Influence of Development Trend of Civil Aviation Transportation and Logistics Management on Economic Growth under the Background of Internet of Things

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Abstract: With the rapid development of economy, the network information era has come. Online shopping and online payment have become an indispensable part of everyone's life. In our country, the daily online shopping transaction volume is very large, thus the pressure of logistics traffic volume is increasing. This paper first analyzes the current situation of civil aviation transportation and logistics management, and combines with economic growth to analyze some problems existing in civil aviation transportation. Secondly, it focuses on the impact of the development trend of civil aviation economy and logistics management on economic growth. Especially in the aspects of visualization of logistics transportation, intelligence of transportation and networking of logistics information, the advantages of Internet of Things are very obvious. Starting from the relevant knowledge of the Internet of Things, this paper analyzes the influence and application of the Internet of Things on the logistics economy and the problems that need to be solved at this stage, so as to help promote the development of the logistics industry.

1. Introduction

In this information age that keeps pace with the times, information is updated and updated at a very fast speed. In order to ensure that the traditional logistics industry is not eliminated by the market tide, it is necessary to change the management concept and update the management mode in time [1]. Through the use of electronic information technology, it is the most important thing for logistics management to carry out unified and perfect storage and effective management of objects from all parties. Therefore, business operators and managers must pay high attention to modern logistics management, establish scientific and reasonable modern logistics management concepts, realize the importance of logistics management behavior, and continuously analyze the development characteristics and trends of modern logistics management with the development of social economy and science and technology [2]. Internet of Things, a new product adapted to the development of the times, makes the traditional logistics industry see the prospect and hope of development. In order to eliminate backward management skills, realize modern management methods and avoid being eliminated in the fierce market competition environment, it is necessary to master the skilled application of Internet of Things technology as soon as possible [3]. Under the background of the Internet of Things, some new features have emerged in China's logistics economic management. The logistics industry needs to adapt to the new features and seek the best way to transform the logistics industry in the Internet of Things.

2. Definition and Technical System of Internet of Things

The Internet of Things is the Internet where things are connected. The name contains two meanings: first, the core and foundation of the Internet of Things is still the Internet, which is an extension and extension of the Internet. Second, the users who exchange and communicate information extend and extend to the objects, that is, the objects and objects are closely linked. An indispensable link in logistics transportation is that the goods will pass through the logistics trading warehouses of various cities for storage or safekeeping [4]. The Internet of Things is a kind of network that connects any article in society with the Internet on the basis of realizing the agreed

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agreement and then identifies, locates and manages these articles through information exchange and communication [5]. The concept of Internet of Things connected with things needs to be set according to specific settings through information sensing equipment such as GPS positioning system, infrared sensor, radio frequency identification, laser scanner, sensing device, etc. The Internet of Things is widely used in the integration of networks through communication sensing technologies such as intelligent sensing, identification technology and pervasive computing. Therefore, it is also called the third wave of world information industry development after computers and the Internet.

3. Current Situation of Civil Aviation Transportation and Logistics Management

3.1 Insufficient Storage Space and Low Utilization Rate

With the rapid development of electronic commerce, civil aviation transportation is gradually rising in China. Compared with western developed countries, China's civil aviation industry started late and still needs to be improved in terms of management system and service system [6]. Due to the shortage of storage space for goods, logistics companies will feel overwhelmed by the huge volume of goods at a time point or for a long period of time when facing great pressure of logistics and transportation, even if they want to continue to receive goods, there is no way out. For consumers, such goods cannot be sold at high prices because businesses have not created any new value. Businessmen should create value for customers by adding value-added services to customers, thus increasing profit sources for merchants themselves. The advantages of civil aviation transportation are fast speed and convenient service, but it does not give full play to its advantages in the development process, especially in the connection with local economic growth, the lack of long-term sustainable development planning. The shortage of transportation equipment or the lack of high-tech equipment will greatly increase the difficulty for transportation companies to manage the goods. Because of the lack of equipment, the traditional manual operation mode will be most likely to be used. The calculation of goods warehousing, warehousing and storage is manual operation [7]. Therefore, it has shown great development potential and industrial impetus from the very beginning of its formation. The modern logistics industry is gradually moving towards standardization under the background of e-commerce, and the formation mode is developing continuously. The two promote and complement each other.

3.2 Logistics Management is Not Modern and Networked Enough

At present, in an era of rapid development of information, many large enterprises have mastered the management of network information and have found a set of management methods suitable for the company itself. With the improvement of logistics conditions, many small commodity wholesalers and even manufacturers have moved here, making this market more and more prosperous. Its hardware products account for a very large proportion of the national turnover. Large airlines are still the main force in civil aviation transportation. The application method of logistics management is still to adopt the idea of independent management and overall regulation. All logistics enterprises existed in a competitive situation before. Competition in the same industry is quite normal, but if competition is only lack of complementarity, it will affect the development of the whole industry [8]. The traditional methods of manual calculation and manual recording have long been replaced by developed computer systems. Therefore, logistics companies should take a long-term view. Just because logistics is a transportation industry, they should not neglect the importance of coordinated development with the network. Small companies should emulate developed companies and learn from the management strengths of others. It can also effectively improve the operational smoothness and efficiency of transportation management, storage management and customer information service management, help different departments to coordinate and unify, reasonably allocate the logistics process, and improve the timeliness of logistics management.

4. Favorable Factors and Application Scope of Internet of Things for Civil Aviation Transportation and Logistics Management

4.1 The Internet of Things Visualizes Economic Data

Logistics companies need a set of mature economic management methods to deal with the huge volume of goods transported and transactions, so that they can easily deal with the data without any calculation errors. When logistics develops to a certain extent, it can bring together the relevant enterprises in the industrial chain and drive the economic development of this place. The information is compared with the delivery record to detect whether there are omissions or losses. If there are no errors, the contents of the storage place and storage status in the label will be updated in time to realize the complete process of intelligent monitoring. Therefore, the Internet of Things plays an important role in the statistics and calculation of logistics economic management [9].

With the support of GPS technology, RFID technology and sensing technology, a visual logistics intelligent management system can be established through the Internet of Things. To ensure transparency and safety in the circulation of goods (fig. 1).

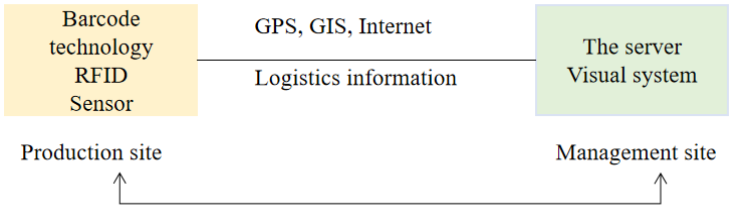

Fig.1 Visual Intelligent Management Framework

The Internet of Things can quickly grasp data and calculate results based on the data. For example, equipment preservation, factory production and supply chain management, etc. Through good management and monitoring of these aspects, users can further improve the goods condition information, the route selection of goods transportation and many other services at any time. The current transportation status of logistics can be displayed on the network through manual or automatic identification. Different manual statistics are so busy and complicated, and the error rate is small. Only a light sweep is needed, and the whereabouts of the goods can be easily known. Modern logistics takes customers as the center, optimizes the overall structure of the enterprise, and pays attention to efficiency and effect. To meet the needs of customers in many ways, expand market share and improve competitiveness.

4.2 Internet of Things Intelligentizes Logistics Economic Management

The Internet of Things uses network intelligence technology to facilitate complex logistics economic management and bring convenience to logistics companies. Logistics industry is a service system, its development depends on the needs of service objects, therefore, logistics services must be closely linked to the needs of service objects; Logistics management will balance the demand for cargo transportation in economic development and the distribution of logistics resources. Civil aviation transportation will play a greater role under the advanced logistics management system. This intelligent system can help the administrator to know the storage situation of the warehouse in time, query the commodity information, feedback the arrival, distribution and shortage of the goods to the customers, and check the information of the goods with the customers.

Information management of intelligent logistics distribution center is shown in fig. 2. In some advanced logistics centers, it is even possible to realize the completely unmanned operation of goods entering and leaving the warehouse through robots, thus truly realizing the intellectualization and automation of the logistics process.

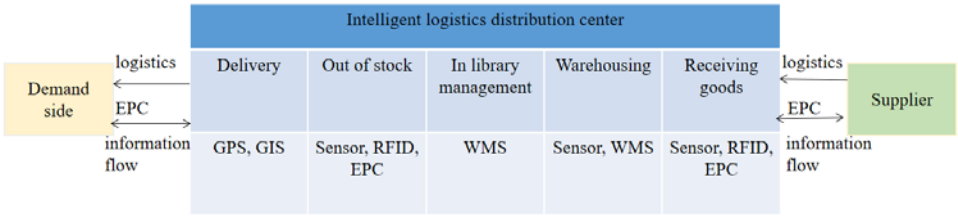

Fig.2 Information Management of Intelligent Logistics Distribution Center.

Because of the rapid update of logistics information, huge data and complicated communication of logistics information, it is necessary for the Internet of Things to be able to adapt to changes in data processing and grasp information in a timely manner. Logistics companies cannot work behind closed doors and stick to established rules. They need to broaden their horizons and increase opportunities for communication with other companies. This puts forward new requirements for the interaction and cooperation of various subjects in the logistics management system. Each member of the modern logistics management system must build an integrated cooperation mechanism based on certain methods to help, cooperate, need and share with each other.

4.3 Establish an Exchange Platform to Facilitate Mutual Benefits and Benefits between Companies

A successful logistics enterprise must experience setbacks and obstacles to success. In the fierce wave of market competition, logistics companies need to take a long-term view. Companies that cannot conflict with other companies because of a little interest and learn to win-win with others are bound to go on for a long time. Because modern logistics can create demand, meet demand and play a platform role for economic development. Modern logistics industry can create demand, which means that it can become a new economic growth point, a third profit source and propose a new strategic development direction for economic development. Civil aviation transportation and logistics management show a growing trend. Under such a logistics system, economic development has also entered the stage of basic power strengthening, which can effectively expand the scope of commodity marketing, commercial competition in the process of economic development, and can also form a larger platform [10]. The use of the Internet of Things has also caused a great impact on traditional logistics management. Logistics enterprises must abandon the traditional manual management and incorporate information technology and scientific and technological level into logistics economic management. With the continuous development of electronic commerce, it has evolved into an important business model in China's enterprise economy, which has become a good opportunity for China's modern logistics development. To spread the advantageous information of leading enterprises to other small companies, and to share human resources and information resources on a large scale, so that major logistics enterprises can easily obtain information. Such efficient and intelligent Internet of Things technology has laid a strong foundation for the vigorous development of the logistics industry.

5. Analysis of the Impact of Civil Aviation Transportation and Logistics Management on Economic Growth

5.1 Industrial Structure to Coordinate Economic Growth

The development of civil aviation transportation and logistics management focuses on planning from the perspective of economic growth. In the process of online shopping, everyone can check the tracking information of the location of their goods and packages at any time, which makes everyone feel very convenient. The logistics information tracking shows that modern technology is needed to support it. On the consumer side, logistics companies should optimize their service attitude and improve service satisfaction. For shopping platforms like Taobao, they should also have good communication with them so as to reach cooperation and increase access to resources. Civil aviation transportation can shorten the distance between freight areas in different cities, and

can also effectively reduce the decline in the quality of goods (such as fresh food) caused by transportation. This shows that civil aviation transportation is of great help to economic growth and industrial structure coordination. The application of the Internet of Things can help logistics enterprises to control the delivery of goods at any time and deliver goods in a timely, fast and accurate manner. To a certain extent, it realizes personalized service for customers, improves the service level of logistics enterprises and makes logistics enterprises and logistics industry develop healthily.

5.2 Strengthen the Basic Motive Force of Economic Growth

Without the support of logistics management and transportation system, the economic development can only compete in a small scale with limited development potential. For e-commerce enterprises, the use of this technology can also bring many benefits to enterprises. The content of the product is the key and its quality needs to be guaranteed. The research and development of products and product types should be based on solving the customer's needs while rationalizing the pricing mechanism to make it equal to the customer's expectation of products.

Table 1 Statistics on The Growth Rate of National Economy and the Development Index of Civil Aviation Transportation Turnover

Year	GDP Growth Rate (%)	Air Transport Turnover Index (%)
2014	9.45	21.92
2015	10.93	25.24
2016	11.03	26.02
2017	11.94	26.07

The potential for economic growth is directly related to the scale of the platform on which it is located, while civil aviation transportation and logistics management create this condition for economic growth and lay the foundation platform for economic growth. See Table 1 for the index survey on the growth of civil aviation transportation transit and economic growth. Through the analysis in Table 1, it can be judged that the national economic growth has been steadily improving in the past five years, and the turnover of civil aviation transportation is also in a state of growth. There is a positive connection between the two. With the development of Internet of Things in full swing today, the reasonable application of Internet of Things technology in logistics economic management can not only reduce logistics costs, but also improve the efficiency of goods circulation, and promote the development of regional industrial economy through the circulation of goods, thus achieving multiple benefits at one stroke.

5.3 Expand Available Resources for Economic Growth

Economic growth requires continuous integration of new resources. The strengthening of civil aviation transportation and logistics management undoubtedly provides a docking platform for economic growth, making more resources available in the process of economic development. It integrates many logistics enterprises into its platform. When it connects each single cargo, it records and stores the detailed information of the carrier's completion of the task, and then it can screen and intelligently analyze relevant big data, so that network operators can know which logistics companies can make the logistics cost the lowest, and at the same time, consumers can get the goods packages as soon as possible to ensure the timeliness of logistics. And in the consumer channel or transaction mode to give consumers convenient access. In addition, there should be effective communication with consumers on the way of commodity promotion and promotion. For example, the development of fresh commodities in the process of economic development has great requirements on transportation time. If the transportation of goods takes a lot of time, it will affect the final product quality. Due to this characteristic, it is difficult to retail and send such goods to other places under the traditional logistics transportation system. The addition of the Internet of Things can reduce the waste of supply chain facilities in the logistics link, improve the utilization rate of facilities, and further reduce the cost of logistics.

6. Conclusion

As a new type of technology, the Internet of Things actually exists. It is neither conceptual hype nor abstract content. The realization of the Internet of Things must be implemented into “the processing of things or the service of logistics”. Using the “Internet of Things+”technology, in the current environment of complicated information, it can quickly collect, and intelligently transform and absorb favorable information, calmly dealing with the challenges to logistics enterprises under the background of rapid economic development. The research on civil aviation transportation and logistics management in this article is limited to the influence of economic growth. Local economic growth cannot be separated from the support of the logistics industry. As a high-end service in the logistics industry, civil aviation transportation will naturally make greater breakthroughs in the development of technology and management concepts.

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