

Social inequality and economic sustainability in the context of digital transformation

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Abstract: The impact of digital transformation on social inequality is an important issue. This article first introduces the definition and background of digital transformation, and then explores the three main impacts of digital transformation on social inequality: changes in the job market, differences in skills and education, and inequality in wealth and income distribution. To address these impacts, regulatory measures for digital transformation are proposed: improving education and training levels, improving social security and welfare systems, and promoting fair competition. Explore the practice and challenges of regulating social inequality in China's digital transformation. Finally, this article summarizes the impact of digital transformation on social inequality and the importance of regulation, and proposes corresponding policy recommendations.

1. Introduction

With the rapid development and popularization of information technology, digital transformation has become an important trend on a global scale. Digital transformation refers to the process of transforming traditional economic, social, and cultural activities into digital forms, and utilizing digital technology for innovation and upgrading. The digital transformation has had a profound impact on social inequality and requires social attention and attention. Only through reasonable regulation and policy measures can we minimize the inequality brought about by digital transformation and promote sustainable and inclusive development of society.

2. The definition of digital transformation

Digital transformation refers to the process of using digital technology to change and optimize traditional economic, social, and cultural activities. It encompasses comprehensive changes in business models, organizational structures, processes, and culture to meet the needs and challenges of the digital age. The core of digital transformation is to transform traditional patterns and methods into digital forms, and achieve efficiency improvement, innovation, and value creation through the application of digital technology.

2.1. Concept and Background of Digital Transformation

With the rapid development and popularization of information technology, digital transformation

has become a hot topic in various industries around the world. Traditional industries such as manufacturing, retail, and finance are actively exploring how to utilize digital technology for transformation and innovation. The concept of digital transformation may have different meanings in different fields, but overall, it refers to the process of digitizing, intelligentizing, and networking traditional businesses, processes, and services. The background of digital transformation is the rapid development of information technology and the emergence of global digital waves. The rapid progress of technologies such as the Internet, cloud computing, big data, and artificial intelligence has provided strong support and impetus for digital transformation. At the same time, global economic competition and market changes have also prompted enterprises and organizations to accelerate the pace of digital transformation in order to maintain competitiveness and adapt to market demands.

2.2. Characteristics and influencing factors of digital transformation

Digital transformation is a comprehensive transformation that involves not only the digitization of traditional businesses, but also a comprehensive transformation of business models, organizational structures, processes, and culture. This comprehensive transformation requires enterprises and organizations to start from top-level design and incorporate digital transformation into the entire process of strategic planning and business development. Due to the rapid development of technology and market, digital transformation requires continuous innovation and adjustment. Enterprises and organizations need to constantly explore new technologies and applications, flexibly adjust strategies and business models to adapt to changes in the market and demand. In the process of digital transformation, enterprises and organizations often need to collaborate with different partners to jointly promote the process of digital transformation. Cross departmental and cross industry cooperation can achieve resource sharing, innovation sharing, and risk sharing, further accelerating the pace of digital transformation. Digital transformation requires leaders to possess digital thinking and leadership skills, and be able to lead organizational change and innovation. At the same time, the participation and consensus of all staff are also key to digital transformation, and it is necessary to cultivate employees' digital abilities and awareness, and create a good digital culture and atmosphere.

2.3. Current Status and Trends of Digital Transformation

In today's society, digital transformation has become an inevitable trend in the development of enterprises, industries, and even the entire society. With the rapid progress of technology, especially the rapid development of technologies such as the Internet, big data, and artificial intelligence, digital transformation is profoundly affecting all aspects of society.

From the perspective of enterprises, digital transformation has become an important means to enhance their core competitiveness, optimize production efficiency, and improve user experience. Many enterprises are increasing their investment in digital transformation, promoting the digitization and intelligence of internal management, production, sales, and other processes. In this process, enterprises not only need to solve the problem of information silos and improve data accuracy, but also pay attention to the cultivation of digital literacy among employees to cope with industry changes.

From an industry perspective, digital transformation presents clear industry characteristics. Taking the manufacturing industry as an example, the digital transformation of China's manufacturing industry faces many challenges, such as changes in the mindset of senior management, information silos, and a focus on automation over digitization. However, at the same time, digital transformation has also brought new opportunities to the manufacturing industry, such as intelligent manufacturing, personalized production, and supply chain optimization. In addition, as an important foundation of China's real economy, the digital transformation of small and medium-sized enterprises is of great

significance for promoting economic growth, improving employment, and promoting innovation.

From a societal perspective, the profound impact of digital transformation on society has gradually become apparent. On the one hand, digital transformation has driven the development of emerging industries, created a large number of employment opportunities, and promoted economic growth. On the other hand, digital transformation has also brought a series of social problems, such as privacy protection, network security, and widening income inequality. Therefore, in the process of promoting digital transformation, governments, enterprises, and individuals need to pay attention to these issues and take corresponding measures to regulate them.^[1]

3. The impact of digital transformation on social inequality

3.1. Changes in the job market

3.1.1. The disappearance of traditional positions and the emergence of emerging positions

The digital transformation has had a profound impact on the job market. With the application of automation and intelligent technology, some traditional labor positions may gradually disappear. For example, in the manufacturing industry, the emergence of automated production lines has reduced the demand for manual labor. Meanwhile, digital transformation has also brought about emerging positions such as data analysts, software engineers, and network marketers. This change has led to structural changes in the job market, and some people may face the risk of job loss.

3.1.2. Alternative effects of technology on low skilled workers

The substitutive impact of digital transformation on low skilled workers cannot be ignored. On the one hand, the application of automation and robotics technology puts some low skilled labor positions at risk of being replaced. For example, in the fast food industry, the popularity of self-service ordering machines has reduced the demand for waiters.^[2] On the other hand, digital transformation also requires certain skills and knowledge, and for low skilled workers, they may face challenges in adapting to digital transformation. These changes may lead to inequality in the job market, enhance the competitive advantage of high skilled talents, and further marginalize low skilled groups.

3.2. Differences in Skills and Education

3.2.1. The demand for digital skills and educational imbalance

The demand for talents in digital transformation is increasing day by day, especially for talents with digital skills, which is growing rapidly. However, there is an imbalance between the readiness of the education system and the cultivation of digital skills. Traditional education often fails to meet the needs of the digital age, and both school education and vocational training face lagging and insufficient digital transformation. This has led to differences between skills and education, further exacerbating social inequality.

3.2.2. Uneven distribution of educational resources and digital divide

The uneven distribution of educational resources is also a major factor in social inequality caused by digital transformation. Some regions and groups may lack opportunities and resources for digital education, putting them at a disadvantage in digital transformation. The existence of this digital divide allows a few people to better adapt to and benefit from digital transformation, while the majority face the risk of marginalization.^[3]

3.3. Inequality of wealth and income distribution

3.3.1. Concentration and uneven development of the digital industry

Digital transformation has not only had an impact on the job market, but also on wealth and income distribution. The development of the digital industry often presents a trend of concentration and uneven development. Some large technology companies have taken a dominant position in digital transformation, accumulating enormous wealth. However, other traditional industries or small and medium-sized enterprises may face competition challenges, which further exacerbates wealth inequality.

3.3.2. The Instability of Digital Platform Economy and Employment Relationships

The digital transformation has driven the rise of the digital platform economy, such as the sharing economy and online retail. However, this new economic model has also brought about instability in employment relationships. Many people participate in the digital platform economy as freelancers or gigs, facing lower incomes and a lack of security. This unstable employment relationship further exacerbates wealth and income inequality.^[4]

4. Regulatory Measures for Digital Transformation

4.1. Improvement of education and training

4.1.1. Reform and Improvement of Digital Skills Education

In order to address the inequality caused by digital transformation in skills and education, it is necessary to reform and improve digital skills education. Firstly, strengthen the cultivation of digital skills in basic education. Starting from primary school, digital skills should be included in the curriculum to cultivate students' digital literacy and information technology abilities. This can be achieved by adding relevant courses, optimizing educational resources, and strengthening teacher training. Secondly, provide a wider range of digital skills training opportunities. In addition to basic education, it is also necessary to establish and improve vocational training mechanisms to provide digital skills training for the general population. This can be achieved through building vocational training institutions, conducting online courses, and providing practical opportunities.

4.1.2. The enrichment and flexibility of vocational training

In order to improve the ability of workers to adapt to digital transformation, it is necessary to enrich and activate vocational training. Firstly, the content of vocational training needs to be closely integrated with digital transformation. Training institutions and enterprises need to adjust and update training content in a timely manner based on economic development and industry changes, ensuring the practicality and foresight of training. Secondly, provide diverse training methods and channels. In addition to traditional face-to-face training, flexible training methods such as online education and remote training can also be explored to meet the needs of different groups of people. In addition, internal training and supply chain training can be actively carried out to improve the coverage and flexibility of vocational training.^[5]

4.2. Improvement of social security and welfare system

4.2.1. Adjustment of social security policies to adapt to digital employment

The digital transformation has had a profound impact on the employment situation and employment relationships, therefore social security policies need to be adjusted accordingly. We

should improve the social security system that adapts to new forms of employment. Traditional social security systems often target traditional labor relations and employment forms, and lack protection for emerging forms of employment such as freelancers and gig workers. Therefore, it is necessary to adapt to the characteristics of the digital economy, explore the establishment of a social security system suitable for new forms of employment, and provide corresponding insurance and welfare protection. Strengthen the connection and mutual recognition of cross regional and cross industry social security, and digital transformation has increased personnel mobility, especially making cross regional and cross industry employment more common. In order to protect the rights and interests of workers, it is necessary to strengthen the connection and mutual recognition of social security between different regions and industries, and ensure that the social security rights and interests of workers are not damaged due to changes in employment.

4.2.2. The establishment and improvement of inclusive welfare system

Digital transformation may exacerbate wealth and income inequality, therefore it is necessary to establish and improve inclusive welfare systems to ensure fair distribution of social resources. Strengthen the provision of basic public services, which are the foundation of social security. We should ensure the universality and quality of basic public services such as education, healthcare, and housing, so that everyone can enjoy these services equally. Establish and improve a social welfare system, which includes unemployment insurance, pension insurance, medical insurance, etc. It should provide basic social security for everyone through inclusive institutional design and protection mechanisms. Digital transformation may lead to unemployment and income decline for some people, so it is necessary to strengthen the capacity and coverage of poverty alleviation and social assistance to ensure that the poor and vulnerable groups receive sufficient assistance and protection.

4.3. Promotion of Fair Competition

4.3.1. Strengthen antitrust supervision and market norms

Strengthening antitrust regulation and market norms is a crucial step in promoting fair competition. Monopoly behavior can cause the market to lose competitiveness, leading to the abuse of market dominance by enterprises, restricting the development of competitors, and bringing unfair treatment to consumers. Therefore, strengthening antitrust supervision and cracking down on monopolistic behavior is the primary task of maintaining fair competition. In order to achieve this goal, the government should formulate and improve anti-monopoly laws and regulations, and strengthen monitoring and punishment of monopolistic behavior. At the same time, it is necessary to strengthen market supervision, establish sound market norms and access systems, and prevent the occurrence of market misconduct. In addition, the government should also strengthen the evaluation and research of the market competition environment, grasp the market competition situation, and timely discover and solve market problems.^[6]

4.3.2. Promote the standardization of platform economy and the stability of labor relations

With the development of internet technology, the platform economy has flourished in various industries. However, due to the particularity of the platform economy, there are some issues of unfair competition, such as insufficient protection of the rights and interests of workers by platform enterprises, unclear labor contract relationships, and the loss of stable job security for workers. In order to promote fair competition, it is necessary to strengthen the standardization of the platform economy. Firstly, the government should formulate relevant laws and regulations to clarify the responsibilities and legal status of platform economy operators, clarify the labor relationship between workers and platform enterprises, and protect the rights and interests of workers. Secondly, the government should strengthen the training and education of platform economy practitioners, enhance

their skill level and employment competitiveness, and provide more employment opportunities and development space for workers. The government should also strengthen the supervision of platform economy enterprises to prevent them from abusing their dominant market position and limiting the development of competitors.

4.4. Policy level regulation

The government should ensure fair and just market competition in the process of digital transformation, and avoid monopolies and unfair competition behaviors. Provide appropriate policy support to emerging digital industries, help enterprises overcome the threshold of digital transformation, and improve market competitiveness. Strengthening data management and protection: The government needs to establish and improve data management regulations to safeguard citizens' privacy rights and data security. Optimizing tax policies: The government should adjust its tax policies and provide tax exemptions and other preferential policies for enterprises and individuals undergoing digital transformation. This will help reduce the cost of digital transformation for enterprises, increase individual participation in digital transformation, and thus narrow the income gap. Strengthening infrastructure construction: The government should increase investment in digital infrastructure, especially in the central and western regions and rural areas, to ensure the coverage and penetration rate of digital transformation and provide equal opportunities for digital development for all. Developing talent cultivation policies: The government should attach importance to the cultivation of digital talents, strengthen cooperation with enterprises, universities, and research institutions, provide training and educational resources, improve the digital skills of workers, and provide talent support for digital transformation. ^[7]Encourage enterprises to fulfill their social responsibilities: The government should guide and encourage enterprises to fulfill their social responsibilities in the process of digital transformation, pay attention to vulnerable groups, and take measures to reduce the impact of digital transformation on social inequality. Strengthen supervision and evaluation: The government should effectively supervise the process of digital transformation to ensure the effectiveness of policy implementation.

4.5. Enterprise level regulation

As an important component of society, the digital transformation of enterprises plays a crucial role in regulating social inequality. Enterprise level regulation is mainly reflected in fulfilling corporate social responsibility, promoting industrial upgrading and innovation, and paying attention to employee training and well-being. ^[8]Fulfilling corporate social responsibility: In the process of digital transformation, enterprises should pay attention to social equity and sustainable development, and actively fulfill their social responsibilities. Enterprises can help vulnerable groups adapt to digital transformation and narrow the digital divide through public welfare activities, industrial poverty alleviation, and investment in educational resources. Promoting industrial upgrading and innovation: Enterprises should seize the opportunities brought by digital transformation, accelerate industrial upgrading and innovation, and provide more development opportunities for employees. Enterprises should pay attention to employee training and skill enhancement, improve their digital literacy, and adapt to the needs of digital transformation. Pay attention to employee training and well-being: In the process of promoting digital transformation, enterprises should pay attention to employee training and well-being. Enterprises should provide sufficient training resources for employees, help them improve their digital skills, and enhance their market competitiveness. At the same time, enterprises should pay attention to the mental health of their employees, alleviate the pressure brought about by digital transformation, and create a good working environment. Creating a fair competition environment: In the process of digital transformation, enterprises should follow the principle of fair competition and avoid unfair competition behavior. Enterprises should establish good competitive and cooperative relationships with peers in the same industry, and jointly promote the sustainable

development of the industry. Establishing internal control mechanisms for enterprises: Enterprises should establish internal control mechanisms and pay attention to social inequality issues in the process of digital transformation.

5. Practice and challenges in regulating social inequality in China's digital transformation

5.1. Policy formulation and implementation

In China, the government attaches great importance to the issue of social inequality in the process of digital transformation and has taken a series of measures to regulate it. The Chinese government has carried out top-level design for regulating social inequality in digital transformation, clarifying the overall goals, development direction, and policy measures of digital transformation. This helps to ensure social equity and sustainable development in the process of digital transformation. The government has formulated a series of policies and regulations, such as the Data Protection Law and the Cybersecurity Law, to safeguard citizens' privacy and data security, and maintain social fairness. The government supports fair competition among enterprises in the process of digital transformation through financial support, tax incentives, and other policies, improves the digital skills of workers, and narrows the income gap. Strengthen the supervision of the digital transformation process, regularly evaluate the effectiveness of policy implementation, and adjust policy measures in a timely manner to achieve the goals of digital transformation and social equity. However, in the process of policy formulation and implementation, China also faces some challenges, such as insufficient policy implementation, insufficient regulatory measures, and an imperfect policy effectiveness evaluation system. ^[8]

5.2. Enterprise Digital Transformation and Social Responsibility

In the process of digital transformation in China, enterprises, as important participants, are closely related to their digital transformation and social responsibility. On the one hand, enterprises need to pay attention to fair competition and employee well-being in the process of digital transformation; On the other hand, enterprises should actively fulfill their social responsibilities and help solve social inequality issues in the process of digital transformation. Enterprises should pay attention to fair competition in the process of digital transformation. Enterprises should follow the principle of fair competition, avoid unfair competition behavior, establish good competitive and cooperative relationships with peers in the industry, and jointly promote the sustainable development of the industry. In addition, enterprises should also pay attention to the training and well-being of employees, provide sufficient training resources for employees, improve their digital literacy, and alleviate the pressure of digital transformation. ^[9] Enterprises should actively fulfill their social responsibilities. Enterprises can help vulnerable groups adapt to digital transformation and narrow the digital divide through public welfare activities, industrial poverty alleviation, and investment in educational resources. Enterprises should also pay attention to the impact of digital transformation on social inequality, and jointly explore solutions with governments, social organizations, and others to help solve social problems. However, in the process of enterprise digital transformation, there are also some challenges, such as weak social responsibility awareness and uneven development among enterprises.

5.3. Personal Ability Enhancement and Guarantee

In the process of digital transformation, improving and ensuring personal abilities is a key link. Governments, enterprises, and individuals should all pay attention to this issue, work together to enhance personal digital literacy, and ensure the development rights and interests of individuals in the process of digital transformation. The government should formulate relevant policies, increase

investment in personal digital literacy training, and improve the digital literacy of the entire population. The government should also pay attention to vulnerable groups and provide targeted training resources to help them adapt to digital transformation. Enterprises should pay attention to the training and well-being of their employees, provide them with sufficient training resources, improve their digital literacy, and alleviate the pressure of digital transformation. At the same time, enterprises should pay attention to the psychological health of employees and create a good working environment. Individuals should actively enhance their digital literacy, pay attention to development opportunities in the process of digital transformation, and enhance market competitiveness. Individuals should establish correct values, actively respond to the challenges brought by digital transformation, and continuously improve their abilities and qualities.^[10]

6. Conclusions

The impact and regulation of digital transformation on social inequality is a complex and long-term process that requires the joint efforts of the government, enterprises, and individuals to strengthen policy formulation and implementation, promote digital transformation and social responsibility of enterprises, focus on improving and ensuring individual capabilities, and achieve the goals of digital transformation and social equity. Through these measures, it is expected to reduce social inequality in the process of digital transformation, promote economic growth, improve people's livelihoods, and achieve sustainable development.

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