Cross-Border E-commerce Marketing Development Model based on Big Data

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Abstract. With the popularity of cloud computing technology, the emergence of big data highlights its importance. Now big data has been used in the development mode of cross-border e-commerce platform of major Internet enterprises and has strong commercial value. However, there are still a variety of poor qualities goods and after-sales problems, which greatly limit the development of cross-border e-commerce. This paper analyzes the impact of big data technology on cross-border e-commerce marketing, formulates reasonable management strategies and environmental factors conducive to its own development, and analyzes the application of big data technology in the marketing system of a company. Drawing on the success factors of cross-border companies and applying the summarized marketing development model to local cross-border enterprises, it is found that the effect is significantly improved compared with the previous marketing mode, management mode and strategic planning, and enterprises using big data develop in a better direction.

Keywords: Big Data (BD), Internet Plus, Cross-Border E-commerce (CBE), Marketing Mode

1. Introduction
Nowadays, big data [1-2] is widely used in the field of various fields, and its effect is outstanding, which has created a great business function [3]. Before the Internet entered thousands of households, the main form of commodity sales was entity operation. The emergence of the Internet [4], many CBE [5-6] companies rely on the network for online sales. It lacks physical stores and relies on online order sales. Electronic data is the core of network economy. CBE has made great progress. It makes it easy for people to shop around the world without going out. It can meet almost all the needs of people's daily life and can also provide services covering the world. Compared with traditional industries, CBE enterprises have great differences in means of enterprise development. Through the application of data, Internet-based enterprises can optimize and upgrade the internal enterprises and improve the efficiency of sales network. With the advent of the era of "Internet plus" [7], CBE enterprises have become the leaders of economic development.

CBE is mainly divided into export and import. The exchange and transaction forms of the two parts are basically the same. The difference is the difference between the object and the target of a transaction. This paper mainly analyzes the CBE of China's export commodities. CBE itself is to use
the convenient information transmission and data statistics functions to realize business transactions. Mining new economic benefits from data information has become a new development direction. For example, as of August 2015, Alibaba had an average daily transaction volume of 10000, with a total transaction more than 40 million US dollars, and the number of users has maintained a growth of 6-9 times. Therefore, from the perspective of data validity, we can conclude that in the next 20 years, we need to pay attention to basic data and master more services of raw data, incomplete data and complete data [8-10].

2. Factors Restricting the Development of CBE

2.1. External Marketing Factors
The influencing factors of external operation mainly refer to external customers, demanders and other restrictive factors. Domestic CBE personnel mainly carry out product production and customization after understanding the actual needs and search habits of foreign customers, and on this basis, determine their own company's marketing strategy. This is the main external factor affecting CBE. Because changes in some foreign policies, regulations and requirements are also external factors that have an impact. These are some rules that CBE enterprises must abide by in their operation and economic activities. Companies should always care the needs of customers. The foreign trade of enterprises, especially those in the European and American markets, has a good development in most European and American countries, so they prefer to trade through e-commerce platform. Therefore, most users like online shopping, so foreign trade companies should speed up the development of their own CBE.

2.2. Internal Marketing Mode
CBE is a successful product combined with advanced information technology, and it is also inseparable from the supporting conditions for the construction of CBE within enterprises. Above all, a successful CBE organization needs to have the right development goal and direction and make continuous efforts to this end. Secondly, establish correct and advanced management methods, be familiar with various processes and rules of international trade economy and be able to carry out economic activities according to the rules. Finally, the CBE organizations need support of the leadership to make the CBE organizations have enough ability and motivation to carry out economic activities.

2.3. Decision Making Ability of Leaders
The decision of senior leaders marks the success of CBE. For small companies, the international environment is too big, and the CBE needs a clear direction. For the world market, there should be a think tank. For example, according to the needs of customers to establish network platform, and in the world recognized platform promotion. Leaders should not be recognized verbally, but should vote on policies. Foreign trade enterprises should always pay attention to the trend of international trade. Although the international express business has been carried out, it is still in the process of exploration, and now there is no mature international four express. This leads to a large amount of data left in overseas platforms and Payment institutions, affecting trade security [11].

2.4. International Trade Regulations
The important to the development of CBE is to overcome the regulatory model. Nowadays, the development of trade is not restricted. Since 2013, the relevant departments have issued a kinds of policies and innovative step, but the bottleneck problems, such as customs declaration, tax rebate and foreign exchange settlement restrictions, have not been fundamentally solved.

3. Experimental Background and Parameter Setting
3.1. Experimental Ideas

Internet development throughout the country, CBE has gradually emerged in people's vision. In addition, big data provides technical support for CBE and virtually changes the development mode of CBE. Especially in the context of big data technology, trading mode and trading object are more reasonable and specific, realizing a highly unified logistics, business flow and providing kinds of interactive business services for manufacturers and traders around the world.

3.2. Experimental Design

This paper will solve the marketing problems of CBE. We introduce the concept of big data and the marketing development concept of new thinking. In addition, the proposed concept model is applied to an enterprise, and the set questionnaire survey is distributed to the employees of the company, so that they can evaluate the problems of cross-border marketing of the company. Different attitudes are given to find out the first problems limiting CBE. After the application of the marketing model, the employee satisfaction survey before and after the development of the company, and the addition of big data technology make CBE to a higher level. Shown as Table 1.

| Investigation contents                  | Before application (%) | After application (%) |
|----------------------------------------|------------------------|-----------------------|
| Customer management                    | 52                     | 74                    |
| Operational decision making            | 43                     | 57                    |
| Product strategy                       | 36                     | 59                    |
| Product personalized design            | 44                     | 68                    |
| Service content                        | 48                     | 66                    |
| Marketing methods                      | 54                     | 73                    |
| Supply chain update                    | 57                     | 83                    |

4. Discussion

4.1. Comparison of CBE Marketing Development under Big Data

We're going to test the effectiveness of CBE marketing development mode under big data mode; we compare it with traditional mode. From the perspective of user satisfaction, we show that big data technology promotes the development of CBE. From the perspective of customer demand, the user approval survey before and after the application of the marketing model is tested, potential demand and online and offline alternation mode.

![Figure 1. Customer satisfaction survey results of CBE development before and after big data application](image-url)
with the marketing model after big data application, the user satisfaction is relatively high. In fact, Big data does not care about the amount of data, nor is it limited to the size of data. The central point of big data is who can create more revenue value through existing data resources.

4.2. Employee Satisfaction Distribution

![Satisfaction survey results](Figure 2)

Shown as Figure 2, we will take back the questionnaire statistics, remove the unqualified questionnaire. 17% of employees are very satisfied with enterprise development, and 29% of them also agree. It is understood that most employees find that the introduction of big data enhances the management efficiency of CBE. As long as the traditional CBE management relies on the rules of people, this mode can also improve the profits of enterprises. The shortcomings of this mode are gradually exposed in the fierce competition of CBE enterprises, so relying on big data for management has an important impact. 36% of the people said that big data has achieved the accuracy and initiative of enterprise sales, fundamentally subdivided the customer group, constructed the online and offline transaction mode, and facilitated the current users. CBE uses big data to conduct marketing with businesses at the fastest speed. With the birth of big data technology, it is more convenient to distinguish between customers. CBE can survey the types of products recently purchased by users and make automatic recommendation.

4.3. Research on the Development mode of CBE under the Background of Big Data

(1) Intelligent supply chain logistics system. Automation and informatization are the characteristics of modern logistics, but also the advantages different from traditional logistics. In order to meet the market competition and the needs of consumers, CBE must adapt to the characteristics of cross-border logistics, actively establish overseas warehousing, match efficient international logistics system and service quality, integrate cross-border logistics system, and form scale benefits. First of all, We use big data technology to establish a complete cross-border logistics information database, integrate data sources of different logistics systems, and unify all cross-border logistics information into the platform database to ensure the perfection of cross-border logistics information. Third, improve the level of CBE and international logistics cooperation. By improving the application level of big data, we can better realize the integration of strategy, resources and supply chain by improving the application level of big data, so as to reduce the logistics cost and improves the logistics circulation efficiency.

(2) Cross border integrated management system. In the era of big data, CBE enterprises need to establish a cross-border comprehensive management system to change the current problems. Using the advantages of enterprise platform data resources and big data technology, combined with the government regulatory authorities, the interface between business and regulatory data is unified, business and regulatory processes are interconnected, payment and settlement are simple, and problem feedback is timely. The supervision and process visualization of big data business platform can effectively to solve. Through the application of big data, the regulatory functions at all levels are optimized to form data connection and government order connection, so that the government,
enterprises and platform can provide products and services for customers on a visual and transparent unified business platform. Therefore, CBE enterprises need to actively implement the platform operation strategy, realize government enterprise cooperation, integrate online and offline, improve product and service quality, simplify process, strengthen transparent and visual supervision, and realize business model innovation.

(3) Cross border bilateral trade regulations. In the era of big data, CBE enterprises can use big data technology and enterprise platform to monitor the credit rating of individuals and enterprises in real time and provide standardized business processes and operation specifications. It provides real-time retrieval and free rights protection services for enterprise intellectual property protection, effectively controls the problem of network fraud and fraud, and fundamentally solves the problem of supervision and rights protection of enterprises and individuals.

(4) Cross border financial payment service platform. Cross border payment business will no longer be affected by cross-border businesses such as customs clearance and tax refund. In the face of globalization, through big data technology, all cross-border payment terminals will conduct real-time trade settlement. The real-time processing of massive data by big data makes this innovation possible. This would not have been possible before big data. Currently, multiple payment platforms are in progress, and it is expected that this business will be opened to global customers in the near future. The establishment of cross-border financial business mainly provides cross-border financing and micro loans for small and medium-sized enterprises, which can speed up the financing speed of CBE enterprises and broaden financing channels. At the same time, it can complete CBE transaction settlement in real time and reduce cross-border transaction costs.

5. Conclusions
Traditional CBE has many restrictive factors, which cannot communicate with users online and offline quickly, resulting in serious after-sales problems. After the popularity of the Internet, BD technology can improve measure the service quality and management effectiveness of the enterprise. This paper uses BD to propose several new CBE marketing development models and applies them to enterprises to conduct a satisfaction survey on users and employees. The marketing model proposed in this paper can promote the development of CBE, and users and employees are satisfied with it. Therefore, CBE under big data has extremely development prospect.

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