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Exploration on the Current Situation and Improvement Strategies of Cold Chain Logistics Based on Public Management

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Abstract: With the development of the times and the improvement of people's pursuit of quality of life, cold chain logistics has emerged quietly. Cold chain logistics can maximize the freshness of transported products, and it has become the first choice for transportation, especially for fresh products. From the perspective of public management, this paper explores the current situation of cold chain logistics, and puts forward reasonable suggestions combined with the problems existing in the development of cold chain logistics, aiming to improve the service quality of cold chain logistics, better highlight the advantages of cold chain logistics, and provide suggestions for the development of the entire logistics industry.

Keywords: Cold chain logistics; Current situation and strategies; Public management

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1. Introduction to the current situation of cold chain logistics development

The emergence of cold chain logistics is derived from the rapid development of e-commerce in the current era. With the continuous enrichment of online shopping categories, various fresh agricultural and sideline products have become an important part of logistics transportation. Such products have short storage time and high storage requirements, while cold chain logistics can meet the transportation needs of fresh products and maximize the freshness of transported products. However, the transportation of cold chain logistics also raises higher requirements for logistics infrastructure. It is necessary to continuously improve the transportation and storage conditions of cold chain logistics to better give play to the advantages of cold chain logistics and promote the continuous innovative development of the entire logistics industry.

1.1. Increased consumer demand for cold chain logistics

With the continuous improvement of people's quality of life, consumers have put forward higher requirements for

food safety and food freshness, which directly promotes the emergence of cold chain logistics. Moreover, with the increase in the number of people shopping online, the types of logistics transportation products have gradually become richer. At present, almost the same categories as offline shopping have been achieved. For commodities that require temperature control, such as fresh food and pharmaceutical products, their quality and safety must be ensured during transportation, which leads to a continuous increase in the demand for cold chain logistics. At the same time, the rise of e-commerce platforms and the gradual improvement of the cold chain logistics network also enable consumers to more conveniently purchase cold chain commodities from all over the country, stimulating the expansion of the cold chain logistics market.

1.2. Continuous strengthening of cold chain logistics service functions

From the current development situation of cold chain logistics, its service functions are constantly strengthening, and intelligent cold chain logistics has gradually become an important force in logistics development. By introducing intelligent temperature control systems and Internet of Things tracking technology, logistics enterprises have realized full-process visual monitoring from warehousing to distribution, ensuring the stability of commodity quality. At the same time, with the in-depth development of cold chain logistics, the products transported by cold chain logistics have expanded from traditional fresh food to high-value-added fields such as pharmaceutical cold chains and flower preservation. Even through intelligent temperature control technology, customized temperature control solutions can be provided for special commodities, meeting the differentiated temperature control needs of different industries.

1.3. Rapid overall development momentum of cold chain logistics

With the increase in demand for cold chain logistics from consumers and businesses, the overall development momentum of cold chain logistics is strong. The state's support for the development of cold chain logistics is also constantly increasing, with more investment in the construction of cold chain infrastructure. Key indicators such as cold storage capacity and the number of refrigerated trucks have increased steadily, providing solid hardware support for the rapid development of cold chain logistics. At the same time, from the perspective of public management, the state is also continuously promoting the standardization and normalization of cold chain logistics development, providing strong support for the healthy development of the entire logistics industry.

2. Problems existing in the development of cold chain logistics

2.1. High cost of cold chain logistics infrastructure

Cold chain logistics has a rapid development momentum and has become an important force in the logistics industry, but the problems existing in its development cannot be ignored. The main problem lies in the high cost of cold chain logistics infrastructure construction. Compared with traditional ordinary logistics, cold chain logistics requires corresponding cold storage to store products and the purchase of refrigerated trucks for cargo transportation. Although cold chain logistics can achieve higher economic benefits than traditional logistics, the high initial investment makes many logistics enterprises hesitate. At the same time, the logistics industry relies on service networks to achieve economic benefits. The unbalanced regional economic development also causes difficulties for the development of cold chain logistics. Some regions cannot achieve effective linkage of cold chain logistics, leading to an increase in the loss rate of commodities during transportation and an indirect increase in logistics costs.

2.2. Lack of cooperation among cold chain logistics enterprises

The healthy development of cold chain logistics requires strengthened cooperation among different logistics enterprises to reduce the overall logistics transportation cost through information and resource sharing. However, in reality, cold chain logistics enterprises lack such necessary cooperation. Effective information exchange can be achieved within cold chain logistics enterprises, but there is an insurmountable gap in external collaboration. Many cold chain logistics enterprises operate independently, lacking a unified information platform and collaboration mechanism, resulting in the failure to optimize the allocation of resources. At the same time, there are also limitations in the communication of technology and talents among different logistics enterprises, leading to difficulties in the overall development of the cold chain logistics industry.

2.3. Restriction by professional talents in cold chain logistics

Compared with the traditional logistics industry, the development of cold chain logistics has higher requirements for talents. Talents are required to not only have knowledge of the logistics industry but also possess corresponding work experience in cold chain logistics and information literacy. However, from the actual development of the industry, such compound talents are extremely scarce. Moreover, cultivating such compound talents requires a long time and high cost, resulting in the inability of qualified professional talents in cold chain logistics in the market to meet the development needs of the industry. At the same time, some enterprises do not attach sufficient importance to talent training and introduction, which also leads to the loss of high-quality talents in the industry and restricts the overall development of the cold chain logistics industry.

3. Improvement strategies for cold chain logistics based on public management

3.1. Unify cold chain logistics standards to reduce cold chain logistics costs

The improvement of cold chain logistics based on public management requires the government to take the lead in top-level design and unify cold chain logistics standards, promote the standardization of cold chain logistics development, so as to reduce cold chain logistics costs and promote the healthy development of the industry.

The government should play a leading role in organizing relevant industry associations and enterprises to jointly formulate unified national cold chain logistics standards. Focusing on all links of cold chain logistics, it is necessary to ensure that the standards are comprehensive and systematic. The content of the standards should clearly specify key indicators such as temperature control range, operation process specifications, and equipment and facility requirements. By unifying standards, the barriers between regions and enterprises can be broken, realizing seamless connection of all links of cold chain logistics, reducing resource waste and cost increase caused by inconsistent standards, thereby reducing the operating costs of the entire cold chain logistics industry and promoting the industry to develop in the direction of standardization and normalization.

To better promote the rapid development of cold chain logistics, the government can conduct policy guidance and reduce the operating costs of cold chain logistics enterprises through policy support and financial subsidies. Tax incentives and financial subsidies can be given to enterprises that build cold chain infrastructure, encouraging enterprises to adopt advanced energy-saving technologies and equipment to reduce energy consumption and operating costs. At the same time, policy support and technical support should be provided to enterprises willing to engage in cold chain logistics. Special support funds can be established to provide low-interest loans or loan interest subsidies for qualified enterprises that actively invest in cold chain logistics construction, reducing the pressure on enterprises in initial capital investment. In terms of technology, the government can organize scientific

research institutions to carry out industry-university-research cooperation with cold chain logistics enterprises, providing enterprises with advanced cold chain technology consulting and solutions, helping enterprises improve the technical level of cold chain logistics and further reduce the cost of cold chain logistics.

In addition, from the perspective of public management, the government should strengthen the supervision of the cold chain logistics market, crack down on unfair competition, maintain market order, create a fair competitive environment for enterprises, and promote the sustainable development of the cold chain logistics industry [1].

3.2. Build an intelligent management platform to strengthen enterprise information sharing

An important constraint in the development of cold chain logistics is the limited cooperation among enterprises and the lack of a necessary information sharing platform, resulting in unreasonable resource allocation. The development of cold chain logistics based on public management can strengthen information sharing among enterprises by building an intelligent management platform to meet the needs of the modern development of cold chain logistics.

Full attention should be paid to the construction of an information sharing mechanism in the development process of cold chain logistics. Under the guidance of the government, an information sharing platform should be provided for enterprises from the perspective of public management. The platform should be highly integrated and open, capable of integrating information resources of all links of cold chain logistics and realizing real-time data exchange and sharing among enterprises. Through the platform, enterprises can timely understand key information such as market dynamics and inventory status, thereby making more scientific and reasonable decisions. Moreover, the government can use the data analysis capability of the platform to conduct accurate monitoring and early warning of the cold chain logistics market, providing a strong basis for policy formulation.

The construction of the intelligent management platform should take information sharing as the core. By updating the platform data information in real time and relying on the information sharing mechanism, different enterprises can break the information barrier and realize efficient resource allocation and collaborative operation. When the cold chain vehicles of one enterprise have idle transportation capacity, the information can be shared with other enterprises with transportation needs through the platform, improving the utilization rate of vehicles and reducing the overall logistics cost.

Moreover, in the context of the big data era, information security has received widespread attention from people. Especially for the logistics industry, the data transmission process of the platform involves a large amount of user and product information. It is necessary to focus on information security protection and build a safe and reliable information protection mechanism. Advanced encryption technology can be used to encrypt the transmitted data to ensure that the data is not stolen or tampered with during transmission, and to protect the security and integrity of user information and product information.

At the same time, a strict access control mechanism should be established to conduct identity authentication and authority management for platform users. Only authorized personnel can access specific data information, preventing information leakage caused by improper operations of internal personnel. Regular security assessments and vulnerability scans should be conducted on the platform to timely detect and fix potential security risks, ensuring that the intelligent management platform can operate stably and safely, and providing reliable guarantee for information sharing among cold chain logistics enterprises [2].

3.3. Strengthen professional talent training to provide strong talent support

The role of talents in the development of cold chain logistics is self-evident. The development of cold chain

logistics based on public management requires strengthening the training of professional talents to provide strong talent support for the development of the industry.

The government should guide cold chain logistics enterprises to carry out in-depth cooperation with colleges and universities, set up special cold chain logistics majors or curriculum directions, and cultivate compound talents who understand both cold chain technology and have logistics management capabilities in a targeted behavior. In terms of curriculum setting, basic theoretical knowledge of cold chain logistics should be covered to improve the targeting of talent training. At the same time, a school-enterprise cooperation talent training model integrating production and education can be carried out. Enterprises and schools jointly formulate talent training methods and co-construct internship bases. Enterprises can send experienced technical personnel to serve as practical tutors for students, providing guidance and suggestions in practical work to help students better apply theoretical knowledge to practice. Schools can adjust teaching content and curriculum settings according to the actual needs of enterprises, so that the trained talents are more in line with the employment standards of enterprises. Through this school-enterprise cooperation talent training model integrating production and education, seamless connection between school education and enterprise needs is realized, and a large number of high-quality professional talents are delivered to the cold chain logistics industry.

For the existing staff of cold chain logistics enterprises, a systematic training plan should be formulated to improve their ability to use information-based equipment and provide high-quality services. Regular professional skills training and learning exchange activities should be organized for employees to improve their professional quality and business capabilities. Meanwhile, in talent management, an incentive mechanism should be improved. Material rewards should be given to talents who have made outstanding contributions in the field of cold chain logistics to attract more outstanding talents to engage in the cold chain logistics industry and provide solid talent guarantee for the development of cold chain logistics [3].

4. Conclusion

Cold chain logistics is an innovation and breakthrough of the traditional logistics transportation model, and it is a concrete embodiment of the development of the times and people's high-quality life. The problems faced in the development of cold chain logistics are inevitable. Addressing the current situation of cold chain logistics and solving the existing problems from the perspective of public management is an important part of the industry's development. It is necessary to strengthen the construction of infrastructure under the guidance of the government, provide strong talent support for the development of cold chain logistics, and promote the rapid development of the entire logistics industry. In future development, it is necessary to continue to take industry development as the guide, innovate the development model of cold chain logistics, and better provide high-quality logistics services for people.

Disclosure statement

The author declares no conflict of interest.

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