

Research on Big Data Technology Leading Smart Marketing Development of Logistics Industry

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Abstract: Smart marketing is a strategic decision made by logistics enterprises to cope with the changing external environment and maintain rapid development. As a data set with many types, large quantities, complex structure and commercial and application value, big data is a new intellectual resource, the engine of intelligent logistics, and the resource pool of intelligent marketing in the logistics industry. It can provide efficient and accurate data analysis for the logistics industry. Because of its huge commercial value, big data is regarded by the logistics industry as an important resource and factor of production comparable to customers and logistics infrastructure. By using big data technology, logistics enterprises can dynamically report the changes of the target market to decision-makers in real time, predict the market trend, excavate logistics value, and make intelligent decisions for seizing business opportunities, precise positioning, market development, investment and financing, image expansion, and winning the future. With the support of big data technology, the scientific use of big data technology can effectively make up for the deficiency of human intuition judgment, better improve the service function of the logistics industry, and promote the upgrade and improvement of the logistics marketing model.

1. Introduction

With the continuous development of China's Internet, big data technology and cloud computing technology are continuously integrated into the development of logistics intelligent marketing, which promotes the construction of China's logistics industry. Data is an important resource for the basic development of a national strategy. Through the development of big data and accelerating data construction, the intelligence of enterprises can be enhanced^[1]. In the digital information age, high-tech technologies such as the Internet of Things, big data and artificial intelligence have been applied in various industries. Nowadays, information technology, as an essential part of an enterprise, has reached the forefront of intelligent technology in the logistics industry. The application of information technology has played a very important role in the logistics intelligent marketing industry chain, and its application has completed the networking, intelligence, automation, controllability and visualization of logistics development, which makes logistics enterprises not only improve the speed of logistics enterprises, but also increase the utilization rate of resources^[2]. With the advent of the era of big data, the application of big data crosses regions and fields, such as e-commerce, logistics, finance and great health. Various fields using big data for development are helping enterprises to continuously develop new businesses and innovate operation modes^[3]. At present, there are still many problems in the logistics industry in the face of a large number of logistics demands. With the development of information technology and the maturity of the big data environment, the intelligent marketing of regional logistics combined with big data has a clearer and better development prospect^[4].

As a new logistics marketing channel, logistics intelligent marketing relies heavily on big data. Reasonable use of big data technology can effectively promote the development and upgrading of intelligent marketing in the logistics industry^[5]. Modern society is highly dependent and demanding big data, especially in the commercial field. Mastering big data plays an important role in analyzing market information and predicting market changes^[6]. On the premise of big data, in order to get a good solution to the problems encountered in the development of logistics intelligent marketing, it is necessary to explore the very valuable information hidden in big data and regard it

as a favorable situation for development, so as to build favorable decisions for enterprise logistics in operation ^[7]. The application of smart marketing under big data technology can also gradually optimize the service quality of enterprises and enhance customer experience, so as to better promote the change of marketing mode of the logistics industry in the new era ^[8]. This paper discusses the strategy of developing logistics intelligent marketing under the background of big data, discusses the existing problems in the development of logistics intelligent marketing at present, and puts forward solutions to the corresponding problems. In order to promote the overall development of logistics intelligent marketing, reduce the cost of logistics enterprises and enhance the core competitiveness of logistics enterprises.

2. Mechanism of Smart Marketing Led by Big Data Technology in the Logistics Industry

2.1 Data Acquisition

Big data technology, as a technology for processing big data through a cloud platform, coincides with the idea and demand for intelligent marketing in the logistics industry. Therefore, it is an inevitable choice for the development of the logistics industry to lead the intelligent marketing of the logistics industry with big data technology. For most logistics enterprises, their logistics and transportation services are relatively single, and their business data sectors are scattered, which makes them unable to make unified planning and decision-making arrangements ^[9]. From an objective point of view, the development of intelligent marketing in the logistics industry is highly dependent on big data technology. For the huge network users, the information and channels of data collection are more diversified, and the content obtained is more abundant. In the process of sorting out a large amount of data, if a single server is used, it is far from meeting the demand, so it must be solved by cloud computing. A large amount of information is collected and processed by cloud computing fictitious technology, distributed database, distributed processing and distributed framework of cloud storage ^[10]. When applying big data technology to collect data, it is necessary to use big data front-end to obtain massive data from various platforms and types. With the development of big data and cloud computing, people gradually pay more attention to the integration of big data into the logistics industry, which lays a foundation for subsequent development.

2.2 Data Analysis

The internal data processing and analysis technology is the central content of big data technology. By processing and analyzing the original data with big data technology, a lot of valuable information can be obtained, thus improving the information value of data. After the concept of logistics intelligent marketing appeared, the logistics industry gradually used a computer platform to process logistics information and data. During this period, expert systems that can make further planning and knowledge management systems for enterprises to sort out their own information emerged. Logistics intelligent marketing can not only accomplish the efficient combination of traditional logistics, big data and Internet of Things software and hardware, but also improve the decision-making ability, analysis ability, execution ability and level of logistics system, making it more intelligent, automatic and professional. Commanding and processing the collected big data is an important manifestation of intelligent marketing in the logistics industry. If the collected information can't be handled effectively, then collecting big data will lose its meaning. In order to improve the management and control of logistics information, the best way is to carry out more accurate and dynamic scientific management of intelligent logistics. This kind of management is very important to improve the efficiency of resource utilization and economic quality in China. Different from previous work, in the process of intelligent marketing of logistics industry, there are not only many influencing factors, but also reasonable responses to different influencing factors from a long-term perspective, so as to provide more guarantee for the implementation of follow-up work.

2.3 Building Database

The collected and analyzed data need to be stored and managed by establishing a database, so as to facilitate logistics enterprises to search, query and use them at any time. As an advanced technological means in the new era, big data can create outstanding economic and social benefits. In order to achieve better results in future development, we should insist on establishing the logistics data warehouse scientifically. In the process of developing logistics enterprises, a comprehensive analysis should be made on the warehousing, distribution and other auxiliary businesses. However, at present, the ability to analyze and process data is relatively low. When part of the data in the database loses its commercial value and use value, it should be destroyed to ensure that the database will not be overloaded and the database can be used normally. Figure 1 is the conceptual model of cloud platform mode and urban third-party logistics system.

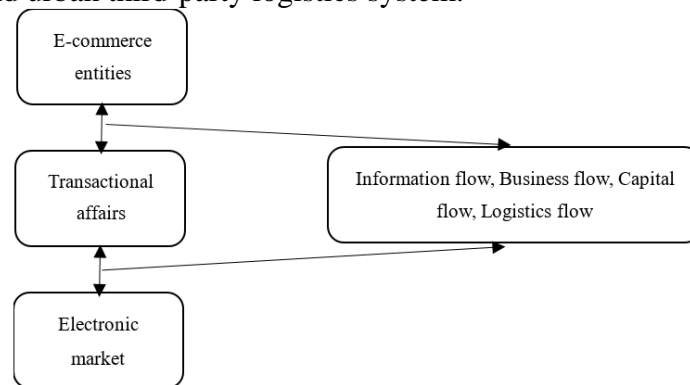


Fig.1 Cloud Platform Model and Conceptual Model of the Urban Third-Party Logistics System

At present, in the process of data mining and cleaning, the business of enterprises is relatively messy, and sometimes repeated data mining and cleaning may occur. This kind of disordered data and missing data will hinder the development of enterprises, and at the same time affect the future development of logistics intelligent marketing business and the accuracy of application ^[11]. Big data promotes logistics enterprises to jump from the information age to the intelligent age, and leads logistics enterprises to smart marketing. Data has become an asset like money, opening up a new profit source for the logistics industry. In the era of big data, the database has become the assets of logistics enterprises, and it has become an important part of logistics together with logistics channels and customers. The establishment of a database marks the development and application of big data technology in logistics enterprises.

3. Big Data Technology Leads the Smart Marketing Mechanism of Logistics Industry

Big data technology as the main performance of leading logistics marketing wisdom: using big data technology grab, query the logistics information platform, index, collect information about the huge amounts of data of enterprise logistics, the information submitted to the data analysis system, using the Hadoop and flow calculation technology to data sorting and refining, analyze the data value, in order to discover valuable data, forms the enterprise required data input; By establishing a data warehouse and using LSI technology to store all the data, enterprises can have real-time insight into the trend of enterprise logistics development in the data warehouse and make more intelligent judgment on enterprise logistics marketing decisions. The specific operation mode of smart marketing led by big data technology in logistics industry is shown in Figure 2.

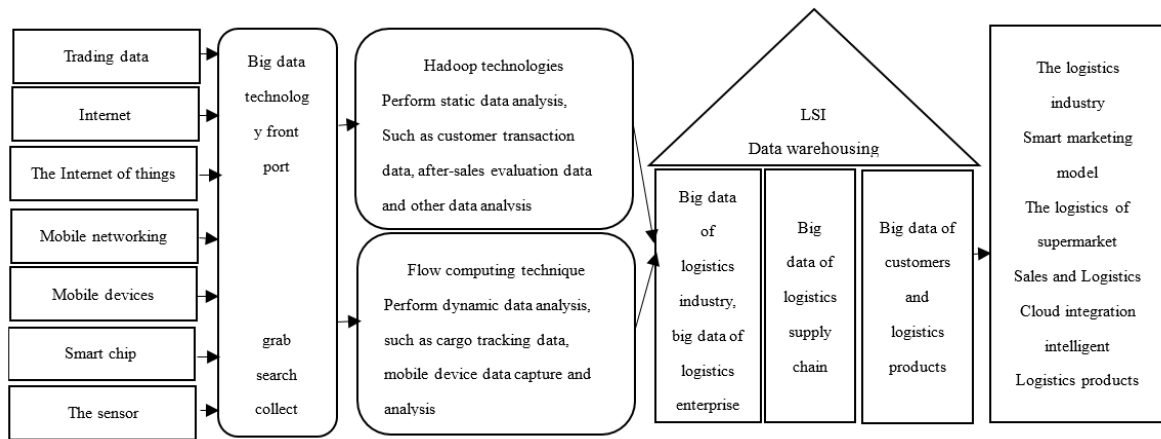


Fig.2 The Specific Operation Mode of Smart Marketing Led by Big Data Technology in Logistics Industry

4. Big Data Leading Logistics Industry Smart Marketing Strategy

4.1 Strengthening Scheme Design

From a long-term perspective, in the process of intelligent marketing in the logistics industry, there are many influencing factors, and different contents should be arranged and solved reasonably in many aspects. There are great opportunities and challenges in the development of logistics intelligent marketing, and the completion of standardization is also very important. Therefore, government departments should actively explore the advanced logistics intelligent marketing standardization platform, revise the standardization regulations in relevant regions, coordinate industry mechanisms, and formulate information security and information interface standards. A corresponding information intelligence platform should be established to collect, store and analyze data, and at the same time, communication among logistics activities should be strengthened. Logistics intelligent marketing management system is the core software of logistics intelligent marketing system, which works under the support of the operating system and solves the problems of how to organize and store data scientifically and how to obtain and maintain data efficiently^[12]. Under the mode of integration of business and logistics, the sales information of e-commerce and the delivery information of logistics are integrated, realizing the real-time synchronization of sales and logistics, and customers can query logistics information at any time through the e-commerce platform. Advanced technology should be used to promote the rapid collection and integration of information, so that all logistics businesses can speed up business control and management under the comprehensive application of data, so as to continuously coordinate the resource allocation of all businesses and optimize and integrate the overall development of logistics intelligent marketing. The intelligent marketing scheme of the logistics industry needs to be combined with the development trend of the logistics industry, as well as the characteristics and restrictive conditions of enterprises themselves. Secondly, the logistics plan must be well planned, especially in terms of service and timeliness. Logistics intelligent marketing network includes all links of the logistics network, and only by connecting and integrating all links can an efficient logistics service system be formed.

4.2 Intelligent Development

Intelligentization is the core development concept of logistics intelligent marketing, and it is also an important development direction of logistics intelligent marketing in the era of big data. It can be predicted that with the continuous development of society and the continuous progress of science and technology, intelligence will be the main operation mode of the logistics industry. Nowadays, the intelligent marketing of the logistics industry has made outstanding achievements in many places, which has greatly promoted the creation of economic benefits within the industry and the improvement of social benefits. Through the analysis of big data, it can provide corresponding data

information for enterprise decision makers. With the continuous development of logistics, enterprises and countries expect logistics to realize informationization and intelligence. In future planning, they also put forward four requirements, that is, the future logistics development should realize standardization, intelligence, informationization and intensification.

With the support of multi-dimensional data analysis, it can strengthen enterprises' thinking about the future application and development of logistics intelligent marketing, and realize the trend prediction at a deeper level. For products, it is also necessary to locate the mode of products. The product mode positioning is shown in Figure 3.

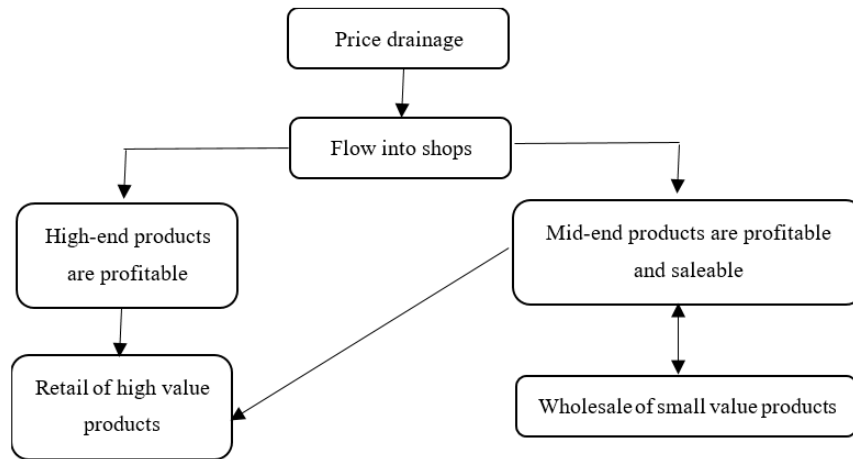


Fig.3 Product Model Positioning

The government and the logistics enterprises should actively promote the policy innovation of logistics intelligent marketing development, promote the upgrading and transformation of logistics distribution enterprises, and promote the perfect development and progress of existing logistics information systems. With the support of big data technology, logistics products and logistics information can analyze and store customers' usage habits, and constantly adjust according to real-time data, so as to make optimal logistics decisions for customers and enhance customers' logistics experience.

5. Conclusions

Smart marketing is a strategic decision for logistics enterprises to cope with the ever-changing external environment and maintain rapid development. The center of logistics intelligent marketing information platform is big data technology, which uses computer technology and mobile internet to provide a series of intelligent services for platform operators, improve customer recognition and logistics service speed, thus reducing logistics service costs. Through cloud computing and big data technology, data collection and analysis can be strengthened, and at the same time, the real value hidden behind data can be mined. Through the analysis of data, it can bring more opportunities for the development of enterprises and enhance the comprehensive core competitiveness of enterprises. With the support of big data technology, the intelligent marketing of the logistics industry will be further developed and matured, and a new intelligent marketing model will be established.

6. Enlightenment and Limitations

Smart marketing is a strategic decision made by logistics enterprises to cope with the changing external environment and maintain rapid development. Big data is the resource pool of intelligent marketing for logistics enterprises. It provides logistics enterprises with a new type of logistics service -- logistics supermarket, which reduces the operation links of logistics service. It creates the intelligent marketing model of "integrated business flow" between sales and logistics cloud for logistics enterprises, which reduces logistics cost. It makes the products of logistics enterprises

intelligent and improves the core competitiveness of logistics enterprises. Big data technology enables logistics enterprises to realize informationization, automation, intelligentization and integration, and develop from traditional logistics to modern logistics and ecological logistics to a highly integrated large logistics. Big data has changed the previous experience thinking of logistics enterprises, and helped logistics enterprises to establish data thinking. However, while we recognize the advantages of big data, we should also consider its disadvantages. Big data technology is a more scientific way of measurement, can make up for the lack of human instinct, but the data report is not a substitute for human thinking, some factors such as the analysis object of the background, the narrative process, the process of thinking emerge such as there is no way to quantify the data can only play the role of assistant decision-making, and can't keep the data or artificial intelligence instead of human collective wisdom to make decisions, so logistics enterprises should use big data science technology, using the data from the strengths of big power enterprise development.

In this paper, a cloud platform model and a product positioning model of the logistics system are constructed from a theoretical perspective, which has strong universality but lacks certain pertinence. Therefore, in the follow-up research, a specific logistics enterprise should be taken as a typical case for analysis, and the advantages and disadvantages of its logistics marketing mode should be deeply analyzed through field research and interviews, so as to effectively put forward improvement measures, so as to provide referable guidance for logistics enterprises in the same industry and similar types.

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