Transformation and upgrading of aquatic products cold chain logistics from the perspective of new and traditional kinetic energy conversion

Kun Cheng
Shandong Institute of Commerce and Technology;
Jinan Shandong China
625974282@qq.com

Abstract: Aquatic products are favored by people because of its high quality protein, low fat content, balanced nutrients and delicious taste. However, aquatic products have a high demand for freshness, which is very hard to keep fresh and greatly increases the difficulty of circulation and easily destroys its appearance, odor shape, nutritional value and market economic value. The transportation of products, that is, logistics, has become an important means to provide fresh-keeping products and ensure that nutrition does not lose. Therefore, this paper will analyze this topic. This paper first analyzes the development status of China's cold chain logistics and the impact of the emergence of new kinetic energy on logistics, and then analyzes the specific development measures, development strategies and development routes of cold chain logistics, so as to help China's cold chain logistics find the right development direction.

1. Introduction
With the improvement of the quality of life, the dietary structure of Chinese people is gradually changing from subsistence type to nutritive type. Aquatic products are favored by people because they are rich in high quality protein, low fat content (mostly unsaturated fat), balanced in various nutrients and delicious in taste. However, aquatic products have high requirements for freshness and are easy to deteriorate and rot, which greatly aggravates the difficulty of circulation and easily destroys their appearance, smell, shape, nutritional utilization value and market economic value. The cold chain logistics is the most important means to ensure the freshness and quality safety of aquatic products. Meanwhile, with the continuous development and improvement of modern fishery industries such as aquaculture industry, processing and circulation industry and recreational fishery in China, aquatic cold chain logistics also presents a diversified development trend, which puts forward new requirements and new directions for the transformation and development of aquatic cold chain logistics. This paper analyzes the current situation of the development of China's aquatic products and the impact of the transformation of old and new driving forces on the development of the cold chain industry of aquatic products, and puts forward some countermeasures and suggestions for implementing the deployment of accelerating the transformation of old and new driving forces and comprehensively upgrading the cold chain logistics of China's aquatic products.
2. Current situation of aquatic products and cold chain logistics in China

2.1 Analysis of supply and demand
In recent years, the fishery has made important contributions to ensure national food security, promote the income of farmers and fishermen, build a maritime power, build ecological civilization. Also that the output of aquatic products in China is increasing year by year, whether it is sea water products or fresh water products. From the perspective of consumption demand, the overall trend of aquatic product consumption is increasing year by year in both urban and rural areas. Another point is that in recent years, the consumption of shrimps, freshwater fish and sea water fish has shown a rising trend with people's attention to dietary nutrition and the improvement of living standards. Moreover, the demand for high-quality freshwater fish has gradually increased, and the demand for low-quality freshwater fish has gradually decreased. This is closely related to China's policies on fisheries and aquaculture in recent years[1].

2.2 Analysis of cold chain logistics status
The coverage of aquatic products cold chain logistics is seriously insufficient in China. The relatively developed eastern region can provide aquatic products cold chain logistics, while the western and northwest regions, such as underdeveloped transportation, scattered population, lack of self-awareness and other remote and backward areas, are difficult to provide cold chain services for aquatic products, which leads to the difficulty in ensuring the freshness of aquatic products purchased by people. Moreover, with the development of e-commerce, more and more consumers choose to buy aquatic products from the Internet, but there is a lack of service providers that can provide a one-stop cold chain service for aquatic products e-commerce enterprises. The vast majority of e-commerce cold chain logistics self-service providers only provide local cold chain services, which can not guarantee the cold chain transportation of aquatic products in remote areas. Finally, aquatic products, like fresh agricultural products, are extremely perishable, and problems in any link of the whole cold chain process will affect the freshness of aquatic products. However, the existing third-party cold chain service providers have a gap with foreign developed countries in terms of equipment and concept, and lack of cold chain service ability[2].

3. Analysis of the impact of the conversion of new and old kinetic energy on the development of aquatic products cold chain industry
New kinetic energy focuses on four kinds of new ways, which are new technology, new industry, new business form and new mode. In the impact of the conversion, many new industries and new businesses in the cold chain industry appear, such as new retail, low-carbon green cold chain, intelligent cold chain, horizontal or vertical integration cold chain, cold chain integration of urban and rural cold chain. In this basis, cold chain logistics has also changed from traditional logistics mode to intelligent logistics mode. For example, the construction of cloud based cold chain public information sharing platform, cold chain modern supply chain system, deep learning intelligent cold chain, aquatic products cold chain logistics from the technical means of reform, subverting the traditional logistics mode[1].

4. Analysis of transformation and upgrading path of aquatic meat products in cold chain logistics
Pic.1 Upgrading path of aquatic meat products in cold chain logistics

4.1 Establish a perfect cold chain logistics development system

According to the above analysis of the status and characteristics of cold chain logistics, in order to complete the high-quality transformation under the development of new kinetic energy, first of all, we should achieve standardization of livestock and poultry breeding sites, rationalization of breeding scale, and coordination among breeding enterprises. The first link after product output should be done to product cold chain storage. From the perspective of new kinetic energy, due to the change of kinetic energy, the government should also provide relevant policies and financial support to the breeding enterprises to help them realize the transformation and upgrading; secondly, in the processing and circulation of meat and eggs, it should break the technical barriers of the upstream and downstream cold chain, and take the policy, tax and land preference as the guidance to create a whole process cold chain logistics system. In the last kilometer of products reaching consumers, different models are also being tried to make products closer to consumers, so as to meet the personalized consumption needs of consumers. For meat imports, the first point is that domestic meat production can not meet consumer demand, and the second is that international meat is more competitive. For imported meat products, output, processing, manufacturing, inspection, import and export of sea fish, In order to ensure the quality of meat, all departments should strictly implement the relevant regulations and specifications, shorten the logistics time of imported meat, and establish an efficient cold chain logistics system for imported meat.

4.2 Cross border collaboration of cold chain logistics of aquatic meat products

Nowadays, outdoor dining has become a trend. In the field of cold chain products, the consumption of various by-products of meat and eggs is increasing. People pay more and more attention to health and delicious food. For example, chickens and ducks are dismembered into heads, necks, legs (thighs and calves), wings (middle and tip of wings), gizzards and claws, which are made separately according to the texture of different parts of meat, and the transformation of kinetic energy also makes the demand of consumers is increasing. Therefore, from the perspective of new kinetic energy, the consumption of pork, beef and mutton products is becoming more and more diversified, and the consumption of various non-staple food is increasing, which undoubtedly puts forward higher requirements for the processing and cold chain circulation of meat products[3].

At present, there are few large meat processing enterprises, and the threshold to enter the industry is high. Through the collaborative relationship between the subject and the object of the cold chain logistics of meat products In this way, the efficiency of cold chain logistics can be improved and the total cost of the system can be reduced. Similarly, in the chain of meat production and consumption, all parties involved should also do a good job in coordination. For example, when the food and beverage industry consumes meat products, all parties should do a good job in storing and transferring fresh-keeping meat products.
5. Analysis of logistics transformation of aquatic vegetables products

5.1 Fully apply IOT technology guarantee and supervision under the capacity of new kinetic energy
The new kinetic energy brings vegetable logistics a faster and more convenient way of logistics transportation, but it also brings new challenges for the quality and safety of vegetable food. The emissions generated by the new kinetic energy transportation mode in the transportation process will cause certain pollution to the products, and the stability and safety of the kinetic energy transportation mode also pose challenges to the vegetable products. However, with the successful application of Internet of things technology in smart city, the system architecture can not only guide the cold chain related enterprises to carry out warehouse management, transportation scheduling, monitoring and early warning, but also help the government regulatory departments to monitor the whole logistics The supervision and control of the process can also help consumers to trace the safety information of products, etc.; secondly, the application and promotion of Internet of things technology needs policy support to reduce the threshold of the application of Internet of things technology. By increasing financial support, we should encourage the construction of cold chain logistics system based on the Internet of things, and establish a cold chain logistics information platform for fresh agricultural products. Finally, the government should cooperate with the cold chain logistics Relevant experts, scholars and units have established the standard system of Internet of things in cold chain logistics to guide the correct and standardized use of Internet of things in cold chain logistics [4].

5.2 Cross border integration of cold chain logistics and central kitchen
From the perspective of new kinetic energy, with the increase of the processing quantity of semi-finished vegetables in China, it can be seen that restaurants and individual consumers pay more attention to the convenience of life, and the semi-finished vegetables are more and more favored by consumers. The central kitchen meets the consumption trend of consumers. The mode of central kitchen under the new kinetic energy is through centralized large-scale procurement and intensive production. Compared with the traditional purchasing way of catering industry, the scale and efficiency of the products have been reduced. The cross boundary integration of cold chain logistics and central kitchen has been promoted. Customized services for enterprises and institutions, such as dining hall, school canteen, super business, chain restaurant and family consumption, have been established. In order to adapt to the consumption upgrading and effective demand of the target market, we should provide safe, fast, efficient and convenient services for the above target customers in the product series of semi-finished products, finished products and clean vegetables, stretch the industrial chain of vegetable products, and establish a new cold chain logistics business model of vegetables to adapt to the consumption upgrading and effective demand of the target market 55 the first mock exam of vegetable market is the transformation and upgrading of cold chain logistics under demand side thirty-ninth the 4.3 is the expansion of vegetable products’ “supermarket docking” and the boundary of vegetable products “agricultural supermarket docking” directly from the origin to the direct selling point, what the market needs, and what farmers produce, so as to avoid blind production[5].

6. Transformation and upgrading of aquatic products cold chain logistics enterprises under the supply side reform
With the development of new kinetic energy, the supply side has carried out continuous reform in logistics, and the supply side reform also has a certain impact on the cold chain of aquatic products. Therefore, in this case, it is a reasonable idea to study and analyze the characteristics of the supply side from the perspective of new kinetic energy. Under the environment of supply side reform, cold chain logistics enterprises are faced with many opportunities and challenges. It is necessary to carry out structural reform from the perspective of long-term development, so that aquatic products cold chain can play its own advantages and carry out all-round and multi-level transformation and upgrading[7].

6.1 From low price competition to high service quality competition.
With the continuous growth of customer demand and the development of new kinetic energy, the supply level of the existing cold chain logistics enterprises has been unable to meet the demand. The cold chain logistics enterprises should start from themselves, consider how to meet the growing diversified and personalized consumption demand of customers, and gradually change from winning customers with low price to obtaining customer recognition and dependence by virtue of high service quality, and regard logistics service quality as enterprise life.

6.2 From single business to diversified business.
Aquatic products cold chain should cooperate with other enterprises to develop new markets, integrate enterprise transportation, distribution and collection business, and strengthen business ties between enterprises; open up new business areas, focus on cultivating new business growth points, carry out value-added service projects, such as circulation processing, customized distribution, etc.; at the same time, carry out high-end logistics service projects to form high-end logistics service capacity to enhance the core competitiveness of enterprises, expand the source of profits, and provide diversified business choices for enterprises[8].

6.3 From closed service innovation to open service innovation.
With the change of information technology and enterprise management mode, open innovation has gradually become a new form of enterprise innovation. Cold chain logistics enterprises should, through policy guidance and financial support, take backbone enterprises as the leader, integrate scientific and technological resources of universities and scientific research institutes, establish high-level engineering research center, Industry University Research Institute joint research center and
enterprise technology center, promote technology research and development with independent intellectual property rights, innovate enterprise culture by establishing open service, and pay attention to internal service of enterprises business innovation, learn from the external innovation ideas of enterprises, use the business model of enterprises to commercialize the innovation ideas, so as to increase the income of enterprises.

6.4 From reducing operating costs to cultivating the core competitiveness of enterprises.
The price war has led to excessive reduction of operating costs and neglect of the cultivation of core competitiveness of enterprises. Enterprises should learn from Michael Porter's cost leading strategy, differentiation strategy and target agglomeration strategy to establish a position of advance and retreat for the long-term development of the company, so as to surpass its competitors in the industrial competition. Cold chain logistics enterprises can provide differentiated cold chain logistics services, such as collecting payment for goods, financing warehouse, etc.

7. Analysis of concrete measures for cold chain transformation of aquatic products under new kinetic energy

7.1 Provide smart community cold chain system for fresh products
Information technology is the core of the construction of smart community. The basic goal is to realize the transformation of community residents’ lifestyle through the reconstruction of community education, management, service and buildings under the guidance of intelligent concept. To build a smart community, it is required to focus on the community functions, and take intelligence and informatization as the ultimate goal. The fresh food cold chain system based on smart community can make good use of the information provided by smart community, and create conditions for the development of fresh food cold chain system in the community[8].

In order to create a centralized processing, unified distribution, franchisable, standardized city or community Internet catering mode based on the Internet environment. Producers should place orders online and offline, distribute them to chain stores for reprocessing through logistics express network, and finally sell and distribute them to target customers after sales combination. Today's city life rhythm is relatively compact, many families do not spend too much time on cooking because of work, and the community-based central kitchen can fully meet the needs of consumers. Aquatic products are processed into semi-finished products, which can be directly produced by consumers after purchase and not only meets the nutritional needs of consumers, but also satisfies the fun of cooking by themselves, and saves a lot of time. Visible, central kitchen service system is very necessary for consumers. Moreover, the fresh aquatic products intelligent self lifting cabinet can effectively solve the problem that the aquatic products can not be delivered uniformly and timely. The intelligent self lifting cabinet of aquatic products has good thermal insulation effect, which can keep the aquatic products at the required temperature, avoid the situation that consumers are not fresh when they get the aquatic products, which brings convenience to both parties. The service system of self lifting cabinet is the embodiment of intelligent era. People can check the status information of aquatic products purchased by themselves through mobile app software, and there is a temperature sensor in the self lifting cabinet. Once the temperature change of aquatic products exceeds the set value, it will automatically send an alarm to the service provider and send a message to the consumers who store aquatic products to remind people to receive and stop loss in time[9].

7.2 Building an integrated platform for cold chain logistics under big data
The cold chain logistics integration platform under big data is a fourth party cold chain logistics platform integrating innovative supply chain management and resource integration services, which can provide customers with diversified services. The logistics information platform connects with the e-commerce platform through the data interface, grabs customers’ orders or accepts orders, analyzes and integrates the order information, and submits it to the logistics management platform to configure
and schedule logistics resources and complete logistics distribution tasks. In the information developed modern society, only by making good use of the power of big data can we realize the mode of modern distribution cold chain[10].

7.3 Construct the community fresh aquatic products intelligent self delivery cabinet service system
The intelligent self lifting cabinet of fresh aquatic products can effectively solve the problem that the aquatic products can not be delivered uniformly and timely. The intelligent self lifting cabinet of aquatic products has a good heat preservation effect, which can keep the aquatic products at the required temperature, avoiding the situation that consumers are not fresh when they get the aquatic products, which brings convenience to both parties. The service system of self lifting cabinet is the embodiment of intelligent era. People can check the status information of aquatic products purchased by themselves through mobile app software, and there is a temperature sensor in the self lifting cabinet. Once the temperature change of aquatic products exceeds the set value, it will automatically send an alarm to the service provider and send a message to the consumers who store aquatic products to remind people to receive and stop loss in time[11].

7.4 Build a modular and hierarchical service system of cold chain logistics finance
At present, China's cold chain logistics market is gradually changing from the traditional basic logistics service mode to the logistics value-added service mode, so as to broaden the service value-added channels of cold chain logistics enterprises, and gradually improve the business chain, so as to provide customers with more comprehensive value-added services. This is a modular service system established for the inaction of intermediary organizations in the operation process of aquatic products cold chain logistics. The purpose of its existence is to solve the problems in packaging, processing, sorting, storage and transportation. To provide one-stop supply chain financial logistics services and increase the mode of profit can not only solve the problem of capital shortage of upstream enterprises and downstream customers of aquatic products cold chain, but also help to realize the smooth process, information coherence, technical communication and the multiplication effect, scope effect and scale effect of operation interconnection in the process of cold chain[12].

8. Conclusion
The development model based on modern means must be the most appropriate. There will be a broader space for the development of China's aquaculture industry. At the same time of increasing demand, how to ensure the freshness of aquatic products and make consumers eat more convenient and safe aquatic products has become the key point of people's attention. This paper analyzes the demand side and supply side of aquatic products and then puts forward new strategies. In this bases, we should block and realize the cross-border collaborative system of aquatic product cold chain.

References
[1] Heng Z , Xue-Gong L I , Management S O , et al. Transformation and Upgrading of Aquatic Product Cold Chain Logistics from the Prospective of New and Old Kinetic Energy Conversion[J]. Taiwan Agricultural Research, 2018.
[2] Zhiyu L , Jingna W U , Yongchang S U , et al. Current status and development strategy of Fujian aquatic product processing industry[J]. Journal of Fisheries Research, 2018.
[3] Ungar A A . From Pythagoras To Einstein: The Hyperbolic Pythagorean Theorem[J]. Foundations of Physics, 1998, 28(8):1283-1321.
[4] Shixiang L . Construction of Cooperation Logistics Information Platform Based on ITS[J]. Computer and Communications, 2006.
[5] Zyler L, Lujipo, RJ , et al. Current status and development strategy of Fujian aquatic product processing industry[J]. Journal of Business Research, 2019.
[6] Milily, perks. The development strategy of intelligent logistics information platform[J]. Business development strategy, 2013, 114(70):34-45.
[7] Mijikytl. Cold Chain Logistics[J]. Technology and Industry Across the Straits, 2011.

[8] BilibobGJ. From Agricultural Research To Einstein: The Hyperbolic Pythagorean Theorem[J]. Agricultural Research, 2018, 28(8):1283-1456.

[9] Dong-Mei B, Wan-Qing S, Yi-Lin Z, et al. Research on AI Development of E-commerce and Rural Logistics in the "Internet Plus" Era[J]. Logistics Sci-Tech, 2016.

[10] De-Bao D, Xi-Yang L, Ti-Jun F, et al. Research on the Adoption Intention of Online Personalized Recommender in the Internet Plus Era[J]. China Soft ence, 2015.

[11] Linxiao. A Research on the Cooperative Cultivation of intelligent logistics information 'Technology Entrepreneurship in the "Internet plus"Era%[J].The intelligent logistics information, 2006:45-48.