Research on Precision Marketing of E-commerce Enterprises under the Background of Big Data

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Keywords: Big Data; E-commerce Enterprises; Precision Marketing

Abstract: This paper first introduced the relationships between big data and precision marketing of e-commerce enterprises, and then analyzed the opportunities, challenges and problems for e-commerce enterprises to implement precision marketing. Finally, this paper also put forward the relevant countermeasures of the challenges are as follows: the construction of product precise marketing system based on big data platform; based on data mining to precise marketing center and the third party platform; a preferred customer information feedback mechanism; big data and electrical business enterprise accurate marketing inter-disciplinary talent cultivation.

1. Introduction

With the rapid development of internet information technology and the explosive growth of data worldwide, "big data" has attracted attention in various fields. E-commerce enterprises have accumulated various types of data in the marketing process, such as customer information, sales transaction information, behavior data, etc. These data carry the information of various consumer groups and become extremely valuable assets. The application of big data is gradually becoming the key to business competition. At the same time, the fine division of labor and technological progress of social production have made many changes in consumer psychology and consumer behavior patterns, and their shopping has the characteristics of individualization, initiative, socialization and mobility. Only relying on experience to make marketing decisions can no longer meet the needs of today's enterprises. There is an urgent need for enterprises to accurately use limited marketing resources for potential customers, that is, to carry out precision marketing. Based on the background of big data, this paper points out the precision marketing model of e-commerce enterprises. Precision marketing based on precise data, as a new generation of marketing means, can help enterprises identify users, reduce marketing costs, effectively improve the sales rate and increase profits, and bring unprecedented opportunities for development.

2. The Relationship between Big Data and Precision Marketing of E-commerce Enterprises

In the era of big data, customers have been digitized. Big data enables thousands of customers to be precisely subdivided and positioned, thus truly realizing customer management. The services provided by e-commerce enterprises are highly personalized and can satisfied the individual needs of customers.

The greatest advantage of precision marketing is that it is "accurate". On the basis of market segmentation, it makes a detailed analysis of different consumers and determines the target audience. Firstly, accurate customer positioning is the basis of marketing strategy. Secondly, efficient and high return on investment personalized communication is another major feature of precision marketing. After defining target customers, precision marketing divides all stages of customer life cycle, grasps consumers' psychology, and carries out detailed and effective communication. Thirdly, precision marketing provides value-added services for customers, carefully analyses for customers, tailor-made for customers, does not need to select commodities, saves customers' time and energy, while meeting customers' personalized needs, increases the

  DOI: 10.25236/iciss.2019.034

transfer value of customers. Fourthly, developed information technology is conducive to the realization of precision marketing for e-commerce enterprises. The arrival of the data age means that people can use the virtual world in digital to map the personality characteristics of the real world. The improvement of these technologies not only reduces the cost of target positioning for e-commerce enterprises, but also improves the accuracy of target customer analysis.

As shown in figure 1, the precision marketing model is divided into five parts from top to bottom: consumer segmentation, consumer research, user portrait (database), precision marketing and feedback evaluation.

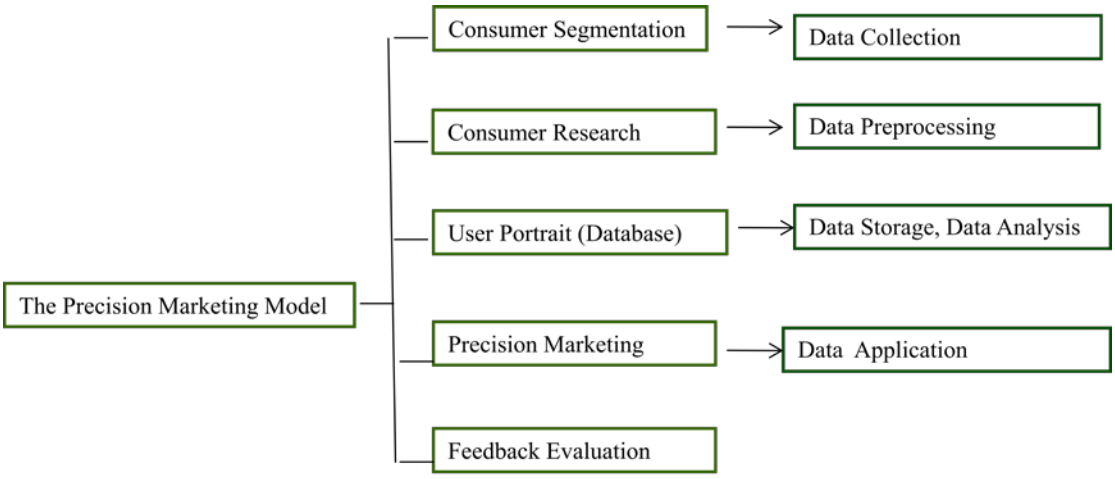

Fig. 1 The precision marketing model

Firstly, consumer segmentation is carried out on the basis of consumer data collected. Secondly, consumer research is conducted for market segments to achieve data preprocessing (screening and supplementation). Third, the establishment of consumer database to achieve "user portrait". Fourth, based on data mining and analysis technology, explore the value of data, combined with marketing experience, develop precision marketing strategy. Fifthly, through transaction data and consumer feedback, accurate marketing strategies will be evaluated, consumer segmentation standards and user portrait information will be improved, and more accurate marketing strategies will be developed.

3. Challenges of Precision Marketing in the Era of Big Data

3.1. It is Hard and High Cost of Data Acquisition.

In the fierce market competition, every e-commerce enterprise wants to have exclusive resources, making it difficult to share data. Data as information, as a social resource, its value is incalculable, may involve a lot of trade secrets, leading to a lot of e-commerce enterprises are not willing to open source data. There is no unified open source standard for data between industries, and the sharing mechanism of data is difficult to form. The low sharing degree of data resources inhibits the realization of precision marketing. Due to the low degree of data sharing, e-commerce enterprises tend to spend a lot of costs in acquiring data. It requires a large amount of capital investment to acquire data. Meanwhile, it is a difficult problem for e-commerce enterprises to store massive data efficiently and orderly for a long time. As general e-commerce enterprises do not have such a large amount of data storage space, they often need to purchase or rent professional data storage equipment to properly keep the massive data.

3.2. Low Utilization Rate of Big Data.

The low value rate of big data application is an important feature of big data. At present, data mining technology cannot meet the demand of big data mining, and it is difficult to conduct scientific and reasonable analysis on the collected data. As a result, the value of big data cannot be fully excavated, which essentially increases the difficulty of precision marketing and the cost of precision marketing to a certain extent.

3.3. Big Data is Difficult to Integrate Due to Fragmentation.

E-commerce enterprises often do not sort out the sources of data. In this way, there will not only be many redundant data, but also a lot of false and incomplete data, which invisibly increases the difficulty of data analysis. Obviously, this phenomenon of low value density of big data is the main bottleneck of big data application, which brings some difficulties to precision marketing.

3.4. Legalization of Big Data.

Privacy is an important issue around big data applications and a key part of regulation. Privacy, like other sensitive information, has a common problem. Not only is there more and more privacy-related data, but it is also easier to penetrate into other data, which makes the protection of privacy a huge problem. All this data will undoubtedly bring us great benefits, but it can also bring great disasters if not used properly. Therefore, the use of big data must be legal as the premise, otherwise it may not be worth the loss.

3.5. Big Data MiningTalent Gap.

According to the 2019 China ABC (artificial intelligence, big data, cloud computing) talent development report, there is a serious shortage of big data talent in China. On the one hand, the mining of big data should not only rely on special computer software, but also constantly update and upgrade computer software. On the other hand, precision marketing requires a major in marketing. It can be seen that computer software application talents not only have to be proficient in computer but also have the knowledge of marketing, so as to achieve the expected effect.

3.6. Deviations between Data Information and Objective Reality.

Although it is of great practical significance to use big data to analyze customers' behavior and preferences, it cannot ignore that cloud computing has no perceptual data operation and processing results. The results of data operation will inevitably deviate from the objective reality, and sometimes there are even large deviations. Data analysis can reflect customer demand tendency to a certain extent, but customer's psychological activities are affected by many factors, which is difficult to grasp, and constantly fluctuate with time. Especially young customers, such as young women, may like red today, blue tomorrow, loose clothes this year, and self-improvement clothes next year. It can be seen that the psychological activities of customers are the most difficult to understand, and the deviation between data information and objective reality always exists.

4. Countermeasures for Precision Marketing in the Era of Big Data

4.1. Strengthening the Construction of Precision Marketing Infrastructure.

In the era of big data, it is difficult for traditional marketing system to satisfy the effective development of modern marketing activities. Therefore, e-commerce enterprises can actively promote "production" mode, using big data platform, products and services provided by the electric business enterprise itself precision marketing system to carry out the system research and application, electrical business mogul data platform combining its own uniqueness to optimize the marketing strategy and marketing mix, marketing effect evaluation to the real-time and continuous improvement of the marketing system, realizes the accurate marketing system and big data platform construction of synergy.

4.2. Precision Marketing Based on DataMining Center and Third-party Platform.

In the era of big data, it is necessary for e-commerce enterprises to set up big data mining centers and use third-party platforms. The advantages of big data mining center lie in its independence, information confidentiality, pertinence and timeliness. It requires strong support from capital, technology, talent, market and other aspects, and precise marketing with the help of mature third-party big data platform. By formulating and implementing necessary reward policies, improving the salary and treatment of scientific research personnel, we can attract professional and

technical personnel at home and abroad, and give necessary subsidies and rewards to those who have made significant achievements, such as setting up special awards, to highlight the importance of data mining, and ultimately reach the goal.

4.3. Forming an Information Feedback Mechanism for Selecting Customers.

E-commerce enterprises need to pay attention to data security, reduce the cost of precision marketing, and have their own security protection software. Through the large data to measure and analyze the customer's behavior accurately, then analyze and process the data to optimize customers, and finally verify the accuracy of market positioning through market testing. Customer relationship management system (CRM) is indispensable for customer behavior analysis, which records the basic information and behavior of customers. Precision marketing is implemented on this premise. Therefore, it is necessary to form an information feedback mechanism for optimizing customers.

4.4. Establishing Excellent Precision Marketing Talents.

The huge gap of big data mining talents not only restricts the development of big data technology, but also affects the application effect of big data in precision marketing. Therefore, it is necessary to strengthen the examination and verification of compound talent team of big data precision marketing. For colleges and universities, relevant majors should be added to cultivate interdisciplinary talents who are familiar with both big data technology and marketing, and professionals from e-commerce enterprises can be introduced to teach and communicate, so as to achieve the combination of practice and theory and improve the quality and quantity of interdisciplinary talents. At the same time, e-commerce enterprises can conduct pre-service training for new employees, regular in-service training for old employees, and cultivate compound talents through school-enterprise alliance, so as to integrate big data technology into precision marketing in a truly efficient way. Then fill the huge gap of big data talents to meet the urgent needs of all sectors of society for big data precision marketing talents.

4.5. Promoting the Logistics Service Level of E-commerce.

With the development of e-commerce, the e-commerce logistics industry has undergone tremendous changes. From the past, express delivery can only be sent by post office, now logistics companies are flourishing everywhere, e-commerce logistics services have become an important factor affecting consumers' purchase. Now the development of big data also has a great impact on e-commerce logistics. Its impact is mainly reflected in two parts. The first impact is that e-commerce logistics distribution information is more accurate and timely. Logistics distribution is the last link in the process of e-commerce. Whether orders are processed and delivered in time, and whether goods can reach consumers in time and accurately are the issues that consumers pay close attention to. With the support of big data technology, it can effectively collect data and information of all links of logistics distribution, optimize the process of logistics distribution through data center analysis and processing, and at the same time, consumers can accurately query the logistics distribution dynamics at any time. The second impact is that efficient and professional logistics service improves consumer loyalty. The explosive information in the era of big data has reduced the brand loyalty of consumers to varying degrees, while the quality of logistics services can affect the loyalty of consumers to some extent. With the support of big data technology, logistics distribution routes can be optimized according to the weather and road conditions on the day of distribution to save the cost of logistics distribution. Efficient and professional logistics services can establish a good brand image in the minds of consumers and improve their loyalty. Logistics distribution in e-commerce process is an important factor affecting consumers' purchase decisions, which should be paid full attention by enterprises. Traditional e-commerce enterprises often have fixed Cooperative Logistics companies, but sometimes cooperative logistics companies are not the most satisfying to consumers. E-commerce enterprises can use big data technology, recommend suitable logistics distribution mode through user consumption data, and select excellent logistics company cooperation through commodity evaluation and analysis of logistics distribution data.

5. Conclusions

To sum up, the development of big data is an opportunity for China's e-commerce enterprises. In order to develop steadily in the era of big data, e-commerce enterprises need to formulate and implement effective and precise marketing strategies as an important goal. This paper points out that in the era of big data, enterprises should strengthen their own scientific and technological development, strengthen the analysis and prediction ability of big data, in order to obtain more favorable resources. By customizing and implementing diversified and differentiated marketing strategies, e-commerce enterprises can obtain more customers and meet the needs of different customer groups. E-commerce enterprises have strengthened their cooperation with related enterprises in order to seek common development in the environment of large data. Train and employ professional and high-quality marketing talents to alleviate the shortage of talent resources. To formulate appropriate precise marketing strategy, effectively solve the relevant marketing problems, and play a role in promoting the development of enterprises.

Acknowledgements

Project supported by the Research Results of the Science and Technology Program Project of Jiangxi Provincial Education Department (No.GJJ181526).

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