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Analysis of the Modernization Reform Path of Enterprise Management in the Era of Digital Intelligence Economy

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Abstract: With the advent of the digital-intelligence economy era, intelligence and networking have profoundly changed people's lifestyles and working methods, and also posed new challenges and requirements for enterprise management. Against this background, modern management has become a new trend in the transformation of enterprise management. Based on this, this paper conducts research on the modernization transformation path of enterprise management in the digital-intelligence economy era, expounds the impact of the digital-intelligence economy on enterprise management in China, analyzes the connotation of modernization of enterprise management, and proposes the modernization transformation path of enterprise management, aiming to provide theoretical reference and practical guidance for enterprises to achieve modern management in the wave of the digital-intelligence economy.

Keywords: Digital-intelligence economy era; Enterprise management; Modernization; Transformation path

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1. Introduction

In the present era, the digital intelligence economy has become the core driving force promoting global economic development, profoundly changing the economic structure and operation mode of society [1]. Chinese enterprises are in the midst of this wave, facing unprecedented opportunities and challenges. The rapid development of digital intelligence technology is reshaping the management concepts, organizational structures, and operation methods of enterprises in an all-around way. In-depth research on the impact of the digital intelligence economy on enterprise management and exploration of practical and feasible modernization transformation paths are of vital significance for enterprises to achieve sustainable development and enhance comprehensive competitiveness in the market competition.

2. An overview of modernization of enterprise management

Enterprise management modernization refers to a dynamic evolution process in which enterprises deeply integrate modern science and technology into the management system, promoting the elements and activities of the enterprise management system to be in line with and mutually promote the modern productivity level and its development trend marked by advanced material technology [2]. Modern management builds a complete management information system, uses emerging control technologies such as big data analysis and artificial intelligence algorithms, and constructs an efficient feedback mechanism to conduct all-around, real-time, and precise monitoring and correction of enterprise management activities, ensuring that the enterprise operation always moves forward along the established strategic direction. Enterprises can apply cutting-edge technologies such as cloud computing to promote the online and intelligent management of business flow, talent flow and capital flow, break information barriers, improve the efficiency of resource allocation and the accuracy of decision-making and the efficiency of execution, helping enterprises move steadily in the complex and changeable market environment and maintain a lasting competitive advantage [3].

3. The impact of the digital intelligence economy on the management of enterprises in our country

3.1. Actively promote the modern transformation of enterprises

With the rapid development of the digital economy, the economic and social framework of our country is undergoing a drastic transformation. Thanks to the rapid technological development and the upgrading of the industrial level, the flow of the labor force is gradually shifting from traditional fields to emerging industries, resulting in an unprecedented "reconstruction and differentiation" phenomenon in the economic and social structure. In the past, our country's economy was based on agriculture, and then shifted to manufacturing and service industries. However, driven by the modernized economy, the development impetus is now tilting towards high-tech and service-oriented industries [4]. Emerging industries such as electronic information, biotechnology, new materials, new energy, and marine technology are emerging with vigorous vitality and huge growth potential. This transformation is not only reflected at the industrial level but also profoundly influences the production and lifestyle of workers and farmers, pushing them to transform towards the tertiary industry, especially the new service industry in the digital economy. The rise of emerging industries has become a new driving force for economic growth, and its core lies in the heavy reliance on innovation and technology, which further promotes the optimization and upgrading of the economic structure [5]. Therefore, the transformation and upgrading of social enterprises has become crucial. By integrating into the digital economy, enterprises can not only enhance their competitiveness but also inject strong impetus into economic transformation and development.

3.2. The digital divide is constantly expanding

Today, with the vigorous development of the digital economy, our country is encountering a new social rift digital gap. In the past, the differences between urban and rural areas, between workers and farmers, and between mental and manual labor constituted the foundation of social inequality. However, in the digital wave, although these traditional differences have weakened, they have not completely disappeared. Instead, they have given rise to a new inequality, the digital gap. This gap is mainly reflected in the acquisition and application of digital resources, making the gap between enterprises and between urban and rural areas more and more obvious. Especially in the enterprise field, although some enterprises have completed digital transformation and enhanced their own

competitiveness, a large number of enterprises still have an extremely slow pace in the digital process due to the lack of technical talents and digital operation skills. In rural areas, the problems faced by enterprises are more prominent. The weak technical infrastructure and insufficient investment make their integration speed in the digital economy slow, and the distance from urban enterprises is getting wider and wider.

3.3. The proportion of knowledge-based economy has increased

In the current "new economy" landscape, the influence of past economic drivers, such as individual work efficiency and working hours, on business achievements is no longer as significant as before. This phenomenon highlights the coexistence and synergy between knowledge and capital. Under such circumstances, high technology and innovation ability have become the core elements of enterprise competition [6]. Research indicates that innovation and creativity have become the new driving forces for modern economic growth, that is, through innovative solutions to address the problems faced by enterprises and thereby achieve value enhancement. Moreover, innovation is not limited to the technical level; it also encompasses in-depth insights and applications of different cultural and knowledge backgrounds, which further enrich the diversity of resource allocation. However, this has also led to an intensification of social division, especially in the ability to acquire and apply knowledge and technology, resulting in a significant gap. This gap exists not only at the individual level but also among different enterprises and even different countries, making the polarization of economic and social development more prominent.

4. The modernization transformation path of enterprise management in the era of digital intelligence economy

4.1. Updating the enterprise management model and constructing a new organizational form

Traditional factory system organizations, bureaucratic organizations, and network system organizations have been difficult to adapt to the complex and changeable market environment brought about by the rapid development of digital intelligence technology. In the era of digital intelligence economy, the wide application of digital technology promotes the update of enterprise management models and organizational forms, and prompts the emergence and development of platform system organizational forms. In terms of goal setting, platform system organizations have broken through the limitation of taking simple profit as the sole core goal in the traditional way, emphasizing the sustainable development of the business ecosystem and pursuing a win-win situation for multiple parties. In practical applications, relying on algorithm management and combined with relevant data analysis, they can gain real-time insights into market dynamics, customer demands, and internal operation conditions, providing accurate and efficient support for enterprise decision-making [7]. Its organizational members are not the mechanical execution of specific job tasks in the traditional sense. Instead, relying on the resources and capabilities provided by the platform, they give full play to their professional advantages and actively participate in the innovation and optimization process of the entire life cycle of products or services, becoming active participants in value creation. Its organizational technology mainly takes the digital technology cluster as the underlying support architecture, covering cutting-edge technologies such as big data analysis, artificial intelligence algorithms, cloud computing services, and Internet of Things connections, forming the synergy of multiple technologies, breaking information barriers among all parties, and promoting the efficient flow and sharing of data and resources [8]. Taking the e-commerce platform as an example, enterprises can accurately grasp consumers' preferences and purchase trends through the in-depth mining and analysis of massive user transaction data, provide precise marketing

suggestions for settled merchants, and at the same time, use algorithms to optimize the logistics distribution path and improve the overall operational efficiency, thereby forming a new organizational form of a closed-loop ecosystem of products and services. Enterprises should focus on strengthening the construction of digital technology infrastructure and establishing governance mechanisms and incentive systems that adapt to platform-based operations to achieve efficient operation of the organization in the digital intelligence economy era [9].

4.2. Strengthening the management and application of algorithms and promoting the platformization of organizational forms

Against the background of the digital intelligence economy, the due role of algorithm management in enterprise management has been constantly prominent and has become an important driving force for the platform transformation of enterprise organizational forms. Platform-based organizations can utilize algorithm management technology to flexibly combine structures, resources, and capabilities, thereby enhancing the market response speed of enterprises. From the perspective of technical architecture, platform-based organizations can be divided into centralized platform-based organizations based on centralized technical architecture and distributed platform-based organizations based on distributed technical architecture [10]. Among them, centralized platform-based organizations rely on a unified central server and data center to efficiently integrate various resources within the platform and achieve centralized control of the operation process. For example, most current large-scale e-commerce platforms, by building a powerful central data processing system, conduct centralized storage and analysis of massive user data, merchant information and transaction data, and use algorithms to precisely match supply and demand sides, optimize product recommendations and search rankings, effectively improving the transaction efficiency and user experience of the platform. This model has relatively high data processing efficiency and accuracy, and can help the platform formulate unified strategic planning and operation strategies [11]. The distributed platform-based organization emphasizes the application of technologies such as blockchain and distributed ledgers to disperse data and business processing nodes to each participating entity, forming a decentralized organizational structure. This model has relatively flexible mechanisms such as task allocation and information provision, which can effectively mobilize the enthusiasm and creativity of all participants. Enterprises should rationally select the type of platform-based organization based on their actual situations and continuously optimize the governance mechanism and incentive system of the organization to promote efficient and sustainable development of the organization in the digital intelligence economy era [12].

4.3. Integrating the application of digital technology to promote the intelligentization of management functions

The integration of digital technology can promote the automation of repetitive management functions in enterprises and drive the intelligent development of enterprise management. First, it promotes the intelligentization of production and operation management. Digital technology can establish an intelligent self-organizing production mode, collect real-time equipment, logistics, and process data through the Internet of Things, and automatically optimize production scheduling based on information such as orders and inventories by relying on big data analysis and artificial intelligence algorithms. It precisely allocates resources, drives robots and automated equipment to collaborate according to algorithms, and independently completes material handling, processing, and quality inspection, effectively meeting the market's demand for product diversity. Second, it

realizes intelligent financial management with human-machine collaboration. The intelligent system uses OCR technology to recognize and input bills, applies blockchain to ensure data authenticity, and uses machine learning algorithms to analyze financial data, achieving intelligent budgeting, cost control, and risk warning [13]. It can imitate the thinking mode of humans for financial management and assist financial personnel in systematically analyzing data, improving the accuracy of financial management. Third, it realizes the intelligentization of human resource management. In the personnel interview process, digital technology can use intelligent algorithms for talent analysis, screen resumes with the help of natural language processing, and assist in interview evaluation with artificial intelligence, helping enterprises incorporate outstanding talents. In terms of employee training, digital technologies such as VR and AR create immersive scenarios, and algorithms customize personalized plans to enhance the pertinence and effectiveness of training. In performance management, digital technology can collect various data of employees, formulate salary levels that match employee performance, provide an objective evaluation basis for management personnel, and promote scientific and humanized management. The fourth is to achieve intelligent marketing management. Relying on digital technology, enterprises can collect consumer and market data through multiple channels, use data mining and machine learning to build portraits, accurately understand demands and trends, formulate personalized strategies, and achieve precise marketing. At the same time, it can also automatically optimize advertising placement, improve the input-output ratio of resources, and drive marketing innovation and efficient development.

4.4. Exploring the potential value of data and the shift to digitalization of production services

Nowadays, data has become the core asset of enterprises. Exploring its potential value and promoting the digital transformation of production services can effectively enhance the competitiveness of enterprises. In terms of data collection, enterprises should resort to advanced data collection technologies to extensively collect internal and external data, covering multi-dimensional information such as production processes, customer behaviors, and market dynamics, to ensure the comprehensiveness and accuracy of the data. Through processing procedures such as data cleaning, integration, and storage, a high-quality enterprise data pool is constructed, laying a solid foundation for subsequent analysis. During the data processing, enterprises can apply advanced algorithms such as machine learning and deep learning to deeply mine the massive data and reveal the patterns and trends hidden behind the data [14]. For example, by analyzing the purchase history and browsing behavior of customers, we can precisely understand the preferences of customer demands and provide a strong basis for product research and development and the formulation of marketing strategies. In terms of data analysis, data visualization technology can transform complex data into intuitive and understandable charts and graphs, enabling enterprise managers and employees to quickly understand key information and improve decision-making efficiency. For instance, using column charts to present the sales performance of different products and using line charts to show the changing trend of market share can assist enterprises in adjusting strategic directions promptly. In terms of digital applications, enterprises utilize data to provide value-added services to customers. For example, they combine data analysis to customize exclusive solutions for customers, carry out precise market analysis, industry trend prediction and other consulting services, achieve the transformation from traditional production services to digital and intelligent service models, promote the commercial utilization of data, maximize the release of data value, and gain an advantageous position in the fierce market competition [15].

5. Conclusion

To sum up, the era of digital intelligence economy has brought profound influences in many aspects to enterprise management. It not only vigorously promotes the modern transformation of enterprises and increases the proportion of the knowledge-based economy, but also brings challenges such as the expansion of the digital divide. The modernization reform of enterprise management is imperative in the era of the digital intelligence economy. By analyzing the application of digital intelligence economy to enterprise management and proposing modern management measures, such as building a new organizational form, strengthening algorithm management, and integrating digital technology and mining data value, it can provide effective guidance for enterprises to grasp the opportunities and challenges of the times. In the future development process, enterprises should continuously pay attention to the development trends of digital intelligence technology and actively explore innovative management models to achieve long-term development of enterprises and the continuous progress of the social economy.

Disclosure statement

The author declares no conflict of interest.

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