The Construction of the Rural Logistics Network Basing on Crowdsourcing

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Abstract: This paper mainly studies and analyzes the construction of the rural logistics network basing on the Crowdsourcing. The main contents are as follows: Firstly, the analysis of current situation of rural logistics, problems and solutions have been made. Secondly, this paper introduces the concept of crowdsourcing and analyzes its current situation and advantages. What’s more, building the integration platform of rural e-commerce by adopting the mode of crowdsourcing combines three nodes of county, country and village, construction of road network and information platform also helps to develop rural logistics. Finally, the development of Cuncunle, for example, makes a concrete analysis of the application of crowdsourcing in rural areas, and the solution of last mile delivery.

1. Characteristics and current research status of rural logistics
Rural Logistics is opposed to the city logistics (Urban Logistics), it refers to the floorboard of activities that provides rural residents with transportation, handling, loading and unloading, packaging, processing, storage and all the related activities in their daily production life and other economic activities to provide. And contemporary rural logistics mainly has the following characteristics:

(1) Urban and rural express service network
With the rise of "Internet +", rural express service is an inevitable trend. According to the national post office, at present, the coverage of China's express delivery network accounts for 48% in country and most of the packages still need to be picked up by villagers themselves. The full coverage of door-to-door delivery, door-to-door pickup still can't be achieved.

(2) Development of rural transport vehicles
Rural transportation equipment is backward. According to the research, the wagon takes up 74 %, the van 12 %, the refrigerated truck 2 %, the agricultural car 9 %, the tractor 3 %. So we could get a natural conclusion that most of the transport vehicles of rural logistics are ordinary goods vehicles as well as some agricultural vehicles and tractors and few vans and cold chain cars which shows that the rural logistics transportation equipment is relatively humble and the mechanization degree is low.
(3) Application of rural information technology

The construction of Rural logistics information platform relatively falls behind and is still developing. It gradually forms a systematic and comprehensive logistics information system, gradually improves the sharing and transmitted information system. Finally it will build a rural logistics information network which connects the government, the market, customers and enterprises. The survey shows that the barcode technology, enterprise information management system, GPS, warehousing management system and transportation management system etc have been widely used in the rural area.

The main problems about the rural logistics in China is the backward infrastructure of rural logistics, the mismatch of main body of the rural logistics market, the loss of public service platform of rural logistics and the low standardization of rural logistics service.

Some corresponding suggestions:

(1) Increasing the channels of consumer goods going to the countryside

Measures like basing on e-commerce, information and logistics network and the "market project of thousands of villages and townships", accelerating the construction of rural modern circulation network, strengthening the construction and cohesion of postal logistics service network and facilities such as commerce circulation and supply and marketing etc helps a lot to Increasing the channels of consumer goods going to the countryside.

(2) Supporting the construction of a multi-level rural e-commerce platform.

We need to promote the transformation of Products trading center to the direction of e-commerce and encourage to build e-commerce platform of conditional integration of agricultural wholesale market for agricultural products trading (B2B), e-commerce platform between enterprises and consumers trading (B2C) and the development of spot trading of agricultural commodities e-commerce platform specification.

(3) We will strengthen the construction of rural information infrastructure.

We will accelerate the construction of rural information network facilities and make full coverage in administrative villages and promote the popularization and application of information technology in the area of agricultural production, circulation, purchasing and marketing, and narrow the gap of information development between urban and rural areas.
(4) Enhancing logistics support and distribution capacity.

We are supposed to promote the construction of the backbone network for agricultural products in our province, and improve the construction of logistics infrastructure such as rural roads and freight stations and support the construction of complex rural logistics hubs and nodes. "Express goes to the countryside" project is to be implemented. We should support supply and marketing cooperatives, postal express delivery enterprises and agricultural e-commerce enterprise self-conducting logistics to speed up the extension, the construction of county to rural areas and Build village Postal Courier service network and the rural supply and marketing integrated service platform covering village and country to improve service ability, improve the service ability. Improve the connection and cohesion between rural logistics hub base and advantage of agricultural products wholesale market, production base and city community, supermarket. Encouraging the promotion of electronics' mailboxes intelligent express service in rural areas. Support cold chain logistics enterprises to establish the cold chain system such as field head pre-cooling, storage preservation, refrigeration and refrigerated mixed transportation, and solve the logistics problem of "one kilometer" from the field to the mall, the supermarket and the e-commerce enterprise.

2. Construction of rural e-commerce platform basing on crowdsourcing

2.1 The overall planning

China is a big agricultural country. In such a big country, building a rural logistics network system must be well planned. We can create a network of sales centers, service centers, information exchange centers, logistics centers and financial services centers in the rural areas of China. In order to improve the operation efficiency of the whole logistics network system, it can reduce the cost and ensure the long-term healthy operation of the logistics network. In this regard, the government should play a leading supervisory role. The municipal government shall, according to the present situation of the local industrial layout and transportation network, construct several cross-industry comprehensive logistics centers in accordance with local conditions, and radiate all counties and townships in the whole city.

The significance of crowdsourcing lies in: firstly, it maximizes the utilization of idle resources and improving the efficiency of distribution; Secondly, it doesn’t take up the inventory. The crowdsourcing let the whole freight warehouse transfer on freight cars, and can be based on the traffic routes for dynamic distribution and supply of goods demand. On the one hand, it reduces the cost. On the other hand, it raises the efficiency. We can solve the problem of distribution "last mile". Besides, we should vigorously promote the standardization of logistics information. The standardization of logistics information is an important part of logistics standardization construction. The standardization of logistics information will provide great convenience for the development of logistics, especially the development of rural logistics. Finally, it is important to train logistics professionals.

2.2 Construction of rural credit mechanism

Credit crisis has always been an intractable problem in rural areas, so it is necessary to build up the credit mechanism of rural logistics enterprises and rectify the credit order of rural logistics. Firstly, the credit evaluation mechanism of rural logistics enterprises should be established. An honest financial service platform should be established, including the service of purchasing goods and the construction of farmers' credit card system. Construction of the core content is to establish information service "three rural" farmers, by farmers participate in establish credit files of farmers and credit, establish farmers' credit card system and realize the farmers credit card consumption and microfinance to encourage farmers on the basis of credit continue to participate in the distribution system and service platform. The organic combination of the rural financial service and distribution system forms a virtuous cycle. Secondly, to improve the relevant laws and regulations to regulate and standardize the credit performance of rural logistics enterprises from the perspective of law. We will impose sanctions and restrictions on enterprises and individuals who do not comply with the credit order of rural logistics, and construct the credit environment of the rural logistics system with the state strength.
2.3 Construction of network system of crowdsourcing platform

If we want to build a perfect network system, it is necessary to find good corresponding logistics nodes which connects route of logistics node in logistics network, therefore it is also called the logistics contact, logistics center or logistics hub. The logistics node has a cohesive function, which connects the various logistics routes into a system and makes each line to be more connected through the nodes instead of being alone. The logistics node also has the function of passing information, which plays an important role in modern logistics system and an important guarantee for complex logistics storage units to connect to organic whole. The node system is responsible for receiving the basic information of the headquarters, membership materials, and pricing adjustment information, etc. According to the strategic rules of the headquarters. A large number of business data in a daily node is completed in the data center system. After completing the corresponding building, then it’s a start to training for employees. We can pick more talented staff from three aspects including limiting the entry requirements of the corresponding, grouping orientation and entry exam.

2.4 Framework of the platform network architecture

(1) Open rural cloud storage platform

By constructing rural cloud storage services, we could integrate city operation management of the rural storage resources scattering at present in each province. Combining with the base map, according to the hierarchical classification of national, provincial, city and county, we could show customers the rural storage resources that available for lease. Customers can choose need storage resources according to their own marketing storage resources, deliver goods to the designated warehouse and enterprise warehouse rental fee, the outbound operation management costs and the subsequent, shipping service fee.

(2) Open rural distribution platform

On the basis of the current enterprise existing rural delivery network, speeding up the network mail of self collection service and standardize this process. We’ll give the mail delivery and mail the same reward mechanism, encourage more mail delivery by their own way, alleviate the pressure of the delivery. We will gradually expand the network of substituting and self-access services by utilizing the resources of the station, including the convenience service station, the village post office, and the "three rural" service stations.

In key towns and townships, smart packaging cabinet will be arranged in key areas, which will enhance service ability through self-service equipment. In operation, we can open to the small and medium-sized enterprises logistics service platform, sacrifice the early stage of certain interests to form the scale trend quickly, and improve the ability of the offline services. Eventually there will be the scene that rural offline distribution market puts up a play, small and medium-sized logistics enterprises act in an opera in singing, the development of flowers pattern.

(3) Open agricultural products backing to the city platform

According to the idea of the agri-products go to the countryside, while the fresh products returned to the city. We choose industrial chain cycle development model of“fruit and vegetable base + inputs + financial support, technical service + the buyback of agriculture products “. Establishing agricultural product brand operation management and security traceability system, unified management, making the fresh products farming, testing, processing, logistics links such as date back all the way, enhancing the brand safety, guarantee the origin image, increase the amount of logistics and shipping.

(4) Open offline experience platform

Currently, online e-commerce has extended service to offline. We can use the current rural network resources to build an open online e-commerce offline experience zone. In the platform operation, the leasing mode can be considered, which can be generated by charging the rental fees and daily maintenance fees. Through the logistics channel formation of goods online sales, e-commerce need to pay the corresponding sales price difference and distribution service fees.

(5) Open offline exchange platform
To solve the problem of returning goods, providing convenient return and replacement service for the countryside has become an important means for online e-commerce to break through the rural market. In this regard, logistics can use existing rural outlets to open up and exchange goods for all e-commerce websites.

(6) Open offline purchasing platform

In recent years, Taobao and other large electricity providers have set up purchasing service points in the county and township, service stations, transferring the online service to the offline. The plan "Thousand villages and ten thousand townships" of Ali, “Jingdongbang” and and the County Service Center of Jingdong provide more choices, enhance the attractiveness and competitiveness of rural purchasing line through the aggregation of businesses, rich product range . On the profit model, the commission income can be formed through product sales, and other business development will be promoted through the increase of network traffic. On the basis of the above services, we could also add information services, information release, free WiFi and other value-added services for customers.

3. Case Analysis

Nowadays, more and more Internet companies begin to notice that the rural market "has a wide range of possibilities. "Recently, 36 krypton combed through some of alibaba, jd.com and yixin's rural market. In fact, it's not just the big companies are coveting the rural market, but start-ups. Consumption upgrading, land transfer, finance and O2O are all the entry points of the current heat in the rural market, and there are many possibilities in the rural market. For example, the village O2O project. In fact, cuncunle has been quietly devoted in this career for five years. It looks insignificant, but annual revenue has achieved tens of millions. As recently as more than a year ago, its founder, hu wei, gradually discovered the possibilities in the rural market.

Cuncunleis a comprehensive rural oriented portal site in the product side. The main content of the web site is information of supply and demand, people seeking and sociable function and so on. This portal itself does not have too many features, but the key is that cuncunle has become the largest rural Internet portal in the past 5 years, and is still developing. At present, cuncunle has covered about 300 thousand villages against total 660 thousand, and increase 10 thousand of them per month. The scale has made cuncunle become the largest rural information portal and build a strong base for cuncunle.

The future derivative business model of cuncunle

Next, the goal of cuncunle is to develop the village's concession stand, and let the concession stand be their service station in the countryside. The development of rural service stations is the "fixed action" of e-commerce giants. Unlike most of the giants' self-management ideas, cuncunle integrates the existing concessions. What can cuncunle do in the rural concessions? In fact, the idea is similar to the support village officer online: let concession stand be a gathering place of villagers and do some real service including marketing, retailing O2O (similar to what Lakara do in the village), the last mile logistics, credit etc..

(1) Providing wifi service for the grocery store. The rural network infrastructure is underdeveloped, but there are more and more farmers have their own smart phones. By offering free wifi, the villagers may gather in the small shop using the internet.

(2) Providing IT system for stores. Achieving electronic rural retail transactions not only let the shop management be more convenient, but collect the data for the future development of data value. Cuncunle aims to create a node of concession, which scatters around the network of sales center, service center and information exchange center, logistics center, financial service center agents etc. in the countryside.

In the existing labor crowdsourcing model, cuncunle is also considering the introduction of more resources and cooperation to expand the profit space of village officials and the platform itself. For example, let village officials be the agents of agricultural products , act as agent for sales of seeds, fertilizer and other agricultural products .Let village officials become loan officers, We can promote financial services in rural areas, and assist financial institutions to land credit letters;

Then village officials could assist villagers to submit their application on the website, and conduct offline matchmaking and so on. The large size of cuncunle is what Hu Wei didn't expect five years
ago. As a entrepreneur, Hu is accustomed to running several projects at the same time, and allocating resources and energy he needs according to the development of the project. Rural projects may not look beautiful, but cuncaunle is redrawing. Mr Hu, who has long been a resident of the United States, back home and hands-on.

4. Conclusion
As the rapid development of the Internet, "crowdsourcing", as an innovative idea, has been paid more and more attention by all walks of life. This is a collaboration both online and offline that gives full play to the forces of the community to participate in a social behavior that facilitates the realization of a certain goal. "Crowdsourcing", a way to improve efficiency and reduce costs, let the professional team do things they are good at by task decomposition and completing the massive project with group writing.

This paper starts from the background of rural logistics network, analyzing the present situation and problems of the construction of rural logistics in our country, with the model of crowdsourcing, building rural e-commerce business logistics integration platform. It also determines the function of the platform and putting forward the operation organization of building rural logistics information service platform and the two-way logistics development planning in rural areas, strengthening the policy guidance. We hoping that the suggestions and countermeasures could make contributions to the construction of rural logistics in our country.

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