

# Analysis And Optimization of Customer Relationship Management Based on Internet Platform and Big Data -- Take Three Squirrels as An Example

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**Abstract.** This paper mainly takes three squirrels as examples to analyze the customer relationship management of food retail enterprises in the era of Internet platform and Big data. This paper first learned about the development of retail enterprises in the context of the Internet and Big data by reading the literature and found that customer relationship management in this era lacks relevant case guidance, and then analyzed it with the help of the typical case of three squirrels. Then it analyzed the background of three squirrels, introduced and analyzed their customer relationship management based on the Internet platform and Big data applications, and highlighted their characteristics of making full use of social media platform for customer relationship management. Afterwards, the customer relationship management of the three squirrels was classified using the IDIC model, and the four dimensions of the model, namely customer identification, customer differentiation, customer interaction, and customer customization, were analyzed. The existing problems of the three squirrels were identified, and relevant optimization suggestions were provided. Specifically, it is suggested that customer differentiation analysis can be further carried out based on RFM, not limited to customer relationship maintenance of online platforms, more offline activities should be carried out, big data analysis should be fully used to implement customer customization and simplify relevant product requirements. The analysis of this paper provides customer relationship management cases and optimization plans for retail enterprises in the era of the Internet and Big data, which is of great reference significance.

**Keywords:** CRM, Three Squirrels, Internet, social media, Big data, IDIC.

## 1. Introduction

With the wide application of the Internet and Big data in business practice, food retail enterprises have developed various Big data products and platforms through e-commerce platforms due to the convenience of obtaining user data, established many applications of business analysis, optimized the operation process, and also made fundamental changes in enterprise production [1].

Food retail enterprises are an important part of the service industry. Retail enterprises need to follow up market changes in time to meet customer needs. Therefore, in the customer relationship management of retail enterprises, the demand for the application of the Internet and Big data is growing rapidly. At present, online retail has become the first driving force of Chinese consumption, and its contribution to economic growth is constantly expanding [2]. The transaction volume of the online retail market is constantly increasing. However, some companies have also blindly expanded the market by utilizing internet data resources, resulting in hollowing out problems, leading to an increase in operating costs but a continuous decrease in profits. Therefore, how to effectively use the Internet and Big data to operate enterprises, especially enterprise customer management, has become the focus of many retail enterprises.

There are three reasons why three squirrels were selected for analysis in this article. Firstly, the three squirrels play an important role in the retail food industry and have developed rapidly in recent years [3]. Secondly, the three squirrels started their business by relying on e-commerce and the internet, fully utilizing the internet to carry out business operations, which is representative. Thirdly, the three squirrels have successfully created a distinctive customer relationship management model using their image, which has important reference value.

At present, the research on enterprise operation based on the Internet and Big data has been quite sufficient, but there is a lack of targeted case analysis and optimization suggestions for the specific management details of enterprise operation. As an important customer relationship management in food retail enterprises, the current research lacks the content of Internet and Big data for enterprise customer relationship management. How to use Big data and the Internet to improve enterprise customer relationship management is the key direction discussed in this paper.

This paper will analyze the practices of three squirrels in enterprise customer relationship management that are worth learning, and analyze the current shortcomings through cases and the IDIC model. Combining the application of the Internet and Big data, this paper will put forward corresponding optimization suggestions to help enterprises make more full use of the Internet and Big data in customer relationship management.

## **2. Literature review**

### **2.1. Research on Internet leisure food enterprises**

Wu proposed that with the continuous development of economic level and the improvement of consumption level, the category and quality of leisure food have become the focus of attention for many consumers. The continuous changes in the market have brought challenges to traditional food enterprises that rely on offline supermarkets and stores [1]. Traditional snack food enterprises are mostly hindered in their development due to geographical and pedestrian restrictions. As the mainstream e-commerce model for internet leisure food enterprises, B2C e-commerce is endorsed by large platforms, and the coverage of B2C e-commerce is gradually increasing [2]. Zhang also proposed that the role of leisure food is shifting towards flavor, nutrition, enjoyment, functionality, and entertainment. Internet leisure food companies, on the other hand, have achieved good development in the early stages of industry development by relying on the breakthrough of regional restrictions and traffic caused by the Internet. But at present, the dividend of the internet is gradually weakening, and the risk points of internet leisure food enterprises are gradually emerging [3].

Three Squirrels, as an internet snack food enterprise, has become a leading enterprise in the nut e-commerce industry due to its emphasis on product hierarchy, product packaging, customer service, user experience first principles of the times, and online marketing as the leading feature [2].

### **2.2. Background research on big data in snack food industry**

Liang mentioned that with the Internet, big data has become an important means for retail enterprises to respond to market changes in a timely manner and meet customer needs [4]. The three Squirrels start from the three-business links of procurement, marketing, warehousing, and logistics, and realize the optimization and innovation of the value creation path. In customer relationship management, through big data analysis and research of consumer behavior, according to different preferences, the effect of precision marketing can be achieved [5].

In his paper, Sean Kelly highlights how we can use data to analyze customer life cycle, customer loyalty, customer risk, customer profitability and customer segmentation, and to form a coherent CRM strategy [6]. Customers cannot be treated as distinct individuals. In addition, Sean Kelly also proposed that mass customization enables enterprises to shift their business focus from products to customers. Products are just things designed and purchased according to customer needs, and customers are more stable than products. Finally, it is also mentioned that we can get the following lessons from analyzing customer information. One is that every customer is unique, the second is that customers expect suppliers to retain the memory of their transactions, the third is that the product consumers most want to buy is time, and the fourth is that customer behavior is completely predictable.

### **2.3. Research on Enterprise Customer Relationship Management**

Huang believes that customer relationship management is the concept of putting customers at the center throughout enterprise management, adopting management methods to establish positive

buying and selling relationships, cooperative relationships, communication relationships, etc. with customers, in order to enhance and enhance the core competitiveness of the enterprise. Its foundation is for enterprises to comprehensively collect and objectively analyze customer information [7], and use methods such as customer segmentation theory, customer lifecycle theory, and IDIC model to manage customer relationships [8]. Alhassan G. Abdul Muhmin also mentioned in his article that organizations using CRM technology primarily utilize its customer analysis capabilities to gain insights into current customers and use it for customer value assessment and information tracking. The analysis related to potential and past customers, as well as the determination of customer costs, is relatively less common. But the analysis of potential and past customers is also of great significance [9].

Richard Cuthbertson and Arttu Laine mentioned a customer loyalty market strategy in their paper, which combines PURE, PUSH, PULL, PURCHASE, and PURGE to propose different customer strategies for the loyalty retail market, providing an analytical dimension for this article [10].

This article focuses on using the IDIC model to analyze the corporate customer relationship of three squirrels. Therefore, in the literature review, the application cases of the IDIC model were mainly searched. In Zhang Xinwei's application case, the IDIC model was applied to gas stations, and it was proposed to classify customers into intrinsic value customers and extrinsic value customers, which has reference significance for the analysis of this paper [11].

## 2.4. Summary

After reading the literature, it is found that previous scientific research has made a more detailed summary and introduction of the Internet and Big data in the supply chain [12], marketing and other aspects of the snack food industry, and also made a detailed analysis of the development of the snack food industry against the big economic background. In addition, predecessors also introduced the three squirrels from marketing, e-commerce, value chain, cost, and other aspects, and analyzed their business.

However, the most distinctive customer relationship management of the three squirrels has not been fully introduced and analyzed. This article will combine the Internet and Big data, the two enterprise backgrounds, to conduct in-depth exploration and analysis of the customer relationship management of the three squirrels from this perspective.

## 3. Case analysis

### 3.1. Business background

Three Squirrels is a food retail company based on an e-commerce platform. In the early stages of its establishment, it positioned its customer base in the post-80s, 1990s, and 2000s internet user group, and since the brand naming, it has chosen a naming method that fits this group [13]. Three squirrels have also led China's nut sales for five consecutive years, and have now developed into a leading enterprise and listed company in the nut industry with annual sales of tens of billions of yuan. They fully leverage their brand, product, and service advantages, and have been praised by Xinhua News Agency and People's Daily as the business card of the new era reform and the next domestic leader.

### 3.2. Corporate culture

The corporate culture of Three Squirrels is based on its products, and its corporate mission is to promote nuts and healthy food to the public. The corporate vision is: everyone can afford it and buy it everywhere; To become an absolutely leading global nut enterprise and create numerous healthy food brands; Recognized by the public - making outstanding contributions to national rural revitalization and Common prosperity. Its corporate values are: customer-centered, value creators oriented; Seeking truth from facts and leading innovation; Open collaboration and self-criticism.

From the corporate culture of Three Squirrels, we can see that their main sales products are nuts and a series of healthy foods. Three Squirrels have also created their unique corporate culture based

on these products. In its corporate culture, we also see the customer groups of three types of squirrels and their commitments to customers. The three squirrels want to promote healthy food represented by nuts to the general public of all ages, and make it "affordable for everyone to eat and affordable everywhere to buy" [13]. This not only demonstrates the commitment made by the three squirrels to customers, centered on consumers, but also implies the corporate goal of becoming bigger and stronger.

### **3.3. Customer Relationship Management for Three Squirrels**

#### **3.3.1 Target customer characteristics**

Based on their corporate background, it can be inferred that the "good customer" characteristics of the three squirrels should be: young, high consumption frequency, fashion, internet users, and emphasis on quality. Based on the operational sales data of the three squirrels, the target customer characteristics of the three squirrels are: women, young people, white-collar workers, fashion, emphasis on healthy and quality life, internet users, and slow food lifestyle.

The product design concept of the three squirrels is also more in line with the user group pursuing a high-quality life. For example, each package of the three squirrels is equipped with a small mouse tool for opening the box, a small mouse bag for holding fruit shells, and a small mouse towel for wiping the mouth. These product designs are more suitable for the customer group pursuing a higher quality of life compared to the traditional nut industry [13].

The three squirrels also seized the consumption potential of the young consumer group and seized this customer group through methods such as the internet and brand image design.

#### **3.3.2 Customer management philosophy and objectives**

The core strategy of the three squirrels is to seize customer experience. In the early stages of entrepreneurship, three squirrels addressed the pain points of eating nuts one by one. Firstly, through strict quality inspection procedures, the rate of bad fruit can be reduced [13]. Then, design exquisite product packaging to make the product more textured. In the package, there are not only Bigen fruit, but also a shell opener for opening the shell, a wet towel for wiping hands, and a bag for storing the shell.

Three squirrels exceed customer expectations in all details. The founders of Three Squirrels used reverse thinking to think about some details beyond the product and summarized the user experience strategy of "surpassing user expectations in every detail, creating services that make users scream, is the core competitiveness".

#### **3.3.3 Customer management Methods and systems adopted**

Three squirrels are consumer centric, using their internally developed ERP and IT systems for data analysis, creating online and offline platforms, and using them for customer relationship management. Enterprises can clearly know relevant user information, such as purchase preference, unit price, frequency of second purchase, product comments, consumer dialogue and other data, as long as they use Big data calculation in the IT system to segment customer groups and manage customer relations [2].

ERP and IT system can create user models, accurately locate customer groups, form personalized service systems, conduct personalized marketing, improve user experience, and promote repeat purchase rates based on user consumption history and analysis of existing data. It can also timely identify problems, propose solutions, improve customer loyalty while ensuring customer satisfaction, and even control customer flow to ensure supply at the production end.

#### **3.3.4 The use of social media**

##### **3.3.4.1 Building squirrel's brand Image on social media, squirrels' cute culture**

In the early stages of development, Three Squirrels placed great emphasis on communicating with users on the customer service end. Its founder, Zhang Liaoyuan, logged into a customer service account to chat with customers, and he blurted out the phrase "Master, remember to praise me.". The

customer replied, 'Squirrels are so good,' accompanied by a touch of the head expression. Zhang Liaoyuan sent a screenshot of this conversation to the company group. Afterwards, all customer service representatives of the three squirrels began to refer to customers as owners and served them in a cute style. The customer regarded the three squirrels as a conversation object, rather than a cold food manufacturer. In addition to customer service, the image of a squirrel also appears in various places such as store decoration, product packaging, and peripheral supplies. In addition, they also opened a radio station and filmed brand animated films.

**3.3.4.2 Strengthen communication with customers on multiple platforms**

Through Big data analysis tools, they interact with fans on WeChat official account, blog, SMS, website, official APP and other platforms through lottery, coupon issuance, welfare and other activities, and transform more fans through interaction. And a series of activities similar to the Food and Beverage Testing Committee will also be carried out to increase customer engagement, narrow the distance between enterprises and customers, create repeat customers, improve user loyalty, and also achieve the effect of secondary promotion [5].

**3.3.4.3 Create the "Squirrel Planet" platform and gather three Squirrel members**

On this platform, the order records of members on various platforms can be displayed, and squirrel coins can be accumulated for related exchanges. And through this platform, a food and beverage tribe similar to Tieba has been established, allowing customers to communicate and socialize within the platform, thereby enhancing brand identity.

**4. Analysis of Customer Relationship Management for Three Squirrels Based on IDIC Model.**

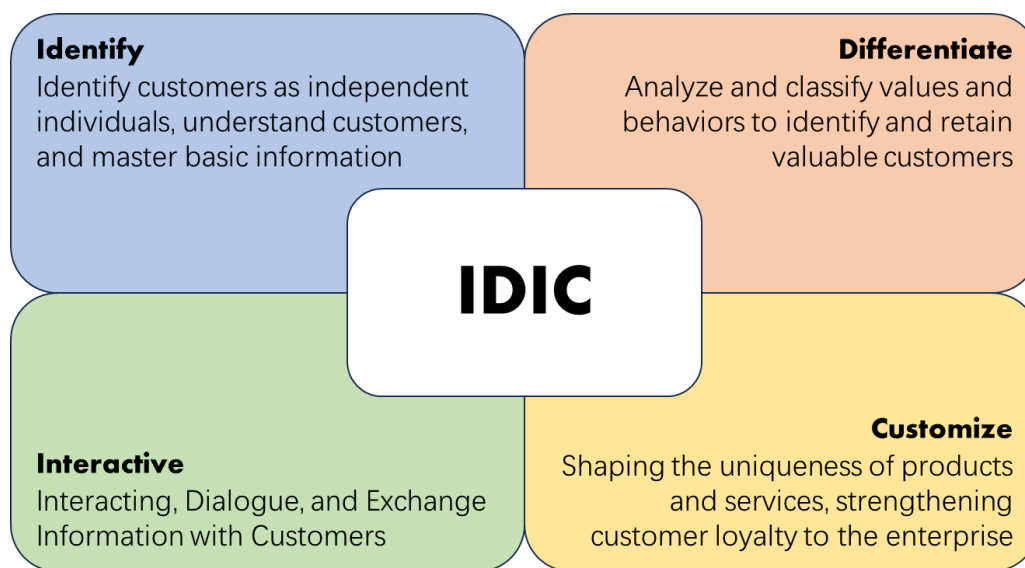


Fig. 1 IDIC model

**4.1. Analysis of Customer Identification for Three Squirrels.**

When an enterprise comes into contact with a customer, it first needs to fully understand the characteristics of the customer as figure 1 shown, so as to judge whether the customer can bring value to the enterprise and whether it has potential value. Enterprises should also understand the scope of customers, determine the target customers, the value and growth potential of target customers and do a good job of recording work, but also on this basis to find and tap customers [7].

From the analysis of customer relationship management of Three Squirrels, we can see that, based on its corporate characteristics of Internet and e-commerce, Three Squirrels targets the most valuable customers among young people, and determines the target user characteristics of young people, high consumption frequency, fashion, Internet users, quality, women, white-collar workers, and health

quality. Through the enterprise positioning and marketing data, we understand the scope of customers, determine the target customers, and achieve a better identification of customer groups.

#### **4.2. Analysis of Customer Differentiation for Three Squirrels.**

Customer differentiation is also called customer differentiation and customer segmentation. Enterprises need to combine their own enterprise characteristics, product characteristics and other aspects of the specified standards for customer classification information, to evaluate the consumer power of customers to determine their value. After determining the value of customers, we should also understand their different needs, and classify customers according to their value and needs, so as to lay a solid foundation for subsequent personalized services [8].

Effective customer differentiation needs to go through four steps [7]: first, clear segmentation objectives to refine segmentation criteria, in the face of different business objectives such as improving service, promoting product sales, developing new products, according to different aspects of customer characteristics, consumption habits, customer value, to determine a single or compound standard; Then, on the basis of goals and standards, select a subdivision method that meets the actual situation of the enterprise, and conduct data combing and summarizing according to scientific methods to form customer differentiation results; Finally, verify the effectiveness of customer differentiation, use the effect of customer differentiation to carry out customer interaction and customer personalization, track the effect through questionnaires and customer data, and ensure timeliness through real-time dynamic adjustment .

From the introduction of customer relationship management of the three squirrels, it can be found that the customer group differentiation of the three squirrels is relatively single, only positioning the customer group in the internet user group after the 1980s, 1990s, and 2000s, but lacking further customer differentiation for this young internet body.

In addition, the actual customer base of the three squirrels far exceeds this range, for example, some elderly groups also have a demand for healthy food, and the three squirrels lack further refinement and differentiation for this group.

#### **4.3. Analysis of Customer Interaction for Three Squirrels**

Interact with customers from both emotional and informational perspectives, helping enterprises collect customer information through emotional communication and information interaction. While understanding customer needs, it also allows customers to fully understand the company's products and concepts, resulting in a long-term and stable relationship between customers and the enterprise. We can increase customer loyalty through methods such as drainage interaction and consumption interaction, making customers happy to maintain effective communication with the enterprise, enabling the enterprise to timely understand and grasp customer requirements, and grasp customer reactions to enterprise products.

The customer interaction of the three squirrels is mainly reflected in their brand image and online interaction platform. Three squirrels use their squirrel image to quickly bring customers closer and enhance their interactive experience through cartoon characters. The three squirrels also strengthened communication with customers through multiple platforms, such as official account, microblog, website, official APP, etc., and strengthened contact with customers through lottery, coupons, etc. The Squirrel Planet it founded is also a highly distinctive brand interaction platform, where customers can interact within the community and enhance brand identity.

#### **4.4. Analysis of Customized for Three Squirrels.**

Customer customization is the most important part of the IDIC model. Enterprises need to understand customer needs through mobile phones, tailor products and services to the same type of customers, and maximize customer satisfaction.

The personalized customization of the three squirrels is relatively complete, and various types of products have been set up to meet the different needs of young people for food types. There are both nut based foods that represent health, and some young people are more biased towards them

Love's snack series. The three squirrels have also developed a series of thoughtful designs for user needs, such as box opener, nut packaging with its own bag, etc.

## 5. Problems analysis and optimization suggestions

### 5.1. Problems analysis and optimization suggestions of customer identification

At present, the collection and analysis of customer information is mostly based on marketing data, but this can only reflect the preferences of customers in the products provided by the three Squirrels, and can not better express the needs of more target customers [9]. Therefore, Three Squirrels can further improve the way of customer information collection, such as adding questionnaire feedback channels in the marketing process and increasing customer feedback efforts in its media to further expand the customer information collection of three Squirrels.

In addition, in the process of information collection, it is also necessary to ensure the precise definition of information, such as the basic information in the questionnaire, psychological and attitudinal information, behavioral information, etc., and precisely set the content of the questionnaire to ensure the scientific and effective collection of information. In addition, in the process of customer identification and information collection, it is also necessary to ensure the scientific management of information, such as the timely entry and update of customer information, and to ensure the security of customer information.

### 5.2. Problems analysis and optimization suggestions of customer differentiation

In the IDIC model, customer differentiation is achieved through customer value or customer needs, such as measuring customer Consumer behaviour and customer life cycle. The three squirrels have identified their valuable target customer group, but this group is only divided by age. Therefore, the three squirrels should also differentiate customers from different dimensions within this age group.

First, the three squirrels can differentiate customers by their Consumer behaviour, and divide customers by their consumption. From this, we can refer to the RFM model to classify customers [7]. In the RFM model, the F value represents the frequency of consumption, the R(Recency) value represents the average number of days between the customer's last consumption time and the data retrieval date, and the M(Monetary) value represents the average of the customer's total consumption amount within a year. The higher the F and R values, the higher the customer's consumption frequency, while the higher the M value, the higher the customer's consumption level. Therefore, as the **Table 1**. RFM shown, customers can be further classified into high value customers, key development customers, key retention customers, important retention customers, general value customers, general development customers, general retention customers, and general retention customers based on R, F, and M values, in order to finely classify the customers of the three squirrels.

**Table 1.** RFM

Classification	R-value	F-value	M-value
High Value Customer	High	High	High
Key Customer to Develop	High	Low	High
Key Customer to Maintian	Low	High	High
Key Customer to Retain	Low	Low	High
General Value Customer	High	High	Low
General Customer to Develop	High	Low	Low
General Customer to Maintain	Low	High	Low
General Customer to Retain	Low	Low	Low

Secondly, based on the characteristics of their products, the three squirrels can further expand the audience range of the products, and provide customized services for other age groups.

### **5.3. Problems analysis and optimization suggestions for customer interaction**

The customer interaction of Three Squirrels is mostly based on online, so we can explore face-to-face communication and interaction. For example, we can invite loyal users to visit the enterprise on an Open Day and make suggestions on the enterprise. The image of the three squirrels can also be used to carry out offline activities and increase face-to-face communication with customers.

In addition, the interaction with customers can also be expanded from only emotional communication to information content, to convey corporate culture and service concepts to customers, and to obtain information from customers, through the interaction of opinions or suggestions, to solicit customers' opinions on products or services.

### **5.4. Problems analysis and optimization suggestions for customer customization**

The customization of three squirrels can be reflected in reducing production costs. For example, when the target user group is the elderly, some nut products can simplify packaging design, simplify brand image communication content, and focus on product quality and cost-effectiveness, which can achieve better results.

The customization of customers for the three squirrels also relies on differentiated segmentation of customers. Based on the consumption preferences and needs of different customer groups, targeted product design is carried out to implement costs to the preferences of different customer groups. This not only reflects personalized customization of customers, but also helps to reduce production costs for enterprises.

## **6. Conclusion**

In this paper, through the analysis of the enterprise background of three squirrels and the characteristics of enterprise customer management of three squirrels at present, it is concluded that the Internet and Big data are of great significance in customer relationship management among online retail enterprises. Three Squirrels have successfully created their corporate image by collecting customer data through social media platforms on the internet. In the subsequent analysis of the IDIC model, a more detailed analysis was conducted on the customer relationship management of the three squirrels. In addition, a problem analysis was conducted on the four directions of customer relationship management mentioned in the IDIC model, combined with the current situation of the three squirrels. It was found that the definition of information in the company's customer identification data collection was not accurate, and optimization suggestions were also proposed for customer differentiation based on the RFM model. At the same time, suggestions were also made for customer interaction not to be limited to internet platforms and to conduct more offline activities. Finally, for customer customization, we can further make full use of Big data analysis, focus on customers, simplify in some aspects and reduce costs according to the needs of different groups for products.

This paper focuses on how three squirrels use the Internet and Big data to manage enterprise customer relations. It is the first time to analyze and discuss enterprise customer relationship management from the direction of the Internet and Big data, providing a more targeted case study for retail enterprises on how to use the Internet and Big data.

However, due to the lack of relevant data support, this paper can only be analyzed from a qualitative perspective. After obtaining relevant supporting data in the future, it will be further improved.

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