

Survey and Research on Financial Support for Internet Development of Anhui Workers

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ABSTRACT

In the era of digital economy, the development of industrial Internet cannot be separated from financial support. The purpose of this paper is to take Anhui Province as the object of investigation and research, through the digital transformation data of various types of enterprises in Anhui Province in recent years, as well as the implementation of financial support related services and the construction of financial digital service platforms, to explore the results and far-reaching impact of financial support on the development of the industrial Internet in Anhui Province, and to find out the innovative value of the deep-seated source of motivation and the shortcomings of the development of industrial Internet in Anhui Province, and provide suggestions and stages of financial support for the development of the industrial Internet in Anhui Province. Provide suggestions and stage summaries for the development of Anhui Industrial Internet, and at the same time provide optimization solutions and future ideas.

KEYWORDS

Industrial internet; Financial support; Digital transformation

1. INTRODUCTION

1.1. Background and Significance of the Study

In today's digital economy, the development of the industrial Internet continues to trend to a major position. The origin and development of the industrial Internet can be traced back to the 1990s. With the continuous development and application of Internet technology, more and more data are generated from various devices, and the traditional manufacturing industry relies more and more on the emerging new technologies, like the Internet of Things (IoT), big data, blockchain, and other technologies, which bring together sensor data and equipment information in real time, and through analyzing and mining the data, information sharing can be realized, collaborative operation and intelligent decision-making, thus realizing the upgrading and digital transformation of manufacturing. Globally, the trend of industrial Internet is obvious and has received extensive attention from various countries and enterprises. As early as 2013, Germany first put forward the Industry 4.0 strategy, the significance of which is far-reaching. China, in order to comply with the trend of the times, put forward the plan of "Made in China 2025", in which it is pointed out that: "The manufacturing industry is the main body of the national economy, and it is the foundation of establishing a country, the tool for the emergence of a country, and the basis of a strong country. The continuous development of China's industrial Internet is an opportunity and a challenge for China in the new era. In the flood of social change sweeping the world in Industry 4.0, accelerating the all-round development of Industrial Internet and promoting the deep integration of new-generation information technology and

manufacturing industry is not only an inevitable trend to comply with technological and industrial changes, but also the core engine forging a strong manufacturing country and a strong network country. This move is of inestimable strategic value and far-reaching impact for deepening the supply-side structural reform, stimulating the transformation and upgrading vitality of the real economy, and promoting the sustainable development of the economy and society. The vigorous development of industrial Internet will undoubtedly engrave a key and profound mark on China's future map, leading the country towards a more prosperous and powerful future.

Under the continuous development of the industrial Internet, new production technologies, science and technology continue to emerge, bringing together, analyzing and making intelligent decisions in real time about various industries, equipment and other information, so as to realize the digital transformation of enterprises and build the industrial Internet. Like cloud computing, artificial intelligence, 5G, digital currency, meta-universe, blockchain, etc., the emergence of these emerging technologies will undoubtedly promote the construction of the industrial Internet ecosystem and accelerate the realization of a new social change.

On November 27, 2017, the State Council issued the Guiding Opinions on Deepening "Internet + Advanced Manufacturing" and Developing Industrial Internet, marking the official issuance of the first programmatic document for the development of industrial Internet. In the Opinions, three stages of development goals are proposed: first, by 2025, the industrial Internet network infrastructure covering all regions and industries is basically completed, the industrial Internet marking and resolution system is constantly sound and popularized on a large scale, and the infrastructure and industrial system with international competitiveness is basically formed; second, by 2035, the international leading industrial Internet network infrastructure and platform is built, and industrial Internet comprehensive in-depth application and in advantageous industries to form an innovative leading capacity, key areas to achieve international leadership; Third, by the middle of this century, the industrial Internet innovation and development capacity, technology and industrial system, as well as the integration of applications to fully reach the international advanced level, the comprehensive strength of the world forefront. Meanwhile, after 2018, the policy documents related to the industrial Internet have become more and more intensive. The Ministry of Industry and Information Technology (MIIT) has issued development action plans for the starting period of 2018-2020 and the rapid growth period of 2021-2023 based on its judgment of the development stage of industrial Internet, and most of these plans have established clear development goals and timetables for completion. Industrial Internet has even been written into the government work report for five consecutive years.

In response to the national policy call, in Anhui Province, in order to promote the digital transformation of the manufacturing industry, Anhui also has a clear goal - by 2025 to achieve the province's key industries above-scale manufacturing enterprises digitalization reform full coverage, the size of the following manufacturing enterprises digital application full coverage.

The deep integration of 5G and industrial Internet is promoting the construction of digital China and intelligent society at an unprecedented speed, accelerating the pace of China's new industrialization process, injecting strong new momentum for China's economic development, and opening up new development opportunities for the world economy under the haze of the global epidemic. In the future, the digitalization, networking, automation and intelligent transformation of industrial manufacturing has become the consensus of the industry, this transformation is not only an inevitable mission given by the times, but also a necessary way for industrial enterprises to realize their own leap. Therefore, vigorously develop the industrial Internet, has become the industrial enterprises to digitalization, intelligent transformation of the road and the key. And this paper is in such a context, investigation and research in Anhui Province, the industrialization of networking in the financial support of the continuous development and progress, to find the problems and the need to optimize the place, for the development of the industrial Internet in Anhui Province and even the national development of the industrial Internet to create a certain value of inquiry, to help the development of the industrial Internet.

1.2. Research Objectives and Methodology

This paper focuses on the current core hotspot of social development - the construction of industrial Internet. China still has a lot of room to advance in the development and construction of industrial Internet, and there are innovations that need to be continuously improved and have a guiding role in all aspects. In the case that the platform construction, policy research, and technological innovation of industrial Internet are widely concerned by the public, this paper selects the perspective of financial support to investigate and study the industrial Internet, combining with the construction of the financial digital service platform and so on, to explore the development prospects and practical significance of the industrial Internet. In recent years, the development speed of industrial Internet in Anhui Province has been increasing, located near the Yangtze River Delta Economic Zone, and close to the central region, which has a link to connect and drive the role of the two, and at the same time, it also continues to promote its own development. This paper analyzes the current deficiencies and problems of industrial Internet in Anhui Province in terms of financial support through the collected data and examples, which has certain realistic value for both provincial construction and national construction.

The research process selects Anhui Province as the research object, investigates and researches the development history and current situation of the industrial Internet in Anhui Province, and analyzes the development of the industrial Internet in Anhui Province from the perspective of financial support, from which it explores the intrinsic close connection between the financial support and the industrial Internet, and the mechanism of the role of the two. We collect valuable information on the development of the industrial Internet in Anhui Province by searching online for statistical data and examples of digital transformation of enterprises in recent years in Anhui Province. In addition, we summarize the content of the financial digital service platform of the industrial Internet in Anhui Province through the collected information, analyze the effect of a series of financial support services to various types of enterprises and the positive impact on the development of the industrial Internet in Anhui Province, and put forward stage-by-stage summaries and suggestions. Eventually, for the shortcomings and difficulties in the development of industrial Internet in Anhui Province, it provides certain optimized solutions and further innovations of financial support for the development of industrial Internet in the future stage.

2. OVERVIEW OF INDUSTRIAL INTERNET DEVELOPMENT

2.1. Concept and Development History of the Industrial Internet

For the industrial Internet, it can be traced back to the 1990s, "industrial Internet" refers to the deep integration of the Internet, big data, artificial intelligence and other information technology with traditional industrial manufacturing industry, to realize the intelligent and digital connection between equipment, products and personnel, so as to improve production efficiency, reduce costs, optimize resource allocation and improve product quality, a new type of industrial form. In the late 1990s, with the rapid popularization and development of the Internet, information technology began to be widely used in all walks of life, and the era of the Internet gradually arrived. 2011, the German government put forward for the first time the concept of "Industry 4.0", emphasizing the use of information technology to achieve intelligent manufacturing and industrial digital transformation. 2015, the German government proposed "Industry 4.0" for the first time, emphasizing the use of information technology to achieve intelligent manufacturing and industrial digitalization. In 2015, the Chinese government released "Made in China 2025", which put forward the important initiative of implementing the industrial Internet strategy to promote the development of China's manufacturing industry in the direction of high-end and intelligentization. Immediately after that, countries have introduced a series of policies to support the development of industrial Internet and promote the landing of relevant demonstration projects, such as China's industrial Internet demonstration project

and Germany's Industry 4.0 demonstration plant. Nowadays, industrial Internet platforms, intelligent manufacturing systems and other technologies have gradually matured and are applied to various industries. As a result, a series of industrial cooperation and ecological construction have been carried out around the industrial Internet, and a number of platform providers, solution providers and leading enterprises in industry application fields have emerged.

2.1.1. Basic domestic situation

Table 1. Basic description of the situation in the country

| Research status | clarification |
|--|---|
| Market size continues to grow | After 2017 the industrial Internet appeared in the government work report for six consecutive years, coupled with the development of a new generation of information technology to promote the role of 2017-2023 China's industrial Internet industry value added year by year. |
| Four major systems of industrial Internet gradually improved | Industrial Internet contains four major systems: network, platform, data, and security. With the development of industrial Internet, the four systems are gradually improved and developed. |
| Increasing breadth and depth of industry applications | It involves major areas of the manufacturing industry, such as raw materials, consumer goods and electronics, as well as key industries of the real economy, such as mining, electricity and construction, to achieve a wider scope, higher level and deeper degree of development. |
| Empowerment is emerging | After several years of vigorous development, the enabling role of China's industrial Internet has gradually emerged, and the added value of the industrial Internet industry has played an increasingly significant role in the development of the national economy. |

The report of the 20th CPC National Congress is far-sighted and clearly points out that the center of gravity of economic development will be firmly placed on the real economy, emphasizes the need to accelerate the process of new industrialization, and devotes itself to the comprehensive construction of a strong manufacturing country, a strong network country, and a strong digital China, and at the same time, promotes the deep fusion between the digital economy and the real economy, which is a strategic plan that not only provides fundamental guiding principles for accelerating the pace of the new industrialization but also points out clear development paths and directions for the flourishing development and wide application of industrial Internet platforms. This strategic plan not only provides fundamental guiding principles for us to accelerate the pace of new industrialization, but also lights up the beacon for the prosperous development and wide application of industrial Internet platform, pointing out a clear development path and direction.

2.1.2. Basic situation abroad

Table 2. Basic description of the situation abroad

| nations | Basics |
|-----------------------------|---|
| United States of America | Government encouragement + big business drive. Although there is no specialized industrial Internet promotion agency, many agencies with government background or federal financial support are promoting the development of industrial Internet. |
| German | Germany's "Industry 4.0" plan as a smart manufacturing strategy based on the industrial Internet, the core of which is to establish a virtual network and the physical entity of the fusion system (CPS), to achieve "intelligent + networked", and promote the formation of vertical integration, end-to-end integration, horizontal integration. integration. |
| Japanese | Promote the interconnection of local enterprises and global factories. The "Industry 4.1J" program extends industrial intelligence from a single enterprise to the entire value chain of an industry. |
| Other countries and regions | Positive attitude and competitive participation. Although some industrial countries and regions have not yet put forward a clear overall strategy for the development of the industrial Internet, they are actively promoting the industrial development of the industrial Internet. |

2.2. Development Status of Industrial Internet in Anhui

In order to keep up with the wave of the times, Anhui Province actively responded and took the initiative to act, in which the promulgation of the "Action Program for Promoting the Development of Industrial Internet in Anhui Province" and other documents for the rapid rise of this field has laid a solid policy cornerstone, providing a full range of support systems covering financial incentives, tax incentives, land resource allocation, talent attraction, etc., to build an attractive growth for the enterprise fertile ground. Anhui Province not only accurately docking national industrial Internet demonstration projects, but also in the province's scope of careful layout, successfully created Hefei Economic Development Zone, Wuhu City, and other industrial Internet demonstration of a number of highlands and industrial clusters, which are like magnets attracting a large number of enterprises to come to the formation of industrial chain upstream and downstream of the close collaboration, the efficient concentration of innovative resources, the benign development of the ecology. In terms of technological innovation and application promotion, the government actively guides enterprises to increase investment in scientific research, stimulate endogenous momentum, and strive to achieve independent breakthroughs in the field of core technologies of the industrial Internet and lead the application; at the same time, the tentacles of the industrial Internet penetrate into manufacturing, energy, transportation, agriculture and other key areas, to empower the traditional industries with science and technology, and drive their transformation and upgrading to high-end and intellectualization. In addition, Anhui Province knows that talent is the root of development, so it attaches great importance to the cultivation and introduction of industrial Internet professionals, and builds a bridge for talent cultivation and transportation by deepening the cooperation between the government, industry, academia and research institutes, so as to inject constant intellectual support for industrial development. At the same time, Anhui Province also embraces the world with an open attitude, strengthens exchanges and cooperation with the international community, and contributes to the construction of a global industrial Internet ecology.

2.3. Impact of Industrial Internet Development on Anhui's Economy

The development of industrial Internet has had a profound impact on the economy of Anhui Province. The wide application of industrial Internet technology has enabled the manufacturing industry in Anhui Province to realize intelligent transformation and improve production efficiency and product

quality. Through the implementation of intelligent manufacturing, remote monitoring and other technical means, enterprises are able to adjust the production process more flexibly, reduce production costs and improve the efficiency of resource utilization, thus enhancing competitiveness. Secondly, the development of industrial Internet promotes industrial upgrading and transformation in Anhui Province. The traditional manufacturing industry in Anhui Province, led by the industrial Internet, has begun to transform to digitalization and intelligence, and continuously promotes the optimization and upgrading of industrial structure. This transformation not only improves the core competitiveness of enterprises, but also drives the development of related industrial chains, forming a virtuous cycle of industrial ecosystem. Then, the popularization and application of industrial Internet promotes the optimization of economic structure and diversification of industries in Anhui Province. With the wide application of industrial Internet technology in manufacturing, energy, transportation, agriculture and other fields, the economic structure of Anhui Province has gradually transformed to technology-intensive and knowledge-intensive industries, promoting the optimization and upgrading of the economic structure. At the same time, the development of industrial Internet also provides a good development environment for the cultivation and growth of emerging industries, and injects new vitality into the sustainable development of the economy of Anhui Province.

3. THEORETICAL BASIS OF FINANCIAL SUPPORT FOR THE DEVELOPMENT OF INDUSTRIAL INTERNET

3.1. Analysis of the Importance of Financial Support for the Development of the Industrial Internet

3.1.1. Technology development and innovation

The industrial Internet is a comprehensive project involving information technology, communication technology, big data and other fields, which requires a large amount of investment in research and development and innovation. Financial support can provide enterprises with financial support for technological research and development, talent introduction and training, etc., promoting breakthroughs and innovations in related technologies and advancing the development of industrial Internet technologies.

3.1.2. Capital investment and industrial upgrading

The development of the industrial Internet requires a large amount of capital investment, including equipment renewal, information system construction, network infrastructure and other aspects. Financial institutions can provide financial support to enterprises by providing loans, equity investment and venture capital, helping them to complete equipment renewal and system construction, and promoting the implementation of industrial Internet and industrial upgrading.

3.1.3. Business transformation and transformation costs

The application of industrial Internet requires enterprises to carry out internal transformation and adjustment, including organizational structure adjustment, process optimization, personnel training and other aspects. Financial support can provide enterprises with loans and financing services to help them cope with the capital needs in the transformation process, reduce transformation costs, and encourage them to actively promote the development of industrial Internet.

3.1.4. Risk management and insurance coverage

The application of the industrial Internet involves risks in terms of information security, network security and other aspects, and enterprises need to carry out the construction of risk management and protective measures in the process of promoting the development of the industrial Internet. Financial institutions can provide risk assessment, insurance products and other services to provide risk

management and insurance protection for enterprises and reduce their risks and losses in the process of industrial Internet development.

3.2. Existing Models and Methods of Financial Support for the Development of the Industrial Internet

3.2.1. Government-guided funds

The Government has set up special funds or guide funds to support the research and development, promotion and application of industrial Internet-related projects. These funds can provide financial support to enterprises through grants, loans and equity investment to promote the development and application of industrial Internet technologies.

3.2.2. Bank loans and credit support

Banks provide loans and credit support to industrial Internet-related enterprises to help them solve capital turnover problems and promote the implementation and landing of industrial Internet projects. At the same time, banks can also provide customized financial products and services to meet the specific needs of enterprises based on their credit status and project prospects.

3.2.3. Venture capital and equity investments

Venture capital institutions and private equity funds provide venture capital and equity investment to industrial Internet-related enterprises to help them raise capital and promote the implementation and development of their projects. This model can help enterprises scale up quickly and realize rapid growth, while also bringing considerable returns to investment institutions.

3.2.4. Innovation vouchers and technology subsidies

The Government has provided financial support to industrial Internet-related enterprises through the issuance of innovation vouchers and technological subsidies, encouraging them to increase their investment in technological innovation and R&D, and promoting the continuous breakthrough and application of industrial Internet technologies.

3.2.5. Financial derivatives and insurance products

Financial institutions have launched financial derivatives and insurance products specialized in the field of industrial Internet to provide risk management and insurance protection for enterprises and reduce their risks and losses in the process of industrial Internet development.

4. SURVEY AND RESEARCH ON THE DEVELOPMENT OF INDUSTRIAL INTERNET IN ANHUI

4.1. Survey on the Status of Industrial Internet Enterprises in Anhui

The "Anhui Province Industrial Internet Development Research Report (2023)" (the "Report"), released on November 25, 2023, shows that the province has cultivated a total of 156 industrial Internet platforms, empowering the province's enterprises with "wisdom" and "numbers". A new track has been opened. The report shows that Anhui Province attaches great importance to the industrial Internet to empower the development of small and medium-sized enterprises, in succession, supporting the introduction of a number of related support policies at the same time, adhere to the landing application, create an ecological, strengthen the development of the basic support, to create a full range of empowerment system. At present, Anhui Province has initially built up a vertical connection of industry platforms, regional platforms horizontally covered, professional platforms focus on breakthrough platform empowerment system. According to the statistics of the industrial Internet monitoring system in Anhui Province, the number of connected devices included in the key

monitoring platform has exceeded 8 million units (sets), and the service enterprises have exceeded 100,000 units. At the same time, Anhui Province, also in-depth parks to carry out the number of intelligent empowerment action, to promote small and medium-sized enterprises on the "cloud" with "number". The Report shows that in 2023, the province identified 21 provincial manufacturing digital transformation demonstration parks, a total of 190 million yuan (RMB, the same below), the parks are currently guided to drive the digital transformation project more than 350, complete the digital transformation investment of more than 16 billion yuan. Bowang District, Maanshan City, Anhui Province, known as "China's first blade mold town". Bowang High-tech Industrial Development Zone has opened up 106 small and medium-sized enterprises upstream and downstream of the pillar industries such as cutting tools, molds, etc., realizing the supply chain information aggregation and shortening the transaction cycle by more than 20%. Digital transformation can not be separated from the basic support, Anhui strengthen the supporting role of digital infrastructure. In strengthening the basic support, the province has built a total of 113,000 5G base stations, the number of which ranks 9th in China.

Overall, the development of industrial Internet platforms in Anhui Province is rapid, covering different industry sectors, such as manufacturing, logistics and energy. The scale and number of these enterprises may be relatively small, but all of them are accelerating the pace of development and digital transformation. Industrial Internet enterprises in Anhui Province are mainly concentrated in Hefei, the provincial capital, and its surrounding areas, as well as some other industrial clusters. These enterprises may be involved in intelligent manufacturing, IoT technology application, industrial big data and other fields. Meanwhile, the government will promote the development of industrial Internet enterprises through policy support, financial support and technical training, including financial subsidies, tax incentives, start-up funds and other policies. Helping many enterprises to use different new technologies, such as intelligent manufacturing, IoT technology, big data analysis, etc., these enterprises have achieved certain results in the aspects of the use of these technologies.

4.2. Survey on Demand for Internet Finance in Anhui Industry

4.2.1. Financing needs

Numerous industrial Internet enterprises in Anhui, especially small and medium-sized enterprises (SMEs), need a lot of financial support for technological research and development, equipment upgrading, production expansion, and market expansion in the course of development. As a result, they seek various forms of financing channels such as bank loans, investment funds, venture capital, and equity financing.

4.2.2. Demand for financial products

These enterprises need financial products and services tailored to their specific business needs, such as loans, credit guarantees, financial leasing and insurance. These financial products need to match the production and operation modes of industrial Internet enterprises to meet their capital requirements and risk management needs.

4.2.3. Need for financial innovation

With the development of industrial Internet technology, enterprises may have higher demand for innovative financial products and services, such as risk assessment models based on big data analysis, smart contracts, and supply chain finance. These innovative financial products can help enterprises better manage risks and improve capital utilization efficiency.

4.2.4. Cross-border financial support needs

If industrial Internet enterprises are involved in cross-border trade or international cooperation, they may require financial services such as cross-border payments, remittances and foreign exchange risk

management. They may therefore seek cross-border financial support from banks, payment institutions or fintech companies.

4.2.5. Demand for digitized financial services

With the development of the industrial Internet, the demand of enterprises for digital financial services, such as e-settlement, online banking and mobile payment, is also increasing. These digital financial services can improve the efficiency of enterprises' fund management and reduce transaction costs.

In order to help these enterprises cope with the trend of industrial internet development, help themselves undergo digital transformation, and promote their productivity and quality, the government's financial support policies have been continuously adjusted to meet the demand for financial support in the development of these enterprises. On April 18, 2023, China Banking and Insurance News was informed by the Anhui Banking and Insurance Supervision Bureau that it has recently guided Huishang Bank to deepen its cooperation with the Antelope Industrial Internet Platform (hereinafter referred to as the "Antelope Platform"), a comprehensive service platform for the industrial Internet in Anhui Province. The Bureau guided Huishang Bank to deepen its cooperation with the Antelope Industrial Internet Platform (hereinafter referred to as "Antelope Platform"), a comprehensive service platform for industrial Internet in Anhui Province, to take capital financing as a handhold, innovate a new mode of financial services, help enterprises upgrade from "manufacturing" to "intelligence", and promote the digital transformation and upgrading of industries in Anhui Province. Anhui Banking and Insurance Supervision Bureau establishes a docking mechanism, supports Huishang Bank to sign a strategic cooperation framework agreement with Antelope Platform, accelerates system optimization and docking, and innovatively launches an exclusive online supply chain product "Industrial Interconnection Loan" for Antelope Platform, which is based on individual data of Antelope Platform's core enterprises and upstream and downstream SMEs, such as historical purchasing data, receivable data, equipment, order data, etc., and provides financial services for enterprises that have already made a purchase. Based on the historical procurement data, accounts receivable data, equipment data and other individual data of core enterprises and upstream and downstream SMEs on Antelope Platform, "Industrial Interconnection Loan" provides the core enterprises and upstream and downstream SMEs on the Antelope Platform with convenient, efficient and low-cost online financing services. At present, it has provided credit of 300 million yuan to the first batch of KDDI Group and its chain enterprises. In response to the digital transformation needs of industrial parks and the digital transformation needs of enterprises in the parks, Anhui Banking and Insurance Supervision Bureau has guided Huishang Bank to study innovative financing support programs, targeting high-end manufacturing industries, emerging industries and other key industries and industrial chain enterprises, focusing on the "collection, payment, management and financing" of the enterprise transaction link, and carrying out scenario-based output of financial products and services to improve the comprehensive financial service capability. The program focuses on the "collection, payment, management and financing" in the transaction process of enterprises, and provides scenarios of financial products and services to improve the comprehensive financial service capability. As of the end of March, Huishang Bank has provided 3.221 billion yuan of credit capital support to 907 enterprises through online supply chain products, an increase of 120% and 78% respectively compared with the same period last year; it has provided more than 7 billion yuan of supply chain financing to more than 110 large-scale core enterprises, including JAC, Chery Automobile, 17 Metallurgical Company, BOE, and Anhui Construction Group, and has provided services to more than 1,600 small, medium, and micro-enterprises in the chain. The company has provided more than 7 billion yuan of supply chain financing to more than 110 large core enterprises, including JAC Motor, Chery Automobile, 17 Metallurgy, BOE, Anhui Construction Group, etc.

4.3. Financial Issues and Challenges Facing the Development of Industrial Internet in Anhui Province

Based on the survey and the examples of digital transformation of various types of enterprises in Anhui in recent years, we find that under the perspective of financial support, the development of industrial Internet in Anhui is still facing numerous problems and challenges, which have a pivotal impact on the path of enterprise development, especially for SMEs, which need more suitable methods to help solve them.

4.3.1. Financing difficulties

Some industrial Internet start-ups or small and medium-sized enterprises face financing difficulties, which are caused by the fact that traditional financial institutions may be cautious about their financing applications due to their higher risks, weaker asset pledging ability or lack of industry recognition.

4.3.2. Inadequate matching of financial products

It is often difficult for traditional financial products to fully meet the special needs of industrial Internet enterprises. For example, traditional products such as mortgages and credit loans may not be able to flexibly meet the financing needs of industrial Internet enterprises, and thus, the lack of financial products matching the business model of the industrial Internet is also a challenge.

4.3.3. Increased difficulty in risk management

The Industrial Internet involves a large amount of data and information flow, which may increase the risks faced by enterprises, such as information security risks and data leakage risks. Therefore, it is also crucial to effectively manage and avoid these risks in order to safeguard the sound development of enterprises.

4.3.4. Cross-border financial barriers

If industrial Internet enterprises are involved in cross-border trade or international cooperation, they may face difficulties and obstacles in cross-border payment, remittance, and foreign exchange risk management, including being affected by regulatory restrictions in different countries and regions, exchange rate fluctuations and other factors.

4.3.5. Digital transformation pressures

With the development of the Industrial Internet, enterprises may need to accelerate the pace of digital transformation, including digital management and intelligent production. This will require financial institutions to provide smarter and more efficient financial services to support enterprises' digital transformation and innovation.

5. SUGGESTIONS

Aiming at the above financial-related problems and challenges in the development of Anhui Industrial Internet, we try to put forward the following suggestions and methods to help solve the financial challenges encountered in Anhui Industrial Internet, and further put forward some inspirations and solution ideas for the development of China's Industrial Internet.

5.1. Strengthening Financial Policy Support

The Government can formulate policies conducive to the financing of industrial Internet enterprises, including simplifying financing procedures and providing preferential lending rates. The government can also encourage financial institutions to increase their credit support for industrial Internet enterprises and establish a risk-sharing mechanism to reduce the risk pressure on financial institutions.

Customized financial support policies, such as tax incentives and loan guarantees, can be formulated to address the characteristics and needs of industrial Internet enterprises in order to reduce their financing costs; and special funds can be set up to support the development and innovation of projects related to the industrial Internet, such as technological research and development and digital transformation.

5.2. Improving Financial Products and Services

Financial institutions can innovate financial products and services according to the special needs of industrial Internet enterprises. For example, supply chain financial products, technology innovation funds and venture capital funds applicable to industrial Internet enterprises should be developed to meet their financing and fund management needs. Promote financial institutions to carry out customized financial services and provide industrial Internet enterprises with tailor-made financial solutions, including services in fund financing and risk management.

5.3. Strengthening the Application of Financial Technology

Fintech can provide industrial Internet enterprises with more efficient and convenient financial services. Financial institutions can increase their R&D investment in fintech, promote digital transformation, and provide services such as online loan application, intelligent risk assessment, and electronic settlement to improve the financial experience and efficiency of industrial Internet enterprises. The government can encourage financial institutions to increase R&D investment in financial technology to improve the intelligence and convenience of financial services, such as using artificial intelligence, big data and other technologies to optimize the processes of risk assessment, loan approval and other processes; and constructing a safe and reliable industrial Internet financial platform to provide enterprises with services such as online financing, payment and settlement, and fund management, so as to support the digital transformation of enterprises.

5.4. Strengthening Financial Regulation and Risk Control

In response to the risks and security problems faced by industrial Internet enterprises, financial institutions can provide professional risk management consulting and relevant insurance products to help enterprises avoid risks. At the same time, financial institutions should also strengthen their own information security system to protect the security of customers' data and privacy. Strengthen the risk management and assessment of industrial Internet enterprises and formulate targeted risk prevention measures to reduce non-performing loans and credit risks. Establish a sound data security management system, encrypt important data, and take measures to prevent cyberattacks and data leakage to safeguard customer information security.

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REFERENCES

- [1] Li Mingjing, Xiong Ying, Liu Chuanwei. Practice, challenges and strategies of financial support for green and low-carbon transformation of industrial Internet enabled manufacturing industry [J]. *Financial Zongheng*, 2024 (04).
- [2] Zhang Yan, Yan Tingting. Research on financial support for structural optimization of Qingdao's manufacturing industry based on industrial Internet in the supply chain era [J]. *China Storage and Transportation*, 2022 (01).
- [3] Wu Zhenyu, He Da'an. Industrial Intelligence Transformation and Innovation Network Status Enhancement: A Perspective Based on Social Network Analysis [J]. *Zhejiang Journal*, 2024 (05).

- [4] Wang Haijie, Sun Dongyang, Yang Ming, Wang Wei. Research on the Impact of Financial Support on Industrial Green Development in the Yellow River Basin [J]. Innovative Technology, 2024, 24 (03).