New Business Model and Logistics Supply Chain

Weisheng Wen[1,a], Shuqin Liu[1,b*], Yue Su[1,c], Ningning He[1,d], Wei Wang[1,e], Jinchan Huang[1,f]

[1]Guangzhou Huali Science and Technology Vocational College, Guangzhou, China

[a]wsw8681@126.com, [b]sosogogo20091214@163.com, [c]Syhappy1025@163.com, [d]hnn19891021@126.com, [e]bangbeiwang@126.com, [f]Hjinchan@163.com

*Corresponding author

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Abstract: Under the background of“Internet +”, the traditional logistics supply chain model can not meet the needs of today's market by playing the Internet technology in e-commerce. Data show that the 2023's total online retail sales reached 15.42 trillion yuan, an increase of 11.0 percent over the previous year, making it the world's largest online sales market for 11 consecutive years. The rapid growth of online shopping has brought about great changes in the sales model. In order to adapt to the current consumption situation, improve the logistics supply chain, provide better services for customers, new business has played a positive role. The new business model makes the logistics supply chain display OISD online supply model and in-store supply model, OIJD online supply model and in-store supply model, IISD in-store Integrated System Supply Model, DCD online supply model and in-store supply model of distribution center, etc. , through practical application, it has certain innovation and value.

1. Introduction

The development of e-commerce, driven by "Internet Plus", has inspired the Online To Offline commercial new retail, which combines offline business opportunities with the Internet, where consumers can place orders online through the Internet to shop, and can also pay online for offline consumption, etc. By this means, consumers can get a purchasing experience without difference of the online-to-offline, including online intangible stores, such as websites, social media, Email, Weibo, WeChat and offline stores. However, how to optimize channel costs and effectively promote the reform and development of warehousing and distribution has become a bottleneck. This paper is devoted to the study of the evolution of enterprise logistics in the context of new retailing, and gives four new logistics and distribution models, namely, OISD, OIJD, IISD and DCD. By comparing and analyzing the above new modes, the new mode of logistics and distribution of new retail is compared and analyzed with the example of enterprises cooperating with schools and enterprises.

2. Sales channels and logistics distribution

The core of logistics supply chain is the commercial sales channel, which is the carrier of connecting and carrying products and services, sales channels play an important role in connecting logistics, business flow, information flow and capital flow. The formation of the sales channel is mainly due to the development of the sales industry at the end of the 19th century, which in most cases is a buyer-seller market. Over the past decade, the emergence of the Internet in China has brought a new sales industry, and the Online To Offline product marketing mix has provided new research significance for the sales industry.

In 1963, it was introduced to Japan, called“Goods circulation”, called“Logistics” China introduced PD from Japan in 1960 and logistics from the United States in 1980[1]. In China's definition of logistics, warehousing and distribution is the core function of logistics, logistics management is initially subordinate to the sales channel, in the concept of marketing mix[2]. The concept of marketing mix was first adopted by Harvard Professor N-H Borden in 1964. Prof Ronald

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Coase of the University of Chicago argues that distribution is the movement of goods and services in markets. Prof Joseph McCarthy, an American academic, summarises the elements of the marketing mix as products, channels, pricing and promotions (4Ps) . In the mid-20th century, the study of marketing channels became more standardized. The theory of channel structure put forward by Bucklin in 1966 and the theory of distribution channel put forward by Stern in 1969 make people have a more direct understanding of the role of non-economic factors, especially behavioral factors, in marketing channels Seifert looked at the integration of virtual stores with existing supply chains, and Bretton Thauer considered the problem of choosing physical stores to fill online orders, mahar proposed a dynamic allocation strategy to study how to allocate online orders to different physical stores[3-6]. 2017, D. Grewal, Alroggeveen and J. NORDF ält proposed a new form of business-"New retail" theory. We recognize that the online and offline"New retail" model is a manifestation of a new form of sales.

3. New Logistics Distribution model

In recent years, China's warehousing and distribution is moving towards the development of information technology intelligent warehousing and Internet platforms, especially the development of network sales, and a number of warehousing Internet platforms have emerged. But as a whole, China's logistics and distribution of information technology development is very unbalanced, and e-commerce warehousing level and scale can not yet adapt to the rapid development of online sales of logistics needs.

Under the background of "Internet Plus", enterprises play the interaction between online and offline, creating a new research direction for logistics and distribution management. Warehousing is an important node for enterprises to provide products for customers efficiently, and it is also the core function of logistics, which plays a connecting role for all aspects of logistics, at the same time, the efficiency of warehousing and distribution is also an important indicator to improve customer satisfaction. Therefore, how to shorten the delivery time, ensure the quality of goods, save logistics and distribution costs and other factors become more and more important. And different sales channels corresponding to the logistics and distribution model is not the same[7].

3.1. OISD Mode

OISD mode (Online & In-Store Separate Delivery), i.e., online and in-store separate delivery supply. In this mode, the online and offline inventory is separate, if the customers place order online , the order is delivered through the online platform's warehouse; if the customers place orders in the offline physical store, then the order is delivered through the offline physical store or directly picked up by themselves. The benefits of this model lies in the online and offline various management of their own warehouse distribution system, making the sales channel management becomes easier, while their respective responsibilities and powers are clearer, reducing the link between different channels, to facilitate the management of different channels. Under this mode, online customer services and in-store sales staffs can provide targeted customer services, so that the quality of service under each channel are guaranteed. However, it requires higher labor costs. Secondly, separate management of inventory will increase the total inventory of the enterprise, increasing the cost of warehousing. Thirdly, online sales require that enterprises have a denser warehouse and faster distribution model, so as to quickly respond to customers’ demand. Suppose you can't meet the customer's orders in time, it will cause a decline in the quality of service, efficiency, and reduce the number of orders. According to the basic way of warehouse rationalization - moderately centralized distribution, the total cost of decentralized distribution will be higher than the total cost of centralized distribution, and the model needs to have a warehouse and distribution system to meet the two kinds of services at the same time, so the warehouse and distribution cost of this model is higher.

3.2. OIJD Mode

The OIJD mode (Online & In-Store Joint Delivery), that is online and in-store delivery is

supplied by the store. Under this mode, both online and offline orders are delivered from store inventory. When customers place an order online, the order is aggregated to the nearest store and generates a delivery flow. However, they need to store a large number of goods in the store to meet the needs of customers in different channels. Stores are generally built in the city center, the rent is more expensive, if a large number of goods are stored in the store, it is easy to cause high warehousing costs. At the same time, if the stock is insufficient, it will result in out of stock and unable to meet the customer's order, thus reducing the quality of service. This mode is more suitable for large supermarkets, because the supermarket is like a large warehouse. Offline customers can go directly to the supermarket purchases, and they are able to get the store delivery service when they reach the specified amount of money. Online customers' orders can be also directly picked, packed, delivered from the nearest supermarket. Thus we can provide better service to customers. However, there is no systematic regulation in this mode, and is prone to certain situations such as out of stock or store inventory is too high in stores.

3.3. IISD Mode

IISD mode (In-store Integrated System Delivery), i.e., in-store integrated system delivery. In this mode, both online and offline orders are delivered by physical retail store. Unlike the OIJD mode, there is a set of integrated system within IISD mode, which is able to effectively coordinate the customer's demand, arrange the nearest store for distribution, and if the nearest store is out of stock, then the closer store can be arranged for distribution to reduce the out-of-stock rate of the order. At the same time, through the effective management of each store, it can reasonably arrange what goods should be stored in each store, and how many quantities are stored, effectively improving the utilization rate of the warehouse and reducing storage costs. In this mode, both online and offline goods are concentrated inside the inventory of the offline store. From the perspective of centralized distribution, the mode can effectively reduce and control the inventory of goods. At the same time, the time between the customer placing an order and receiving the goods is shortened, which greatly improves customer satisfaction.

3.4. DCD Mode

DCD mode (Distribution Center Delivery), that is, orders both online and in-store supplied by the distribution center. In this mode, customers' demand is also composed of online orders and orders from physical stores, and both online and offline businesses are supplied by distribution centers, which is a relatively common model for online sales. For the offline business, the highest part of the cost of the offline business is rent, how to build the store area to reduce the capital is a business consideration. Through the reduction of inventory, or even do zero inventory, only display representative goods, customers can understand the performance of commodities, experience the services. This can effectively reduce the cost of the business. The disadvantage of the model is that customers need to wait. Customers, whether place online or offline orders need to wait for 1-2 days until the merchants deliver the goods to the door. In order to retain customers, merchants will generally make some of the inventory cost savings to customers, that is, the price of goods will be lower than the other goods in the same industry. This model applies to larger, higher-value products, such as home appliances.

4. Empirical Analysis of New Models of New Retail Logistics Supply Chain

With the changes in the market environment and the development of e-commerce technology, the competition between channels is no longer the mainstream of the market. How to grasp the integration between channels and utilize the effectiveness of new retail logistics and distribution has become a new hot spot in the development of new retail.

4.1. Huawan New Sales and Warehouse Distribution Management

Huawan chosed to build online platform in the online consumption trend, and responded positively to the new challenges under the new sales environment through various marketing means.

Responding to the competition with new sales channels, and grasping the integration between the channels as well as the omni-channel management has become the hot issue of the enterprise. Shenzhen Huawan Supermarket choses to build an online supermarket in the online consumption trend, and it adhers to the "hand in hand with you to change the life" corporate philosophy, through continuous optimization and development, commits to become an outstanding retail enterprise to improve the quality of life of the public. Among them, mobile e-commerce channel occupies 50% of the order volume of online retailing, and at the same time, with the overall sales of e-commerce channel rising sharply, the new industry of digital retailing has been gradually formed. For this reason, Shenzhen Huawan Supermarket began to pay attention to the construction of the mobile shopping access, to build the first online supermarket from scratch. They dedicated to opening up the consumer barriers between online and offline, relying on the retail entity—the Huawan Supermarket, to become a display hall for online shoppers. And compared with the price of offline shoppers, it realized a variety of roles such as commodity display, offline attraction, online dissemination, etc. Directly docking the supply channels through the Internet data platform, it realized the effective mode of warehousing and distribution supply and thus wined the trust and support of customers.

The distribution mode adopted by Huawan Supermarket is the in-store integration mode, i.e., all orders are sent to the nearest offline warehouse for distribution, which can flexibly respond to the online and offline market demand at the same time. In addition, Huawan Supermarket adopts the independent management savings of each store, which can effectively avoid investing in the inventory of the whole enterprise, thus reducing the investment cost of each supermarket and improving the flexibility of enterprise operation. At the same time, through the online and offline data linkage, it can achieve a large amount of market data efficiently, which not only can solve the cost of market research, but also get a more in-depth understanding of consumers' habits. On this basis, through the improvement of the products and services, the rights and interests of consumers can also be effectively protected.

4.2. Yongjia New Sales and Warehouse Distribution Management

Yongjia Supermarket is a traditional retail chain enterprise. However, in the change of the "Internet Plus" era, Yongjia Supermarket's influence has not only not decreased, on the contrary, its revenue and profit growth level this year has been leading state in the industry. Yongjia supermarket torrent development and management methods are worth pondering. In the process of adapting to the "Internet Plus" era and e-commerce channels, Yongjia supermarket found out a path of their own Online To Offline channel integration: online assists offline, online and offline are in parallel, customer-oriented omni-channel retailing. At the same time, the optimized supply system, procurement mode and delivery mode of Yongjia Supermarket also performed remarkably. Yongjia Supermarket set up a large distribution center in Dongguan, Guangdong Province, and then set up distribution transit stations in Guangzhou Zengcheng District, Nansha and Shenzhen Bao'an. After that, Yongjia Supermarket sends distribution instructions to the corresponding warehouses through the integration of online and offline multi-region customer demand, and the warehouses will unify the delivery.

In addition, in order to handle customer orders more efficiently and meet customers' differentiated needs, Yongjia is constantly building its own mobile store -- Yongjia Life APP while perfecting the sales channels of the third-party platforms, which fully reflects the "consumer-centered and customer-experience-oriented" management idea of Yongjia Supermarket.

5. Innovation in New Retail Warehousing and Distribution Models

The case that two enterprises-- Huawan and Yongjia carrying out the new business new sales, empirically analyzed the new business and new sales of warehousing and distribution management process. Through the horizontal comparison of warehousing and distribution, as well as the distribution process between physical stores and center system which O2O online and offline involved in, the two supermarkets made a new business and new sales warehousing and distribution

management model innovation in enterprises.

5.1. Online and offline unified order and warehousing and distribution management

Customer demand is composed of online orders and orders from physical stores, and an order management information system is established to implement unified order management. When processing information in the order management system, the order information of each distribution channel port will be collected into the system, and the system will carry out intelligently regional distribution, and then send the order to the optimal distribution point, and the distribution point will implement the distribution of goods. For example, if a customer places an order online and the system recognizes that the nearest warehouse is out of stock when it arranges for delivery, the system will issue a stock transfer order to other stores that have stock. Similarly, if a customer orders from an offline store and the store is out of stock, the system will switch to the online channel to fulfill the order.

In the case, the distribution management system of both Huawan and Yongjia can save logistics and distribution costs by unifying online and offline customer demand, which makes the enterprises' shipment more flexible in the face of market demand. If Huawan and Yongjia divided and shipped online and offline orders independently in the process of order processing and distribution, the problem of increased logistics and distribution costs would easily arise. Obviously, these two companies are aware of this problem. Through a unified system for integrated processing, not only can optimize the distribution path, but also can reduce the cost of logistics and distribution, improve logistics and distribution efficiency.

5.2. Supply Chain Omni-Channel and Warehouse Distribution Management

The distribution management system embodied in the supply chain omni-channel is a synergistic and innovative three-dimensional cross management system. The system, by combining upstream and downstream resource distribution and integrating multi-channel distribution resources, offline warehouses can become warehouses for e-commerce channels, saves separate warehouses for e-commerce channels. And at the same time, inventory resources are shared with offline stores, enabling efficient integration of online and offline. There are still many promising directions for future research.

From the analysis of Huawan and Yongjia's new sales model, only through an independent system processing mechanism, making online and offline store delivery interoperability, online orders can also automatically flow to the nearest offline store, by means of "takeaway"—that is picking up at the door, it realizes the parcel delivery, while the supply of untimely problems can also be effectively resolved through the form. From the new sales case of Huawan and Yongjia, it can be seen that enterprises use different methods to integrate online demand into physical stores, which is mainly based on their network system capacity and business priorities. In order to realize efficient distribution management and performance improvement, the scale of the enterprise, the integration of various channels, and the distribution of sales regions will become the most important issues for enterprises to consider.

6. Conclusion

As mentioned above, against the backdrop of "Internet Plus," traditional logistics and supply chain models can no longer meet the demands of the current market. The new business model is centered around designing products and corresponding supply chain logistics services with the consumer in mind. Through technological innovation and data-driven approaches, it achieves the integration of online and offline platforms, enhances consumer experience, and optimizes supply chain efficiency. By providing customers with more comprehensive supply chain logistics services, companies can reduce or eliminate unnecessary links. The competitiveness of the logistics industry can no longer rely solely on scale and price competition. Building logistics infrastructure that serves modern commerce will be crucial. This business model emphasizes the seamless integration of online and offline platforms, enabling the omnichannel distribution of goods, it shortens delivery

time and improves delivery efficiency. Additionally, leveraging big data analysis and artificial intelligence technologies, this new retail business model allows the logistics supply chain to more accurately predict consumer demands, optimize inventory management, and achieve precise delivery, thereby enhancing the consumer's shopping experience.

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