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Research on Supply Chain Human Capital from the Perspective of Digital Transformation

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Abstract: In today's digital information age, successful digital transformation has become a key factor affecting the life and future development of enterprises. The theme of this study is to enhance supply chain human capital from the perspective of digital transformation. The research method of this paper is: on the basis of differentiating the definition of human capital, analyzing the contradiction between the transformation of personnel structure in the supply chain and the development demand of human capital and the current situation of enterprises under digital transformation, and further exploring specific solutions. The study found that enterprises can cooperate with universities to improve the courses and competitions related to digital supply chain, strengthen the cultivation of employees 'understanding of supply chain digitalization enhance the physical and mental health detection of employees, cultivate employees to develop good self-health awareness to harvest higher-quality digital human capital, and society should create a digital humanistic environment suitable for the development of human capital, so as to complete the digital transformation more quickly and thoroughly.

Keywords: Digital Transformation, Supply Chain, Human Capital

1. Introduction

Since human beings entered the information age, people have paid more attention to digitalization year by year, and relevant policies have been issued continuously. In September 2020, SASAC of the State Council officially issued the Notice on Accelerating the Digital Transformation of State-owned Enterprises, which opened a new chapter in the digital transformation of state-owned enterprises. The digital revolution drives the cross-border and reconstruction of various industries [1]. Outline of the 14th Five-Year Plan for National Economic and Social Development and the Vision 2035 put forward the important strategic orientation of "accelerating digital development and building a digital China," and the report of the 20th National Congress of the Communist Party of China also clearly stated that "promoting the deep integration of digital economy and real economy." It can be seen that the choice of digital transformation is not only in line with technological development but also in line with policy-oriented strategic initiatives[2]. Some studies have found that digital transformation can boost revenue by 10%, procurement costs by 20%, and supply chain costs by 50% [3]. The importance of this is self-evident, but the reality is that 44.7% of enterprises are not aware of digital transformation, and nearly 20% of enterprises are preparing for digital transformation [4]. This illustrates the need for relevant research. At present, the relevant research mainly focuses on human resources, and the

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research on human capital is mainly carried out from the perspective of value network and technology empowerment, less considering the digital transformation situation, especially lacking how to improve human capital from the perspective of the supply chain as a whole. The significance of this study is to help enterprises improve internal human capital management, to better adapt to the development trend of the digital economy. Based on the definition of human capital, this study will analyze the transformation of personnel structure in the supply chain under digital transformation and the contradiction between human capital development demand and enterprise status quo, and further explore specific solutions.

2. Theory

The research in this paper is based on Schultz's human capital theory, which is to invest and manage people in the organization as capital, and the cost of the investment can be recovered in the process of improving productivity with greater returns, and the cost of the investment includes education, training, health care, other aspects of knowledge and health enhancement [5]. Meanwhile, according to human capital theory, developmental HR practices can be a win-win situation for both the organization and the employee by enhancing the employee's human capital and thereby improving in-role performance and job well-being [6]. Whereas traditional human resources are not obsolete, they just serve as the basis for human capital management. Human capital management focuses more on the interaction between investment and return and combines market analysis to formulate investment plans, which are relatively more rational, longer-term forecasts, and more forward-looking actions taken.

3. Discussion on Enterprise Digital Transformation

3.1. Analysis of Digital Transformation of Supply Chain

Digital transformation of China's corporate supply chain can learn from Tesla's corporate strategy. China's current digital transformation problems faced by enterprises are mainly due to the lack of human capital with digital thinking, and the lack of domestic digital transformation in the supply chain can learn from the case of outstanding enterprises. Tesla can rely on digital transformation to innovate its profit model, and its market value once exceeded 700 billion US dollars, reaching the top of the world's largest automobile company by market capitalization [7], which is not possible without its unique vision and excellent performance. Tesla's market value once exceeded $700 billion, and it became the world's largest automobile company by market capitalization [7], which cannot be separated from its unique vision and excellent strategy. Tesla adopts a direct sales model, making full use of digital technology to eliminate the middleman link as well as digital marketing to improve marketing efficiency [8]. Another key decision for Tesla's success is the supply chain digital transformation strategy, including "building a smart energy management platform to realize the layout of the ecosystem" and "self-researching management system to build a supply chain digital management system", "Adopting the 'in-person experience + network direct sales' model to build a digital customer service model", "'digital intelligent' manufacturing to efficiently achieve capacity enhancement" and "digital technology innovation to create a leading edge" [9]. This strategy covers R & D to production and even sales, the cost and efficiency of each link through digitalization to enhance the degree of traditional car companies cannot be expected, which naturally brings Tesla's market value soaring. Domestic enterprises can follow Tesla's example and use the digital supply chain to make the information between the upstream and downstream of the whole chain more transparent and reduce unnecessary losses and cost increases due to the information gap. At the same time opening the online and offline trade information barriers, so that customers are no longer subject to the limitations of spatial distance will certainly bring revenue growth and cost reduction.

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In the era of digital transformation, the personnel structure required by enterprises has changed [10]. Modern supply chains no longer require simple repetitive labor, but complex talents who are proficient in digital analysis, digital thinking, and understanding of digitalization based on supply chain expertise. And the demand for such human capital is growing, because the core of digitalization is not technology, but digital talent. In addition to the hard conditions such as capital, equipment, and technology, the digitization of talents with digital skills is also an important factor in the interview of the necessary conditions for enterprise digital transformation. Talent is also the foundation of enterprise transformation, which is based on the actual needs of business operation, puts forward digital requirements, applies digital technology, and integrates digitalization with the needs of business development, which determines how far an enterprise can go on the road of digital transformation [4]. Thus, increasing the amount and caliber of digital human capital has emerged as the primary goal. The first step should be to encourage education that is tailored to the needs of the individual and to increase the degree of digital specialization of human resources. Start by improving the quality of education and training in digital technology, which is the basis for the training of "digital talents" and an important factor in enhancing human capital as an important factor of production to promote economic growth in the current digital era. For those who master basic technology, the most important thing is to consolidate the basic technology, which is the foundation of digital technology research and development, and also the prerequisite for improving the quality of digital technology education and training. For those who master applied technology, it is important to enable them to master and be able to use digital technology flexibly and carry out innovation in the use of digital technology.

The second step is that there is a lack of courses in universities that can match the contents of basic or applied technician courses with the needs of enterprises at this stage. Although some practical training courses are provided, there is still a big gap between the controlled environment in the courses and the real complex environment in society, which cannot play a real and effective training effect, and there is limited competition for basic technicians in China at present. Currently, there are very limited competitions for basic technicians in China, the largest of which is the "Xinhua San Cup" National Student Digital Technology Competition organized by Xinhua San Group since 2010, but there is still a lack of competitions that can deliver talent to enterprises and improve the quality of students that enterprises can actively cooperate with colleges and universities, and create practical training combining the complex environment of the society and the reality of the supply chain of the enterprises. It is hoped that enterprises can actively cooperate with universities to create practical training that combines the complex social environment and the real problems of the enterprise supply chain. At the same time, enterprises can also participate in the design of the school curriculum, replacing the previous broad generalized teaching content, and promoting students to master the important ability of learning to use. In addition to the school curriculum, enterprises can set up the best possible "digital innovation competition" to attract the active participation of colleges and universities in various regions and use the competition as a substitute for teaching, so as to cultivate a more comprehensive digital mindset for the students and at the same time absorb the excellent digital talents, to enhance the value of the digital human capital of their enterprises. Enterprises can regularly hire supply chain digital transformation talents to carry out relevant lectures to strengthen the understanding of enterprise employees on supply chain digitalization, and indirectly cultivate digital thinking. The government should also give strong support to such events to form a virtuous cycle.

Enterprises want to achieve digital transformation, the most critical thing is to change the digital management and operation mode, in addition to the enterprise staff to enhance their digital technology capabilities, managers should also form a "digital" thinking consciousness. The current problem in universities is that for general talents, digital thinking training is not yet a complete and mature system,

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the enterprise also lacks a comprehensive overall "digital" training program, which is also the current domestic traditional enterprise digital transformation difficulties, one of the important factors of slow progress. For this problem, colleges and universities should improve the quality of the curriculum, teachers in the teaching process should pay attention to cultivating students' sensitivity to digitalization, improve students' sensitivity to the changes in the development of the digital economy, and exercise the students' ability to digitize traditional problems and things. At the same time, due to the lack of mature digital thinking teachers, colleges and universities can carry out cross-campus or even transnational exchanges to learn the methods and systems of other colleges and universities for the cultivation of digital talents, to learn from their strengths and weaknesses, and to integrate them. The government should also introduce relevant policies and regulations to encourage the introduction of foreign digital talents, so that they face the teachers and students of colleges and universities to carry out relevant lectures and forums, so that teachers and students have zero distance contact with the most cutting-edge thinking, to strengthen the understanding of the whole school for digital, and indirectly cultivate a digital mindset.

In order to realize the digitization of human capital technology and thinking not only follow up through the perfection of the above methods and systems but also create a digital humanistic environment suitable for the development of human capital. Now in our daily work, study, and life, more and more digital technologies and tools are widely used, but there are still great differences in people's understanding of the digital economy, especially the middle-aged and elderly groups with relatively weak learning and adaptability, who have certain problems with the understanding of "big data", "cloud computing" and "artificial intelligence" or the use of tools. In addition, there are also differences in the perception of digitization in different regions of China. Digitalization is uneven between urban and rural areas and between the east and west. In this regard, the government should introduce policies that call on citizens to work together to create a humanistic environment conducive to the digital development of human capital. For the community, "digitalization in the community" should be carried out, so that residents can experience the practical convenience of digital technology and digital tools for life through practical contact. For education and teaching in primary and secondary schools, it is recommended that basic courses on digital literacy education be offered. Teachers are encouraged to improve their basic digital skills and enhance their ability to use digital technology tools, assisted by digital infrastructure equipment so that the classroom content is integrated with the development of the digital economy so that children from an early age have a perceptual understanding of the digital foundation for the future to become a composite of digital talents to pave the way. For middle-aged and elderly people, community volunteers can be used to publicize, so that they understand the part of their lives that is facilitated by digitalization, so that they understand that "digitalization is beneficial", to eliminate the negative stereotypes of digitalization that they have previously retained [11].

In addition to the promotion of knowledge, skills, etc., as a carrier of human capital, the self-health index is also one of the key factors determining the price of human capital [12]. According to Maslow's hierarchy of needs theory, health belongs to human security needs and plays a vital role in the role of human capita [12]. That is to say, the effective supply index of unit human capital is positively correlated with the healthy index of human capital carriers under the premise that the price per unit of human capital remains unchanged. If human capital wants to realize efficiency and effect, it must be built on a healthy human capital carrier. A large number of micro and macro data have proved that labor productivity improvement, economic growth, and healthy human capital are closely related [13]. Therefore, in terms of physiology, enterprises should also strengthen the health detection of enterprise employees, popularize health care and disease prevention knowledge in daily work and life, and cultivate employees to develop good self-health awareness. Psychologically, the company should set up psychological counseling rooms, venting rooms, and other places that can relieve

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employees 'stress or depression. The company itself should also encourage employees to go to such places and encourage employees to take leave when they feel that they are not suitable for continuing to work, to avoid more serious consequences caused by excessive negative emotions accumulated by employees.

3.2. Results&Discussion

The research shows that although most enterprises in China are in the initial stage of digital transformation, they can use Stella's successful experience for reference to carry out preliminary digital transformation strategy deployment. In the aspect of training digital talents teach students according to their aptitude and improve the quality of digital technology education and training. Enterprises should cooperate with colleges and universities to integrate the actual social environment and situation as well as the actual needs of enterprises into the curriculum design, to promote the improvement of students 'practical application skills. The government should launch relevant competitions to replace teaching with competition, and vigorously introduce overseas digital transformation talents to hold lecture forums. At the same time create a digital humanistic environment suitable for the development of human capital, starting from the three levels of community, primary and secondary schools, and middle-aged and elderly people, to thoroughly stimulate the vitality of digital transformation in China. In addition, enterprises should also strengthen the supervision and attention to employees 'own health index to ensure the physical and mental safety of employees. Through such perfect cultivation, enterprises can harvest higher-quality digital human capital and complete digital transformation more quickly.

4. Conclusion

This study finds that domestic enterprises lack corresponding digital human capital in the supply chain during the successful digital transformation process of Tesla Company, so it is urgent to cultivate corresponding human capital. Training can start with the cooperation between enterprises and universities, first change the curriculum design and content, improve the quality of digital technology education and training, then promote the popularization of digital knowledge in the community, and then the education of primary and secondary schools should also be connected with digitalization so that the whole society can understand digitalization and be familiar with digitalization, to prepare for the further cultivation of digital human capital in the future. The government should also play an auxiliary role, actively issue relevant policies, introduce talents in the digital transformation of the supply chain, and hold competitions to replace teaching with competition. While improving skills and knowledge, enterprises should also pay attention to the physical and mental health of employees. Only by ensuring the health index of human capital carriers can the efficiency effect of human capital be brought into play. Future studies can be detailed in the above sections to facilitate in-depth study of this topic.

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