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Study on Logistics Distribution Route of Fresh Agricultural Products in Chain Market with O2O Mode

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Abstract. With the rapid development of Internet technology, e-commerce shopping convenience and wide selection of features such as gradually accepted by consumers, and to bring a new shopping experience. Online shopping more and more common, so as to seek a high efficiency, low cost, high efficiency logistics distribution path has become the focus of many businessmen and the urgent need to solve the problem. In recent years, Chinese supermarkets gradually carry out the business of fresh agricultural products, and in the daily life of consumers occupy more and more important position. In the face of the impact of e-commerce and consumer shopping habits, supermarket chains can take advantage of their own advantages, through the O2O model to carry out fresh agricultural products online business, online and offline integration to enhance competitiveness and enhance market position.

Introduction

In recent years, the rapid development of e-commerce industry in China, the scale is also rapid expansion. With the growing popularity of network technology in China, the emergence of emerging O2O and other e-commerce model, through the network for online shopping and offline consumption of e-commerce new model developed rapidly. In 2014, the central document in the agricultural market system construction clearly put forward "to strengthen the construction of agricultural e-commerce platform." However, a simple online or offline channel is difficult to meet the needs of consumers on agricultural products. However, online transactions must be wired under the physical store support, on the one hand this decision by the consumer's shopping habits, consumers in the purchase of agricultural products used to carefully selected, fruits and vegetables is the need for its freshness to see the real; On the one hand offline store has its own target customer base, can solve the last mile distribution problem. And O2O (Online-to-Offline) is a link between businesses and online users of the multilateral platform business model, the integration of offline real economy and online resources, through the network channel to the real economy extends to the virtual world. Offline business can be tapped and attracted through the online source, and consumers can filter the necessary goods and services online, and complete the online payment, and then to the physical store experience or to receive the goods to complete consumption.

O2O model of the rise, for the supermarket chain operations bring new opportunities, the new shopping experience. Based on the above background, the future development of supermarket chains must advance with the times, breaking the tradition. Chain supermarkets can introduce advanced modern technology, equipment, ideas, combined with O2O thinking into the operation, for consumers to create a new shopping environment and experience. This paper is to study the logistics distribution of fresh agricultural products in chain supermarkets under O2O mode, and analyze the circulation mode of fresh agricultural products in chain supermarket under O2O mode. On this basis, the optimization of the distribution route of the city is carried out.

O2O Mode of Agricultural Products in Circulation Mode

The introduction of the O2O model in the circulation of fresh agricultural products requires a focus on how to communicate with consumers more efficiently when the agricultural products reach the terminal through traditional distribution channels and maximize the supply and demand information through the network channel to avoid the emergence of agricultural products in short

supply, oversupply and so on, and the price caused by greater volatility. That is, with the O2O platform to solve the poor transmission of information, high cost of circulation. In this paper, the agricultural products built by the origin of agricultural products, trying to re-integrate the circulation chain of agricultural products, streamline its circulation, complete production and sales and efficient inter-regional information docking, and promote the circulation of agricultural products. However, if the origin of fresh agricultural products directly to carry out O2O model, its own resources are limited, the lack of many aspects of resources, such as the lack of a stable customer base, that is, the origin of fresh agricultural products and no stable direct consumers; lack of physical experience shop, that Fresh agricultural products origin in the geographical market, the lack of a reasonable layout of the store experience, geographical coverage more limited.

Agricultural products in the circulation process has different circulation of the main body such as processing enterprises, retail enterprises, circulation of different entities, O2O model of agricultural products can have a variety of types, such as retail enterprises as the core of the O2O model of agricultural products, this model of retail enterprises can be chain Supermarkets, community outlets, etc., these enterprises have their own mature physical store, while online business online sales, consumers can complete the transaction online, and then close to the physical store to pick up their own. To carry out online business, these companies can choose to set up their own online shop and line with the store to work together, you can also use third-party platform to promote and attract customers. The core of these O2O models of agricultural products is to integrate the two basic points online and offline and seamlessly link. Circulation of the main body may be different, but its agricultural products O2O overall structure and mode of operation have many in common, the agricultural producers can be agricultural production base, agricultural products brand; consumers can be individuals can also be organizational units such as schools, hospitals, O20 electricity business platform is the consumer and agricultural products circulation enterprises in the online payment transaction platform; physical stores, including agricultural products, the main body of the sale of the terminal is also consumers can experience the terminal, such as convenience stores, outlets, supermarkets Wait.

Construction of Logistics Distribution Route Optimization Model for Fresh Agricultural Products in O2O Mode

O2O mode, consumers can choose online fresh agricultural products, and then to the nearest supermarket stores to pick up, you can also choose the supermarket door-to-door. E-commerce model, more and more enterprises began to carry out logistics and distribution business. However, there are some limitations in the distribution service, such as the current e-commerce consumer groups are mostly urban office workers, usually busy, in order to save time and energy through the purchase of the necessary fresh agricultural products, O2O mode, consumers can go to work Of the supermarket self-employed goods, but often choose to door-to-door service, hope that the distribution staff can be expected in their time period to the goods. However, the impact of overtime and so on, so that consumers take time more limited, may not be able to pick up within the specified time; for distribution personnel, traffic congestion and other factors, and sometimes can not reach the consumer designated location The Online purchase of goods when the enterprise delivery time is often inconsistent with the time of receipt of consumers, for both sides inconvenience. In order to timely delivery of goods in the hope of consumers within the time, requiring businesses to consider the delivery time window delivery problems. For fresh agricultural products, because of its particularity, consumers have their own requirements and it is required to timely distribution of business, delivery more accurate.

Delivery is the shortest. Due to the perishable nature of fresh produce, the storage environment and the temperature during the improper storage will cause great loss. The delivery of fresh agricultural products when the distribution of vehicles equipped with fresh and cooling equipment to ensure fresh freshness and the length of the distribution will directly affect the vehicle's fuel consumption, equipment wear and tear, resulting in cost loss. Generally, in the factors that affect the distribution cost, the distribution route is a relatively influential factor. The shortest delivery time

will minimize the distribution cost. To this end, this article will be the target value of the shortest distribution.

Delivery costs are minimal. The cost of distribution mainly includes the wages of the distribution personnel and the cost of the vehicle. The wages of the distribution personnel depend mainly on the working hours. The shorter the working time is, the less the wages are. The cost of the vehicles mainly includes the fuel consumption, distance decision, the shorter the distance, the less the cost.

It is best to be punctual at the time of expectation of the consumer. The freshness of fresh produce requires businesses to have a clear guarantee of product quality and delivery time, which also affects the service experience of consumers online shopping. It can be expected in the consumer time to reach the product, both to improve customer satisfaction, but also for businesses to obtain efficient, on time logistics network evaluation, is conducive to business future e-commerce business development.

Consumers receive the highest freshness of fresh produce is the best quality. The value of fresh agricultural products is reflected in its freshness, the higher the freshness, the higher the satisfaction of consumers when they receive the goods, and then the return phenomenon is reduced.

Logistics distribution network refers to the distribution of the organization and facilities in the process of distribution, that is, by the supply point, logistics and distribution center, warehousing, transportation, demand point of the secondary distribution network, which distribution center and distribution routes is its two main Elements. Logistics distribution network optimization is the new logistics and distribution network for new planning, starting from the overall situation, customer-centric, combined with corporate strategic objectives and enterprises in which the market environment, the distribution network distribution center location and size, distribution Vehicle route and logistics information platform function composition and operational mechanism to plan a set of programs. Logistics distribution network optimization objectives are: to reduce costs, the company's strategic goal is to provide customers with the lowest cost of quality products and related services, and its main way is to optimize the logistics and distribution network to reduce and transport and storage Related to the variable cost; to reduce the investment in the logistics system, corporate logistics development strategy starting point is less investment to obtain the greatest return on investment; improve customer satisfaction to speed up market response, customer satisfaction is the assessment of enterprise logistics services Level indicators, the higher the satisfaction, the higher the level of logistics services, but also enable enterprises to get high market response speed, the face of changing the market can respond quickly, quickly for customers to develop a unique service strategy to enhance market competition force.

Distribution route optimization is the key link of the entire distribution network optimization, the current distribution of the supermarket is for a large number of customers, with a small batch, many types, more than the characteristics of the batch, while its transport routes are short and complicated. Distribution route optimization is to reasonably determine the distribution route, the least part of the time, the least power, the least cost, the shortest journey to the fastest speed to the goods to the hands of customers. To determine the distribution route need to consider many factors, mainly transport costs, means of transport, transport time, transport distance and other factors. The choice of distribution route is essentially a multi-objective planning problem. The target can be the minimum cost of delivery, the shortest delivery time, the time window for the delivery time to meet customer requirements. The development of efficient distribution routes, the need for a comprehensive analysis of the objectives, selects the best distribution routes.

Transportation optimization is mainly the optimization of goods carrying and transportation. Goods arrive at the distribution center will be by category, variety, etc. stored in their designated location. In order to improve the efficiency of the delivery and the utilization of the capacity of the truck, the distribution center will combine the items of different customers on a delivery route and assemble them on the same distribution vehicle. This will not only reduce the cost of delivery, the extent to reduce traffic flow, and indirectly change the traffic congestion situation. In general, distribution route optimization and transportation optimization are carried out after the distribution network design and facility location determination. Based on the assumption of distribution network

structure and facility location, this paper only studies the optimization of distribution route.

Conclusion

This paper summarizes the status quo of e-commerce and its logistics and distribution of fresh agricultural products, and it is understood that domestic and foreign freshmen are gradually developing and are small in scale. There are four kinds of fresh domestic consumers: Electricity providers, specializing in food network retail vertical website, third-party logistics enterprises to carry out fresh agricultural products electricity, supermarkets to carry out online fresh electricity business. The analysis of the characteristics of logistics distribution of fresh agricultural products in the environment of e-commerce shows that consumers have strict restrictions on delivery service time and affect consumer satisfaction. On this basis, the time window and the consumer satisfaction function are used as the constraint condition, and the VRPTW model of the distribution of fresh agricultural products is designed to meet the actual situation of the distribution business of the fresh electricity business.

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