

E - Commerce using Flutter and Node

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Abstract: This paper analyzes the current e-commerce using flutter and node and proposes an ecommerce network for products. E-commerce may disrupt traditional value chains. Traditional value chains involve multiple consumer intermediaries. Typically sell their produce to middlemen at the gates of the products. Produce then goes through several intermediaries before reaching the end-customer. As a result, customer receive only a small proportion of the price paid by the end consumer, as a profit is received by each intermediary in the value chain. E-commerce offers the opportunity to streamline the value chain of products and the inefficiencies in the delivery of produce. It is a new way for producers to sell their products to a range of consumers, including customer. E-commerce also improves the access to new markets for customer and brings accountability to the value chain. This helps customer to bypass several intermediaries, resulting in higher wages for producers, decreased waste and the ability to provide fresher consumer product. These benefits are particularly important in developing regions, where over 97% of people in E-commerce stay. The e-commerce business model is the conceptual structure of business to business, business to customer, customer to business and customer to customer business strategy. In this paper applicable for business to business and business to customer strategy. An e-commerce store is all about storage, efficiency and flutter frameworks is the best choice, it's a lightweight, fast and stable platform. A great website with right technologies for building the internet. We have used best technology tool. It was producer with SASS. In addition, you can evaluate the overall transaction process, making the transaction smoother, more straightforward and more interesting. In addition, the integrated custom portals address isolated knowledge islands, and the counterparts help parallel processing. This may thus increase the operational performance of the whole society.

Keywords: E-commerce-e-commerce platform, B2B application, online store, shopping application.

1. Introduction

It becomes more and more difficult to manage the e-commerce platform of fresh E-commerce products. The most important problem is that there is no excellent solution of e-commerce platform for fresh E-commerce products. A fresh E-commerce product mainly includes the fresh primary products such as vegetables, fruits, flowers, meat, eggs, milk and aquatic products. Freshness is an important indicator to determine the value of these fresh produce.

Due to the characteristics of perishability, seasonality and freshness of fresh E-commerce products, it is very important and difficult to design the solution of the e-commerce platform for fresh E-commerce products Information system. Through mobile geographic information technology, we can realize large-scale, socialized, real-time division and cooperation on the basis of geographic information, accomplish the e-commerce model based on personalized needs, intelligent production, and social supply chain.



Figure 1 E-Commerce workflow diagram

1.1 Characteristics

Ecommerce exhibits the following key characteristics

- Scalability
- Security
- Direct delivery

2. The Main Existing Problems of E-Commerce of Fresh E-Commerce Products

The main existing problems of e-commerce of fresh E-commerce products of China are as follows: The general prices of fresh E-commerce products are low, so it cannot afford higher logistics distribution costs. The demand for fresh E-commerce products is small: the varieties of fresh E-commerce products purchased by ordinary households every time are plenty, and the quantity is very

small. The fresh-keeping time of those fresh produce is generally only one day, which causes that the logistics distribution of fresh E-commerce products is small-scale, scattered, and very urgent, Paragraphs should be justified. Poor communication of supply and demand information often causes unsalable situation of fresh E-commerce products. The freshness of fresh E-commerce products is inversely proportional to the delivery time. That is, the shorter the logistics delivery time is, the higher the freshness becomes; on the contrary, the longer the logistics delivery time is, the lower the freshness becomes. At present, due to the limitation of logistics technology, many fresh products need to add preservatives in the logistics process. The general loss rate of fresh products can reach 10% to 30%. The requirements for preservation and distribution of each fresh E-commerce product is different. For example, water is needed during fish preservation and the fresh transportation, eggs cannot be bumped during transportation, vegetable cannot be squeezed during transportation, and the temperature needs to be controlled while transporting meat.

The cost of ordinary e-commerce express delivery is high and the time is long. According to statistics, the logistics cost of fresh E-commerce products orders of China is as high as 25%-40%, while the logistics cost of clothing and electronic products is only about 5%. High logistics costs have become a bottleneck factor restricting the development of e-commerce of fresh produce. In order to solve these problems, we propose a new solution for fresh E-commerce products e-commerce platform based on mobile geographic information.

3. Logistics and Supply Chain Design of Fresh E-Commerce Products E-Commerce Platform

We designed the following logistics and supply chain model design of fresh E-commerce products e-commerce platform on the basis of geographical distance, as shown in figure.1.

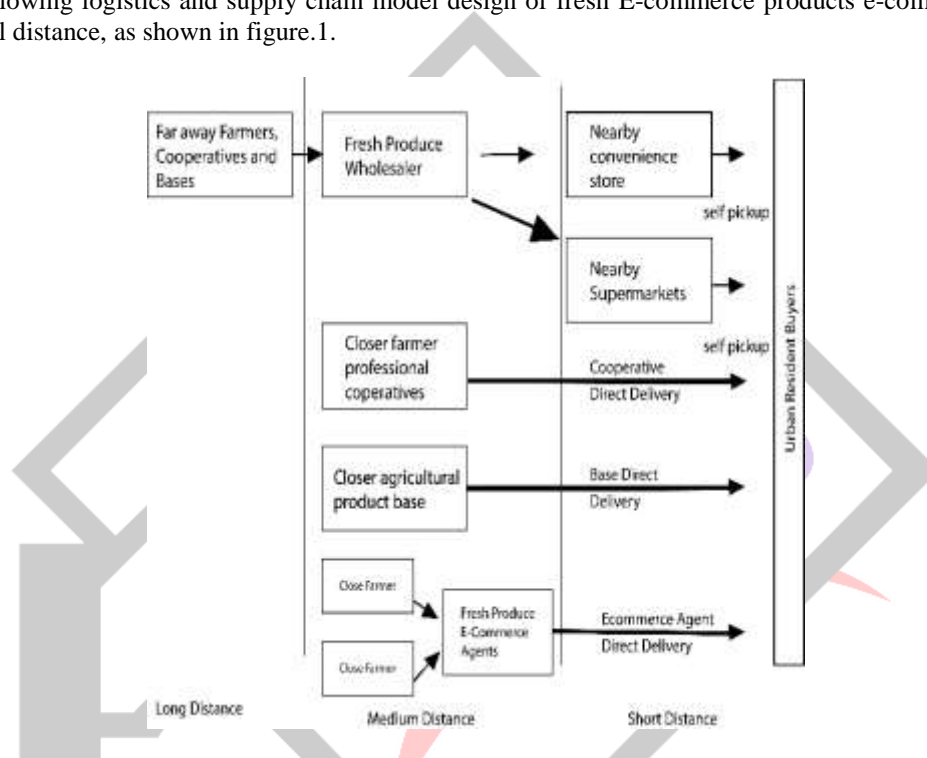


Figure 2 Logistics and supply chain model design of fresh E-commerce products e-commerce platform

As is shown in above figure, there are three methods of logistics and supply chain model of our fresh E-commerce products e-commerce platform: Use the existing logistics and supply chain model of fresh E-commerce products based on wholesale for long-distance customer, cooperatives and bases. Use the method of direct delivery from producing area of middle-distance to achieve logistics distribution: this method can reduce transportation loss, decrease transportation time, ensure freshness, and make full use of residents' refrigerator storage space. The nearby merchants of fresh produce can adopt self-pick-up method to achieve logistics distribution: this method is actually the logistics distribution method with the lowest cost and the least transportation time.

4. E-Commerce Model Design of Fresh E-Commerce Products Platform

The e-commerce platform exists as an intermediary between the two transaction parties (buyers and sellers) of fresh E-commerce products, and the e-commerce platform operator itself does not produce and sell fresh E-commerce products. The platform adopts concomitant e-commerce models of B2C, F2C, C2F, C2C and O2O based on mobile geographic information system. The e-commerce model design of the platform is shown in Figure 2.

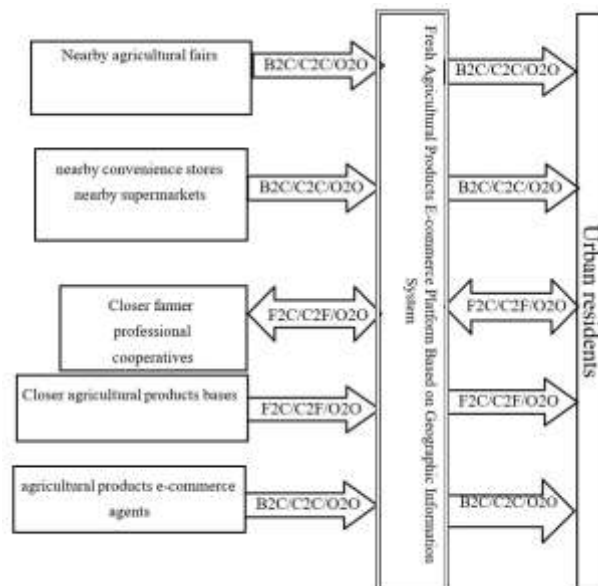


Figure 3 E-commerce model design of fresh E-commerce products platform

5. Transaction Process Design E-Commerce of E-Commerce Products E-Commerce

Transaction process design for merchants of fresh E-commerce products. The merchants of fresh E-commerce products include nearby convenience stores of fresh E-commerce products, merchants in E-commerce fairs and supermarkets. According to the design of Logistics and supply chain model of fresh E-commerce products e-commerce, it mainly matches and pushes the fresh E-commerce products merchants according to the geographical location of buyers, at the same time conducts ranking referring to the evaluation points of the fresh E-commerce products merchants and the price concessions. The transaction process design of fresh E-commerce products merchants with the lowest cost we designed is shown in figure.3.

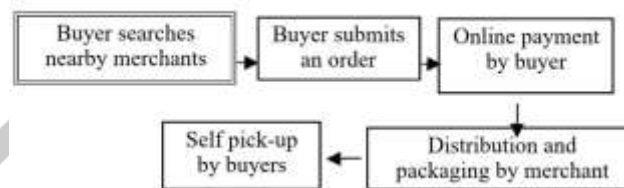


Figure 4 Transaction process design of fresh E-commerce products merchant

Transaction process design for customer professional cooperatives and E-commerce products bases or the customer professional cooperatives and E-commerce products bases of middle distance to buyers, we designed the group purchase process based on geographic information, as shown in figure.4.

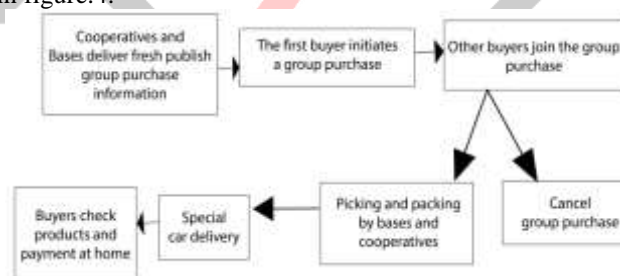


Figure 5 Group purchase process design of customer professional cooperatives and E-commerce products bases

There are two criteria for the success of the group purchase of fresh produce based on the geographic information: the participants in the group have a certain distance from each other, only the buyers within the distance can participate in the same group, and the limit of this distance is set by the initiator of the group. The group purchase requires that only reaching to a certain amount of some fresh product sales volume can be considered as success of a group. Ordinary group is measured according to the number of products or the number of customers. For example, the relatively successful grouping e-commerce platform conducts grouping based on the number of customers. And the group purchase in e-commerce platform requires to be measured according to the total price of the goods. By limiting the geographical location of the group buyers and the total price of the group, we can increase the profit of every order of fresh produce transaction, meanwhile reduce the logistics cost, ensure the profit of customer professional cooperatives and E-commerce products bases, and give buyers more discounts after the reduction of the costs. We believe that this purchase process is one of the most efficient trading models for fresh produce e-commerce. Because the middle-distance customer will not use the e-commerce platform due to the decentralized operation and knowledge limitation, they also don't have distribution vehicle to realize the delivery of fresh E-commerce products directly to the buyer's address. Therefore, we put forward the role of fresh produce e-

commerce agent. The main business of fresh produce e-commerce agent is to help customer who are close to the city sell fresh E-commerce products through the e-commerce platform. The main body of the fresh produce e-commerce agent can be customer with certain knowledge or entrepreneurial college students. Transaction process design of fresh produce e-commerce agents is shown in figure.6 below.

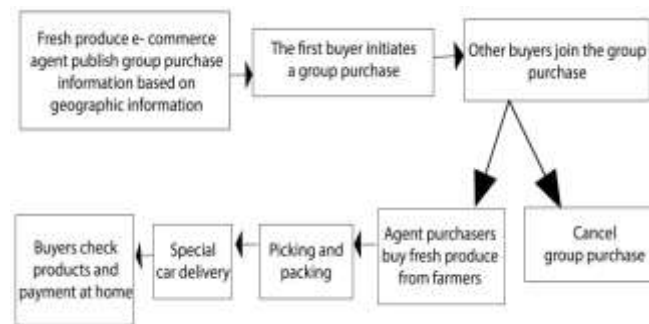


Figure 6 Transaction process design of fresh produce e-commerce agent

6. The Design of Logistics Distribution Model of E-Commerce Products E-Commerce Platform

We designed the following logistics distribution models based on the logistics and supply chain model and transaction process model of the above e-commerce platform. The logistics distribution mode of nearby merchants is self-pick-up by buyers. Since the quantity and total price of fresh products required by each household are small, if the merchants are separately delivered, the distribution cost will be too high to be profitable. Therefore, we believe that the traditional way for buyers to go to the nearby stores and pick up products by themselves is the most economical way for nearby merchants. The logistics distribution model of the close-range production area is direct delivery from the production area. There can be three forms of what we call production area, the first is the large production base of fresh E-commerce products; the second is the customer professional cooperative of fresh E-commerce products; the third is the scattered customer and the e-commerce agent will help them distribute the products. The method of direct delivery from the production area is to send the special vehicle to the consumers immediately after picking or processing the fresh E-commerce products at close range. We think this is the best logistics distribution method for close-range production area. Of course, the direct delivery of close-range production area is based on the above-mentioned group purchase according to the distance and the total price. Through the group purchase according to the distance and the total price, we have gathered the low-priced small orders dispersed geographically and transformed them into large orders with high total price and concentrated geographical position, thus creating two economic conditions for the production area though the direct delivery of fresh E-commerce products to the customer's home with by special vehicle: the first is to increase the total price per distribution, and the second is to reduce the proportion of logistics costs per distribution. The advantages of direct delivery from close-range production area are as follows: The logistics path of this distribution method is the shortest path between fresh produce and consumers, and it is also optimal. It can arrive on the day of the delivery of fresh E-commerce products, which solves the problem of same city delivery delay of the ordinary express companies. At the same time, the seller, as the producer of fresh E-commerce products, knows the preservation techniques of E-commerce products better. This ensures the freshness of the fresh produce in the distribution process. Direct delivery from close-range production area can reduce the intermediate links of logistics and supply chain of fresh E-commerce products, increase the profit of fresh products producers, and allow consumers to get more affordable prices.

The long-distance logistics model of fresh e-commerce products retains the logistics distribution channels of traditional wholesale. Because the logistics distribution costs are very high in the long-distance distribution across provinces and cities, only when the total distribution amount of fresh E-commerce products is large, the average logistics cost of fresh E-commerce products can be reduced, so the traditional wholesale logistics method is most economic and efficient in long-distance distribution. The traditional logistics and supply chain system of fresh E-commerce products wholesale is irreplaceable under the current conditions in the long-distance distribution across provinces and cities.

Conclusion

Starting from the existing problems of fresh E-commerce products e-commerce, this paper studies and proposes a new solution for fresh E-commerce products e-commerce platform based on mobile geographic information. We believe that this solution can become one of the best solutions in the existing conditions of fresh E-commerce production, logistics technology, information technology and mobile communication technology.

References

1. R. Ravens Bergen, Building E-Commerce Solutions with Woo Commerce, Birmingham: Packt Publishing, 2015.
2. Mejia.A, Building an E-Commerce Application with MEAN, Birmingham: Packt Publishing, 2015.
3. K. Zhang, Introductory Geographic Information Systems, Beijing: Science Press, 2019.
4. G. Xie, Principles of Global Navigation Satellite System, Beijing: Electronic Industry Press, 2019.
5. T. Subonis, Reactive Android Programming, Birmingham: Packt Publishing, 2017.
6. X. Wu, MAPGIS geographic information system, Beijing: Electronic Industry Press, 2017.
7. K. Kousen, Gradle Recipes for Android, Sebastopol: O'Reilly Media, 2016.
8. F. Azzola, Android Things Projects, Birmingham: Packt Publishing, 2017.
9. M. Kalin, Beginning Java Web Development, Sebastopol: O'Reilly Media, 2016.

10. M. Gupta, A. Mahajan, S. Sundar, Cloud-Native Applications in Java, Birmingham: Packt Publishing, 2018.
11. Y. Li, E-Marketing, Beijing: China Machine Press, 2016.
12. X. Bu, New E-commerce Model in the Internet, Beijing: Electronic Industry Press, 2016.

