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The application of CRM in call centers

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Abstract

Call centers have experienced a great evolution in the last years due to technological advances in telephony and computing areas, and the creation of equipment and software that modernize and facilitate the interaction between the customer and the call center. On the other hand, the technological advances in telephony and computing alone are not enough to satisfy the customer in relation to the services offered to the companies. In order to obtain customer satisfaction and loyalty, it is necessary to implement the CRM (Customer Relationship Management) concept, which aims at supporting, knowing and customizing the efficiency of the relationship between customers and the company with direct marketing. The CRM concept is divided in three strategies: Operational CRM, Analytical CRM and Collaborator CRM. These strategies and how they can be applied in the call center are presented in this article.

1 Introduction

Nowadays most people purchase products, check bank accounts, pay bills, question about products, through the telephone or the Internet. People desire to be treated the best possible way, i.e., in a fast, simple and safe way. Because of that, during the last years companies are concerned about attending the customer in an easy, cheap and simple way with quality, to reach customers and keep them satisfied in all services.

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Customer's attendance has had a great change since the end of the last century. The evolution of telecommunications and the advance of technology and business strategies have contributed for this change. The concept of call center is not that one where you dialed a telephone number and spoke with an attendant, usually looking for a specialized job or to complain about something, that could take several days to be solved.

Today a call center is an appropriate combination of information, marketing, data transmission, data processing, relationship with the customer and computing and telephony technology. Physically, a call center is composed by several equipment of telephony and computing and by a site where a group of people receives great volumes of calls via telephone, conventional Internet, wireless or any other form of contact, with the most different purposes: sales, marketing, customer service, technical support or other specialized business activity.

Facing this evolution of the call centers, the importance of the CRM in the companies will be presented, focusing the call centers, and how this business strategy can change and bring benefits to the organizational environment. This article is divided in 5 chapters. Chapter 2 presents the concept of call centers for several communication channels and purposes of attendance. Chapter 3 presents the concept and strategies of CRM, focusing the call center and all the areas involved in a company. Chapter 4 presents an overview of the call center architecture including the CRM strategies and benefits. At last, chapter 5 presents final conclusions and considerations.

2 Call centers

A call center can be defined as a place in a company where the customer's telephone calls or other contact forms are concentrated, with several purposes, such as: telemarketing, products support (help desk), customer service, general information and services. An ordinary call center uses information technology to automate processes, has the capacity to support a great number of calls, answering, registering and directing the call as needed [1].

There are several communication channels with the call center:

- Telephone: The companies divulge specific telephone numbers for its customers, so that customers communicate with the call center [2];
- Internet/Intranet: The companies supply interactive services through the Internet/Intranet, where the customers/users can contact the web site of the company to talk to the attendant via chat through a browser connection or can register and follow-up calls or can send e-mails to the call center [2];
- Wireless: The companies supply interactive services through the Internet, where customers can contact the web site of the company and, through a navigation menu, they can register and follow-up calls made through mobile telephones, PDAs (Personal Digital Assistants) or other equivalent equipment that supports this protocol [2];
- Fax: The customers send information by fax, such as doubts, claims, requests. The attendant analyzes them and contacts the customer [2];

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- Others: We can consider other communication channels with the call center according to the activity area of the company, for example: kiosks and personal contact at the company location [2].
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At present not all call centers have all of these communication channels, most companies use the telephone as the main or the only communication channel. Each company must analyze the benefits that each communication channel can bring for themselves and their customers to implement or reorganize a call center.

3 CRM (Customer Relationship Management)

The CRM concept was created from the theory of Relationship Marketing presented by Regis Mckenna in 1991, "Relationship Marketing is an enterprise administration philosophy based on the orientation for the customer and profit, that seeks to establish a deep and lasting relationship with the customers, prospects, suppliers and all the intermediate parties, as a means to achieve a healthy competitive advantage" [1].

This theory changed the role of marketing in organizations and still does. Thus, the new role of marketing is of an integrator. Throughout this period this theory was improved and, today, according to Gartner Group, "CRM it is a strategy of business oriented to the understanding and the anticipation of the needs of the current and potential customers of a company. From a technological perspective, CRM involves the capture of customer data throughout the entire company, the consolidation of all external and internal data captured in a central database, the analysis of the consolidated data, the distribution of the results of the analysis to the several contact points with the customer, and the use of this information when interacting with the customer through any point of contact with the company" [1].

CRM is a solution that brings together the call center and its telephony infrastructure as a whole (including the Internet) and the information systems of the company, emphasizing the databases and the enterprise management systems.

As an example, with the CRM, an attendant uses the interface of the registry of calls software to view the customer's data and to handle requests, directing them to the appropriate systems. At the same time, the information work as a basis for marketing research, data warehouse and business intelligence programs, that will collect, analyze and extract information to assist in the enterprise management and decision making processes [1].

3.1 CRM strategies

CRM can be considered to be composed by three strategies: Operational, Analytical and Collaborative.

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3.1.1 Operational CRM

Operational CRM represents the systems of the company or any form of automatization that assists customer's attendance directly or indirectly. Below a brief description of some of the automation systems that may compose the Operational CRM is presented [1].

- ERP (Enterprise Resource Planning) System: it is composed by modules, including the planning of a product, purchasing, storing, relationship with suppliers, customer service, follow-up of orders, financial area and human resources. The ERP systems must have attributes that assist in the application of the CRM, so that it can identify, differentiate and customize products and customers, ensuring the improvement of services, logistic integration, follow-up and quick delivery of products, planning of products, among others [1, 3];
- Supply Chain System: supply chains formed by the companies in the production of some service. Supply Chain systems are usually integrated to ERP systems because the data, requests and purchasing information generated by the ERP systems need to be sent to the business partners, suppliers and deliverers. And they need to send information on the requests for the Supply Chain systems [4, 5];
- Decision Support System: the set of procedures for data processing that supports the user in his decision making. The Decision Support systems allow business transactions and data transformation in business intelligence to be checked and analyzed so they can direct the company's strategy [4];
- Call Centers Automation System: it consists of systems that register the customer service, follow-up the tickets, control the attendance duration, show who is responsible for the attendance, control the amount of daily attendances, supervise the kinds of customers who were attended and the registry of customer's data. The Call Centers Automation using CRM must the usual be implemented with these systems and others such as: attendance history, customer profile storage, the person who always attends the customer and if the customer is satisfied with the service, the kind of product that attracts the customer, the kinds of interactions that the customer has with the company, etc. [1, 4];
- Marketing Automation System: it consists of keeping the registries of the several services and products options chosen by the customer to provide the appropriate new products and services and to measure the return of investment of the marketing ads [1, 4];
- Sales Automation System: it automatizes the stages of the sales process. The Sales Automation system must observe functionalities such as: orders control, contacts management, budgets generator, products configurations, visits planning, expenditures reports, personal productivity, general sales activities, geographical management, accounts management, contract management, team sales management, order processing and follow-up, etc., i.e., the system must cover all the phases of the sales process. Moreover, it is mandatory to the connection of the Sales Automation systems to the call center and ERP systems [1, 4];
- Mobile Sales Systems: they automate the process of sales outside the company. Through portable equipment, such as notebooks or PDAs, it possible

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to make available the necessary information on the products and the customers to the field salesmen of the company and to submit requests, among other services [1];

- Field Attendance System: it automates field attendance, i.e., support analysts attend the customer on their physical location. Usually this attendance is used by companies to remotely carry through services that could not be solved via telephone, the Internet and neither remotely [2].

All business applications considered in the Operational CRM must have a strong integration and be effective in the exchange of information. Such efficiency must be ensured even though the applications come from different suppliers, which is very common, and what characterizes the systems as opened. Some important factors that justify the systems integration for the application of the Operational CRM are as follows [1, 4]:

- Strengthening of the appropriate and customized way to attend customers;
- Improvement of the sales process efficiency, allowing the companies to deliver products and provide services faster;
- Improvement of the experience with consumers, helping companies to attend customers requests in a fast and more accurate way.

3.1.2 Analytical CRM

Analytical CRM determines through the information gathered in the attendance or in any kind of contact, from the customer to the company and the company to the customer, which are the customers who must be handled differently, which must be treated in a customized way, through direct marketing, and which are the customers who must be allocated to superior or inferior priority levels. Currently, few companies are making the necessary investments on infrastructure to implement Analytical CRM systems, however, without this strategy any other efforts will not produce the competitive advantage desired. Corporative databases, data warehouse or data marts and data mining are examples of the necessary infrastructure for the implementation of Analytical CRM [1].

Data Warehouse and Data Marts applications are important to rationalize and automate processes, storing integrated information of the entire company on a single environment. After extracting the data, one can feed several Operational CRM systems, such as: Decision Support Systems, Sales Automation Systems, the Call Centers Automation Systems, Marketing Automation, among others [1, 4].

The applications of Data Mining automate the processes of research in the corporative database of the company, allowing the discovery of standards that are used as indicatives of customer's behavior.

After data extraction, Marketing Automation Systems can be fed with the results to manage and to direct determined market segments campaigns [1, 4].

Analytical CRM can be considered to be the source of all intelligence concerning customer's differentiation strategy, as well as following their habits with the ongoing aim of identifying each one of them.

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3.1.3 Collaborative CRM

Collaborative CRM corresponds to the application of information technology that allows the automation and integration between the ways to contact the customer and the company [3]. These contact ways must be prepared to interact with the customer and spread the information to the company applications. Examples of ways to contact the customers and the company and the company and the customers are: telephone, fax, Internet, Intranet, WAP (Wireless Application Protocol), e-mail, telemarketing, mailing list and direct interaction.

3.1.4 CRM strategies integration

The Collaborative, Operational and Analytical CRM applications must exchange information among themselves. For example, the purchase of a company product by customer involves:

- Collaborative CRM: it is the way that the customer contacts the company, which can be either by telephone, fax, Internet, Intranet, WAP, e-mail or direct interaction;
- Operational CRM: it is an attendance, ERP and Supply Chain automation system;
- Analytical CRM: it stores the customer's purchase order registry, aiming at storing the customer's products preferences for coming interactions.

The implementation of CRM strategies has two great challenges: the challenge of changing the culture of the company, i.e., to treat the customer as the company businesses core, aiming at conquering not only new customers but also the loyalty of the current customers; and, the technological challenge, that is the data integration among all applications and systems of the company, for most of the corporative databases have transactional information on the company, but they do not have the customer as main business target.

3.2 The benefits of CRM to call centers

Call centers are an extremely powerful interaction means with the customer when used with the philosophy of direct marketing, most interactions (Collaborative CRM) start from the customer and that's why they provide a huge potential concerning learning more about that customer. One of the ways to learn more about customers is to ask a couple of questions that might relate to that customer each time the attendant calls, so that the information may be stored and the attendance to the customer can be customized on further contacts.

Currently most companies focus on Operational CRM, which is not enough for the implementation of the CRM concept as a whole. Therefore, Operational CRM has little or almost nothing in common with the needs or conveniences of the customer, once it basically consists of equipment and systems, and does not contain the collection and distribution of information about the customers. For example, in a call center, the Operational CRM involves metrics that concern the duration of each call, the amount of unanswered calls, calls per attendant, etc. In spite of that, call centers should also mind the Analytical CRM, which involves, for example, metrics of how many times a higher-valued customer waited for a

lower-valued customer to be attended, how many calls were necessary to solve the customer's problem, which are the most common types of problems per customers classes.

The call center assists the CRM three strategies directly; the Collaborative CRM, where the interaction with the customer can be carried through the contact with the call center by telephone, Internet, among others; the Operational CRM, through the attendance registry on the Attendance Automation System and through the information exchanges with other Operational CRM systems; and, the Analytical CRM, which stores all customer and attendance data in the corporative database, for further data consolidation on the Data Warehouse and the Data Mining. Figure 1, based on Meta Group's [1] representation presents an overview of the CRM Strategies discussed previously and the items that are used directly by the call center, which are represented by the dotted ellipses, the flow of important information on the implementation of CRM is represented by the dotted lines.

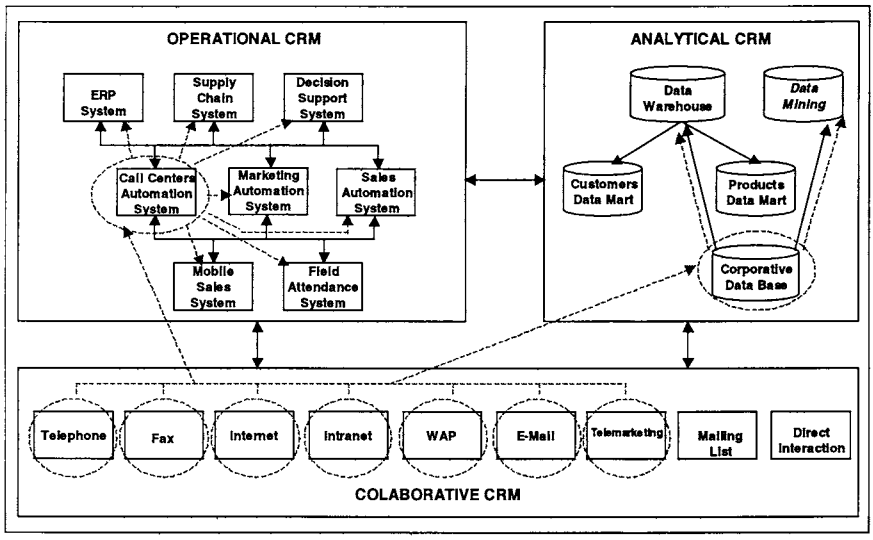


Figure 1: CRM Strategies and items that are used directly by a call center.

4 Call center architecture including CRM strategies

Applying CRM strategies on a call center provides a fully integrated structure to all company, from the customer contact with the company to the conclusion of the call and the history to know the customer profile, which becomes a great competitive differential for the companies. Figure 2 [6] presents an architecture proposal for a call center using CRM strategies.

The Collaborative CRM is represented by the contact ways, as follows: conventional telephony (customer or company contact - telemarketing), Internet, Intranet, WAP, fax and e-mail. The call center must identify the customer despite

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the kind of contact, through data and history information, according to the attendance strategies of the company, such as: attendance priority, contract type, appropriate attendance group type, etc. in order to start answering the call.

Operational CRM is represented by the automation systems of the call center and the automation systems of the company that will be used in a direct or indirect way by the call center. The beginning of the attendance is carried out by the call automation system that can be used by attendants, supervisors and customers. The customer interacts directly with the system, without the need for the intervention of an attendant, according to the kind of contact. For example, telephone access via IVR (Interactive Voice Response)/CTI (Computer Telephony Integration) or the registry of calls via the Internet, Intranet or WAP. The call can be solved on a first contact or may need a follow-up, depending on the customer call or the people involved in the request, who may ask for parts of products, technician follow-up to physically check the product, analysis of possible solutions to the problem, help in the decision making, etc. The integration between the company and the call center is essential so that this call follow-up is carried through in an appropriate and efficient way.

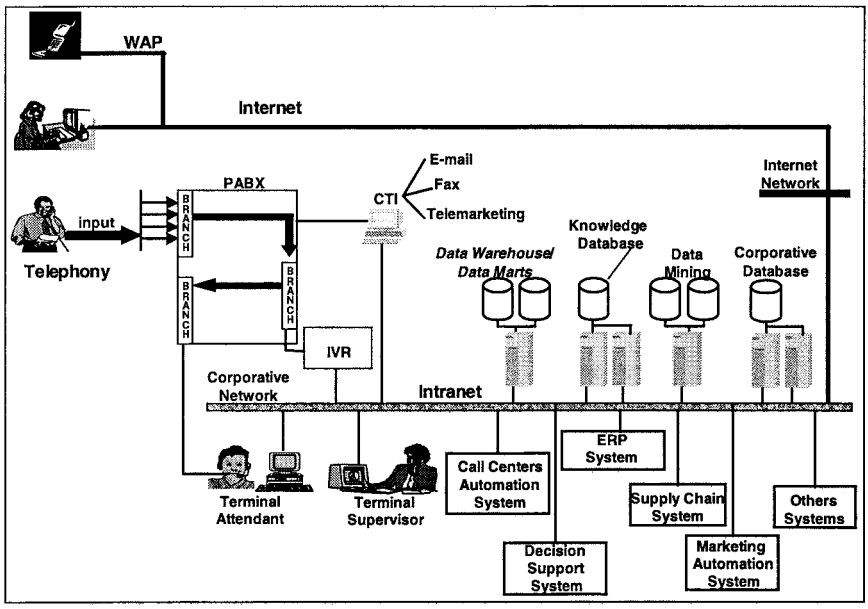


Figure 2: Architecture proposed for a call center using CRM strategies.

Analytical CRM is represented by the customer's data, the products of the companies, histories, strategic data, etc., in any communication channel with the call center. All data from the customers and the calls must be stored in the corporative database, with the aim of knowing each customer's profile, checking what was already registered and found out previously, and continuing to attend from where it stopped in the last contact with the company. The data must be

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easily accessible and filtered either by customers who access the Internet, Intranet, WAP, or by the attendants, supervisors and all the areas of the company that need the call center data. For that matter, the concept and application of Data Warehouse/Data Mining are fundamental in the call center. As important as the corporative database is the knowledge database, which aims at storing troubleshooting issues previously solved and storing decisions on sales and crossed sales, speeding the call attendance process, either by telephone or Internet, Intranet or WAP.

By relating the most recent resources on telephony, computing and CRM, always aiming at customer's satisfaction and faithfulness, the call center makes winning companies. For today's companies, it's not enough to have great financial health, have good products and show high productivity if they can't rely on competitive resources. The call center is one of those competitive resources, and winning companies are those that open their doors to the customer and are always ready to listen, inform, explain, direct and that know how to differ and treat each customer and how they like to be treated.

5 Conclusion

The main function of a call center always was to attend customers, but since its appearance a few years ago, this function was restricted to a telephone attendance to answer the customer's questions or doubts, by then used as a telemarketing, with the aim of offering products of that company. In the past years that function has been changing, due to the technological advances on the telephony and computing areas and the new strategies of attendance that rose from the market competition need among companies in times of globalization.

The main strategy to attend customers in call centers in the last years can be considered to be the CRM. Thus the companies started to worry about customized attendance to customers, and the call center started to anticipate the answer for the customer's questions and doubts, offering the appropriate products to the customers or customers-to-be that had already demonstrated some interest, getting more information on each contact in order to know each customer or possible customer, and starting a new conversation from where the last one stopped, don't taking into consideration the fact that it might have occurred a day ago or even a month before, through a telephone call, the Internet or a visit from a salesperson.

In order to get a call center to attend its customers efficiently and in a customized way, all the attendance channels, technological resources and strategical CRM concepts need to be integrated, which it is not common, for different technologies are offered by different suppliers. Tools that support the strategical concepts and that can be integrated to the regular systems are necessary. But this can be reached through an overview of the architecture needed by the call center, as shown in Figure 2, through an implantation schedule for CRM strategies and company businesses strategies.

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References

[1] Peppers And Rogers Group. CRM Series Marketing 1 to 1. Um Guia Executivo para Entender e Implantar Estratégias de Customer Relationship Management. 1ª ed., pp. 3-9, 23-60, 2000.

[2] Almada, A, Caldwell, D. G., Sousa, J. R. C. Central de Atendimento no Banco do Brasil. Dissertação (MBA Tecnologia – Redes) – Escola Politécnica, Universidade de São Paulo: São Paulo, pp. 12-52, 1999.

[3] Peppers And Rogers Group. Glossário de Termos relacionados a CRM e Internet. http://www.1to1.com.br/newsletter/glossario.php3.

[4] Cardoso, M. S.; Gonçalves, C. CRM em Ambiente E-Business. Como se relacionar com clientes, aplicando novos recursos da Web. Editora Atlas: São Paulo, pp. 84-110, 2001.

[5] Oliveira, W. J. CRM & E-Business. Visual Books: Florianópolis, pp. 132-136, 2000.

[6] Serra, A. P. G. Proposta de Arquitetura Aberta de Central de Atendimento. Dissertação, Escola Poitécnica da Universidade de São Paulo: São Paulo, pp. 59-84,2001.