Research on the Marketing Development of Cross-Border E-Commerce in the Era of Big Data

Hai-Feng Li* and Wen-Jie CHEN
Dalian Jiaotong University, Dalian, Liaoning, China
*Corresponding author

Keywords: Big Data Era, Big Data Marketing, Cross-Border Electricity Suppliers

Abstract. With the development of the Internet, there are a large number of cross-border e-commerce enterprises that take the network as the pillar and sell online. Although the cross-border e-commerce industry is just emerging, it can bring unimaginable convenience to people. People can browse and buy goods and services around the world without leaving home. Through the use of big data, Internet-based enterprises can optimize and upgrade their marketing strategies. This paper first expounds the background, purpose and significance of this research paper, explains the theoretical basis of big data and cross-border e-commerce, and then analyzes the research of cross-border e-commerce marketing in the era of big data. This paper introduces the situation and development of cross-border e-commerce enterprises in using big data in the era of big data, analyzes the existing problems, and finally puts forward corresponding solutions and suggestions according to the existing problems.

1. Research Background and Significance

Due to the application of the Internet, enterprises will produce a lot of data at every moment. We call the data with diversity, which cannot be processed by ordinary calculation methods or systems, as big data. Big data has become a special new factor of production for the rapid development of social economy. Big data analyzes products in a special way and conveniently obtains the value information of products and services needed by enterprises, which makes the implementation efficiency of enterprises higher. This paper mainly studies the marketing development of cross-border e-commerce in the era of big data. Cross border e-commerce has a revolutionary and substantive impact on the business forms and trade processes of international trade.

The future trade is cross-border e-commerce connecting the world. Over the past five years, the trade volume of China's cross-border e-commerce industry has continued to grow by 30%. The backwardness of traditional foreign trade mode is in sharp contrast to the rapid development of cross-border e-commerce, which has become a new direction of domestic and international trade.

The rise of e-commerce has driven the development of many industries. The data generated by the rise of e-commerce has become an indispensable component of today's society. Today, e-commerce leads the world, and people can get all their needs through the Internet. Then, enterprises will also face an important reform. In the past, they could only manage the operation of the enterprise through experience and ability. Now they have a new tool, data. Enterprises use data to transform themselves to improve sales. With the advent of the era of big data, cross-border e-commerce has had a profound impact.

2. Overview of Relevant Theoretical Knowledge

2.1. Related Theories of Big Data

In the era of DT (Data Technology), enterprises must master the skills of using data to improve operation efficiency and business communication efficiency. There are three key points in big data driven
business services, namely, data acquisition, data analysis and data products. The traditional form of foreign trade business focuses on exhibition and user’s experience. The cost of participating in and visiting customers is high, and the development of new customers is slow. Under the traditional business model of foreign trade, there are limited channels for data acquisition, lack of professional data collection, collation and analysis personnel, relatively macro statistical data, limited use value, which is very unfavorable to the development of markets and products.

Under the background of big data, the business operation is to track the data dynamically by specially assigned personnel, and pay attention to the data of products, consumption behavior, business behavior etc. The key of business operation based on big data is data sorting and analysis. The traditional business model of foreign trade uses experience for data management and analysis, which is subjective and lacks scientific rigor. The whole logic of the business operation mode under big data is reversed. It guides the business operation decision-making through the intermediate state and dynamic change of data, which is the difference between the traditional business and the business under the background of big data.

The business value brought by data to the enterprise is mainly manifested in five aspects: It can assist the enterprise to make management decisions, monitor the whole marketing activities in real time; Optimize the supply chain; Precision marketing and personalized services; Innovation in products, services and models; Adjustment of commodity strategies.

2.2. Related Theories of Cross-Border E-commerce

Cross border e-commerce refers to a new type of trade activity and mode in which all parties use modern information technology to carry out all kinds of cross-border and digital transactions as the main way, covering marketing, trading, payment, service and other business activities. This new trade mode integrates the characteristics of international trade and e-commerce, and has greater complexity, which is mainly reflected in: First, the flow of information, capital, logistics and other factors must be closely combined. The lack or insufficient connection in any aspect will hinder the completion of the overall business activities. Second, the process is complex and imperfect. International trade usually has a very complex process, involving customs, quarantine and inspection, foreign exchange. As a new way of transaction, e-commerce is not perfect in customs clearance, payment, tax and other fields. Third, there are many risk triggers, which are easily affected by the international economic and political macro environment and national policies.

3. Analysis of Marketing Problems of Cross-Border E-Commerce in the Era of Big Data

3.1. Marketing Development of Cross-Border E-Commerce in the Era of Big Data

The era of big data has started a new journey of exploration, which indicates that human beings have made a big step forward in the search for quantifying the world. Enterprise organizations can use relevant data and analysis to help them reduce costs, improve efficiency, develop new products, make more informed business decisions, etc. According to the existing technology and application of big data, the following optimization may be brought to enterprises. Timely analysis of the root causes of faults, problems and defects can save enterprises billions of dollars every year. Plan real-time transportation routes for thousands of express vehicles to avoid congestion. Analyze all SKUs to maximize profit to price and clear inventory. According to the customer's purchase habits, push the preferential information that customer may be interested in. Quickly identify gold customers from a large number of customers. Click stream analysis and data mining are used to avoid fraud.

The application of big data in the internal operation of enterprises. The application of big data in the internal operation of an enterprise is conducive to improving the management of the internal information of the enterprise, ensuring that the enterprise can collect more perfect market information, and then carry
out market analysis according to the market information, and finally improve the operation efficiency of the enterprise itself. In this process, enterprises can fully integrate with big data in the optimization of their own website to ensure that the content of the web page is more detailed and substantial, and consumers can have a more detailed understanding of the product when they choose products. In addition, the application of big data in the internal operation of the enterprise can also promote the operation of the store, which is mainly reflected in that the enterprise grasps the actual needs of the customers through the understanding of the customer comments, clarifies various problems or disadvantages in its development, and then improves the marketing concept and marketing strategy in the future development and operation.

The application of big data in external marketing. Compared with ordinary marketing methods, big data marketing can obtain more product content and establish online and offline databases, and then carry out targeted data analysis in the process of external marketing to ensure that consumers have a more detailed understanding of the product. In the era of big data, the development of cross-border e-commerce can ensure that foreign trade enterprises further optimize their operation channels in the process of external marketing, and make clear consumers' preference for products according to their behaviors. In this process, enterprises can also tap more potential customers, so as to develop more effective marketing strategies.

### 3.2. Problems in the Application of Big Data Marketing in Cross-Border E-Commerce

**Low data utilization.** With the rapid development of the Internet, many e-commerce platforms have collected considerable data, which inevitably interferes with the diversity of data, making the marketing analysis more complex and arduous. In addition, when collecting data, the low effectiveness of data is also a big problem. For example, a consumer may use multiple terminals and accounts to log in to the same platform. At the same time, there will be many misoperations when browsing the interface and there will be false information when registering the account, which will greatly reduce the quality of the collected data and affect the marketing effect of big data.

**Marketing effect is lower than expected.** In theory, if big data marketing can be effectively used, the effect it can bring is the transparency and predictability of user behavior, and the promotion of products used by users should have a high conversion rate. But in real life, most of the users will not be influenced by the pushed mails and messages, nor will they follow the advertisement of the website to purchase and consume. Some consumers even hate these behaviors, which greatly affects the image of the products.

**Lack of professional data marketing analysts.** If an enterprise can have a team with unique capabilities in data analysis, it will greatly enhance the company's ability to use data and digital marketing. However, from the perspective of China, it is common for some Internet companies to have data expert teams. However, in traditional industries, there are few specialized digital marketing analysts. Most of them do not have one.

**Data security and privacy issues.** On the one hand, numerous data aggregation, including massive business data, customer information, personal privacy and detailed records of various behaviors, will increase the risk of data leakage. Cross border e-commerce enterprises should not only avoid data loss in the cloud, but also avoid data theft and modification on the end. On the other hand, the ownership and use right of some sensitive data have not been clearly defined, and many analysis based on big data has not considered the personal privacy issues involved.

### 3.3. Reasons for the Problem of Using Big Data Marketing in Cross-Border E-Commerce

**Access to basic data is limited.** For the existing e-commerce giants, it is not difficult to get big data. But for most small and medium-sized e-commerce, even offline enterprises, their big data resources are not abundant, let alone use them for marketing activities. Big data marketing has not even started, so there are still bottlenecks in the acquisition of basic data.
Communication effect is low and communication monitoring is difficult. The spread of advertising is very scattered, resulting in the user's impression of the brand is not deep, so it is difficult to build a brand image. In terms of post advertisement monitoring, the latest research of IAB shows that 24% of users use advertisement interception software on the computer, and 15% support the use of advertisement interception software on the mobile. In addition to "being intercepted", the greater moisture lies in "data fraud" in the field of new media.

Policy norms and the lack of corporate responsibility awareness. In order to analyze the user's behavior through big data marketing, e-commerce enterprises must be able to contact the user's personal information data. With the gradual development of big data application, data security will inevitably become the primary problem.

4. Solutions to Cross-Border E-Commerce Marketing in the Era of Big Data

4.1. Solutions of Cross Border E-Commerce Big Data Marketing Application

Acquisition of basic data and improvement of data quality. When enterprises cooperate with social media, they can get a lot of data resources that can be used, and then they can understand the relevant information of users and understand the market trend. At the same time, directly relying on social media platform for marketing can also successfully attract more consumers. At present, many enterprises have successfully realized micro blog and wechat marketing.

Use big data to accurately recommend products. In many small and medium-sized cross-border e-commerce, the power of big data marketing by itself is limited. At this time, the accuracy of enterprise marketing can be improved with the help of big data products under the big platform.

According to the concern of consumers' behavior and life, enterprises should find the time of mass consumption concentration, make timely and accurate judgment, and suggest purchase plans for consumers. In the analysis of consumer behavior, we can also use the finished consumption items and habits to make predictions. After a user has purchased a product, he should not push the product information for him.

When making and implementing enterprise marketing strategy, cross-border e-commerce platform must take user's participation experience into account, deeply understand the importance of consumer's word-of-mouth communication, and then take consumers as the core to promote good communication between consumers and consumers.

In order to improve the data security in cross-border e-commerce platforms, the government, enterprises and individuals must work together to do a good job in the work of each department. From the perspective of the government, it is necessary to speed up the introduction of relevant laws and regulations for cross-border e-commerce and big data industry. Make clear regulations on how to protect and use the collected personal privacy data, establish strict accountability mechanism, and increase the punishment of enterprises involved. At the same time, improve the user's own rights, require the enterprise to respect the user's access right to data, delete and modify the right etc. As far as enterprises are concerned, they should strengthen the protection of big data, establish a professional and high-performance big data processing and analysis system, and effectively prevent illegal elements from invading and stealing information data.

4.2. Suggestions on the Application of Cross-Border E-Commerce Big Data Marketing

First, for the mining and marketing of commodity association by using big data, through big data mining technology, to ensure the effective association between data. In the specific application process of enterprises, we should ensure the effective analysis of the original data based on the establishment of
relevant data links. Using the analysis of big data, we can fully mine the relevance of commodities and ensure the effectiveness of recommendation interface.

Second, for social network marketing using big data, the high development of social media has covered a large number of people, and the communication speed of social network marketing is showing rapid development. With big data, people can fully understand the communication of social network, and better carry out e-commerce activities similar to social network marketing activities. For e-commerce enterprises, we should make full use of the advantages of big data analysis, be able to effectively grasp the analysis of social network media for consumers' preferences, and effectively improve marketing efficiency.

Third, for the geographic marketing using big data, using the technical advantages of big data, we can fully analyze the transaction data of the website, and in the geographic marketing of goods, we can effectively carry out different types of marketing strategy activities according to the different preferences of people in the specific region of the geographical location. Through big data technology, we should analyze the effective division of users' geographic location, ensure the determination of differences, and fully ensure the relevance of users' geographic information and interested goods.

Fourth, for the use of big data for user behavior analysis and marketing, e-commerce mainly analyzes the historical records of consumers and the purchase behavior involved, so as to effectively obtain the user's consumption habits and effectively provide enterprise with user behavior analysis and marketing. E-commerce enterprises can analyze the needs of potential users through certain related search behaviors, so as to further improve the commodity types.

Fifth, for personalized recommendation marketing realized by big data, it is more and more important to meet the personalized requirements of consumers in the actual market analysis process, which requires e-commerce enterprises to better meet the personalized marketing level. According to the development characteristics of big data environment, e-commerce enterprises should carry out product recommendation activities and product classification according to the personalized requirements of users, and actively invite users to pay attention to the products of interest.

5. Summary and Prospect

From it to DT, those who get data have future. In the era of big data, with the rapid development of related technologies, cross-border e-commerce is rising rapidly all over the world. Ma Yun said, "the IT era is dominated by self-control and self-management, while the DT era is dominated by serving the public and stimulating productivity." It seems that there is a technical difference between the two, but it is actually a difference in ideology. The changes that the data bring to the current society are far from what you and I can imagine. E-commerce big data as an industry with a huge data scale, data transaction and related services are bound to bring new interest growth to enterprises and industries.

With the data transaction between cross-border e-commerce becoming more and more intense, it promotes the cross industry cooperation of big data between the same industry in the world. This new form of transaction will bring rapid improvement to all enterprises involved in big data related research. Data transaction among various e-commerce platforms will break the industry information barrier, optimize the operation efficiency of enterprises, and increase the pace of self-improvement of enterprises.

Now with the "Big Bang" of information data all over the world and the rapid development of related technologies, big data is playing a more and more important role in our society. Cross border e-commerce can be said to be at the forefront of the data war. Whether to effectively and reasonably use big data is a question that all enterprises must consider in this era. Who can get the value of big data step by step, who can win this data competition.
Acknowledgment

Liaoning Natural Science Foundation, 201800177
The subject of educational science planning in Liaoning Province, JG16DB054
Natural Science Fund of Education Department of Liaoning Province, JDL2019027

References


