CRM: Information Systems and Client Strategy

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1. Definition

*Any time, any place.* This famous Martini slogan describes the kind of assistance and service many executives would like to be able to offer their clients. A recent market study has shown that 68% of those taking part in the survey stop using a brand name because they were not satisfied with the service. A client that 'stops using' a brand is someone who stops buying. That's why the greatest efforts made by marketing and sales departments focus on doing everything possible to get clients to repeat-buy. Clients remain loyal not only as a result of the satisfaction they get from the product, but also thanks to other factors such as the connection with the brand and the service obtained.

Brand names, for example, are nothing more than the information available regarding the company (at intellectual or emotional level). On occasions, a change of supplier is not viable because the costs involved in changing the product or service are too high. However, since the event of the Internet, the costs of the said change have fallen spectacularly in some sectors “with a simple mouse-click”, which means that the information required is much more readily available.

When executives state that loyalty increases the 'value of their clients', what they are actually referring to is the exclusive information they possess about them. Not all of them manage to remember that a relation is a two-way affair, where the information about the company is essential for a client to remain a client.

The aim of this new strategic marketing focus, called *relational marketing*, is to maximize the value of the client, which is understood as the value clients provide throughout their life-cycle process, i.e. during the time in which they can repeat-buy. This is where we can define the term *CRM*.

CRM is an information system aimed at maximising the value of the information about the client’s relation or life cycle; in other words, about the information the company has on the client and, above all, about the information the client has on the company. In short, the objective of CRM is the maximization of the value of the ‘informational’ capital between the company and the client.

It is a common mistake to try to explain a CRM system by reducing it to only one of its features. For example, although some organizations identify it as such, CRM is not *only* the customer service

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1 Source: Purdue University 2002, from *Client Obsession*, A. Nederlof, Jon Anton  
2 E. Gummesson, *Total Relationship Marketing*, 1999  
3 A stricter analysis of the costs of change or entry on Internet markets is beyond the scope of this chapter.  
4 Philip B. Evans, Thomas S. Wurster *Strategy and the new economics of information*, HBR 1997  
5 E. Gummesson, *Total Relationship Marketing*, 1999
department nor only the channel for telephone contact (call center). Neither is it only the ‘application of the reps’, although for some companies with large sales force, the term is mainly associated with this collective in the company. (For example, white goods or car manufacturers know that their maintenance departments also have excellent information about their clients’ preferences).

The most common mistake is to associate CRM with an 'initiative' or project related to information technologies. Undoubtedly, the choice of a CRM application (or software) can have a significant influence on the success of a strategy focused on client relations. In Europe and the USA, over 40% of companies have launched CRM initiatives with objectives such as sales increases, improved client and employee satisfaction, reductions in marketing costs and increased employee productivity. It must be made clear that although many client management strategies can begin with a project, CRM is an information system supporting a company strategy: client relations.

First of all, the relation must be understood as a process. This process, or ‘lifecycle’, begins with the communication activities aimed at attracting the potential client by making sure that messages reach the right segment. The company must understand the client’s point of view, making sure that the necessary information in the search process can be accessed through the established contact channels.

The process continues with the sale of the product or service. The company has to design appropriate policies so that the learning process for the use of the product is satisfactory: from instructions manuals to assistance telephone numbers.

Once the client has become a user of the company’s products, the support company shall be responsible for ensuring that the level of service is satisfactory and drawing up appropriate feedback policies. This will influence the communication policy and, occasionally, the establishment of ‘collaborative’ design policies which enable product innovation. Policies may also be established aimed at developing loyalty policies for the profitable client base, promoting the repeat-buy.

Secondly, there is need for the existence of an organization responsible for developing the described process and which can be described as the 'client’s company'. It is generally made up of professionals from the marketing, sales and customer service departments and its purpose is to develop the relationship through the generation of scale and scope economies. The objective of scale economies is to achieve the greatest number of clients, whereas scope economies place the emphasis on selling the greatest amount of different products to a client in the time, i.e. on developing the relation. For some authors, this focus is contrary to the traditional view of marketing, whose objective is the management of the lifecycle of the product.

Thirdly, it must be understood that clients use all the communication channels the companies places at their disposal: from the traditional points of sale or visits from sales reps to telephone calls and access to

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6 AMR, McKinsey, 2002
7 Information technology projects developed in the CRM information system.
8 J. Hagel, M. Singer, Unbundling the corporation, McKinsey, 2000
9 Gummesson, 1999; Alfaro, 2002
Internet portals. The aim is to optimize the process of the relation with the company and, consequently, all the service channels are used without distinction.

Finally, there is also a need for information technologies to capture and analyse client data and to enable the development of the processes in a fast and efficient way. The first part of the chapter gives a functional description of the support technologies for the CRM information system. Secondly, it considers the most relevant aspects of management for minimising the risks inherent to a CRM project, which is so closely linked to the start-up of software technology.

Who is the client?

Before moving on, a brief look at one aspect that must not be overlooked. We shall speak of strategies and initiatives whose purpose is to situate the client ‘in the middle’. Before we start, the question that needs to be answered is ‘who is the client?’

Companies focus their CRM initiatives on the ‘end client’ (B2C)\textsuperscript{10} or on ‘client-companies’ (B2B).\textsuperscript{11} The latter concept of relation can be extended to suppliers. When initiatives are aimed at the end client (B2C) and there is a ‘sales channel’ made up of companies (such as car dealers, distribution companies or insurance agents), we shall speak of ‘Partnership Relationship Management’ (PRM). The management of the relations can also be extended to employees by means of B2E,\textsuperscript{12} initiatives, and to shareholders and other company stakeholders. Indeed, a company can form many kinds of relationships on the Net.\textsuperscript{13}

\begin{itemize}
    \item Sales
    \item Customer service
    \item Marketing
\end{itemize}

\begin{itemize}
    \item Personnel
    \item Call Center (telephone)
    \item Internet
\end{itemize}

\textbf{Processes}
\begin{itemize}
    \item Sales and commercialization
    \item Client behaviour and market analysis
    \item Product innovation and development
    \item Communication
\end{itemize}

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\textbf{Figure 1: The CRM axes}

\textsuperscript{10} Business to Consumer
\textsuperscript{11} Business to Business
\textsuperscript{12} “Business to Employee”
\textsuperscript{13} E. Gummesson, 1999
2. The CRM ecosystem

A CRM system can be thought of as an ecosystem made up of processes, contact channels, organization and information technologies. This system is made up of three information subsystems clearly differentiated by their functions and objectives: the operational CRM, the analytical CRM and the collaborative CRM.

The operational CRM subsystem generates a unified vision of the client towards the company and vice versa through all the contact channels offered by the company.

The analytical CRM makes it possible for the company to analyse information in order to learn from the client. The analysis applications make it possible to use data to calculate client value or profitability, to segment or design actions such as marketing campaigns or loyalty programmes.

Finally, the collaborative CRM enables the deployment of transversal processes between departments which facilitate teamwork between marketing, sales and customer service professionals. It can also facilitate the development of collaborative processes that enable product innovation.

3. The operational or multi-channel CRM
The operational CRM subsystem\textsuperscript{14} supports the client communication processes through existing contact channels: personal service at points of sale; direct sales force; telephone service channel through contact centers; and the Internet as a self-service channel.

Banks also include cash dispensers in the development of a CRM system. And in the future, some companies plan to incorporate interactive digital television.

The first promise of an operational CRM consists of enabling communication, the exchange of information and the capture of data between company and client through any of the available channels.

The processes developed through the contact channels are principally those of communication (such as marketing campaigns), sales or marketing, and customer service.

Contact channels can be used as a medium for receiving (‘pull’) information from the client and as a medium for generating contacts (‘push’) towards the client, by means of campaigns or by the action of a representative alerted during a visit to a client, or by a ‘crossed-sale’ proposal from a ‘call center’ agent who, when called by a client, detects a sales opportunity.

The second promise of the operational CRM system is that it must provide the company with a unique view of the client. Similarly, the client must realize that the company uses the information it has in a coordinated way. Consequently, the fact must be made clear that the applications that support the information and the data of each of the contact channels are integrated.

Accordingly, an operational CRM subsystem must make sure there are no fragmented nuclei of information. The subsystem must have a database that provides the company with a unique view of client contact records, with reliable data from all the available channels. This is why, on many occasions, an operational CRM subsystem is also referred to as a multi-channel CRM.

3.1. Operational CRM applications

Operational CRMs are based on computer applications and other information technology elements such as telecommunications equipment, which can be classified as follows:

- Commercial management (or sales) applications: Sales Force Automation.
- Sales management and customer services applications by the telephone channel: Call Center or Contact Center applications when they incorporate the management of other media such as e-mail or web calls from collaborative functions with the Internet portal applications.
- Internet portal applications. Internet solutions incorporate sales, customer services and marketing. They can focus on the end client (B2C), the relationship between partners (PRM) and the relationship with employees (ERM).

\textsuperscript{14} Often called ‘front-end systems’.
Readers will notice that the discourse on the processes, channels and organizations used up to now is broken down to a certain extent. The description is made in this way, since it is the best way of showing the different types of solutions on the market.

3.1.1. Sales force automation applications

Sales force automation applications (SFA) are mainly associated with the sales force. We must not forget that the ‘sales function’ also affects other channels such as telephone service in a call center (telesales) and ‘technological attention’ and without human assistance (through a cash dispenser or over the Internet). It can also be extended to other departments, such as technical service. First of all, these applications provide territorial or area management tools: by client segments, by geographical areas or by designated accounts in organizations with large client sales organizations.

Secondly, the SFA applications enable the management of information about opportunity management, or leads. Said leads can also be generated through various channels: the sales force itself, from a query made on the Internet portal or from a call center agent carrying out a telemarketing campaign who then passes the lead to the person responsible for the account.

The SFA application makes it possible for the representative to assign a valuation (by amount and probability of success) for each lead. The executives can carry out global management of the leads and draw up commercial forecasts. When the lead is closed, with a sale or otherwise, commercial metrics can be processed, such as success rate, lead loss, average sale per lead, etc.

Thirdly, a commercial application enables the processing of the information of the accounts or clients, including the records of commercial contacts. It can be influenced by configurers, automatic generation of offers and expense note management.

These applications have suffered from a stigma which associates them with reporting and commercial activity control tools. Today, more emphasis is being given to the commercial methodology of accounts management as a way of building valuable relations with clients, to teamwork, to access to commercial information and product configuration assistants. This aims to increase not only commercial productivity, but also the satisfaction of the client and the sales manager.

Field Service Management

Field Service Management is the extension of the sales force concept to the management of other external fleets: either client support technicians, field workers and professionals or members of emergency corps. Information technologies enable a radical improvement of productivity in work allocation processes and agenda management, where speed, flexibility and access to information are of key importance for success. The information system can enable the search for the nearest resources and, in combination with mobile
communications systems (radio, telephones or SMS messages)\textsuperscript{15} enable the location of effectives in fleets in a very efficient way.

\textbf{Mobility}

One of the characteristics that distinguish sales forces from fleets in general is their mobility. With the development of information systems, sales forces and, in general, many professionals not located in offices have generalized the use of laptops to carry out their work, accessing resources through mobile networks.

Initially, the data were stored on the laptop and then dumped into the company's databases on arrival at the office. Later, with the development of client/server architecture, laptop PCs had local databases to ensure the availability of the system in the event of a telecommunications network crash.

In any case, regular connections have to be made with the company's central server to synchronize the local databases and the database containing corporate information.

At present, the technology of Internet applications has minimized the information hosted on laptops although many applications still propose the local database and database synchronism mechanisms, increasing data security regarding the client and ensuring the continuity of work in the event of potential telecommunications services crashes.

\textbf{3.1.2. Call center and contact center applications}

The management of a call center always focuses on productivity, i.e. making sure that the greatest number of calls are answered in the shortest time possible. The role of technology is two-fold: on the one hand, it enables effective processing of calls, making sure that the call center agents have the information they require about the client and the process: either the commercial process, or the incident resolution or service information. This is the objective of the applications known as 'call center'; on the other, it makes sure that the entire telephone traffic management process is efficient – this is the role of the telecommunications infrastructures present in a call center.

In the case of sales management (telesales), the commercial functions the application can offer are very similar to those set forth in the above section. Usually, the start-up of a commercial telesales process is the result of the launch of a marketing campaign.

A 'pull' campaign consists of inserting an advertisement for a product in one or several media (the press, television, etc.), advertising a call center telephone number. These numbers are usually 90-numbers.

The campaigns can be carried out by means of the generation of calls from the call center itself ('push' campaigns). The calls can be generated using "robots" called a \textit{automatics diallers}. Its function is to

\textsuperscript{15} SMS: short text messages on mobile telephones
generate calls in accordance with the probability of finding the client at home. If the client answers the phone, the call is directed to the first agent free to begin the sales or service process.

Call center applications incorporate \textit{call scripts} which provide agents with guides to the questions they have to ask in the conversations with clients so that the management of the lead is as fast and effective as possible. Many client center managers often say that a telephone call from a client, even if it’s a complaint, can be an opportunity for a sale.

The technologies present in a call center include powerful telecommunications infrastructures that are fundamental for the processing of the telephone calls. The calls clients can make through 90-telephone numbers are organized into queues and are assigned to the agent or group of agents by means of a telephone exchange that specializes in automatic call distribution (ACD).

ACD makes it possible to assign calls to the available agent in accordance with a very flexible definition of queue management criteria. It makes it possible to define specialized groups of agents, supervision functions and telephone traffic processing capacity.\textsuperscript{16}

In many call centers, this information passes directly to the agent due to the fact that the ACD is directly connected to the information system that supports the management application (Computer Telephone Integration, or CTI). This makes it possible to identify clients by their telephone number and the CTI function makes it for the agents to have the records and details from the CRM information system on screen when they answer the call.

Nowadays, the calls not only come from 90-numbers, but also from SMS, calls through the Internet portal ("web collaboration") and e-mail. It is also true that many repetitive calls are not attended by human agents but by ‘robots’ (such as ‘Interactive Voice Response Systems’, or IVR), which usually answer repetitive queries, freeing up agents to perform functions of greater value.

Clients are also invited to solve matters by means of self-service applications. In the customer service process, the Internet plays a key role in this area. This is why, today, the most commonly used term is \textit{Contact Center} (centers which have contact with the client). Contact Centers are the natural evolution of Call Centers, which were originally designed to deal with telephone traffic, and they make it possible for agents to answer calls from the telephone, e-mails, the Internet portal, SMS, faxes, etc.

\textbf{Web Collaboration}

As mentioned in the above paragraph, Internet portals play a very important role by incorporating functions for attending repetitive queries (the \textit{Frequent Questions} section), or the possibility for making requests for service. It is increasingly common for Internet portals to include the \textit{Call me} function, which makes it possible to put the client in contact with an agent, holding a conversation through the network

\footnotesize{\textsuperscript{16} This is a critical element which leads many manufacturers to incorporate redundant electronics and power sources. Many centres have ACD networks to increase system availability.}
itself, using the IP voice technology, which makes it possible to hold conversations over the Internet or sets up the possibility of communicating with a company agent using the chat option. This option makes it possible to hold a written conversation between the client and the agent in real time. This enables the client with the use of one single telephone line and means that they do not have to leave the company’s website to use the customer service telephone.

First of all, the technological solution to this need involves the universal queue, where all these kinds of calls can be processed in an integrated way, giving priority to business criteria or to the functionality of training teams of agents.

![Diagram of a Contact Center](image)

**Figure 3: Diagram of a Contact Center**

**Agent management**

One of the most important matters for the management of a contact center is people management, which is beyond the scope of this chapter. This is an aspect of capital importance, where technology can assist the managers of a customer service center. An application can help us identify the type of agent that can attend the client at any given time in accordance with the record of contacts and profile management. It also helps define how to manage queues and peak periods. Agent management systems make it possible to make forecasts regarding loads and plan agents in accordance with past volumes and contact type (calls, e-mails, chats, etc.) in order to predict peak periods, optimize the number of agents in peak periods, assign agent priority and define shifts and times.

For most companies, this means that the attitude of the individuals who are on the front line must be correct and that the collaborative links with the rest of the organization must be established to achieve the objectives set forth in the client relation strategy.

**3.1.3. Internet**
From the point of view of a CRM system, the Internet is a channel for contacting with the client which must be integrated with the company’s multi-channel service. This channel offers availability 24 hours a day, 7 days a week.

This section describes some of the functions which are more frequently provided by the Internet on a CRM system. First of all, as part of the communication process, the Internet is used as a medium for marketing campaigns (e-marketing) by e-mail to client segments that are potentially interested in a company’s products and services. Accordingly, it is a source of information for products and services. Secondly, the Internet can be understood as a sales channel (e-commerce or e-sales). Internet applications usually incorporate content managers and search tools, as well as shopping cart analysis.

The Internet also makes it possible to develop businesses whose main focus is the management of clients through one single channel. Cases such as Yahoo! or Amazon.com are well-known.

The needs for integration with the back office are very high, not only towards ERP systems17 but also towards supplier management systems (SCM)18 if the client is to be given a transparent vision of the entire supply process, from sales to the delivery of the product.

Thirdly, as a customer service point for dealing with queries, incidents or requests for repairs or maintenance (e-Service).

The Internet provides elements of much greater value in a client relation strategy. It is possible to customize the client’s experience when they access a web portal in accordance with their past purchases and reference. Proposals can be made in accordance with the context and browsing records (clickstream). This concept of customization can be developed and extended to the communities of interest. The process of continued improvement in the content and design of the portal can be carried out not only by the analysis of the client’s browsing, but also in collaboration with the tools for analysing calls to the contact center, whose purpose is the processing of doubts and incidents regarding the use of the portal.

The appearance of electronic channels (or those supports by information technologies) has furnished clients with greater convenience and availability in accessing information (24 hours x 7 days in the case of the Internet). As an additional benefit, as shown in figure 6, contact costs are cheaper for the company.

In a multi-channel relationship, clients and companies establish implicit negotiation between the available contact channels and the functions that can be developed by each one: access to information, offers, transactions, service requests, etc. The implicit agreements, or trade-offs, between clients and companies specialize each channel in accordance with the use given to the relationship by higher value.
CRM is not "Cost Reduction Management"

The temptation of some companies to understand CRM as 'Cost reduction Management'\(^9\) and focus their services on their clients exclusively in accordance with the contact cost has not produced good results.

Experience shows a great number of Internet initiatives aimed at the client base, which are less profitable and cheaper. Many companies have discovered that the users who most frequently demand the service are not the less profitable, but rather, in many cases, have the greatest potential.

Users do not usually accept a cheap Internet service in exchange for services that are of a surprisingly low quality for the company's brand image.

Once the CRM information system has been started up, unwanted effects can appear in the guise of channel conflicts. First of all, the introduction of the so-called 'alternative channels' such as call centers and, in particular, the Internet, has led to problems resulting from the perception of the fact that some of the existing channels were oversized, such as the traditional commercial networks.

The truth is that in most cases, neither the growing automation of the administrative processes nor the generalization of the use of the telephone and the Internet has reduced the proportion of the business which comes from traditional channels. In the case of banking\(^20\) for example, implicit agreements have been reached with the client base used by cash points, telephone banking and Internet banking to make their transactions simpler in exchange for service availability.

This has made it possible for branches to turn towards commercial functions of a greater value. Freeing up front-line professionals from tasks that can be automated leads to the need for a reconsideration of their role and for them to be focused on tasks of a higher value.

\(^9\) W. Reinartz, V. Kumar The mismanagement of Client Loyalty, HBR, 2002
\(^20\) In Spain, at the end of 2002, the proportion of workers per branch office, which fell from 7.5 in December 1990 to 6.2 in 1998, has slightly increased since then. In comparison with these figures, the average in the European Union stands at around 12 employees (Source: CECA, Bank of Spain).
Partnership Relationship Management

The Internet enables the management of the sales or distribution channel by means of applications called Partnership relationship Management (PRM). The distributors or agents on the commercialization channel are asked to enter data about the end client. The information of a PRM application makes it possible to select, segment and monitor the activity of the ‘partner’ connected by the Internet.

The agreements or trade-offs between ‘partners’ and companies on the network through the use of the Internet as a contact channel and as a medium for collaboration are different in each case. The most frequent are those which give distributors access to contents of interest, such as updated product catalogues and comparative studies. The distributor can access the on-line training programmes that lead to a reduction of travel costs.

Distributors can successfully incorporate a PRM initiative due to the fact that regarding investments in technology that are beyond their means, they share risks with the manufacturer. Technology can be one aspect of channel loyalty, if management applications are offered, together with specific campaigns or access to spare part markets. In this way, distributors not only save in investment costs and operating costs regarding management applications, but they can also develop more effective sales and loyalty programmes regarding their client bases.

3.2 Analytical CRM

The purpose of the analytical CRM subsystem is to enable the management of the information required to develop the market and client behaviour analysis processes. First of all, this enables the analysis of information from the contact records of any of the available channels. Secondly, the analytical CRM must provide models based on mathematical predictions which make it possible to calculate the value of the client, segmentation and purchase possibilities, etc.

In short, an analytical CRM system enables the compilation, processing and analysis of client data from the contacts on the operational CRM subsystem.

The analytical CRM is made up of two large areas of computer solutions: First of all, an analytical data base, or DataWarehouse, which stores data from a variety of information systems, from operational CRM applications to other corporate systems, including external data sources. This database is loaded in off-line, or batch, night-time processes.

Analytical solutions can be associated with different operational CRM applications: sales, customer service or marketing campaigns. In this case, we speak of analytical databases or datamarts, whose function is to carry out analyses in conjunction with said applications. If necessary, the information from the different datamarts specific to each application can be integrated in the corporate datawarehouse.
The data presentation and extraction applications (OLAP)\(^{21}\) are capable of exploring the DataWarehouse tools, although some of them can also be used against conventional data and bases. The presentation techniques are based on an in-depth exploration of lower hierarchical levels of data grouping (drill down technique).

Normally, these applications focus on a set of attributes of a database organized around certain analysis dimensions such as *client, time or geographical position*. A user can search or perform a drill-down to the original system data after seeing the data exploitation report.

The analytical CRM incorporates Datamining tools whose calculus function makes it possible to identify patterns in data and provide new context information. This makes it possible to increase knowledge on clients’ preferences and perform forecasts and hypotheses regarding behaviour.

Datamining tools enable scenarios from crossed information sources to understand unobvious or hidden tendencies (this process of analysis and prediction based on these tools is called the ‘client insight’ technique). There are various types of algorithms or function (or key variables) although the most commonly used of current analytical CRM applications\(^{22}\) are as follows:

<table>
<thead>
<tr>
<th><strong>Problems</strong></th>
<th><strong>Definition</strong></th>
</tr>
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<tbody>
<tr>
<td>Information classification</td>
<td>Defines the data relevant to client information</td>
</tr>
<tr>
<td>“Clustering”</td>
<td>Identification of the affinities and groups that show affinities in relation to the defined behaviour variables</td>
</tr>
<tr>
<td>Model-based analysis</td>
<td>Identification of correlations (proximities) between client behaviour and typical behaviour in a given period.</td>
</tr>
<tr>
<td>Predictions</td>
<td>Gives scores based on various criteria defined by the entity (tendency to respond to an offer, tendency to purchase a product, probability of losing a client). Examples of this type of function include the determination of the ‘client value’, the risk, probability of abandon and tendency to purchase. Consequently, there must be databases with statistical data models and the use of potential ‘predictors’, i.e. the variables required for calculating the target function.</td>
</tr>
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### The importance of data management in analytical CRM management\(^{23}\)

Data management is of key importance for the implementation of any CRM system. It is so important that the database and its exploitation are usually confused with the CRM itself. The problems a company needs to solve when starting up a client-focused initiative is three-fold: to maintain the quality and tidiness of the data; to avoid the non-fragmentation of data from various systems; and to ensure a contact record from

\(^{21}\) OLAP: On Line Analytical Process

\(^{22}\) Adapted from Meta Group, 1999 and F. Rajola, *Client Relationship Management*, 2003

\(^{23}\) These tools are also referred to as ‘Business Intelligence’ in reference to the analytical systems that use or exploit data from all the company information systems. We speak of analytical CRM when the focus is the client relation, although the BI technology is the base for the development of an analytical CRM system. Although the terminology is under discussion, the author has no intention of becoming involved.
the different contact channels of the company with the client: sales, contact center, the Internet, cash dispensers, etc.

On many occasions, having a data model that is unified for all the company is an almost impossible task. On the other hand, a complex query of a relational database can leave the database unavailable and unacceptable. These reasons justify a data infrastructure such as the DataWarehouse, which makes it possible to integrate all the information the company wishes to manage concerning the client and which can come from the operative CRM systems and from other systems, as already mentioned.

In defining the loyalty and customization processes, the marketing department makes intense use of this type of tool in order to develop actions that are customized for the client base through the various channels that have already been mentioned.

3.4 Collaborative CRM

Operative CRM solutions incorporate transversal processes that are required when the CRM system is extended to more than one organizational department and to more than one contact channel. Employees that work in customer service feel more valued if there are collaborative links with other departments and if there is a strong feeling of teamwork. Collaboration depends on the transfer of information, sharing knowledge and an adequate organizational structure with motivational and compensatory aspects adapted to the company’s objectives. Information technology enables the start-up of ‘transversal’ processes between the company’s departments: marketing, sales and customer service, by means of powerful workflow tools.

In a CRM initiative, one of the most important factors is the motivation of individuals, since front-line professionals provide greater value in the ‘experience of the company’s relation with its clients’. This collaboration not only affects internal coordination, but it can also be extended to clients and shareholders. The greater the clients’ perception of the value with regard to their relation with the company, the greater the perception of the value held by employees and shareholders. This type of collaborative relation is also extended to companies as indirect sales channels in partnership relation management (PRM) initiatives as indicated in previous sections.
3.4.1. Marketing management

Current marketing management applications enable the design, execution and measurement of the client communication process. I have deliberately included marketing applications as a collaborative CRM tool. Readers will find other classifications, ranging from those which consider this type of application as an analytical CRM appendix to others which are considered as part of the operational CRM. The classifications are always arbitrary. I have included marketing applications in this section because any type of communication with the client makes it necessary to collaborate with the marketing, sales and customer service departments by means of the workflows which range from who designs the communication, to the commercial and customer service activities, including the approval flow, as a consequence of the marketing initiative. On the other hand, communication cannot be developed without involving the analysis of the appropriate information from the analytical CRM.

In short, the marketing applications enable the development of campaigns through workflow design tools and the simulation of scenarios before the campaign is launched.

It is also possible to activate communication by detection of a change in life status (change of address, finalization of studies, change in work, birth of a child, search for work, etc.). The communication process is designed to offer the right message to the right client at the right time and through the right channel. The tools which enable the integration of the past contact information, their analysis and a correct design of behaviour forecasts enable the optimization of resources to obtain the highest degree of client satisfaction in the communication process.

Design of marketing campaigns

The applications which enable the design, execution and measurement of marketing campaigns enable the development of the following stages:

1. Design of programmes and campaigns. This layer shows the varied information required for optimum management of the marketing programmes (sets of campaigns) and the campaigns (offer, list of clients, contact channels) from the operative point of view and the economic point of view.
2. Importing the contact list (clients). Often imported from the DataWarehouse in off-line night-time processes (see section on analytical CRM). However, some applications manufacturers incorporate the generation of the list of clients or the segmentation from the same application of campaign generation.
3. Execution of programmes and campaigns. Marketing applications enable the definition of the basic data and a budget available for the entire programme. Once the programme has been created, the planning and design of one-stage, multiple-stage campaigns or those triggered by events. The campaigns can be defined on different channels. In all cases, collaborative processes are enabled through workflow rules between employees and managers in the marketing, sales and customer service departments involved.

4. Recurrent campaigns that are planned for regular execution: daily, monthly, etc. For example, monthly information bulletins or a publicity campaign.

As a complementary functionality, the marketing management applications possess report generation and control tools to process all the activities involved in the campaign, as well as the approval process before it is executed: control of approvals by the different levels in the organization, delegation of activities, etc.

It is also possible to incorporate financial simulators which offer marketing professionals tools for analysing costs/profits \textit{a priori} and \textit{a posteriori}.

**Communication with the client: Behaviour forecast and events-based marketing**

The traditional way of contacting with the client is through marketing campaigns. These campaigns are performed through different media: post, press, TV, etc. This type of contact is usually considered ‘invasive’, particularly when ‘push’ campaigns are carried out by means of telephone calls or e-mails.

Technologies enable action in response to events. The sophistication of actions based on the analysis of data and client behaviour forecasts from the use of analytical CRM tools\textsuperscript{24} are much more effective. The data analysis techniques enable maximum customization of the message and offer it at the right time. Information technology enables the analysis of the tendency to purchase, the analysis of the next purchase (predicting which product or service a client will most probably purchase after purchasing a certain product or service). The analysis of similar products in a ‘shopping cart’ enables understanding of which products can be sold together. The analysis of the clickstream (or browsing route followed by a client during an on-line purchase) makes it possible to customize the purchasing experience by means of information-contextualization techniques.

Finally, technology enables analyses of price elasticity and the configuration of dynamic price offers such as those made by companies selling tourist packages (yield management).

Marketing professionals are rapidly changing the way in which they act with the help of the abovementioned information technologies. Between the years 2000 and 2003, the budgets of advertising in the press have been reduced, together with those associated to traditional campaigns and promotions, by around 22%. The use of the Internet, customized mail and the design of specific customer service policies has increased by 50%.\textsuperscript{25}

\textsuperscript{24} Adapted from Meta Group, 1999 and F. Rajola, \textit{Client Relationship Management}, 2003

\textsuperscript{25} IDC, Gartner, 2003
4. The preparation of the company to adopt a CRM initiative

In recent years, the discourse that associates CRM with projects that have not been successful or which have not come up to expectations has been generalized. A CRM initiative that implies the start-up of a new information system must take into account the following basic principles: First of all, the definition of the client strategy (CRM), prior to the start-up of any system based on information technology. Secondly, the appropriate evaluation of the risk of a CRM initiative and the start-up of the measures that reduce it to the full before and during the deployment of the initiative. Furthermore, the organizational change and change in functions must be addresses during their exploitation.

4.1. CRM strategy

CRM systems are used as facilitators of relational marketing strategy and their objectives focus on ensuring that the information is as required when a client contacts the company (also called 'moments of truth').

Firstly, the use of the systems must ensure a positive client experience when he/she contacts the company. The necessary information must be accessible for the client and for the professionals that attend the client in order to influence\textsuperscript{26} crossed or incremental sales policies.

Also in the level of satisfaction with the service and the brand name value. And to improve commercial and customer service productivity.

Secondly, they focus on the service a company provides its clients to improve loyalty levels. Finally, the design of communication and customization processes based on an effective analysis of client data.

4.2. Risk management in a CRM project

CRM is a strategic initiative accompanied by software implantation projects. From the analysis of successful experiences (and unsuccessful experiences), we have learned that before approaching a CRM initiative, we need to analyse the set of risk factors that accompany any software project and what it represents: a challenge for change in the organization.

We will shortly look at the most relevant features of a risk analysis:\textsuperscript{27} the definition and execution of the project and the involvement of the user.

The definition and execution of the CRM project

The first risk and often the most relevant is the excess of optimism regarding what technology can provide. Before deciding, it is necessary to contrast successful experiences of companies with similar activities, size, resources and culture. All the evident costs must be accounted for and those which

\textsuperscript{26} Jay Curry and Adam Curry, CRM, 2002

\textsuperscript{27} We shall follow the model developed by M. Klein, P. Cule, K. Lyytinen and R. Schmidt in A Framework for identifying software project risks, ACM 1998
sometimes appear during the project as a result of a lack of foresight must be avoided (they are also often referred to as ‘hidden’, such as applications maintenance costs, changes, updates, training, work habit change management, etc.).

The policies for reducing this risk are based on a competent project management and appropriate technological partners. The scope must be correctly defined to acquire the required functions (must-have) and the functions that are not necessary (nice-to-have) must be put off or rejected. A simple way of facilitating the definition of the scope of the project: clearly identify what is not necessary.

It is also a good idea to have a Project Manager with organizational know-how, a capacity for negotiation and policy skills for managing the relations between the departments involved and suppliers (software companies and consultants). In the implantation strategy, it is also recommendable to separate the project into phases and avoid changing specifications halfway through the project as far as possible. If the first stage is short and is successful, it will make it possible to continue with more ambitious and transforming stages.

What is integration?

One of the sources of risk in a project for implanting a new CRM application is the understanding of the needs for integration with other applications and systems in the company. This is a technological problem which responds to a business problem of key importance: the capacity for making information available in real time. Consequently, CRM applications must specify their real capacities for integration. The three large types of possible integration are as follows: in real time, in asynchronous mode and in batch mode.

Integration must be carried out in real time when the CRM system requires the real-time supply of data related to stock levels, order delivery, price policies or balances in a current account, which are hosted in other applications in the company. This is the most complex type of integration.
By asynchronous integration, we understand the situation when the CRM application (usually operational CRM) requires data on the client from other systems to be placed in its own database. The data must be updated every so often. This type of integration is more common and simpler than the above.

Finally, by batch data integration, we refer to the situation which enables the dumping of data from various systems during a night-time process on a DataWarehouse. With the required analysis tools, it will be possible to obtain management information through data-crossing formulas.

Some CRM systems require the coexistence of three types of integration in one single front-office application which enables the complete viewing of the information. For example, a commercial application in which the CRM data coexists with the information on the client relation, commercial opportunities and sales forecasts. Asynchronous integration is possible with other systems in the organization requiring client data. As real-time integration can be carried out to present campaigns that are in progress, data on stocks or accounts in real time. The information from the calculation of the client value or the corresponding segment will come from a calculation carried out in the analytical CRM.

Some commercial processes require integration with back-office systems for order management or access to the client’s transactional information (e.g. oil distribution companies, banking and insurance). The requirements for the integration of commercial applications with the back-office information systems are not as necessary in pharmaceutical companies where sales representatives act as prescribers. In the case of the sale of more complex products (such as software), representatives require applications with a great amount of information on accounts management, commercial methods, configurers and multi-channel records. Consequently, each commercial process first of all requires a different kind of integration.

On many occasions, Internet portals integrate all this wealth from a variety of systems. And this is one of the features which may add the greatest amount of technical difficulty to the CRM project. The experience of the project team and the selection of the appropriate integration tools are elements of key importance for reducing the risk to the minimum.

User implication

The implantation of a client-oriented strategy introduces organizational, operative and cultural changes (see figure 6: the first reason for the failure of a CRM initiative is incorrect change management). Accordingly, the policies for reducing the risk enable the implication not only of management, but also of the individuals who are to use the system on a regular basis. A successful application is measured in a very simple way: by its degree of use.

The CRM implantation project must develop policies for user involvement to ensure the viability of the system. In commercial applications, for example, it is necessary to understand the agreements (trade-offs) to which the sales force is to be connected. In the implantation of a commercial management system, it is common for the sales force to see the new application with an instrument merely of control, which also enables the transfer of the ownership of the client information (and the 'power' this involves) from the vendor to the company.
Investment must first be made in the management of these changes and in the processes for accompanying with the appropriate training during the implantation of the technology. The salary policies must be in line with the objectives set forth in the CRM initiative. Having a change management team or coaching team which enables the involvement of the user is of key importance. Project management can limit this type of risks through its capacity for negotiation for harmonising expectations and reducing reticence regarding the significance of implanting a new technology. The rejection of users will bury the CRM initiative after a very high consumption of resources at project stage.

Finally, the management must be involved in this process not only at the beginning, but throughout the development of the initiative. It is common for the lack of commitment from management in a project to lead to failure. Sufficient attention must be paid by activating its critical sense regarding functional deviations or deviations to budget and terms.

**Conclusions**

Most of the ‘failures’ in the implantation of CRM systems do not usually come from technological problems but from the role of management in the evolution of the project. Owing to its capacity for managing the effects of technology on the client relation processes. A CRM system will never be successful if it is aimed at solving internal operative problems. The first step is to define a client relation strategy and understand the client’s point of view. What is his/her opinion of our company? What values do clients associate with the brand name? What is the perceived service level? What is necessary? When a company ‘communicates its products’, a client ‘explores’. When a company ‘offers’ and tries to ‘sell’, a client ‘learns and decides whether or not to buy’. Our CRM information system can be designed with a company or client focus.

Designing the CRM system in consideration of the client’s experience in the company relation process and what type of information will be necessary for the perception of the company as valuable is the first step to success. Client satisfaction is a feeling resulting from the difference between the client’s expectations before beginning to explore and the experience after the purchase: not only regarding the product, but also regarding the service given.

Of course, the implantation of a CRM system is associated with a message of change. Information technology implies this message in an inherent way. Although some organizations exploit data in order to ‘manipulate’ or ‘control’ their user base, they do not manage to do so for very long. And even less so in the Internet Age.

An information system will lead to change the company in accordance with the client’s needs. It will also help influence clients, obtaining greater levels of loyalty.

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28 J.E. Scott, I. Vessey, ACM, 2002
The maximum value of a CRM system is obtained when it enables maximization of the informational capital of the relation. In short, when the management of information-based assets makes it possible to help generate long-term relations based on the management of mutual knowledge.

Consequently, the management must develop two key skills: the capacity for judgement and a maturity regarding the application of criteria in the management of CRM information systems.

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**A success case: Banco del Sur**

At the beginning of 1999, Banco del Sur began the design of a commercial management CRM project whose objective was the prioritization of the action of all employees of the branch offices towards client management in comparison with product sales.

In 1999, a sales management software platform was selected, together with a consultancy company for its start-up. The project was initially designed to enable the global management of the entire client lifecycle. In particular, the establishment of objectives and their monitoring, contacts, offers, commercial agenda and marketing campaigns. The first stage was the deployment in the presence channel made up of the entity’s offices with over 600 posts.

The project was divided into various statuses corresponding to geographical areas, initially defining ‘pilot areas’ to perform a system test. An ambitious plan was drawn up for the re-engineering of the commercial processes and training for all users responsible for using the solution.

In December 2000, the new commercial solution had been working in perfect integration with the company’s transactional systems and, during the second stage, it was increased with the incorporation of the telephone Banking channel. The service provided from the call center also made it possible to generate business opportunities for the branch offices.

During the same term, the entity launched a DataWarehouse project aimed at improving the information management systems.

In a study performed in 2000, Banco del Sur obtained a level of satisfaction of 6.09 out of 10 from its client base. And with the data at the close of the same year, the financial margin increased by 9.9% and the ordinary margin increased by 12.5%. The entity improved its efficiency by 2%.

The overall amount of the project corresponding to licences, professional services, integration and customized training was recovered in less than eight months.

At present, Banco del Sur has designed an ambitious micro-marketing plan together with the integration of its Internet Banking into the CRM project in order to capitalize all its contacts with clients under a clear multi-channel strategy. The objectives the entity has set include tripling the bank’s profits in 2004.

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29 Fictional name.