

Research on Rural Chinese Express Logistics Distribution Mode in the Age of “New Logistics”

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ABSTRACT. *The rural express logistics distribution carries the mission of the pioneering army of rural economic development. The vigorous development of rural logistics has been written into the Central No. 1 document for three consecutive years. Under the background of different times, rural express logistics faces different challenges, the development trend of logistics in the “new logistics” era puts forward new requirements for rural express delivery and distribution. Combined with the characteristics of rural express delivery and distribution, comparing and studying the main characteristics of the three typical rural express distribution modes, analyzing their respective advantages and disadvantages and applications. In order to promote the development of rural express delivery logistics mode to adapt to the development of “new logistics” era, this paper proposes to improve the distribution mode system, promote shared distribution, accelerate information construction, and improve customer service-oriented service level, from the aspects of distribution node planning, resource sharing, and application of logistics technology in the distribution process.*

Keywords: *rural areas; express logistics; distribution mode; “new logistics”.*

1. Introduction

The rural express logistics network has become an important infrastructure for urban integration, rural modernization and the good life of farmers. [1] Improving the efficiency of logistics distribution in rural areas and consolidating the economic foundation of rural e-commerce development has great practical significance for promoting the economic development of rural areas in China. [2] In the current era, along with the rapid development of information logistics and smart logistics, the logistics industry as a whole is facing the challenges of transformation and upgrading with different backgrounds and different requirements. Scholars are based on the “Internet +” era, the era of big data, and the integration of urban and rural areas. Background, rural consumption upgrade, logistics information transformation [3-7] and other background research on rural express logistics and put forward targeted

development proposals. The rookie president Wan Lin put forward the definition of “new logistics” in “Technology + New Retail + Globalization” at the 2018 Global Smart Logistics Summit. The background of “New Logistics” puts forward new requirements for rural express logistics and distribution services. How to adapt to the development requirements of the “new logistics” era, realize the transformation and upgrading of the logistics distribution mode, improve the distribution efficiency, improve the level of distribution services, and promote the healthy development of rural express logistics into a new research topic of rural logistics.

2. The Characteristics of Rural Express Logistics Distribution

2.1 The Rural Express Logistics Market Is Potential and Huge

In the past four years, the retail sales of rural Internet has increased by six times. With the rapid development of rural e-commerce, the demand for rural express logistics is increasing. In 2018, the Internet penetration rate in rural areas is as high as 36.5%. Online shopping under the scale of large rural netizens the volume of transactions also achieved more than 10 billion pieces of rural express delivery in 2017. With the development of the rural economy, the export of agricultural products and the input of agricultural and agricultural products have increased substantially, and the vast rural market has shown great demand potential.

2.2 The distribution area is wide and the demand is scattered

Chinese rural areas are vast, and rural residents are not concentrated, resulting in scattered demand for express delivery services. At the same time, due to the objective conditions of rural areas, rural residents have little demand for mailing business relative to urban residents. The domestic rural express delivery service only has a small amount of mail. It accounts for 1/8 of the total business volume.

2.3 Seasonal demand is obvious and unstable

For most rural residents with low educational level, the consumption habits of online shopping have not yet been formed. The usual frequency of purchase is not high, the distribution business volume is unstable, and the young people return home or shop online after the summer and summer holidays. The time period during which the seasons need to be changed is the time when the rural express delivery business is the most; in addition, the transportation of agricultural materials is mostly in the busy season, and the agricultural products are also concentrated in the agricultural harvest season.

2.4 The main objects of distribution are mostly rural residents with general quality

Rural express logistics is in its infancy, its profitability is limited, express companies can pay low-paid wages to express delivery workers, limited profit margins cannot introduce high-quality logistics talents and young people working outside the home, therefore, rural express logistics distribution Most of the subjects and objects are rural residents with high quality, and their service awareness and service ability are low.

3. The Requirements of the “New Logistics” Era for Rural Express Logistics Distribution

The development trend of “new logistics” is to share resources, reduce costs, integrate symbiosis, promote transformation, and promote synergy, multi-participation, automatic over-code, and focus on development [8]. The “new logistics” era puts forward new requirements for rural express delivery and distribution.

3.1 Changing the original thinking and innovating the distribution mode

The new logistics must be a change to the original old logistics. Rural express logistics needs to change the traditional distribution method. Traditional direct or indirect distribution is realized by dividing each logistics function. All distribution links and information flow form a complete distribution process, but “new logistics” requires new technology. Change or refactor the original information flow and distribution process.

3.2 Accelerating technology upgrades and improving logistics efficiency

The new logistics requires intelligent and automated distribution. The logistics industry as a whole faces a new era of information upgrading. This is a big impact on the traditional mechanical rural express delivery and distribution. Rural express logistics should accelerate technology upgrades and information. Transformation, with the goal of developing smart logistics, further improve logistics efficiency.

4. ANALYSIS OF DOMESTIC RURAL EXPRESS DISTRIBUTION MODE

At this stage, in the direct or indirect distribution mode of rural express logistics, e-commerce self-operated distribution, third-party logistics distribution and joint distribution mode are three typical distribution modes in the current distribution mode.

4.1 E-commerce self-operated distribution mode

The self-operated distribution mode refers to the mode in which all the links of enterprise logistics distribution are built and managed by the enterprise itself, and the distribution of goods inside and outside the enterprise is realized. Taking the domestic self-operated logistics e-commerce giant Jingdong as an example to analyze the rural self-operated distribution mode, Jingdong began to focus on the development of rural logistics in 2014, and established the “Jingdong Bang” service store in rural county-level cities. Rural distribution system.

4.1.1 Features of Jingdong's self-operated distribution mode

(1) Distribution node system

Jingdong has established a two-level rural express delivery and distribution system, which is to establish a county-level service center in the county-level city to be responsible for the distribution of express delivery within the region, and set up a rural service station in the township to complete the terminal distribution and collection, and by express delivery. The officer is responsible for the final delivery to the household. The node system of the distribution mode is: provincial warehouse-regional sub-center-county-level service center-rural service station-delivery to the household.

(2) Distribution technology upgrade: unmanned distribution network

Jingdong has developed a variety of UAVs for rural distribution, and has planned a three-level unmanned distribution network in rural areas, which is the distribution of large-scale UAVs between provincial warehouses and the rapid transfer of small batches between regional sub-centers. The drone distribution of the feeder line, from the self-operated distribution station to the rural extension station, the “last mile” terminal drone distribution at the core of the rural logistics, the final delivery will be manually delivered by the courier of the rural extension station.

(3) Innovative distribution mode: Jingdong convenience store

Jingdong provides high-quality goods, technical support, logistics and management support for small and medium-sized stores nationwide, and transforms ordinary convenience stores into Jingdong convenience stores. The increase of Jingdong convenience stores can effectively increase the supply of local distribution and real-time distribution, greatly reducing the distribution. Time and circulation transfer links effectively reduce the construction cost of the end outlets.

4.1.2 Analysis of advantages and disadvantages of self-operated distribution mode

(1) Advantages of self-operated distribution mode

① Self-management distribution, rural distribution adaptability

The enterprise has strong autonomy in the arrangement of the whole distribution process. The enterprise itself can track all the links from order to village delivery. The

complete distribution system can also effectively reduce the delay time of the express mail at the transit node. It guarantees the timeliness of distribution; the independent distribution system enables enterprises to flexibly adjust the distribution strategy according to dynamic decision-making, which can be well adapted to the characteristics of rural business volume instability and seasonality.

② Enhance the customer's consumption experience and effectively enhance the corporate market image

Under the self-operated distribution mode, enterprises directly face the rural terminal customers to complete the distribution and service of products, promote the seamless connection between enterprises and customers through distribution, and enhance the service experience of customers' online shopping consumption. At the same time, direct distribution is beneficial to the timely feedback of customers. The information and big data information finds problems in products and services and improves them in time; in addition, direct distribution avoids the problem of customer integrity such as customer information leakage and terminal loss due to indirect distribution.

(2) Disadvantages of self-operated distribution mode

① Large amount of capital investment in the early stage of construction of the distribution system

The rural express logistics distribution system covers many logistics links such as warehousing, sorting, transportation, distribution and distribution. In the early stage of self-operated logistics mode construction, enterprises need to invest a large amount of capital, manpower and logistics resources to build software and hardware for the rural distribution system. The shift in chain and management focus may affect the core competitiveness of the main business, which is a challenge for most small and medium-sized e-commerce companies.

② Distribution benefits cannot be guaranteed, management difficulty increases

The rural distribution business is relatively scattered, and self-operated distribution alone is difficult to achieve economies of scale. At the same time, distribution business is carried out at the end of the rural area. It is difficult for small-scale enterprises to increase their professional level under limited profit margins. For most e-commerce companies, said that logistics and distribution is only a part of its business, professional logistics talents are relatively lacking, and management difficulty increases.

4.1.3 Application of self-operated distribution mode

By comparing the advantages and disadvantages of the self-operated distribution mode, it can be found that large-scale e-commerce companies or home appliance enterprises are more suitable for developing self-operated distribution modes in rural areas.

4.2 *Third-party logistics distribution mode*

The third-party distribution mode refers to a distribution operation mode in which the two parties to the transaction entrust the delivery business that they need to complete to a third party. The rookie logistics group consists of three links, the home delivery, Huitong and other components of China's intelligent logistics backbone network. Taking its development in rural areas as an example, it analyzes the third-party logistics distribution mode of rural express delivery.

4.2.1 Features of the rookie distribution mode

(1) Distribution node system

In 2014, Ali started the “Thousands of Counties and Villages” program, and strived to build a distribution system supported by county-level service centers and village-level service stations. Ali set up county-level service center sites in selected county-level cities, and The service center station will open up the village-level service station, and the local residents or the self-employed individuals who intend to set up the village Amoy site will operate the village-level service station. The distribution node system is: regional distribution center-county-level service center site-village-level service station - Customer picks up.

(2) “Rookie County Smart Logistics +”

The “Rookie County Smart Logistics+” project provides intelligent logistics services for express logistics distribution by using the logistics information system. The rookie applies big data routing and distribution at the county logistics center site to improve sorting efficiency, and also configures smart devices for each network node. This will effectively promote the optimization of rural distribution networks and delivery routes, and improve logistics efficiency while saving logistics costs.

(3) Rookie County O2O Logistics Mode

The rural logistics system prioritizes the processing of orders on rural Taobao, and submits the orders of the county to the Taobao merchants in a unified manner. The county dealers can match the one-time delivery to the county logistics service center, and the rookie rural logistics village shuttle bus is responsible for the county service center. To the transportation of the village-level service site, the village-level courier SMS informs the customer to pick up the piece.

4.2.2 Analysis of advantages and disadvantages of third-party logistics distribution mode

(1) Analysis of the advantages of the third-party logistics distribution mode

① High degree of specialization

The third-party logistics enterprises are committed to building specialized logistics services. They have sufficient funds, talents and technological advantages to develop the rural express logistics distribution market, and actively expand the rural market share by improving their competitiveness.

② Transfer logistics risks and reduce logistics costs

The construction cost of rural logistics distribution system is high, and third-party logistics distribution will reduce the rural logistics investment of enterprises, reduce the risk of capital operation of enterprises, and reduce logistics costs.

(2) Analysis of the disadvantages of the third-party logistics distribution mode

① Poor logistics operation flexibility

E-commerce enterprises have poor control over logistics and distribution. E-commerce companies cannot follow up on the final delivery of rural express logistics. After the feedback, there is no way to improve them in time, and the flexibility of logistics operations is poor.

② vicious competition leads to a decline in service levels

The entry barriers of rural express logistics enterprises are relatively low, resulting in the general qualifications of rural third-party logistics enterprises, mixed industries, and poor rural logistics infrastructure. Rural express logistics enterprises are facing a survival dilemma, and vicious competition makes service levels decline.

4.2.2 Application of third-party logistics distribution mode

By comparing the advantages and disadvantages of rural third-party distribution modes, the third-party distribution mode is applicable to rural areas where rural logistics infrastructure is relatively complete and natural villages are concentrated.

4.3 Joint distribution mode

Co-delivery is a complementary function of distribution and distribution between logistics and distribution enterprises to improve logistics efficiency and rationalization of distribution [9]. In rural logistics distribution, multiple logistics or e-commerce companies integrate their own transportation resources. Software and hardware resources such as warehousing resources and information resources are jointly organized and implemented to complete logistics and distribution activities. Due to the high coverage of the postal network in the rural areas and the relatively perfect distribution system, scholars in the domestic academic circles have already studied the establishment of the postal rural joint distribution mode [10-11], and the third-party logistics enterprises can share the postal distribution system. To reduce logistics construction costs and improve distribution efficiency.

4.3.1 Analysis of the advantages and disadvantages of the joint distribution mode

(1) Advantages of the joint distribution mode

① Reduce distribution costs and improve distribution efficiency

The joint distribution mode concentrates the express shipments in the joint distribution center, and improves the scale and efficiency of rural logistics

distribution and reduces the distribution cost by coordinating the distribution and distribution.

② Reduce waste of resources and promote resource sharing

There are some enterprises in the rural express delivery logistics that “no outlets are available, no cars are available, and no one is available” and another part of the enterprise resources are idle. The joint distribution can make full use of the existing logistics resources of each logistics enterprise and promote the sharing of resources among enterprises. Reduce the idle waste of logistics resources.

(2) Disadvantages of the joint distribution mode

① The problem of responsibility is difficult to define

Since the whole process of joint distribution may involve multiple parties, there is a certain cross-linking in the distribution of labor. After the problem occurs, most of the internal enterprises of the alliance push each other, and the definition of responsibility is relatively difficult.

② Coordinating organization is difficult, and there are many conflicts of interest

The internal enterprises of the organization are mostly enterprises in the same industry. There are competing relationships in the interior. In addition, the qualifications of rural enterprises are generally low. The culture and organizational management concepts of the enterprises are relatively backward. It is difficult to coordinate the organization and coordination. It is difficult to achieve fairness in the joint distribution alliance. Cost sharing mechanism and benefit allocation mechanism.

4.3.2 Application of the joint distribution mode

By comparing the advantages and disadvantages of the joint distribution, it can be found that the joint distribution mode is applicable to rural areas where the logistics system is relatively backward and the number of express delivery enterprises is relatively small.

5. Suggestions for Optimization of Rural Express Logistics Distribution Mode in the Age of “New Logistics”

5.1 Build and improve the distribution network system

The characteristics of rural express logistics distribution determine the discreteness of its distribution. Most logistics enterprises are difficult to achieve economies of scale in rural distribution. The rural distribution node system should be improved to achieve intensive rural logistics distribution and improve scale efficiency. On the one hand, the three-level distribution network system of “county-level distribution center-township distribution station-village-level service network” is

created. When the superior distribution center transports the express mail to the county-level distribution center, the county distribution center will assemble the whole county express mail and unify it. Organize the distribution and increase the concentration of distribution; on the other hand, according to the distribution business volume and the degree of natural village dispersion, through the integration of the end distribution line, plan the closed-loop two-way distribution path of “county road-township main road-village group cement road” to improve the difference. The vehicle loading rate of the road section reduces the volume of the transportation volume.

5.2 Carrying out shared distribution with resource sharing as the core

The rural express logistics infrastructure is poor, the distribution system construction cost is high, and shared logistics will become an effective way to solve the difficulties of rural express logistics distribution. By fully integrating the resources of individual logistics enterprises, opening up the utilization of enterprise logistics resources, and deeply developing social logistics resources, Promote the sharing and distribution of rural express logistics. [12] First, the government led the establishment of a shared distribution alliance, and established an access and supervision system as well as a reward and punishment mechanism, while coordinating the cost sharing and benefit distribution of enterprises within the alliance; on this basis, integrating enterprises in the shared distribution alliance Software and hardware resources such as outlets, vehicles, distribution personnel, technology, capital, information, and logistics facilities, and actively develop social resources such as rural buses that can be utilized outside the alliance. At the same time, set the way of resource sharing and optimize the process of shared distribution. Promote the sharing of information resources and optimize the delivery method in real time through information feedback and update between enterprises.

5.3 Accelerating the construction of information technology

The low level of rural logistics informationization is the key factor restricting the development of rural express logistics. Under the current distribution mode, the traditional manual distribution is mainly used. The shortage of information facilities and informational talents leads to the slow construction of rural informatization construction. Construction, development of rural “smart logistics.” First, the government can introduce relevant policy subsidies to promote rural informatization construction. Enterprises should purchase and deploy specialized information facilities such as self-service terminals, computers, and information systems at each distribution node, and train employees to use information technology facilities to improve information. The coverage and utilization rate of facilities and equipment; Secondly, enterprises should pay attention to the development and introduction of information-based talents. Due to the lack of specialized rural express logistics talents,

enterprises should pay attention to cultivating logistics talents, increase the number of trainings, and can be related to local high-level jobs. Institutions cooperate to increase school-enterprise cooperation internships and recruitment to introduce young professional talents; finally, enterprises should actively develop information resources, analyze the needs of local logistics market by analyzing big data, expand logistics business channels, and promote with the support of information technology. Development, utilization and sharing of logistics information resources.

5.4 Focusing on customers and improving service levels

Poor delivery timeliness, high cargo damage rate, and frequent loss are typical performances of poor rural express logistics services and high complaint rates. The “new logistics” era requires that rural logistics services should be customer-centric, improve logistics operation efficiency and improve service levels. First of all, in areas where rural logistics development is relatively backward, it is necessary to increase express delivery logistics and distribution capabilities by increasing express delivery staff, increasing distribution vehicles, adding terminal distribution outlets, improving cold chain capacity, and improving informationization level, while realizing basic logistics services. Improve customer satisfaction; secondly, rural logistics demand has seasonal characteristics. Agricultural and agricultural materials and agricultural products also have special requirements for distribution services. Express delivery companies guarantee the safety and integrity of goods for different types of goods that are not required. And delivery timeliness, providing differentiated services on the basis of meeting basic services; finally, rural express logistics should keep up with the trend of the times and make full use of informationization, automation and intelligence in rural areas with relatively developed economy and relatively complete infrastructure. Innovative distribution mode, such as technical conditions, will introduce unmanned distribution and smart distribution to the end of rural distribution, and provide personalized distribution services while facilitating the people and the people.

6. Conclusion

Starting from the new requirements of developing rural express logistics in the era of “new logistics”, this paper compares the three typical rural express delivery modes, such as self-operated distribution, third-party distribution, and common distribution, and proposes on the basis of this. Targeted optimization suggestions to promote the rural express logistics distribution model to better adapt to the development of the “new logistics” era, and then promote the healthy and sustainable development of rural express logistics.

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