

CUSTOMER RELATIONSHIP MANAGEMENT BASED ON THE LATEST INFORMATION AND COMMUNICATION TECHNOLOGIES

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Abstract: CRM systems are enterprise – wide information systems that are designed to collect and analyze customer data, perform multi-factor classification of objects, and build optimal models of interaction with partners and customers. The article discusses the main reasons for the appearance of CRM systems, their main functions and classification of tasks.

Keywords: *internet, interactive marketing, CRM system, ERP systems, client, information and communication technologies.*

ZAMONAVIY AXBOROT-KOMMUNIKATSIYA TEXNOLOGIYALARI ASOSIDA MIJOZLAR BILAN MUNOSABATLARNI BOSHQARISH

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Annotatsiya: CRM tizimlari – bu mijozlar to‘g‘risida ma‘lumotlarini to‘plash va tahlil qilish, ob‘ektlarning ko‘p faktorli tasnifini amalga oshirish, sheriklar va mijozlar bilan o‘zaro munosabatlarning maqbul modellarini yaratish uchun mo‘ljallangan korporativ axborot tizimlari xisoblanadi. Maqolada CRM tizimlarining paydo bo‘lishining asosiy sabablari, ularning asosiy funksiyalari va vazifalarining tasnifi muhokama qilinadi.

Kalit so‘zlar: *internet, interaktiv marketing, CRM tizimi, ERP tizimlari, mijoz, axborot-kommunikatsiya texnologiyalari.*

УПРАВЛЕНИЕ ВЗАИМООТНОШЕНИЯМИ С КЛИЕНТАМИ НА ОСНОВЕ НОВЕЙШИХ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ

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Аннотация: CRM системы – это информационные системы в масштабе предприятия, которые предназначены для сбора и анализа данных по клиентам, проведения многофакторной классификации объектов, построения оптимальных моделей взаимодействия с партнерами и клиентами. В статье рассмотрены основные причины появления CRM-систем, их основные функции и классификация задач.

Ключевые слова: интернет, интерактивный маркетинг, CRM-система, ERP-системы, клиент, информационно-коммуникационные технологии.

INTRODUCTION

Currently, dialogue with the consumer is one of the main conditions for the successful operation of the company in the market. In particular, interactive marketing is faced with the task of managing customer relationships based on the latest information and communication technologies.

One of the key problems solved in customer relationship management is the management that is associated with customer churn.

The customer relationship management system (CRM) is an integral part of the marketing automation information system [1].

Nowadays, so-called ERP (Enterprise Resource Planning) - enterprise resource planning systems are used to automate and optimize the internal activities of companies. These systems are aimed at improving processes such as planning, execution of plans, control and accounting. Thus, ERP systems are used in order to achieve advantages over competitors by optimizing some business processes within the enterprise.

The opposite system is the so-called customer relationship management system (CRM), in which the company's customers are in the spotlight. These systems make it possible, so to speak, to integrate customers into the enterprise. The company always receives the most necessary information about its customers and their requirements [2]. Based on these data, the company builds a marketing program. Based on this, it follows that CRM systems are an important part of automated marketing information systems.

LITERATURE REVIEW

The main reason for the appearance of CRM systems is [3].

1. Perfect competition. Modern technologies have provided buyers with inexpensive access to all parts of the market. Therefore, the main task of the company is to retain existing customers.

2. Diversity of relationships. Communication between the client and the company can occur in various ways (telephone, fax, website, e-mail, direct visit). Customers also expect that all information received through these channels will be fully taken into account by the company at their next contact.

3. The modern consumer pays more attention to the moments accompanying purchases and services that require individual approaches.

4. Development of information and communication technologies. Without them, the basic applications of the CRM system and the connections between these applications would not exist.

CRM applications allow businesses to track the history of customer relationships, coordinate multi-faceted relationships with regular customers, and centrally manage sales and target marketing, including via the Internet. Of course, CRM systems did not start from scratch. These systems are already well-known applications, automation systems for distributors, sales and marketing information systems that have partially improved customer relations. Using the functionality of these applications, the CRM system offers new opportunities. The introduction of a CRM system in your company will affect the work of almost every department of your company, not just the sales department. It is through these systems that the company's customers provide feedback to the company as a whole.

The main functions of CRM systems [4].

1. Collecting information. The system allows customers themselves or employees of the company to enter information about their customers in a convenient way into the database (for example, when buying goods in an online store or registering). All available and necessary information about the relationship between the client and the company is entered into the CRM system. A list of completed and incomplete transactions (indicating the reasons for the refusal to make a transaction), a set of transactions. In addition, personal information about the client is entered into the system. At each interaction between the client and the company, regardless of whether the client makes a personal visit to the company, by phone, e-mail, fax or via the Internet, information about the nature and method of contact is recorded.

2. Storage and processing. The system allows you to store and rank the received information according to the specified criteria. In addition, all information is stored in the form of a corporate database, which is the company's standard. The CRM system analyzes the information received to form personalized and specialized marketing programs, after which this information can be exported.

3. Export the information. The information stored in the system can be requested by different departments and in different formats. For example, a CRM system can determine which products are suitable for offering to a particular customer, or notify regular customers about discounts. In addition, the company's employees can get information about past contacts with the client's company. The system allows you to display information about both individual customers and target groups.

Speaking about the use of data that the CRM system can generate, it should be noted that this information can be used not only by the company's employees, but also by the customers themselves. CRM systems allow customers who have applied to the company for the first time to choose the products they need in real time. The involvement of the client in the process of forming an order allows us to provide an individual approach to each consumer. This aspect is so important that the creation of CRM systems should be focused on both internal and consumer use.

Classification of tasks in CRM systems [5].

1. Operational use. This system is used by the company's employees to quickly access information about a specific client when they have a direct relationship with him.

2. Analytical use. The system uses various data related to both the client's own activities and the company's activities for analysis. Identifies statistical patterns in this data in order to develop the most effective marketing programs. The data generated by such systems is requested by the marketing department and provided to customers independently without the mediation of company employees.

3. Interactive interaction with customers. The CRM system enables customers to influence the activities of the entire company, including product design and development, production, delivery and service processes. Technologies are needed that can lead to collaboration within internal processes. Customers often use the Internet to access these systems.

MATERIALS AND METHODS

The algorithm for working with the customer base [6] includes the following key blocks (Fig. 1).

1. Collecting additional information about customers. In addition to the available information about the customer (mainly data collected during the initial contact - phone number, address, contact person), additional information is collected through meetings and telephone interviews. This information is divided into groups such as personal data of the client, statistical and factual data, procurement logistics, customer satisfaction, volume and level of specific knowledge about the client.

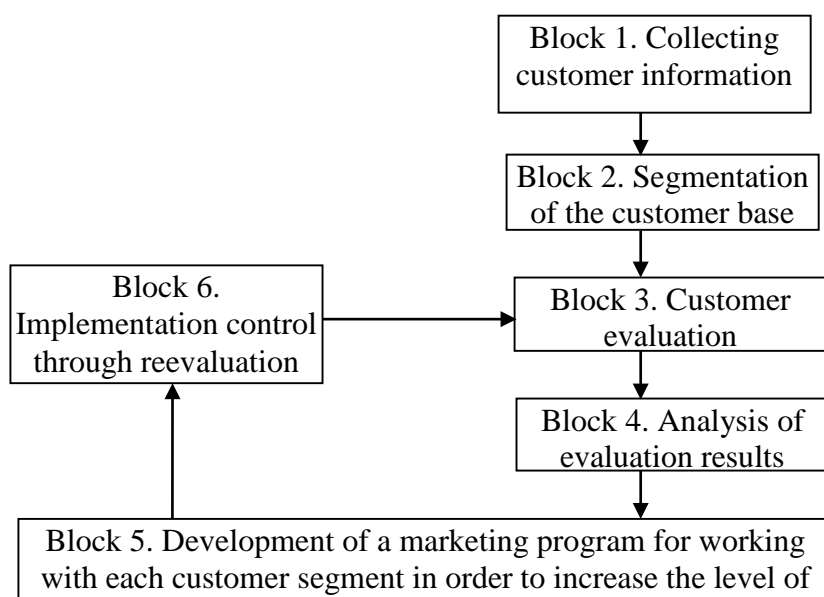
2. Segmentation of the customer base according to certain criteria. Taking into account the newly collected information, the segmentation of the company's customer base is carried out to determine the preferred customer segments.

3. Calculate the indicators of value, loyalty and satisfaction for each customer and the weighted average for the segment. Determining the value of the critical index. A comprehensive assessment according to the specified criteria is carried out by the sales manager assigned to the client to prepare materials for further development of the customer base.

4. Analysis of the evaluation results. Comparison with optimal values, identification of homogeneous groups of clients and interpretation of the results based on the evaluation results. Identification of customer groups based on satisfaction, value and loyalty indices.

5. Development of a marketing package for each group of clients. Taking into account the available materials and information about customer segments, programs are being developed aimed at increasing customer loyalty, satisfaction and value.

6. Monitoring the implementation of marketing programs by reevaluation. After the start of the marketing program, responsible employees from among managers and heads of departments monitor the implementation of the developed recommendations and, if necessary, correct implementation errors.



Picture 1. Flowchart of the algorithm for working with the client base¹

It should be noted that customer base management in particular and customer relationship management in general are only part of the overall management system of the organization. On the other hand, the method of organizational management based on a system of balanced indicators has long been widely used abroad. These are the

¹ Performed by author

basic principles of this system that we use when developing our customer relationship management model. In other words, it is a qualitative representation of indicators for evaluating the customer base through quantitative evaluation. Such assessments make it possible to quickly assess the effectiveness, customer satisfaction and the value of changes in the company's work [7]. It becomes possible to link the results of such assessments with the economic performance of the company.

RESULTS

We suggest using satisfaction, loyalty and value metrics to quantify the customer base.

When developing customer loyalty and value indices, D.I. Barkan's views were used as a basis for assessing customer commitment. At the same time, it is recommended to calculate the index based on profit, not revenue.

The loyalty index reflects the overall dynamics of regular customers compared to one-time ones. Taking into account the segmentation of customers by professionalism and volume of purchases, it is possible to determine an individual loyalty index for each segment and develop special marketing programs to stimulate repeat purchases in each segment. Thus, the loyalty index will change as a result of these programs.

Calculating the loyalty index for different time periods allows you to track trends in the share of regular and casual customers for different segments of the customer base. The loyalty index is calculated using the following formula:

$$I_l = \left(\frac{R_{c_1}}{R_{c_0}} \right) * \alpha_n + \left(\frac{O_{c_1}}{O_{c_0}} \right) * \alpha_p$$

Where:

I_l - loyalty index;

R_{c_0}, R_{c_1} - the number of regular (more than two purchases per year) customers in the first and zero periods;

O_{c_0}, O_{c_1} - the number of one-time (two or less purchases per year) customers in the first and zero period;

α_n - is the constant clientele ratio (=1);

α_p - is the coefficient of random clientele (=0.3);

Based on expert opinions, the coefficient values for regular and one-time customers were determined as 1 and 0.3, respectively, although the values may vary depending on specific details and therefore the index value is determined by the company individually.

We suggest using a value index to measure the value of each customer. Customer value means measurable characteristics that are useful to the company. Using the profit

indicator in the numerator, it is possible to identify customer segments with high volumes of purchases, which on average will bring the company more profit than low-profit ones, which have a larger customer volume. The customer value index is calculated using the following formula:

$$I_v = \frac{C_{pr}}{V_p} * K_{rp} * K_{pt}$$

Where:

I_v – value index;

K_{rp} - the coefficient of regularity of purchases (1 - at least once a quarter, 0.9 - once a half-year, 0.8 - once a year or less);

K_{pt} - coefficient of payment terms (1.1 - prepayment, 1.0 - release of products on loan);

C_{pr} - the amount of profit for the period, soums;

V_p - the cost of one point of value, soums per unit of value.

DISCUSSIONS

Customer satisfaction consists of many components that are different for different customers and businesses. To manage such a complex, you first need to identify specific components and strive to maintain them at a level that meets the expectations of existing customers of a particular company [8].

The quality of products and services determines customer satisfaction. Quality refers to the unity of the properties and characteristics of a product or service based on their ability to meet implied or stated needs. The nature of satisfaction or dissatisfaction refers to the subjective perception of how the supplier of goods meets the expectations or needs of a particular buyer. At the same time, the reflection of the quality of the goods in the mind of the buyer may or may not be confirmed by reality.

Customer satisfaction ratings are most often carried out by managers, but it is preferable if an employee who does not work directly with the client is engaged in questioning the company's clients in order to reduce the degree of influence of personal interests of managers on the evaluation results. At the same time, we get a more objective assessment. To assess the level of customer satisfaction of an enterprise, a special index can be proposed for use. In order to assess the satisfaction of the company's customers, we propose to conduct a customer survey and use the weight (importance to the customer) of each proposed evaluation criterion and a special indicator to assess customer satisfaction. The satisfaction index is calculated using the following formula:

$$I_s = \sum_{i=1}^n O_i * B_i$$

Where:

I_s – satisfaction index;

i – number of evaluation criteria;

n – total number of evaluation criteria;

O_i – is the weight of the i -th criterion;

B_i – evaluation of the criterion.

Such parameters as the price of the product and services, the quality of logistics at the enterprise, the company's service, the availability of information, the competence of managers, the quality of the product and services, the reliability of the company, the level of service are selected as parameters that determine customer satisfaction. A total of eight criteria were selected. Therefore, the maximum sum of the weights is 40. The value of the weight parameter for each criterion is chosen by the client himself at the interview. Each criterion can be evaluated by the client on a scale from 1 (very bad) to 5 (very good). Thus, taking into account the weighting factor, the maximum customer satisfaction score for a company can be up to 200 points. The ratio of the number of satisfaction index points received from a particular client to the maximum possible value allows you to identify a zone of satisfaction - below 30% is a zone of loss of customers, 30-80% is a zone of weak customer satisfaction; more than 80% is a zone of customer satisfaction.

The CRM software module of the customer relationship management system as an integral part of the marketing automated information system is written in the PHP programming language and can be implemented on any operating system that supports Apache software.

CONCLUSION

Being a CRM application for a marketing automated information system, the Marketing CRM software product receives customers and processes them. Receiving orders from customers, their payment and delivery to the destination is carried out in real time.

The program has the following functions:

- Lead Management;
- Customer management;
- Order management;
- Payment management;
- Product management and others.

We propose a set of organizational changes at the enterprise required for the successful implementation of the customer relationship management strategy in the enterprise management system, including five main areas: the adoption of a customer relationship management strategy, the introduction of an algorithm for working with

the customer base and changing the business processes of the enterprise, making changes to the organizational structure of enterprises for the successful implementation of the algorithm with the customer base, corporate culture change, CRM system implementation.

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