation.

The technological changes brought many challenges, however. Enterprises need to improve the technical ability, build a flexible organizational structure, quick response to market changes. Continue to optimize service process, dynamic, focus on customer needs through service mode innovation, to provide personalized, high quality service, to win in the fierce market competition advantage, realize sustainable development.

4.2.2. Platform economy

With the help of digital, networking and intelligent technologies, digital productivity promotes the transformation of productivity. This enables companies to use digital resources more efficiently, improve productivity and reduce operational risks. As an economic model in the Internet era, platform economy relies on digital technology to realize resource sharing and optimal allocation. Therefore, the development of digital productivity provides support for the rise of platform economy.

The rise of platform economy provides new business models for enterprises, helps them flexibly respond to market changes, strengthen cooperation among enterprises, and realize efficient utilization of resources. But at the same time, it also puts forward higher requirements for enterprises. Enterprises need to have keen market insight, high-quality products and services, efficient operation and management capabilities, and open innovation thinking to adapt to the development of the digital era.

Digital productivity and the platform economy complement each other. Only by continuously promoting the development of digital productivity and improving the efficiency of platform economy can we promote the sustainable development of digital economy and promote the prosperity of society and economy.

5. Conclusion

Digital productivity has been the focus of research in the fields of economics, management and social sciences in recent years. The purpose of this study is to explore the theme that the connotation of digital productivity goes beyond the digitization of productivity, and to analyze the relationship between digital productivity and productivity efficiency, innovation ability and competitiveness. By means of literature review, this paper systematically sorts out the core results of digital productivity related research.

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In terms of digital productivity and production efficiency, the manufacturing industry realizes the automation and intelligence of the production process by means of digitalization, which not only reduces the production cost, but also greatly improves the production efficiency and product quality. In the service sector, digital transformation also plays a significant role, such as finance, medical care, education industries, with the help of digitalization to reduce service costs, improve service quality and efficiency.

When it comes to digital productivity and innovation, digital technology breaks the time and space limitation of information exchange and provides rich information resources for innovation. The rise of virtual teams and collaboration platforms enables members to interact and work together in real time through digital tools, which has greatly stimulated innovation vitality.

When focusing on digital productivity and competitiveness, digital technology helps enterprises reduce costs and increase efficiency, improve the quality of products and services, and enhance market competitiveness. In addition, digitalization promotes enterprise innovation, lays a solid foundation for sustainable development of enterprises, and helps enterprises explore a broader market and increase market share.

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