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Research on the Chinese-Style Innovation and Development of Smart Logistics

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ABSTRACT

As a new round of scientific and technological revolution and industrial transformation deepens, the traditional logistics industry is accelerating its transformation and upgrading toward intelligent development, and smart logistics has become an important direction for the high-quality development of China's logistics industry. Taking the Chinese-style innovation and development of smart logistics as the research object, this paper first sorts out the proposal and meaning of smart logistics and reviews the related research. On this basis, it examines the development status of smart logistics in China from three quantitative perspectives, namely the ratio of total logistics cost to GDP, civil aviation cargo turnover, and the number of employees in the postal industry, and summarizes the characteristics and development trends of the smart logistics industry. It then analyzes the driving forces for the development of smart logistics, including economic transformation, the Belt and Road Initiative, targeted poverty alleviation, and changes in the demand structure, and points out existing problems such as the shortage of interdisciplinary talents, imbalanced infrastructure layout, and the lag of policies and guidelines. Finally, it proposes paths for the Chinese-style innovation and development of smart logistics in terms of university development and talent cultivation, policy orientation, technology leadership, and the construction of a smart logistics alliance. The study shows that the development of smart logistics depends on the in-depth integration of advanced technology with a modern logistics system, and that building an efficient and coordinated industrial ecosystem is the key to realizing high-quality, sustainable, and Chinese-style development of smart logistics.

KEYWORDS

Smart logistics; Chinese-style innovation; Logistics industry; High-quality development; Industrial transformation; Internet of Things

1. INTRODUCTION

With the rapid development of economic globalization, the international and domestic situations are undergoing profound changes unseen in a century. We are right in the middle of these changes, experiencing the sustained and rapid growth of the national economy. Along with the new round of scientific and technological revolution and industrial transformation, all industries are changing with each passing day and showing great vitality. The integration of high technology with the real economy is becoming increasingly close, which has given rise to a wide variety of emerging industries and business models. As consumer demands become increasingly diversified and personalized, the market has gradually raised its requirements for the timeliness, accuracy, and security of logistics, and the drawbacks of traditional logistics have become fully apparent. As one of the pillars of the national economy, the logistics industry is actively responding to the national call and beginning to transform and upgrade toward intelligent development. Smart logistics has emerged at the historic moment. How to improve the comprehensive competitiveness of Chinese enterprises and achieve

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high-quality development of the domestic economy through the innovative development of smart logistics along a Chinese-style path has become one of the major issues that urgently need to be addressed. Smart logistics (intelligent logistics system, ILS) refers to a sustainable logistics ecosystem formed through intelligent software and hardware, the Internet of Things (IoT), artificial intelligence (AI), big data, intelligent equipment, and other means and technologies, which enables real-time information perception, intelligent analysis and accurate prediction, and enhances the intelligence, automation, visualization, and controllability of the entire logistics system. However, from the current perspective of smart logistics, there remain many problems in the logistics development and innovation in China, and its logistics management level still lags noticeably behind that of the traditional developed countries. Yet this precisely reflects the enormous room for the development of China's logistics industry. Research on the Chinese-style innovation and development of smart logistics is of great practical significance. First, it helps promote new industrialization and informatization, alleviate the uneven and inadequate development of urban and rural economies, strengthen the competitive strength of enterprises, and enable them to adapt quickly to the transitional period of economic transformation. Second, it helps continuously improve the old logistics ecosystem, promote the coordinated development of the logistics industry, reduce costs and increase efficiency, thereby facilitating broad industrial integration and high-quality development of the regional economy. Third, it helps understand the practical difficulties and objective problems faced by the innovation and development of smart logistics, and use the achievements of smart logistics to drive the development of more related industries. All of the above inject a steady stream of intellectual impetus into the Chinese-style transformation of the entire logistics industry, thereby accumulating tremendous strength for building a logistics powerhouse.

2. RESEARCH STATUS OF SMART LOGISTICS

2.1. The Proposal of Smart Logistics

Smart logistics (ILS) was first proposed by IBM in 2009, aiming to build a future-oriented supply chain with the three major characteristics of being advanced, interconnected, and intelligent. The concept of a real-time "smart supply chain" was jointly constructed through sensing devices, RFID (radio frequency identification) tags, actuators, GPS, and other equipment and systems. Thereupon, "smart logistics" came into being [2].

In December 2009, the Information Center of the China Logistics Technology Association, the editorial department of Logistics & Material Handling, and Huaxia IoT jointly defined the concept of "smart logistics": it is based on the Internet and extensively applies emerging technologies such as cloud computing, the Internet of Things, artificial intelligence, and big data. Through the in-depth integration of the Internet with logistics, it improves the decision-making and execution capabilities of the logistics system and realizes the intelligent level of the logistics industry.

2.2. The Meaning of Smart Logistics

The so-called "smart logistics," namely "smart plus logistics," means not only that logistics is made intelligent through advanced technologies, but also that intelligent technologies penetrate deeply into the traditional logistics industry and bring about transformation, evolving into new industrial ecosystems, technologies, and models.

In short, smart logistics refers to the use of advanced information-based intelligent processing methods that enable perception and transmission, analysis and prediction, precise decision-making, and learning between the individual parts and the whole of the logistics system to solve the everyday problems of the logistics system, effectively realize the coordination of the economy and society, and ultimately serve the sustainable optimization of the logistics system for the entire economic system. Its intelligence is reflected in the following aspects.

First, intelligent perception and intelligent organization are the core requirements of smart logistics. This means that, relying on various advanced technologies, massive information from every link of logistics (including transportation and warehousing, loading and unloading, packaging and processing, picking and distribution, and order processing) is collected. Through real-time data acquisition, the relevant entities can accurately grasp the dynamic information of such elements as goods, vehicles, and warehouses. The collected data are then archived and integrated to build a sound database; with this database, the data are classified and organized so that all types of data are standardized, thereby realizing dynamic, open, and interconnected applications of the data. On this basis, by promoting the standardization of data and processes, integration across network systems is achieved, and the goals of intelligent perception and intelligent organization are ultimately attained.

Second, the intelligence of learning and reasoning is an important component of smart logistics. With the help of model analysis, smart logistics can train more adaptive solutions from data; as the knowledge reserve of the system continues to accumulate, it can effectively avoid problems that have occurred in the past and reach better decisions, thereby promoting the continuous optimization of the logistics system and ultimately realizing intelligence at the level of learning and reasoning.

Third, the intelligence of optimized decision-making and system support is an important part of smart logistics. Relying on cloud computing, big data, artificial intelligence, and other technical means, each link of the logistics system is evaluated and analyzed, so as to realize the integration and optimal allocation of resources. By promoting data interconnection and resource sharing among the various links, a systematic support system is built that makes the logistics operation processes an efficient and coordinated organic whole. The system can adjust itself adaptively according to the actual needs of different links, reducing the costs of labor, materials, and capital while significantly improving service quality and operational efficiency. It ultimately achieves the dual enhancement of system support capability and decision-making optimization, realizing the core goal of smart logistics in this dimension.

From the perspectives of different people, academia also holds different views on how to define smart logistics:

Shao Guangli holds that smart logistics integrates the Internet and the Internet of Things into the logistics system so as to realize the integration of the logistics system network. Thereby, the fine elements in the network can be controlled, resource utilization can be improved, and the productivity of the logistics system can reach an intelligent state [13].

Wang Ming holds that smart logistics refers to the management activities in which logistics enterprises use modern information technology to realize logistics process control, thereby reducing costs and improving efficiency.

Li Shufang holds that smart logistics, through the extensive application of the Internet of Things, uses advanced information technology to complete the various processes of logistics (transportation, warehousing, handling, loading and unloading, packaging, etc.), so as to provide the best service for the demand side with the minimum consumption, deliver the greatest benefits to the supply side, and maximize the protection of the ecological environment. It is an intelligent logistics management system.

3. DEVELOPMENT STATUS OF SMART LOGISTICS

3.1. Development of Smart Logistics in China

As a key path to promote the transformation of the economic structure, the development of smart logistics relies heavily on modern cutting-edge science and technology. As early as March 2006, national planning documents incorporated the development of modern logistics into the strategic system for the first time, clarifying the important position of the logistics industry at the national level.

The plan explicitly set the goal of "accelerating the development of modern logistics and promoting the construction of well-equipped logistics parks and large transport hubs," forming an implementation framework with clear positioning and a complete theoretical basis. Among them, the construction of an evaluation index system for the development level of the logistics industry and a modernization evaluation index system can directly present the actual development level of the logistics industry and provide valuable feedback for different development stages, which is of great significance for promoting industrial progress [12].

The initial stage of smart logistics research in China began in 2009, and the proposal of the concept quickly became an important innovation path for the economic transformation of developed countries. Since then, governments at all levels have successively introduced a series of supportive policies and released positive signals. By 2015, the government and the competent authorities of the logistics industry had jointly formulated and issued a number of policies, focusing on promoting the transformation of traditional logistics toward smart logistics. By promoting the in-depth integration with information technologies such as the Internet, cloud computing, and big data, business model innovations have been fostered, injecting new momentum into the development of smart logistics and enabling it to achieve significant breakthroughs in both technology application and industrial practice [6].

3.1.1. Ratio of Total Logistics Cost to GDP

The ratio of total logistics cost to GDP can directly reflect the actual development level of a country's logistics industry and whether the input and output are reasonable. The development level of China's smart logistics industry can be judged by this ratio. Fig. 1 shows the ratio of China's total logistics cost to GDP from 2000 to 2022, and it can be found that the ratio has almost gradually decreased. However, by comparison, the ratio in the traditional developed countries is below 10%, which indicates that China's logistics industry still lags behind the developed countries and has enormous room for development.

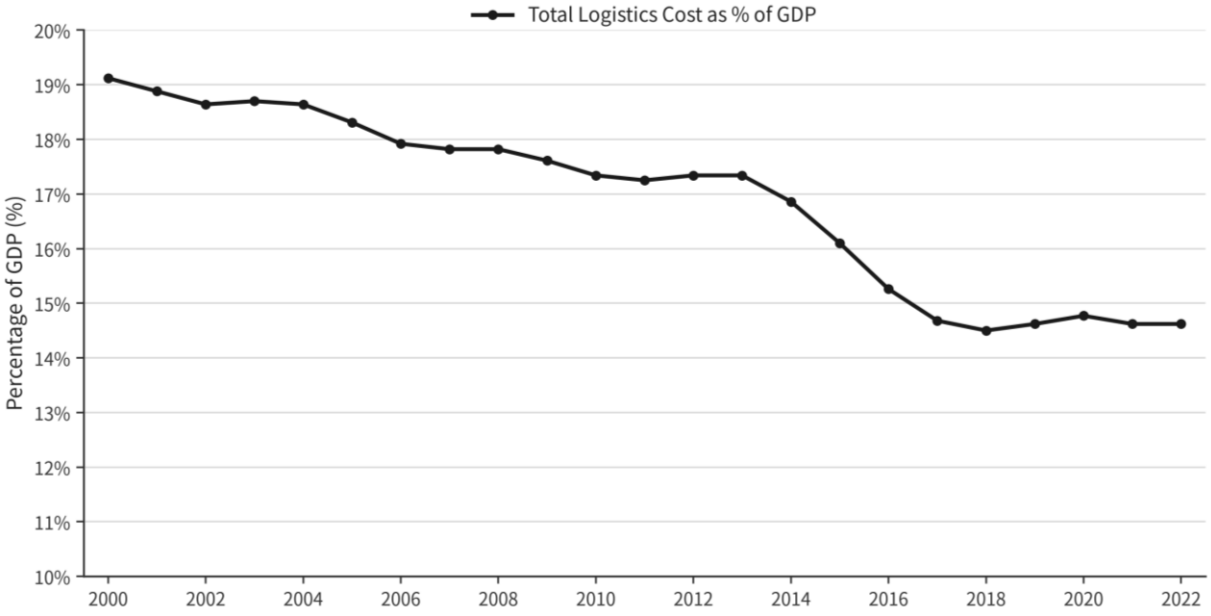


Figure 1. Ratio of Total Logistics Cost to GDP

3.1.2. Civil Aviation Cargo Turnover

One of the most prominent characteristics of smart logistics is rapid and efficient response, so the data on civil aviation cargo turnover can reflect this characteristic to a certain extent. As can be seen from the figure, except for the period from 2020 to 2022, which was affected by the global COVID-19 pandemic, the other years show a gradual growth trend. Likewise, compared with developed

countries such as the United States, whose cargo turnover has long been in a leading position, this reflects the strength of its comprehensive economic power, as shown in Fig. 2.

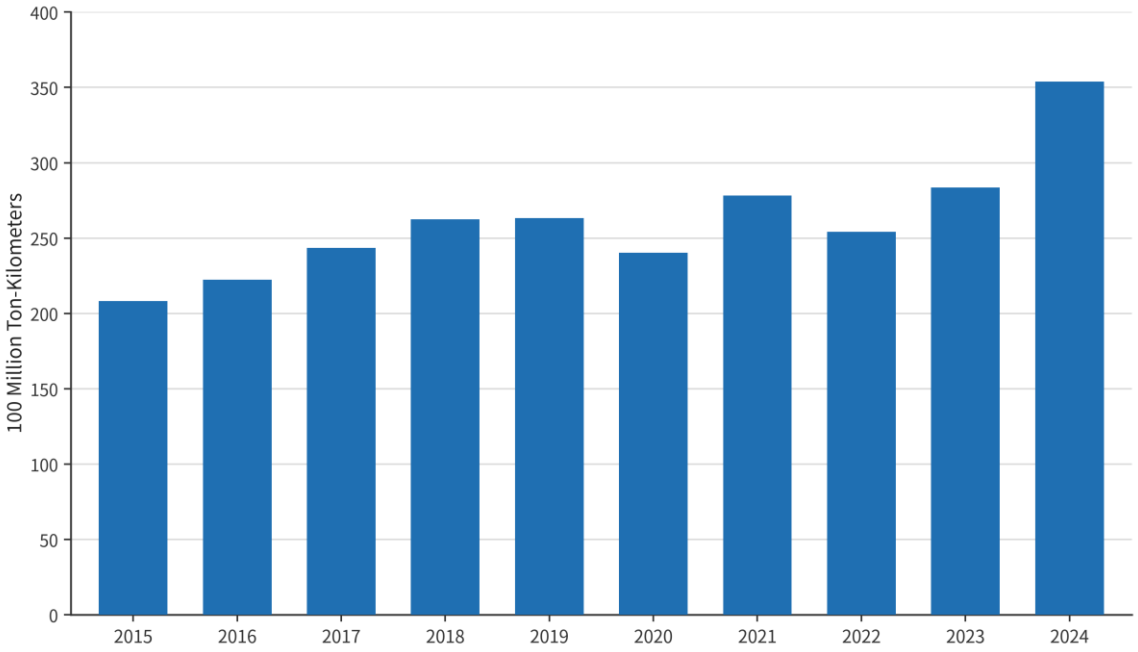


Figure 2. Civil Aviation Cargo Turnover

3.1.3. Number of Employees in the Postal Industry

With the introduction of smart logistics, many advanced technologies such as big data, the Internet of Things, intelligent equipment, and cloud storage are driving the upgrading and transformation of the traditional logistics industry. As China's economy continues to grow, science and technology are gradually penetrating every corner of life, and equipment such as intelligent robots, intelligent arms, and unmanned delivery vehicles have emerged. Traditional manual sorting and warehousing are being gradually replaced by advanced scientific and technological productivity. From this we can infer that, over time, the number of employees in the postal industry should first rise with the technology, then gradually level off and subsequently decline. As shown in Fig. 3, from 2010 to 2013, thanks to the rise of e-commerce, online shopping, trade, and other industries, the number of employees in the postal industry experienced explosive growth. Subsequently, the number remained relatively stable from 2014 to 2017, which indicates that China's smart logistics industry was in a rising period. With the development of the technology era, once the industry enters a mature period, intelligent equipment will replace human labor on a large scale, and the corresponding number of employees will inevitably decline.



Figure 3. Number of Employees in the Postal Industry in China

4. CHARACTERISTICS AND DEVELOPMENT TRENDS OF THE SMART LOGISTICS INDUSTRY

4.1. Characteristics of the Smart Logistics Industry

Smart logistics and science and technology are inseparable; they complement each other and neither can exist without the other. Through artificial intelligence, the industrial division of labor is re-integrated and reallocated, the industrial structure is adjusted and optimized, and the industrial development model is changed and reconstructed. With the mutual integration of logistics and the Internet, smart logistics is presenting new characteristics.

First, policies are gradually improving. The development of smart logistics not only relies on technological breakthroughs but also benefits from the systematic support of the policy system. The government has formulated and introduced relevant measures, such as the implementation opinions on the Internet Plus Efficient Logistics, which have laid a sound foundation for actively developing smart logistics.

Second, the "Internet plus logistics" is continuing to mature. Relying on the "Internet plus," logistics enterprises integrate a variety of technological advantages and carry out intelligent logistics management, and the in-depth connection between IoT sensors and the Internet has been realized. The BeiDou Navigation Satellite System is gradually and comprehensively replacing GPS and taking root in such fields as drones, heavy trucks, sorting robots, autonomous vehicles, and terminal containers. The "Internet plus logistics" will build a supporting framework for the development of smart logistics.

Third, the continuous expansion of logistics networks has generated massive amounts of business data, driving big data technology from a theoretical concept into practical application, which in turn drives industrial intelligence and significantly improves production efficiency. Taking Cainiao Network as an example, it realizes the accurate distribution of parcels and nodes through intelligent routing algorithms, with a delivery accuracy rate of 98%. Such practices show that the in-depth processing and analysis of large-scale logistics data can uncover enterprise management information of strategic value and provide a data-driven support system for scientific decision-making [11].

Fourth, logistics technology services represented by artificial intelligence, with the remarkable advantages of high efficiency and low cost, have become an urgent need for the transformation and

upgrading of logistics enterprises. At this stage, artificial intelligence has shown application potential in such links as intelligent resource allocation and process efficiency optimization, and has formed technological explorations especially in frontier fields such as unmanned warehousing, unmanned distribution, and drone logistics. Although at present only a few leading enterprises in China (such as SF Express and JD.com) carry out research and development practices in related fields, their technological trial results are expected to push local logistics enterprises gradually into the ranks of internationally advanced technology and achieve leapfrog development in key fields [1].

Fifth, the "personalization" of smart logistics will have an impact on traditional logistics, mainly manifested in the supply of more precise personalized services. With the application of big data analysis and artificial intelligence technology, enterprises can gain a deeper understanding of customer needs and provide customized service plans accordingly. Whether it is transportation route planning, cargo packaging design, or delivery time arrangement, all can be adjusted according to customer differences to meet their personalized demands, thereby enhancing their satisfaction and loyalty. Relying on the smart logistics system, enterprises can more effectively practice the service tenet of "customer centricity" and provide customers with higher-quality and personalized logistics services.

Sixth, "collaboration and sharing," as the core essence of the smart logistics innovation model, has become an important driving force for the development of the information society and is injecting new momentum into the modern logistics industry. Achieving efficiency leaps through resource integration that crosses enterprise boundaries, this model upholds the core concept of "sharing rather than owning," breaks through the limits of traditional enterprise boundaries, and, through the efficient integration of idle resources and the socialized reconstruction of stock resources, maximizes the allocation efficiency of logistics resources and promotes the transformation of the industry toward intensification and platformization.

4.2. Development Trends of Smart Logistics

First, in the process of platform-based transformation and upgrading, the smart logistics system is shifting from the previous resource-driven and technology-driven models to a platform-driven model. Through online business and data mining, the Internet enables the supply and demand sides to connect precisely, which not only improves operational efficiency but also alleviates the asymmetry between supply and demand, and the platform economy model has consequently taken shape. Against this background, specialized enterprises can establish efficient interactive relationships with users through platforms.

Second, in the process of green and low-carbon upgrading, the primary task of smart logistics is to fully integrate and collect the idle resources of society so that they can be well utilized, conserve energy and reduce emissions, and turn waste into wealth, while comprehensively promoting recyclable and degradable packaging, clean energy distribution, and so on. These measures all embody the essence of high-quality development [3].

Third, in the process of upgrading connectivity, new generation information technologies such as the Internet of Things, artificial intelligence, and big data are expected to gradually mature. Logistics practitioners, facilities and equipment, and goods will realize comprehensive connection with the Internet, and the scale of such connections will show exponential growth, thereby building an IoT system with comprehensive coverage and extensive interconnection.

Fourth, in the process of intelligent upgrading, with the continuing maturity of artificial intelligence, robots are expected to replace human labor in a number of posts in the future. In the near future, the application rate of logistics robots will increase significantly, which constitutes an innovative transformation of the traditional logistics model, and "intelligent evolution" is driving changes in the smart logistics landscape.

Fifth, in the process of supply chain upgrading, by virtue of its closeness to users, smart logistics will promote the extension of the Internet to the upstream and downstream of the industrial chain, deepen the integration of each link of the industrial chain with the real needs of users, and thereby help accelerate the construction of a "cooperation and sharing" logistics ecosystem.

Sixth, in the process of penetration upgrading, smart logistics will, in a penetrating form, integrate into every link from production to consumption, helping users realize the idea of "getting what you want." The Internet of Everything is driving changes in the development model of smart logistics. Consumers' demands for personalization and diversification are increasingly rising. To adapt to the changing trends of scenarios, logistics services need to cover all scenarios of life and provide consumers with customized and personalized production and supply systems; meanwhile, the networks of logistics service providers need to connect online and offline channels and producers with end consumers vertically, so as to undertake the integrated service demands of warehousing, transportation, distribution, and so on.

5. FACTORS INFLUENCING THE INNOVATION AND DEVELOPMENT OF SMART LOGISTICS

5.1. Driving Forces for the Development of Smart Logistics

First, economic transformation. With the rapid growth of China's economy in recent years, its military strength has achieved great progress and its international standing has risen accordingly. At the same time, many problems have arisen, such as the mismatch between production costs and economic value and the "last mile" in the logistics system, which directly or indirectly affect people's daily lives. Smart logistics, on the other hand, focuses on the fundamentals of people's well-being and maintains the normal order of society.

Second, the support of the Belt and Road Initiative. Since the Belt and Road international economic cooperation initiative was proposed in 2013, it has become a platform for international regional economic cooperation. The Belt and Road construction runs through Asia, Europe, and Africa, with the developed European economic circle at one end and the dynamic East Asian economic circle at the other. It is a win-win road of cooperation that promotes common development and achieves common prosperity. Since its proposal, more than 150 countries and over 30 international organizations have joined it. Smart logistics has opened up broader prospects for the economic and trade expansion of the countries along the Belt and Road. China will build infrastructure, highways and railways, industrial parks, and smart logistics parks in the countries along the routes, which will inevitably generate huge logistics demand and provide a steady stream of energy for the development of the smart logistics industry [7-9].

Third, the driving force of targeted poverty alleviation. At present, rural logistics has great development potential. To consolidate the achievements of poverty alleviation, smart logistics will actively integrate the characteristics of scattered spatial distribution and small single batches, and promote the rapid development of rural smart logistics, leading the rural economy toward high-quality development. The development of smart logistics in rural areas seeks partners at all levels and establishes logistics outlets, which will inevitably provide more jobs and realize sound economic development [5].

Fourth, changes in the demand structure. In recent years, with the economic downturn, enterprises have exercised stricter control over such links as procurement, processing, inventory, and transportation, and the decision-making process has become more scientific and rational, enabling the optimal allocation of resources and effectively avoiding idleness and redundancy. Secondly, this is reflected in "personalization": personalized demands lead to a rich variety of commodities and diverse choices in the market, but they can also easily cause overcapacity. With the improvement of

the national economy and people's yearning for a better life, customer demands are showing increasingly prominent characteristics of personalization and diversification. However, the total logistics cost in China is still at a relatively high level. With the clarification of the position of logistics as the "third source of profit," reducing the total logistics cost has become an urgent task. The development of smart logistics can not only significantly reduce the total production cost but also greatly improve efficiency, helping enterprises maximize their interests [4].

5.2. Existing Problems in Smart Logistics

First, there is a serious shortage of high-end interdisciplinary talents engaged in smart logistics, especially high-end talents in computer technology and modern logistics information operation. The lack of personnel has seriously restricted the development of China's logistics industry [10].

Second, infrastructure construction has the problems of imbalanced layout and inadequate investment. The development of smart logistics requires a rational layout of infrastructure, which is bound to increase investment as the layout is adjusted. The informatization process of traditional logistics enterprises adopts an inside-out development model, with information closure and the phenomenon of "information silos." In addition, the research and development investment in the key technologies and facilities and equipment of smart logistics is still insufficient.

Third, the lag of policies and guidelines. The release of authoritative national policies and guidelines is bound to affect the development direction of smart logistics; however, these guidelines often have a lag, resulting in missed opportunities for the perfect entry point and a mismatch between the development of logistics and people's needs.

6. PATHS FOR THE INNOVATION AND DEVELOPMENT OF SMART LOGISTICS

6.1. University Development and Talent Cultivation

Emphasis should be placed on the cultivation of senior logistics management talents and the popularization of higher education, and the construction and development of efficient logistics disciplines should be strengthened. This is mainly reflected in the cultivation of talents and the training of high-end professionals in the industry. Universities and related institutions should reach a consensus and keep pace with the contemporary development of education so that learning can be applied. In this process, the mature education systems of foreign countries can be referenced and their experience drawn upon, the introduction of high-end talents strengthened, and the talent service market mechanism improved and the allocation of resources optimized.

6.2. Improving and Strengthening Policy Orientation

Based on the strategic goals and functional positioning of smart logistics development, the construction of the policy and regulation system should continue to be promoted. By formulating targeted laws and regulations, a fair and orderly market competition environment is created, the legitimate rights and interests of enterprise legal persons and the interests of consumers are effectively protected, and a law-based institutional framework for the logistics industry is built. In the initial stage of smart logistics construction, the government needs to provide adequate financial support and, through policy guidance, channel social capital investment, incorporating the development of smart logistics into the key support category.

Centering on the requirements for implementing the two major national strategies, a multidimensional policy support framework should be built at the institutional supply level. In the field of tax policy, through the optimized design of value-added tax, enterprise income tax, and other policies, a

differentiated tax incentive mechanism for smart logistics enterprises is formed. In terms of land use guarantees, a special plan for the land use of smart logistics infrastructure is established to give priority to the land needs of logistics parks, warehousing and distribution centers, and so on. Financial support policies need to integrate credit, insurance, bonds, and other instruments to build a financing service system covering the whole life cycle of smart logistics enterprises. Capital market policies should guide venture capital and industrial funds to increase their investment in the smart logistics field, forming a diversified capital supply pattern of "government guidance plus social participation." Through coordinated policy efforts, systematic institutional guarantees are provided for the development of the smart logistics industry.

For the support of emerging industries, a policy support system is established. In terms of regulatory policy, the principle of "inclusive and prudent" regulation is adhered to, and hierarchical and classified regulatory rules are formulated according to the characteristics of new technology applications, reserving room for innovation for emerging business forms while ensuring the bottom line of security. The government should play an exemplary and leading role and, through government procurement of services and first purchase and first use policies, give priority to purchasing the products and services of emerging business enterprises and cultivate initial market demand. In the field of employment policy, adapting to the changes in employment patterns brought by the new business forms of smart logistics, a flexible and diverse labor employment system is established, and policies such as social insurance and vocational training matching the new employment forms are improved to protect the legitimate rights and interests of employees. By creating an open and inclusive market environment, the innovative vitality of emerging industries is fully released.

6.3. Strengthening Technology Leadership

Technological progress is the core driving force for the development of smart logistics, and a full-chain policy system of "R&D investment plus achievement transformation plus innovation ecosystem" needs to be built. The government should increase R&D investment in key technology fields such as intelligent warehousing, the Internet of Things, and blockchain, and establish a steadily growing fiscal fund support mechanism, focusing on raising the proportion of intelligent logistics equipment research and development in the overall research budget. At the same time, the intellectual property protection system is improved, channels for the rapid confirmation and protection of technological innovation achievements are established, and the market-oriented transformation of innovation achievements is promoted through such mechanisms as intellectual property pledge financing and technology transfer trading platforms. The coordinated innovation of industry, universities, research institutes, and application is deepened, universities, scientific research institutions, and enterprises are encouraged to jointly build joint laboratories and industrial technology innovation alliances, a long-term and stable cooperation mechanism is established, and the organic connection between basic research and applied research is promoted. The incentive mechanism for the transformation of scientific research achievements is improved, and, through equity rewards and revenue sharing, the innovative enthusiasm of researchers is stimulated and the transformation of technological achievements into real productive forces is accelerated.

6.4. Building a Smart Logistics Alliance

Led by the government and promoted by society, enterprises that hold leading positions and a certain foundation in the fields of technological innovation and industrial scale are united. Following the same goal, a sound working mechanism is established, adhering to the three principles of risk sharing, resource sharing, and technology sharing. Through joint cooperation and common development, the all-round development and progress of the smart logistics industry are realized, as shown in Fig. 4.

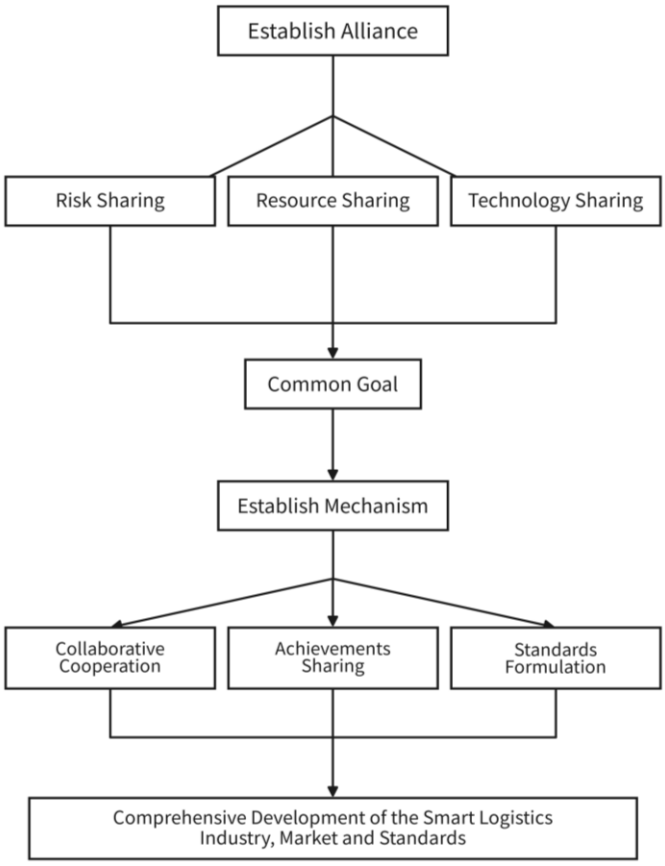


Figure 4. Process of Establishing the Smart Logistics Alliance

7. CONCLUSION AND PROSPECT

The development of the smart logistics industry needs to be based on advanced technology, a modern logistics system, and the in-depth integration of the two, while building an efficient and coordinated industrial ecosystem. Driven by technology, with big data, cloud computing, and artificial intelligence as the hub and the Internet of Things and logistics equipment as the foundation, it realizes the intelligent perception, decision-making, and execution of the whole logistics process. Supported by the system, a modern logistics system that integrates the logistics, information, and capital flows is the foundation, and the level of logistics operation and management needs to be strengthened to avoid the efficiency loss caused by mere informatization. Attention is paid to the in-depth integration of technology with the logistics system, so as to give birth to new applications. The construction of the logistics ecosystem is strengthened, and through such models as intelligent vehicle-cargo matching and intelligent warehousing and distribution, the intellectualization of all logistics links is promoted; enterprises are encouraged to explore the new business form of "Internet plus logistics." The construction of demonstration projects is accelerated, and with smart logistics cities, parks, and leading enterprises as carriers, the development of platform enterprises is supported. In the context of the Belt and Road, China's smart logistics faces such bottlenecks as fragmented management systems, the shortage of intelligent professional talents, and fragmented information platforms. It is necessary to gradually improve the policy coordination mechanism, strengthen the cultivation of digital and intelligent talents, and promote the open interconnection of logistics data. There remain many problems that urgently need to be solved in the future, and it is expected that more experts and scholars will deepen research cooperation to break through technical standards and data barriers, so as to realize the high-quality, sustainable, and Chinese-style development of smart logistics.

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