The driving role of digital inclusive finance in the transformation and upgrading of industries with high carbon emission intensity

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Abstract. Digital inclusive finance, as an important application field of financial technology, is changing the traditional mode of financial services and providing new solutions for industries with high carbon emission intensity. In this rapidly developing era, digital inclusive finance is playing a positive driving role in promoting the transformation and upgrading of industries with high carbon emission intensity.

Keywords: Digital inclusive finance; Carbon emission industry; Transformation and upgrading.

1. Introduction

With the highlighting of global environmental issues, carbon reduction has become an urgent and important issue. However, industries with high carbon emission intensity face enormous challenges. How to achieve a balance between economic prosperity and environmental protection has become an urgent problem to be solved.

2. Digital Inclusive Finance Assists Accurate Analysis of Industry Data

With the continuous progress of big data and artificial intelligence technology, digital inclusive finance provides more accurate data analysis capabilities for industries with high carbon emission intensity. By integrating multidimensional data, including information on upstream and downstream industries, resource utilization, and environmental indicators, digital inclusive finance can help enterprises gain a deeper understanding of their carbon emissions and develop targeted improvement plans. Digital inclusive finance assists in accurate analysis of industry data in industries with high carbon emission intensity. In recent years, global climate change issues have become increasingly severe, and reducing carbon emissions has become a global consensus. However, to address this issue, we need more data and analysis on carbon emissions. Digital inclusive finance is gradually playing its role in precise analysis of industry data, helping to identify and solve industries with high carbon emission intensity.

Digital inclusive finance refers to the use of information and communication technology to make financial services more inclusive, enabling more people to benefit from financial services. Its core lies in the collection and analysis of a large amount of data, which is transformed into valuable information through technological means such as artificial intelligence and machine learning, helping decision-makers make more accurate and efficient decisions. The role of digital inclusive finance in industries with high carbon emission intensity cannot be ignored. Taking the energy industry as an example, coal, oil, and natural gas are the main sources of carbon emissions. Through the technological means of digital inclusive finance, we can conduct real-time monitoring and analysis of energy consumption and carbon emissions, thereby better assessing the environmental impact of the industry. This provides important information for decision-makers to help them develop more comprehensive and effective emission reduction policies.

In addition, digital inclusive finance can also reveal potential problems in industries with high carbon emission intensity through data analysis and provide solutions. For example, in the manufacturing industry, outdated production equipment and processes can lead to energy waste and increased carbon emissions. Through in-depth analysis of industry data, digital inclusive finance can identify these issues and provide corresponding technical improvement suggestions to help

enterprises achieve emission reduction goals. In addition, digital inclusive finance can also promote cooperation between industries through data sharing to reduce carbon emissions. Through the establishment of a data platform, different enterprises can share data and collaborate, thereby optimizing the resource allocation of the entire industry and reducing overall carbon emissions. This cooperation can not only enhance the competitiveness of the entire industry, but also promote sustainable development of the industry.

3. Inclusive finance supports green technology innovation

The development of digital inclusive finance not only provides data support for industries with high carbon emission intensity, but also promotes innovation in green technology. Through the financial technology platform, investors can easily understand and participate in green technology projects, providing financial support for the promotion of low-carbon economy. At the same time, digital inclusive finance can also provide financing channels for enterprises and accelerate the commercialization process of green technology. In recent years, with the increasingly prominent issue of global climate change, people's demand for green technology has been increasing. In the development of green technology, industries with high carbon emission intensity face enormous challenges. In order to address this issue, the emergence of digital inclusive finance has provided new opportunities for these industries.

The so-called digital inclusive finance refers to providing financial products and services, including payment and financial services, to the general public through digital technology and internet platforms. Green technology is one of the important development directions. The promotion of digital inclusive finance can not only provide financial support for green technology innovation, but also help industries with high carbon emission intensity achieve transformation and upgrading. Traditional financial institutions often have insufficient risk awareness in industries with high carbon emissions, resulting in greater difficulty in financing. Through information technology and big data analysis, digital inclusive finance can gain a more comprehensive understanding of the industry's characteristics and potential, and reduce financing risks. In addition, digital inclusive finance can also provide a convenient application process and a fast approval mechanism, reducing the time cost of financing in industries with high carbon emission intensity.

Industries with high carbon emission intensity face enormous pressure and difficulties in reducing emissions. And digital inclusive finance can promote innovation and application of green technology through investment and support in these industries. For example, through digital inclusive finance platforms, investors can directly participate in green technology projects, provide financial support for innovation, and share the benefits of technological innovation. This model can not only reduce the cost of innovative development in industries with high carbon emission intensity, but also provide more investment opportunities and returns for investors. In the process of economic and social transformation, industries with high carbon emission intensity often face the problem of industrial upgrading. Digital inclusive finance can help these industries achieve transformation and upgrading by providing a series of services such as technical consulting and market development. At the same time, digital inclusive finance can also provide a broader platform for information and resource sharing for industries with high carbon emissions, promote industry cooperation and exchange, and promote the development of the entire industry towards a green and low-carbon direction.

4. Digital inclusive finance reduces industry transformation costs

Industry transformation and upgrading require a large amount of capital investment and resource adjustment, while digital inclusive finance provides more flexible financing and payment methods for enterprises. By leveraging technologies such as the internet and mobile payments, enterprises can more efficiently achieve financing and capital flow, reducing the costs and risks of industry transformation. Digital inclusive finance refers to the combination of financial services and digital

technology to provide affordable and convenient financial services to the general public. In the current global transformation process, some industries have increased their transformation costs due to their high carbon emission intensity. However, the development of digital inclusive finance has provided new solutions for these industries to reduce transformation costs. The energy industry is currently one of the industries with the most severe carbon emissions in the world. Traditional energy enterprises face enormous investment pressure and technological challenges in reducing carbon emissions during the transformation process. However, digital inclusive finance provides more precise and efficient energy management solutions through the use of technologies such as big data and artificial intelligence, helping energy companies improve energy efficiency, reduce carbon emissions intensity, and fundamentally reduce transformation costs.

The traditional manufacturing industry has accumulated a large amount of carbon emissions in the long-term development process, and green transformation is crucial for its sustainable development. Digital inclusive finance can encourage manufacturing enterprises to adopt clean energy and environmental technologies through supply chain finance, environmental credit, and other means to reduce carbon emission intensity. At the same time, digital inclusive finance can also provide services such as data analysis and intelligent control, helping manufacturing enterprises achieve energy conservation, emission reduction, resource recycling, and further reduce the cost of industry transformation. The operational model of traditional financial institutions requires a large amount of paper materials, while digital inclusive finance can achieve paperless operations through electronic payments, electronic contracts, and other methods. In addition, digital inclusive finance can also promote green investment and green credit, introduce carbon emission intensity assessment and constraint mechanisms in the financial services industry, and effectively reduce the industry's own carbon emissions.

5. The importance of digital inclusive finance for the transformation and upgrading of industries with high carbon emission intensity

5.1 The Innovative Potential of Digital Inclusive Finance

Digital inclusive finance, as an emerging financial model, has enormous innovative potential. By utilizing technologies such as the Internet, big data, and artificial intelligence, digital inclusive finance can reduce information asymmetry, improve the accuracy of risk assessment, and provide more investment opportunities for industries with high carbon emission intensity. Digital inclusive finance is an innovative model that combines digital technology and financial services, which can provide more convenient and efficient financial services for all sectors of society. However, when exploring the innovative potential of digital inclusive finance, we cannot ignore the issues related to high carbon emission industries.

High carbon emission industries refer to industries that generate large amounts of greenhouse gases such as carbon dioxide during production or operation, such as oil, coal, steel, etc. These industries are widely recognized as one of the main causes of climate change due to their high energy consumption and emissions. However, digital inclusive finance can play an important role in reducing carbon emissions in these industries due to its strong innovation capabilities. Digital inclusive finance can help high carbon emission industries improve resource utilization efficiency and reduce production costs by providing more intelligent financial services. For example, through data analysis and artificial intelligence technology, precise monitoring and prediction of energy consumption can be achieved, thereby optimizing energy use planning, reducing resource waste, and reducing carbon emission intensity.

Digital inclusive finance can promote the transformation of high carbon emission industries towards green development. Through financial innovation tools such as green bonds and carbon trading, it can provide more convenient and flexible financing channels for these industries, thereby encouraging enterprises to increase investment in environmental protection technology and equipment and reduce pollutant emissions. In addition, digital inclusive finance can also help improve

the management and regulatory level of high carbon emission industries. By establishing a digital monitoring system and information sharing platform, real-time monitoring and evaluation of enterprise emissions can be achieved, violations can be detected and dealt with in a timely manner, the overall environmental management and regulatory level of the industry can be improved, and carbon emissions can be reduced.

5.2 Data Driven Risk Assessment

Digital inclusive finance can achieve risk assessment for industries with high carbon emission intensity through big data analysis. By collecting, organizing, and analyzing data from relevant industries, digital inclusive finance can more accurately assess carbon emission risks and provide decision-making references for investors. Data driven risk assessment is crucial for industries with high carbon emission intensity. These industries not only have adverse impacts on the environment, but may also face a series of risks, such as regulatory restrictions, sustainable development pressures, and changes in consumer preferences. By utilizing big data analysis and evaluation tools, we can better understand and manage these risks. Data driven risk assessment can help us understand the regulatory limitations of industries with high carbon emission intensity. The government and international organizations are increasingly concerned about climate change and environmental protection issues, thus strengthening relevant laws and regulations. By collecting and analyzing relevant data, we can accurately understand the impact of these regulations on the industry and predict potential new regulations in the future. This helps companies adjust their production models in a timely manner, avoiding potential fines and reputation losses.

Data driven risk assessment can help us understand the impact of sustainable development pressures on industries with high carbon emission intensity. With the increasing attention of society to sustainable development, consumers, investors, and regulatory agencies have increasingly high requirements for the environment and social responsibility of enterprises. By collecting and analyzing a large amount of data, we can evaluate the performance of enterprises in sustainable development and predict the potential pressures and requirements they may face in the future. Enterprises can take corresponding measures based on these evaluation results to enhance their environmental and social responsibility, reduce carbon emission intensity, and adapt to market demand. Data driven risk assessment can help us understand the impact of changes in consumer preferences on industries with high carbon emission intensity. As consumer demand for sustainable products increases, industries with high carbon emissions are facing the risk of losing market share. By collecting and analyzing data on consumer behavior and preferences, we can understand their environmental awareness and requirements, and predict possible future consumption trends. Enterprises can adjust product design and production processes based on these data, provide more environmentally friendly products, meet consumer needs, and maintain a competitive advantage.

5.3 Guiding Industry Transformation and Upgrading

Digital inclusive finance can not only provide financial support for industries with high carbon emission intensity, but also guide their transformation and upgrading. By providing loans, equity investments, and other means, digital inclusive finance can help industry enterprises achieve sustainable development in areas such as technological innovation and energy structure adjustment. With the increasingly prominent issue of global climate change, people have gained a clearer understanding of the importance of reducing carbon emissions. As an important component of economic development, there are many industries with high carbon emission intensity in industrial production, such as steel, petrochemical and other fields. To address the challenge of climate change, guiding these industries to transform and upgrade, and reducing their carbon emission intensity has become a top priority.

In order to guide the transformation and upgrading of high carbon emission industries, it is necessary to strengthen government policy guidance and regulatory measures. The government can formulate corresponding laws and regulations, clarify industry emission reduction targets and

timelines, and provide certain incentive policies for enterprises that meet the standards, such as tax reductions, subsidies, and other measures. At the same time, strict law enforcement and punishment should be implemented for enterprises that do not meet the standards. In addition, the government should also strengthen its support for technology research and development in high carbon emission industries, helping them achieve a win-win situation of technological innovation and emission reduction.

In terms of process flow, we aim to reduce carbon emission intensity by improving equipment, optimizing production processes, and improving resource utilization efficiency. For example, the steel industry can promote the development of the times and vigorously promote advanced ironmaking technologies, such as electric arc furnace smelting technology; The petroleum and petrochemical industry can strengthen the application of green energy and reduce its dependence on traditional energy. In terms of product structure, high carbon emission industries should increase their research and production efforts in environmentally friendly products, gradually shifting the focus of production to low-carbon and clean energy related products.

In addition, cooperation and sharing among enterprises are also important ways to guide the transformation and upgrading of high carbon emission industries. Enterprises within the industry can establish alliances, share relevant technologies and research and development achievements, and reduce transformation costs. At the same time, cooperate with enterprises in other fields, exchange and share resources, technology, and other aspects to improve the environmental protection level of the entire industry chain. The government should actively encourage and guide cooperation among enterprises, and provide supporting policies and financial support. In the process of guiding industry transformation and upgrading, it is also necessary to strengthen public publicity and education. The public's awareness and importance of environmental protection determine the progress of industry transformation and upgrading. The government can promote environmental awareness through various channels, such as conducting environmental protection themed activities and strengthening the popularization of environmental protection related knowledge. At the same time, enterprises should also strengthen their own image shaping and increase public awareness and acceptance of environmentally friendly products.

6. Conclusion

In summary, digital inclusive finance has played an important driving role in promoting the transformation and upgrading of industries with high carbon emission intensity. Through support from data analysis, technological innovation, cost reduction, and promoting corporate social responsibility, digital inclusive finance is leading the industry towards green and sustainable development. For industries with high carbon emission intensity, digital inclusive finance is not only an opportunity to change traditional financial service models, but also one of the key to achieving transformation and upgrading.

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