

Discussion on the Problems on “Last-100-Meter” Distribution and Its Optimization Based on Community Logistics

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Abstract: At present, most residential areas in China, especially those in cities, exist in the form of “community”, consequently, community logistics appears. The “last-100-meter” of community logistics can be regarded as a miniature of terminal logistics, reflecting every factor of terminal logistics. This paper focuses on the shortcomings in “last-100-meter” distribution of community logistics, and proposes the optimization solution based on the shortcomings of terminal logistics and the residents’ demand for terminal logistics.

1. Introduction

In recent years, as an emerging logistics field, e-commerce logistics rises with the booming e-commerce industry, many logistics enterprises are springing up, and the competition is becoming extremely intensive. The business scope of logistics enterprises is largely identical but with minor differences, but great differences exist in meeting customer demand, especially in “last-100-meter” distribution. Since community logistics is part of the “last-100-meter” distribution, the discussion and analysis of “last-100-meter” distribution of e-commerce logistics from the perspective of community logistics makes contributions not only to the development of terminal distribution of logistics industry to make it match with the modern community, but also to improving the service level and competitiveness of logistics industry to a certain extent.

2. Community Logistics and “Last-100-Meter”

Community logistics is a logistics intensive behavior with community as the unit, family as the terminal, household goods as the core and customized service as its feature. The “last-100-meter” generally refers to the last link of distribution, which provides pickup and delivery service according to the needs of residents to realize “door-to-door” distribution. Community logistics is targeted for community stores or residents, including fresh vegetables and fruits, pastry food, household appliances, household building materials, residents’ express parcels and other items, and is the “real last-100-meter” in the logistics. Because the demands of residents are usually featured in individualization, small quantity, high frequency and diversification, as well as decentralized distribution objects, small demand scale, complex link and procedure and high service requirement, as a result, the “last-100-meter” of community logistics often becomes the bottleneck of logistics distribution.

3. Analysis of the Problems on “Last-100-Meter” Distribution in Community Logistics

3.1 Connection of distribution service with residents

There are many unstable factors in the commodity delivery between the “last-100-meter” distribution service and residents within the community. Firstly, the distribution person can’t exactly know where the residents are. During distribution, the distribution person does not know whether the residents are at home or not, if not, the repeated delivery shall be made. Secondly, the distribution person also does not know when the resident will be back, if there are perishable goods, the logistics company shall have to bear the loss by itself and shall distribute the goods for many times.

In order to solve the problems above mentioned, many logistics companies choose the manner of entrusted collection by logistics branches. In this case, the collection agent may steal and open the customer's parcel, and record the customer's personal privacy information without permission, or mistakenly or falsely collect the parcel, which increase the difficulty in responsibility division, furthermore, the customer may be prone to ultimately blame the problem on the logistics distribution enterprise.

3.2 Adaption of distribution service to community logistics goods

The goods distributed in the "last-100-meters" of community logistics cover a wide range, including daily household articles or general merchandise, and fresh fruits and vegetables, as well as furniture and home appliances, therefore, in order to achieve accurate distribution, relevant distribution person or equipment shall have good adaptability.

Firstly, timely response to the changes in the nature of goods. As for the goods of different natures purchased by the same household, such as small household appliances and vegetables and fruits, the small household appliance should be delivered to the customer at any time when the household is free, while vegetables and fruits should be delivered in time to keep fresh, so the distribution person should contract the household immediately to discuss the place and time of delivery and precautions, and should not neglect the fresh-care of vegetables and fruits due to being used to delivering small household appliances.

Secondly, timely adapt to the volume, shape, weight and other features of the goods. For example, when delivering goods to the household, the same distribution person shall deliver the articles of different sizes and may be injured due to maladjustment to the weight of the goods in the a short time. As for the equipment, if it is not suitable for the goods of various shapes or volumes, it means that the distribution scope of the equipment is restricted and the various requirements of the household can not be satisfied.

3.3 Cost of distribution service

The modern communities are mostly of three-dimensional vertical structure, with high floors and small coverage. There are several households on the same floor and the residents are concentrated, but the shoppers are relatively decentralized. Logistics distribution has always targeted for the destinations on the same plane, so it is relatively easy to achieve "door-to-door" distribution. However, the present community structure is developing vertically, which is a great challenge to the distribution time and efficiency of "door-to-door" distribution.

In addition, due to the temporally and geographically scattered distribution of the purchasers and its very strong randomness, , the logistics companies need to develop appropriate distribution routes according to customers' geographical location, so the distribution routes of logistics companies are also uncertain. In this way, there may be roundabout transportation, bypass transportation and repeated transportation, and thus the optimal distribution routes can not be implemented, thus, it will increase the time cost, labor cost and transportation cost of distribution.

4. Optimization Strategy of "Last-100-meter" Community Distribution

4.1 Mode optimization

(1) Establishing the joint distribution mode for urban community logistics. Viewed from the current situation of the terminal distribution of traditional community logistics in China, it is an effective way for logistics companies to establish the joint distribution network in community logistics terminals. Firstly, a common urban logistics distribution center should be established to collect and distribute the goods transported by logistics companies from various manufacturers, which shall be transported to the logistics center in each community after unified classification and optimization in the distribution center. Then, according to the needs of community residents, the community logistics center shall adopt a unified, standardized and targeted service mode, that is, the community distribution shall be carried out by relatively fixed community distribution person for

relatively fixed communities. The joint distribution mode of urban community logistics can not only integrate resources, realize the intensive and large-scale distribution, and reduce logistics cost, but also relieve traffic pressure and bring social benefits.

(2) Promoting the cooperation with community realty Management Company. Because of the increasing delivery volume and the complexity and diversity of delivery person accessing to the residential communities, many community realty management companies restrict or even prohibit the access of delivery person for safety considerations. The delivery person can only notify the customers by telephone or short message to pick up outside the community, which undoubtedly reduces the convenience and efficiency of distribution and increases the time cost. Consequently, the cooperation between Logistics Company and community Management Company can promote the development of terminal distribution of community logistics. For example, Yunda Express has signed an agreement with Vanke Property and developed a cooperation model between logistics enterprise and community realty Management Company. Vanke Property cooperates with Yunda Express in nearly 400 Vanke communities in 23 provinces (regions and municipalities) of China to provide express delivery service for the corresponding community residents, which greatly improves the convenience for customers and saves the time cost of distribution while ensuring the terminal delivery service of the community logistics. Moreover, the customers bear no additional cost in this cooperation mode.

(3) Promoting the cooperation between large and small logistics companies. Logistics industry is an emerging industry and its development prospects are favored by most people. Therefore, in addition to such large logistics enterprises as JD, S.F. Express and Yunda, there are also many unknown private logistics companies in recent years, which are scattered and have their own radiation scope and operational capabilities. With these private logistics companies as the basic points of the “last-100meter” distribution, for large logistics enterprises, the cost for establishing special distribution sites will be saved and long-term cooperation can also promote win-win.

4.2 Management optimization

The main management of the “last-100-meter” community distribution of e-commerce logistics focuses on the management of equipment and goods, so it is necessary to optimize the management of equipment and goods.

(1) Optimization of equipment management. It can be implemented from these two aspects including loss prevention and operation and maintenance of the equipment. The loss prevention of the equipment focuses on the maintenance of hardware facilities and equipment. Firstly, it is necessary to specify the distribution mode adopted by the company and the hardware facilities and equipment under this distribution mode. For example, the main facilities and equipment of manual self pick-up site include storage rack, lighting and fire fighting equipment and scales; those of the intelligent container shall be containers. Secondly, the facilities and equipment shall be maintained according to its corresponding material and purpose. Metal equipment should be protected against rust, wood equipment should be protected against moisture and corrosion; fire equipment should be tested regularly to keep it in good condition and ready to use. The maintenance of intelligent container is relatively simple, compared with manual pickup site, it simplifies a lot in hardware equipment damage prevention, and the inspection cycle is relatively long, however, there is normally no guard, and it is difficult to discover the problems in the inspection cycle, so the system should be upgraded in the case of limited personnel. The operation and maintenance of the equipment shall be targeted for the maintenance of system software, which shall be carried out by the professional person due to the high technical requirements. The logistics enterprise shall generate huge amounts of data during operation, so a large background shall be needed to support the operation of data, and the headquarters and distribution sites shall be connected to form a large data network to collect the data from the entire enterprise. The data generated by the “last 100 meters” distribution is just the source of data collection and an important link; therefore, a great deal of effort shall be needed to maintain the system procedures of distribution sites.

(2) Optimization of goods management. The main risks of goods can be classified into two

categories, namely controllable and uncontrollable risks. The controllable risks include man-made damage, theft and the like, while the uncontrollable risks include natural disasters, accidents, etc. For controllable risks, the staff should be vigilant and always be on guard. For the loss caused by the internal staff due to dereliction of duty or deliberate action, the company can link the error rate with the staff appraisal, and determine the rewards and punishments according to the staff appraisal score at the end of each month. For uncontrollable risks, the company can only try to avoid and pay close attention to the changes in the surrounding environment to respond in time. In comparison, thanks to the on-duty staff, the response speed of manual pick-up site is faster than intelligent container; in terms of natural risks, the damage degree of goods in manual site is theoretically less than that in intelligent container.

4.3 Service optimization

The staff service is related to emotions to some extent. If the staff is in stable and good mood, the service attitude to customers shall be good, but in case of feeling down or excited, the service attitude to customers shall decline dramatically, therefore, service problems are concentrated in manual service site. In order to effectively supervise the service quality, the company with large system should establish an effective system for management.

(1) Improving the supervision mechanism. As the logistics company has a large number of distribution sites and employees, it is unable to pay constant attention to its employees, which is also one of the factors leading to poor service. The company should establish the customer-oriented service supervision mechanism and connect the system according to the actual situation, make an electronic anonymous evaluation of staff services from the customer's perspective, and send the evaluation results back to the system. According to the summary results, the company shall ask the employees with bad evaluation results about the reason, so as to avoid problems later.

(2) Establishing the psychological consulting organization for employees in the company. According to the data gathered by the service supervision mechanism, after finding out the source of the bad service of the employees, it is necessary to enlighten these employees to help these employees to analyze the problems and find out the solutions instead of forcing these employees to face the customers with good psychology, otherwise, it will be just the opposite to what one wishes and runs in the opposite direction to the initial wishes.

4.4 Cost optimization

The cost structure of "last-100-meter" distribution of e-commerce logistics is mainly composed of service cost, infrastructure construction cost and transportation cost. The service cost arises from the service provided by the employee to customers, and there is trade off relation between service cost and service quality. Obviously, the higher the service instruction, the higher the service cost will be. Therefore, to control the service cost, it shall be necessary to find a balance point between service quality and cost consumption.

5. Conclusions

The "last-100-meter" of community logistics is to meet the needs of residents, is the last link of distribution chain, and also determines the residents' impression and satisfaction to the logistics enterprise. In the process of attaching great importance to the development of the "last-100-meter" of community logistics, we should also face up to its problems. We should analyze and solve these problems from different perspectives, so as to turn them to the stepping stone for the growth of terminal logistics.

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