Research on the Application of Customer Relationship Management Based on Big Data

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ABSTRACT

with the advent of the Internet and big data era, new requirements are put forward for enterprise customer relationship management, and at the same time, the era of big data also brings new opportunities for enterprise customer relationship management. This paper discusses the innovative thinking and strategy of customer relationship management in the era of big data from the application level, so as to meet the needs of customer relationship management in the subdivided market, support decision-making and make long-term strategic planning.

KEYWORDS: *Big Data, Customer Relationship Management, Data Mining*

1. INTRODUCTION

Customer relationship management system (CRM) is a software system that can realize the automation of customer profit analysis, customer future analysis, customer churn analysis and other analysis processes by computer.[1] Its purpose is to integrate advanced IT technology and give full play to enterprise resource advantages, optimize management methods, conduct systematic research on customers, improve customer service level, customer value, satisfaction, profitability and loyalty by identifying, mining and cultivating valuable customers, so as to reduce sales cycle and cost, open up new markets and channels, and bring more for enterprises Profits. [2]

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2. Requirements for Customer Relationship Management in the Era of Big Data

2.1. Under the Background of Big Data, Customer Behavior is More Changeable

The emergence of big data is the result of economic, social and technological development, as well as the expansion and enrichment of products and services, which makes customers' right to choose more than ever. In the context of big data, enterprise customers can clearly access to a variety of diversified services, so as to change their consumption behavior.[3] In addition, competitors of enterprises can also understand the special needs and consumption characteristics of customers through big data, so as to conduct targeted competition, and may also change the consumer behavior of customers.

2.2. The Demand for Refined Customer Management is Increasing

In the past, when enterprises carried out customer management work, they had less information about customers, and the update cycle was longer, and the work content was relatively single. However, with the application of information management system, enterprises need to face all kinds of information and data generated and changed by customers' transaction behavior. [4]In order to better maintain customer relationship, it is necessary to identify and process these new information, realize the refinement and differentiation management of customers, so as to improve the pertinence and effectiveness of enterprise business, and promote the business management and efficiency In this way, the demand of enterprises in the refined management of customers is increasing, which is also an important test of enterprises in big data processing.

2.3. Under the Background of Big Data, the Competition Boundary of Enterprises is Constantly Expanding

The emergence of big data not only expands the depth and breadth of enterprise competition, but also expands the competition boundary of enterprises. In the era of big data, the life cycle of products is becoming shorter and shorter, and the differentiation of products is gradually narrowing. [5]It is very difficult for enterprises to differentiate from peers in terms of products and services. Even if there is differentiation, it is difficult to maintain a long-term relationship. Therefore, the competition has shifted to the relationship with customers. Because the relationship is invisible, it can only be perceived but not embodied. This means that in the context of big data, the competition of enterprise customer relationship management is not only the competition of system, process and method, but also the competition of concept, behavior, culture and quality.

2.4. Integration with Existing Systems

In the big data environment, in order to make the business operation consistent, it is necessary to establish an integrated customer relationship management solution to coordinate the strategies of the background application system, the front desk and the big data warehouse.[6] However, it is difficult to realize seamless integration between customer relationship management system and enterprise's existing system, which leads to the non sharing of data between information systems, and the inconsistency of customer data between different departments and different systems, which makes enterprises unable to obtain "360 degree customer view", unable to improve customer satisfaction,

provide customized products and shorten response time, only through substantive integration can we achieve this goal Ensure consistent, reliable and timely customer response.

3. Opportunities for Customer Relationship Management in the Era of Big Data

3.1. Big Data Helps to Improve Customer Relationship Management Satisfaction

On the one hand, big data enables enterprises to master the complete information of customers. Big data technology can let enterprises know all the information that customers should know and can know. It can completely distinguish the subtle differences between customers and grasp all the needs of customers. In this way, we can carry out customer relationship management from the perspective of customers, Develop services that can meet the needs of customers and fully consider the differences of customers.[7] On the other hand, big data can effectively integrate enterprise resources for comprehensive management and marketing. Through the effective integration of enterprise resources through big data, it can automatically match the service required by a customer, so that the enterprise's vision is no longer limited to a certain service or product, but can provide services to customers from a broader scope.

3.2. Big Data Helps to Improve the Efficiency of Enterprise Customer Relationship Management

On the one hand, big data enables enterprises to fully grasp the consumption situation of individual customers. Through big data enterprises can understand customers' consumption habits and needs, so as to achieve accurate marketing, provide personalized services, and truly reduce the cost of personal customer relationship management and improve the management efficiency while "customer-centered". [8]On the other hand, big data can optimize resource allocation. Big data integrates all products and services of an enterprise, as well as other human resources, technical resources and capital, and can automatically realize the optimal matching between customer consumption characteristics and products, services and resources. Therefore, the use of big data can accurately marketing customers, so as to achieve the best match between customers, product services and employees, and greatly improve the efficiency of enterprise customer relationship management.

4. Innovative Thinking and Strategy of Customer Relationship Management in Big Data Era

Big data applications are everywhere. When most people don't know what big data is, big data has

penetrated into all aspects of people's lives, but people don't realize that they are using big data.[9] Similarly, customer relationship management also exists in people's daily activities. People's daily necessities of clothing, food, housing and transportation are inseparable from the purchase of products or services. In the process of purchasing, there will be a continuous stream of data, and the acquisition of these data is undoubtedly a huge wealth for the enterprises providing products or services. In today's society, data is resource, and data is wealth. Data is the core resource of an enterprise and the basis of enterprise decision-making. With the popularity of smart phones and mobile Internet, a large number of customer information data gathered in various industries, big data is quietly changing or subverting the traditional customer relationship management. Data is a resource, which changes the understanding of enterprises. Big data can not only help enterprises to achieve refined management of customer relationship, but also help enterprises to achieve internal management, so as to guide enterprises or businesses to make decisions, and realize the function of big data in customer relationship management. The specific performance is to cultivate customer thinking, rely on big data to segment the market, obtain and share customer information Using data thinking to improve the level of data processing, expand product promotion channels, improve customer loyalty, strengthen value thinking, maintain good customer relationship, promote organizational change of enterprises, and improve customer service quality.

4.1. Cultivate Customer Thinking, Rely on Big Data to Segment the Market

Making full use of big data technology to classify customers, enterprises should adhere to the customer as the core and provide scientific and reasonable solutions for them. Enterprises can strengthen the research of customers' industries, grasp the information needed by customers in various industries, analyze their industry behaviors, and accurately identify the characteristics of customers' needs. We should also work with them to formulate cooperation strategies, clarify long-term or short-term cooperation goals, and generate customer sales management countermeasures and action plans for various industries.

4.2. Access and Share Customer Information

For enterprises, the source of customer information is relatively limited, so the scope of products or services engaged in is limited to a certain region or a certain field, rarely involving a larger range. Therefore, we should give full play to the advantages of big data and

obtain more customer resources by means of new media promotion means of big data. In addition, big data is used to identify the acquired customer resources. [10]In the traditional marketing, such problems often occur. In the process of customer development, one customer connects with multiple marketing personnel of the company at the same time, which not only causes the waste of company resources, but also causes the distrust of customers. Big data can store all the data of the company in a large database. Whether the data obtained online or offline, it will be stored in this big database in a certain structural way. Sales personnel can clearly see the customer information they need in each link of sales and realize data sharing. Therefore, big data can make effective communication between sales personnel and customers, and improve the efficiency of enterprises.

4.3. Using Data Thinking to Improve the Level of Data Processing

In the atmosphere of big data sales, the most important thing for enterprises to win is to develop data rapidly and deeply in order to obtain valuable information.[11] First of all, we should increase the investment in information technology, constantly improve the system construction, improve the bearing level of information system infrastructure equipment, and build an information technology structure that meets the needs of big data technology. Secondly, it is necessary to improve the ability of data collection and integration, use the method of data development to model and analyze customer consumption behavior, and accurately judge their actual demand and business opportunities. In addition, enterprises should rely on big data to comprehensively analyze the problems in the process of cooperation with customers, clarify the causes and provide solutions.

4.4. Expand Product Promotion Channels

With the continuous development of network information technology, e-commerce has become the inevitable trend of marketing under the background of big data, and the traditional marketing model has been unable to meet the needs of enterprises. With the continuous reform of new media technology and the continuous innovation of marketing means, under the background of big data, we can make full use of relevant technologies of big data, such as data push and new media marketing, to broaden the promotion channels of products, create online brand effect, and win more customers.

4.5. Improve Customer Loyalty

For enterprises, the cost of acquiring new customers is much higher than the cost of maintaining and retaining old customers. Therefore, customers can be

layered and different marketing strategies can be implemented for different customers to improve the marketing conversion rate. Most enterprises choose to maintain and develop old customers, not only to provide more quality products or services to old customers, but also to create a warm and comfortable trading environment for old customers, trying to make these old customers become long-term customers of the company, improve customer satisfaction, and then improve customer loyalty.

4.6. Strengthen Value Thinking and Maintain Good Customer Relationship

When enterprises set up customer team, they must strengthen the business contact with high credit and high value customers. To build reasonable business indicators to test customer performance. We should also make full use of big data technology to judge the sales effect, identify high-quality customers and implement hierarchical management. For example, enterprises can identify high-quality customers and high-quality customers by building ERP system platform, directly exchange logistics information and order invoice through standardized processing, and build an integrated rapid feedback system.

4.7. Promoting Organizational Change of Enterprises

Under the background of big data, facing the increasing competitive pressure inside and outside the industry, enterprises should create customers with high satisfaction and loyalty through good customer relationship management, and improve enterprise benefits. We should give full play to the role of information technology in enterprise management, especially the application of big data technology. We should closely connect big data technology with enterprise management, integrate online and offline resources, improve the management level of enterprises, and enhance the competitive advantage of the company, so as to promote the healthy and steady development of the company and promote the organizational reform of the enterprise.

4.8. Improve Customer Service Quality

Customer Relationship Management (CRM) is an advanced management mode. By mining the data of market and customers, it can promote the improvement of sales level and service quality, and increase the income of enterprises. [12]The homogeneity of products shows that enterprises should not only rely on products to develop the market, but also pay more attention to high-quality and efficient customer service. Customer service should not only pay attention to the process of pre-sale, sale and after-sale, but also pay attention to customer review information. The formation and enrichment of customer comment information and the value analysis of comment information are inseparable from data mining and data analysis of big data. Therefore, improving customer service quality is also one of the functions of big data in customer relationship management.

In the era of big data, enterprises are facing more opportunities and challenges. Facing the problems existing in customer relationship management in the process of enterprise development, enterprises must comply with the requirements of the times. Enterprise leaders should inject the concept of "customer-oriented" into the whole process of enterprise management, regard customer relationship management as an important factor in enterprise development , and provide high-quality service for customers according to post requirements We should build a high-quality customer relationship management team of big data enterprises, use information technology to realize data analysis on different platforms, attach importance to the application of data mining technology in enterprise customer relationship management, make full use of big data technology to analyze customer information, provide personalized services for customers, so as to develop their own loyal customers, and then improve customer loyalty and satisfaction, Establish enterprise brand and lay the foundation for enterprise development.

References

[1] Haishao SUN. Research on the application of data mining technology in enterprise customer relationship management [J]. Enterprise reform and management, 2019 (3).

[2] Jinglun HAN, Jun DONG. customer perceived service quality evaluation and management [M]. Tianjin: Nankai University Press, 2006.

[3] Jianru YAO. Research on the function of big data in customer relationship management [J]. Statistical longitude and latitude, 2020 (6).

[4] Lirui WANG. Research on customer relationship management of e-commerce enterprises under big data environment [J]. Journal of Shijiazhuang Vocational and technical college, 2019 (6).

[5] Zhigang CHEN, Feiran LI, you Rui. Discussion on personal customer relationship management of commercial banks under the background of big data [J]. Finance and economics, 2016 (7).

[6] Xiaofang JIA. Innovation of customer relationship management of petrochemical

products in the era of big data [J]. China chemical trade, 2019 (1).

[7] Yu WANG. Customer relationship management of SMEs in the era of big data [J]. SME management and technology, 2016 (1).

[8] Yeping LIU. Research on customer relationship management in e-commerce environment [J]. Journal of Hubei open vocational college, 2019 (4).

[9] Lan ZHANG. Research on B2C e-commerce CRM system in the era of big data [J]. Fujian computer, 2016 (1).

[10] Zhaoqing TIAN, YingGUO. Customer relationship management value chain in the network era [J]. Modern marketing, 2018 (12).

[11] Liyan WANG, Yanbo WANG. Application of big data in the era of fintech in comprehensive risk management of commercial banks [J]. Banker, 2018 (9).

[12] Yan WANG, Quan YUAN. Research on the cultivation strategy of customer loyalty in e-commerce environment [J]. Modern commerce, 2017 (13).