An Analysis of Opportunity for Current Airport Logistics System Construction

Hui Wang

Haikou College of Economics, Haikou, 570125, China

Keywords: Airport aviation logistics, Logistics system, Opportunity, Development strategy, Information system

Abstract. Aviation logistics is an important branch of modern logistics industry. It has the planned and efficient storage and distribution of cargo to meet the needs of customers. As an important platform for aviation logistics, airport plays a vital role in integrated logistics and logistics network node arrangement. Airport logistics in China is still in its infancy of development, but in recent years increasing international logistics cooperation has brought an unlimited opportunity for it. So this paper is to provide development strategies for current airport logistics system by adjusting and improving the aviation logistics resources and system, and to win more opportunities for future development by grasping “golden development stage” of airport aviation logistics.

Introduction

Guided by the 12th Five-year plan, the State Council promulgated the "opinions on promoting the development of civil aviation industry", in which it is pointed out that the construction of airport aviation logistics system is still at the primary stage with large space for development. So the main requirement and task for the development of civil aviation industry should be determined in the future work. Aviation logistics system should be promoted from the perspectives of ideological awareness and technology concept. According to the plan of aviation logistics system improvement, the annual total turnover will reach 1700 tons / km with an average annual growth of over 15%. For this reason, China is focus on improving airport aviation logistics development strategy in the key cities with large airports. We should focus on airport facilities construction, enhance the industry development technically, supervise the technical design according to modern requirement to seek more opportunities for development, and vigorously promote the rapid development of aviation economy.

Necessity of Current Airport Logistics System Construction

After China entered into WTO, a large number of large international air logistics enterprises and service providers have entered the Chinese mainland market, and some enterprises have already shown the trend of monopoly, which is unfavorable to the development of the airport logistics industry in China. Therefore, in order to grasp the new round of development opportunities after China’s entry into WTO, we must first discuss the necessity of the construction of airport logistics system in China, and find the effective way to strengthen the system construction.

Urgent State of Airport Operation

Influenced by the government’s investment policy, China’s airport construction has high debt ratio. In addition, the airport operation is also risky due to the traditional operation and management mode. So many civilian airports gradually lost the ability to survive and develop in the long-term loss of debt status with the annual passenger throughput of less than 500000 people. Especially in some small cities, the airports cannot make ends meet. Therefore, the development of airport logistics is conducive to future development strategy, meeting the laws and requirements of modern economic development by the excavation of airport resources, so as to promote the overall efficiency of the airport.

Great Development Opportunity

In developed countries, there is a law, the bigger the logistics production value is, the more stable the GDP ratio will be. China enjoys sustained rapid economic development, with huge production value of logistics industry. The output value of China’s logistics industry is showing an upward trend of 3%~5% with stable development from 2000 to 2014. In order to accelerate the speed of improving the logistics level, China is currently implementing policies to encourage the development of airport logistics to boost the development of aviation industry. At present, China’s airport aviation logistics industry has become a hot area of foreign investment, with continuously increasing proportion of investment (average annual increase of about 20%). After the investment of large capital, the airport logistics system has been gradually formed in the accelerating environment.

New and High Technology Mining the Potential of Logistics

In logistics industry, the airport aviation logistics has the core competitiveness. Safe and fast, it is significantly different from other logistics transportation mode. With the application of several management modes such as JIT timely production and MRPII manufacturing resource planning, the airport air logistics market competition is increasingly fierce. Logistics links have been streamlined and security has greatly improved. A large number of high-tech industries in the developed areas in China have great demand for air transport industry, improving the airport aviation logistic development. Airport develops the service from traditional cargo handling, freight forwarding to a comprehensive, multi-angle, fast service of multi-modal transport, ground distribution, warehousing and commodity inspection, bringing huge benefits. In order to improve their logistics capabilities and level, many airports timely expand airport cargo terminal, hoping to improve the industrial chain and strengthen their logistics industry competitiveness

Improving Airport Investment Environment

At present, some large airports have expanded the aviation logistics industry to the global scale with a global supply chain system, which is also the East Asia development strategy during fast economic development. They are catering to world great demand for logistic to East and Southeast Asia, making airport cargo station the best manufacturers and transfer station, to provide third party logistics and supply chain services to the rest of the world. In fact, this idea is also in line with the current trend of Asian economic recovery and economic globalization. With the development of China’s manufacturing industry, the demand for logistics services is increasing. The development of airport aviation logistics industry and improving the enterprise scale can improve the investment environment of the airport and the airport, which is the typical mode of the airport logistics trade that boosts the development of local economy [1].

Strategy of Current Airport Aviation Logistics System Construction

For more opportunities to develop, airport aviation logistics shoulde be merged into the market, highlighting the leading role of enterprise behavior in the airport management. In today's society, the airport aviation logistics industry should make use of Internet to vigorously develop the logistics network, converting traditional competitive disadvantage to the advantages in the current era of information. So this paper proposes several development strategies of airport aviation logistics construction.

Constructing Integrated Airport Aviation Logistics Network

The trend of modern enterprise development is electronic network, so is the logistics industry. Because there are many nodes in the network, and they can optimize and integrate all the resources in the whole logistics industry chain, the combination of the logistics system and network is unparalleled. In the combination, there are a lot of logistics chain nodes in the logistics network. It is not used for traditional logistics functions, but for controlling, commanding and coordination. In other words, the logistics network is the central nervous system of airport aviation logistics system. The logistics here is a upper concept. Whether the function of logistics transportation can be normal played is entirely dependent on the allocation of logistics nodes. Specifically, the logistics nodes’ functions include management, information flow, communication and so on. According to different

functions, airport logistics can complete nodes desigh of deliverying cargo, warehousing, integrated management, improve the logistics network in a short time, and maximize the full advantages of logistics network. In Jiangsu, Zhejiang and Shanghai, large airports like Zhoushan Airport, Pudong Airport and Hongqiao Airport, Lukou have established interconnected aviation logistics nodes. When cargo arrive in these areas from overseas or other places in China, these airports will form a linkage. Taking advantage of aviation logistics node, they will quickly adjust the allocation of resources, make logistics and transport processes run at high efficiency, and give play to the integrated aviation logistics network.

At present, advanced aviation logistics network consists of logistics network, route network and information network. Logistics network continues the traditional operation of transportation, mainly including cargo classification, traffic flow, production, sales and dynamic survey management of transportation. The aviation logistics system based on logistics network is mainly controlled by the network of logistics lines and nodes. Under the network environment, a number of airports and navigation station in each area will build a unified aviation logistics information platform, which is used to control the exchange and sharing of logistics data information among the airports, and track cargo by using the airport code as a symbol of electronic identification. In a certain logistics network region, the hub city will control other non hub city to form a radiant network of logistics transport, which can maximally improve flight carrying rate and the efficiency of logistics transport. Relying on Internet, FedEX China' service covers more than 80% areas of China, to providing door to door customs clearance services within 24 to 48 hours. In China, FedEX can take off and landing aircraft in 30 airports, and the total number of cargo aircraft also reached 200. FedEX China is headquartered in Shanghai, building a radiant network of logistics from Shanghai. In addition, the service also reach Hongkong, Taiwan and even Southeast Asia, with China as the logistics hub. FedEX forms largest aviation logistics network in East Asia, providing quick transport services for nearly 12 Asian countries, 300 cities in every working day [2].

From a technical point of view, the airport aviation logistics network system used by FedEX in China is mainly composed of nodes. But different nodes have different levels of function, making aviation logistics network system assume different system functions. In this system, airport hub nodes is paid much attention to due to the commitment to service allocation and transference. Hup-Spoke-System, HSS is formed by the hup-spoke connection of hub airports and branch airports, which is presented by branch line and trunk line in airport and navigation station. Radiation network in the logistics system means that in the process of the transfering, the cargo chain will not be limited by the supply of cargo between port of departure and the port of destination. Complementary supply can be in some important nodes of the hub cities. The distributed sources of cargo can be integrated by network transferring. Overall, freight node's function of storage, transferring and flight load ratio are beneficial. Coordinated by the HSS, the freight rate has been improved, and the freight has been arranged in good order [3].

Enhancing Logistics Trade with Enterprises

Airports' construction of raw materials and products distribution center, trades with enterprises, especially with those of large logistics needs, help to establish strategic partnerships, enhance the efficiency of airport, and bring more opportunities for airport aviation logistics industry. Currently, in order to improve their level of aviation logistics, many domestic airports strive to be third party logistics providers, so that the external production enterprises can focus on new product development and the development of the core business, so as to help the airport logistics system and enterprises to achieve win-win situation. From the perspective of operation and market economy, this initiative is in line with the trend of modern logistics development. It is the supply chain integration that makes airport logistics system construction more rapid, and develop in a healthy state.

In addition, the establishment of the airport distribution center provide a planning and scientific management system for the procurement, purchase, storage, processing and distribution of raw material production. It is in the coordinated and orderly management and transferring of logistics system that the raw material will not be lost in transportation. It also greatly reduce the cost of

transportation, and airport logistics system and production enterprises join hands to achieve the best economic benefits.

Airport Aviation Logistics Information System Construction

Information system is the key link in establishing airport aviation logistics system. It helps the network system to realize timely cargo transportation. Cargo tracing and operation process are always monitored. The security of cargo transportation and taking over is ensured.

In order to achieve the interaction with enterprises and, airport logistics system will be divided into three subsystems. They are network subsystems of enterprises in the airport station. It is mainly responsible for the various functions of the logistics information platform system. For example, management of warehousing, shipping space, transportation, agency, finance and so on. Its database provides transaction list, shipping records of every freight trading. Airport and logistics system can calculate cargo transportation costs and other expenses based on the payment mechanism agreed in advance with the enterprise, to record the data of every transaction.

Industry management information center is responsible for the account settlement information management involved in airport aviation logistics system, such as insurance settlement, bank settlement, entry and exit inspection and quarantine, aviation weather, air traffic control, flight information and so on.

Comprehensive logistics information platform provides key information of logistics transportation for the airport and enterprises and business support according to the needs of enterprise customers, such as online intangible transportation market and e-commerce. The last is public information dissemination. This means that the airport logistics system provide enterprises with the dynamic condition of system , to help enterprises know the timely information and choose the right logistics transportation strategy [4].

Conclusion

Airport aviation logistics system has become an important force in the development of modern logistics. It provides a full range of safe guidance for the logistics air displacement. It not only optimizes the internal process and management system of airport aviation logistics, but also meets the needs of modern logistics development of. It is in line with the development trend of the current airport aviation logistics and enterprises to seek higher economic benefits and efficiency, bringing unlimited opportunities for current airport logistics system construction in China.

References

[1] Xi Chongbin. Opportunity of Airport Logistics System Development. *Logistics Technology and Application*, 2015, 20(3):62-65.

[2] Wu Yunyun. On Layout of Airport Logistics Facilities. Southwest Jiaotong University, 2007.10-12.

[3] Yun Jun, Cui Shaoxian. Research on Layout and Facilities Planning of Aviation Logistics Park. *Journal of Wuhan University of Technology(Social Science)*, 2002, 15(3):236-239.

[4] He Tao. The Development Strategy of China Aviation Logistics Based on Airport. Wuhan University of Technology, 2002.31-50.