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CRM TECHNOLOGICAL SOLUTIONS: AN APPROACH OF THE CRITICAL SUCCESS FACTORS IN THE IMPLEMENTATION PROCESS

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Abstract

The Customer Relationship Management (CRM) strategy seems very attractive because it provides great benefits to the organizations when well implemented. Particularly, CRM software solutions have been adopted to make viable this strategy and increase business performance. However, in the last decade most of these implementations have failed and a lot of corporations expressed dissatisfaction with the low returns of their investment. This work in progress proposes research in order to further understand and improve this situation. Our goal is to provide wide analysis and empirical evidence related to the critical success factors in the implementation of CRM software solutions. The investigation intends to draw conclusions and make recommendations to CRM industry agents--CRM software vendors and their implementation partners, consultants, and CRM customer companies--adjust their strategies and obtain better results in selling, implementing and using this CRM technology.

The work is based in the technological perspective of CRM, formed by the CRM technological solutions developed and sold to support the CRM strategy. The implementation of this CRM technology is a key process in the general CRM adoption process and we consider this explicitly. So our study model proposes an empirical analysis embracing 4 principal topics:

The relationship between success of the implementation process and success of the CRM technology results.

How the degree of cultural orientation of the recipient company affects the success of the CRM technology results and implementation process,

How the gaps in CRM technology and in CRM information process of the receiver company affects the success of the CRM technology results and implementation process,

How the implementation partner's service quality affects the success of the CRM technology results and implementation process

Keywords: *CRM technology, CRM software, Critical Factors Gaps, Implementation Process*

1 INTRODUCTION

The Customer Relationship Management (CRM) strategy seems very attractive because it provides great benefits to the organizations when well implemented. Particularly, CRM software solutions have been adopted to make viable this strategy and increase company's business performance.

Because of this expectation, CRM is one of the fastest growing practices in today's business environment. Gartner (2007) estimates a growth in demand for CRM solutions for the next four years, and that over \$ 11 billion will be spent by 2011 on CRM related technologies and services. According to CB Consulting (2007) forecasts, higher revenues will be reached by CRM software vendors, consultants and partners.

However, in the last decade most of these implementations have failed and a lot of corporations expressed dissatisfaction with the low returns of their investment. This work in progress proposes a research study in order to understand and improve this situation. Our goal is to provide a wide review of CRM critical success factors (CSF), establish a study model and find further empirical evidences related to the CSF in the implementation of CRM software solutions. This investigation intends to draw some conclusions and make recommendations to CRM industry agents--CRM software vendors and their

implementation partners, consultants, and CRM customer companies--adjust its strategies and obtain better results in selling, implementing and using this CRM technology.

The work is based in the technological perspective of CRM, formed by the CRM technological solutions developed and sold to support the CRM strategy. The implementation of this CRM technology is a key process into the general CRM adoption process and we consider this explicitly.

The following contents intend to determine and justify the adopted CRM concept, explain the CRM software structure and implementation and introduce the model and the propositions for empirical analysis in the future.

2 THE CRM CONCEPT

In the existing literature, some authors have been working on establishing a definition that includes all unique CRM aspects and characteristics (Payne and Frow, 2005, Richard and Jones, 2008). As a result of these efforts the CRM area tends toward a common definition of CRM (Boulding et al, 2005).

However, this article has adopted the CRM definition proposed by Richard and Jones (2008) which describes CRM in the following manner:

“CRM is a set of business activities supported by both technology and processes that is directed by strategy and is designed to improve business performance in an area of customer management”.

This definition was chosen since it is the one which better describes not only to the subject studied but also to the implications of CRM technological solutions. This definition enables one to face the decision of investing in CRM both in terms of return on investment and in terms of improvements in customer relationship. Thus, this definition neither ignores the strategic focus nor the focus on process, which are common in other definitions.

3 CRM SOFTWARE

The CRM software is the technological application which links front office (e.g. sales, marketing, and customer service) and back office (e.g. financial, operations, logistics, and human resources) functions with the company's "touch points" (Fickel, 1999, Chen and Popovich, 2003). The most common touch points are the Internet, e-mail, sales, direct mail, sms, call centres, fax, pagers, stores and kiosks.

The software has a standard structure, even though small variations may exist among the CRM software from different companies. Its structure usually is composed by the operational and the analytical modules.

The operational part of CRM relies on software to automate selling, marketing and service processes with a view to make these functions more efficient and effective (Raman, Wittmann and Rauseo, 2006). These operational software applications include sales force automation (SFA), product configuration, event-based marketing, opportunity management, campaign management and contact management solutions (Ang and Buttle, 2006). Analytical CRM refers to the technologies that aggregate customer information and provide analysis data to improve business decisions and actions (Raman, Wittmann and Rauseo, 2006). This part of CRM explores customer related data to answer questions such as "what should we offer this customer next?", "what is this customer's propensity to churn?", or "how can our customers be segmented for campaigning purposes?" (Ang and Buttle, 2006), and also "how should my company communicate with our customers?", or "what are my customer preferences about color and size?" (Chen and Popovich, 2003).

Based in this structure, the CRM technological solution primary objective is to track, capture and analyse customer's interactions and transactions over a long period of time (Croteau and Li, 2003). Further CRM helps converting this data in useful information to activities such as: create personalized marketing

plans, develop new products and services, and design communication programs that attract, reward, and hence retain customers (Croteau and Li, 2003).

4 CRM SOFTWARE IMPLEMENTATION

The CRM software can be operated as an integrated module in the technological solution “Enterprise Resource Planning” (ERP) or as independent module by the CRM fabricant companies.

The ERP was created with the objective of integrating the information flows (Davenport, 1998) and the different business processes of functional areas in the company. It supports the company in both sharing the information throughout the value chain and in operational efficiency (Law and Ngai, 2007). However, some years after it was launched, the companies who only offered the ERP tool began to offer the CRM solution integrated to the ERP as well.

The CRM software implementation does not have a standard process which is common to all companies, but has many variations (Zikmund, Mcleod Jr., and Gilbert, 2003). These variations are usually based on the length of the implementation project, on the budget, on the amount of people involved and others aspects.

Nevertheless, in order to have successful results, companies who buy the CRM solution still need the support of an implementation team, since during the implementation process there are many critical factors that must be managed.

The implementation team may be composed of employees from the company who developed the software or from partner companies. Some companies who develop the software prefer to participate in the implementation process too, since it enables the company to better know its customers’ needs and, with that, improve their software. Other companies choose to focus on its development ability and prefer to delegate the implementation responsibility to a partner company (Higgins, 1999).

5 THEORETICAL FRAMEWORK

At the beginning, the software implementation was frequently characterized by two main aspects: the narrow focus on the software’s functions and in doing everything at once. The implementations used to disavow stages previously established and their goal was just to enable the software to be ready for users (Fichman and Moses, 1999). The process was lead almost exclusively by the company responsible for the implementation (Rigby, Reichheld, Schefter, 2002). However, nowadays, the software implantation process is seen as a process of technological innovation (Fichman and Kemerer, 1997) in which many variables take part.

Little correspondence exists between ERP technology and CRM applications implementations and it is possible to notice significant differences between then (see Table 1). So, previous vendor’s and consultant’s experience related to ERP implementations is insufficient to drive a whole CRM implementation. The challenge facing CRM initiatives is greater than the (not insignificant) process changes heralded by the introduction of ERP (King and Burgess, 2008). Consequently, further research in order to establish a CRM software implementation framework is desired.

Differences between ERP and CRM	
ERP	CRM
Integrate back office functions	Integrate back and front office applications
Promise to link all functional areas of the business with suppliers and customers	Promise to improve front office applications and customer touch points
Address fragmented information systems	Address fragmented customer data
Analysis focus on supply and demand for key resources and materials	Analysis enable to gain insight into customer behaviour and preferences
Stronger focus on making routine internal	Stronger focus on customer interactions and

processes more efficient	needs, in order to provide better products and services
	Possibility to extend data mining capabilities through web access to customer, distributors and manufacturers

Table 1 - Differences between ERP and CRM

Large-scale integrated systems are by definition complex and difficult to implement (King and Burgess, 2008). Consequently, the fact that a company buys a CRM solution and implements it does not mean that the benefits will be achieved automatically (Payne and Frow, 2006), neither that the success can be associated to the amount of the investment made on the technology (Rigby, Reichheld y Schefter, 2002). The benefits of using the tool may be large, but many authors emphasize the risk of failure in investing in the CRM software (Reinartz, Krafft and Hoyer, 2004, Rigby, Reichhel and, Schefter, 2002). In this way, Sun (2006) highlights that the recent development of CRM technological solutions shows the necessity of a rigorous research to better understand the nature of this emergent industry.

For the reasons listed above, some studies intend to discover CRM critical success factors that may be useful to solve this problem (See table 2)

Authors and publication year	Type of study	Critical success factors identified
Wilson et al. (2002)	- Exploratory paper: 5 in-depth cases studies	- Gain champion/sponsor - define approval procedures - board awareness of potential of IT - organized around customer - involve customers in system design - design for flexibility - rapid strategy /action loop - market orientation - need for IT convergence / coordination - address culture change - manage IT infrastructure
Goodhue et al. (2002)	- Exploratory paper: 6 in-depth cases studies	- top management support - incremental approach - vision/CRM mindset -willingness to share data - willingness to change processes
Croteau and Li (2003)	- Empirical paper: involving 57 companies. - PLS analysis	-top management support -technological readiness (generates more knowledge mgt capabilities) -knowledge management capabilities
Chen and Popovich (2003)	Exploratory paper: presents an innovative implementation model	- enterprise-wide strategy - customer-centric business process - cross-functional integration - technology-driven processes
Chen y Chen (2004)	-Exploratory paper: involving 180 companies in 12 industries were surveyed and 36 depth interviews	- system integration - knowledge management - champion leadership - internal marketing - business IT alignment - culture/ structure change
Raman, Wittmann and Rauseo (2006)	- Exploratory paper: in- depth interviews and analysis of open-ended comments from 65 CRM users	- organizational learning - business process orientation - customer-centric orientation - task-technology fit

King and Burgess (2008)	Theoretical paper: develop a conceptual model of CRM and converts it in a dynamic simulation model	<ul style="list-style-type: none"> - top Management support - communications of CRM strategy - knowledge management capabilities - willingness to share data - willingness to change processes - technological readiness - culture change/customer orientation - process change capability -systems integration capability
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Table 2 – Critical Success Factors Review

Some important gaps were noticed as an outcome of reviewing CRM critical success factors literature:

- The CRM software implementation process was studied very superficially.
- The software implementations models previously developed do not consider the software implementation service and support of the implementation team.
- Companies’ differences in background and gaps related to CRM process and technology were partially considered in the success of the implementation process or in the CRM software results.
- The effect of CRM cultural orientation of the companies over the CRM software implementation was studied slightly
- The effect of CRM implementation process success on the CRM software overall results was not observed
- The effect of variables such as length of the implementation process, software usage level and time since implementation process has finished in CRM software overall results was not studied either.
- There are very few empirical papers in this area

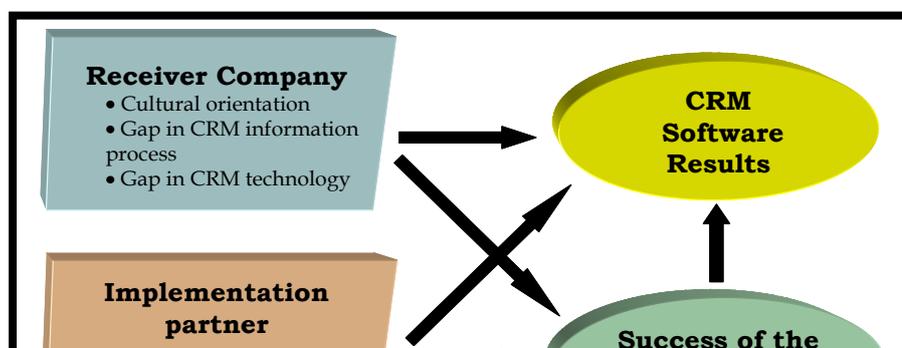
This paper focuses on the gaps identified above. Specifically, it refers to the technological aspect of CRM, dealing with and evaluating the implementation process, and not only the final results of CRM. However, the purpose of this study is not to defend the idea that the CRM as a technological tool, since that would be a mistake previously pointed out by many authors (Kale, 2004, Reinartz, Krafft and Hoyer, 2004, Payne 2006, Rigby, Reichheld and Schefter, 2002).

The study’s objective is to propose a model to investigate the critical success factors in the implementation of the CRM software and to gather conclusions that would enable CRM vendors, consultants, implementation teams and buying companies to adapt their strategies to achieve better results with the CRM implantation process.

6 MODEL AND PROPOSITIONS

An extensive review of the existing literature was made, both in business and academic terms, in order to define the model to be studied. Thus, the model was introduced and commented on by academics and also by many specialists in the commercial area of CRM. As a result, this study not only has the academic requirements of a scientific research but also has a strict approach to the business reality, what makes it very relevant for business as well.

The model analyses the CRM from a technological perspective and has 4 blocks of variables: CRM software results, success of the implementation process, receiver company and implementation team/partner. (See model below)



6.1 CRM software results

The CRM software results are based on the receiver company satisfaction with the software effectiveness in fulfilling its operational obligations and also with the commercial results achieved after the software implementation.

6.1.1 Receiver company satisfaction with the software (CRM Operational Results)

The model measures the software quality through the satisfaction of the receiver company, since a product's quality is mainly what the customer says about it based on its perception (Grönroos, 1990). A product's quality is defined by a relative concept determined by the existing difference between customers' needs and expectations and how much of those expectations the company can satisfy (Camisón, Cruz, and González, 2007).

Expectations related to CRM technology can be created by different means, for example, by guides, promotional folders, CRM products' presentations, etc. In order to measure expectations and their satisfaction, we will evaluate the main contributions promised by the software, such as: offering substantial help in sales management, campaigns, customer service and commercial information management and analysis.

By doing so, we will better understand satisfaction with the software and customer perception related to promised contributions and real contributions to operational performance in commercial activities after the software's implementation. More specifically, operational perceived benefits are defined as operational savings due to the improved internal efficiency brought about by the implementation of CRM applications (Croteau and Li, 2003).

6.1.2 CRM strategic and commercial results

The model measures CRM results based on the receiver company's perception of the software's impact on strategic and commercial results achieved after the implementation process.

The literature proposes some expected benefits from the CRM implementation and there are performance indicators associated with these benefits, that measure the results achieved (Croteau and Li, 2003, Lin, Lin, Huang and Kuo, 2006, Richards and Jones, 2008, Chen and Chen, 2004, Foss, Stone and Ekinci, 2008).

Some authors suggested that CRM results would vary depending on the industrial context of the firm (Rust, Lemon and Zeithaml (2001) and Hart et al (2004). However, recently, Reinartz, Krafft and Hoyer (2004) stated that there are CRM benefits and results that are commonly observed despite the industrial or cultural context analyzed. This study supports the idea that some CRM benefits occur frequently in the literature because they are the most important ones and because they are unrelated either to the adopted measurement or to the adopted perspective.

As a result of reviewing CRM benefits and performance indicators presented in the existing literature, the improvements in strategic and commercial performance resulting from investments made on CRM are observed through:

Customer Acquisition

Customer Retention

Customer Loyalty

Customer Satisfaction

“Share of customer” (through Cross-selling and Up- selling)

Customer Win back

Share and Sales in market segments focused

Customization and introduction of new products and services

Customer Lifetime Value

Customer Segmentation

6.2 Success of the Implementation Process

The success of the implementation process is evaluated according to the implementation process development in the receiver company. It must be verified if the implementation process was concluded following the agreed budget and duration. It should also evaluate the intensity of misunderstanding between the receiver company and the one responsible for the implementation process. Finally, the receiver company satisfaction level with the implantation process must also be checked.

Proposition 1: Implementation process success is related to CRM software results

6.3 The Receiver Company

The receiver company is the one that buys the CRM technological solution and receives the software through the implementation process. In the proposed model, the receiving company is evaluated according to key variables in order to observe the success of the implementation of the software, and the ensuing results for the company. These variables are: cultural orientation, gap in CRM information process and gap in CRM technology.

6.3.1 Cultural orientation

A company’s culture is deeply involved with values and beliefs which establish rules for appropriate behavior (Despandé, Farley and Webster, 1993). So, a company’s culture is a key variable, since it may act as a barrier or a catalyst in a CRM tool implementation process.

Meta Group Report (1998) concluded that investing in CRM technology without a customer oriented culture is like throwing money into a black hole. As culture resides in the company’s staff and the individual employees are the building blocks of customer relationships, they must understand the purpose and changes that CRM will bring.

Also, a customer oriented culture helps maintain the organization’s attention on customer interactions and it ensures that expertise from different functional areas is deployed to promote quality in customers’ experience (Raman, Wittman and Rauseo, 2006).

Proposition 2: Cultural orientation is related to both CRM software results and the success of the implementation process

6.3.2 *The Gap in CRM information process*

CRM Information processes are the specific routines that a firm uses to manage customer information in order to establish long-term relationship with customers. These information processes systematize how to capture and use customer information so that a firm's effort to build relationships is not rendered ineffective by poor communication, information loss and overload, and inappropriate information use (Jayachandran et al, 2005).

A high level of information process implementation means that a company is more skilled to adjust its interactions with customers and can influence this relationship in an active way (Reinartz, Krafft and Hoyer, 2004, Zeithaml, Rust and Lemon, 2001); and by that can also obtain better results with its customers.

Some authors have defended that technology is a source that supports information processes implementation (Brynjolfsson and Hitt, 2000, Reinartz, Krafft and Hoyer, 2004). However, as there is not a clear definition of processes, CRM software implementation may not be consistent with employees' expectations regarding customer information management (Jayachandran et al., 2005, Reinartz, Krafft and Hoyer, 2004). Because of that, the receiver company tends to be less satisfied with CRM software contributions. So, a company's failure to establish these information processes previously may affect the CRM software implementation and the CRM software results.

Moreover, Jayachandran et al. (2005) and Reinartz, Krafft and Hoyer (2004) highlight the necessity of a posterior study with more companies who have implemented CRM software, since there is a considerable room for improvement in the implementation of CRM processes.

Proposition 3: The gap in CRM information process is related to both CRM software results and the success of the implementation process

6.3.3 *The Gap in CRM technology*

A gap in CRM technology or in CRM technological readiness (Croteau and Li, 2003) refers to the existence and the level of sophistication and use of the software in doing marketing activities previous to CRM software implementation

Previous employee knowledge of other software regarding their routine activities tends to diminish CRM complexity in the receiver company. Some authors have already pointed out that previous user knowledge of complex technology has a key role in its usage (Alba and Hutchinson 1985, Norman 1999). It is also known that technology can be sophisticated and easy to use at the same time (Shih and Ventakesh, 2004).

As people get more and more used to technology, they also develop related skills and perceive themselves as technology dependent. At the same time, people's experiences teach them how to become more familiar with technology and its different possibilities, which in turn affects use frequency and variability in a positive way (Shih and Ventakesh, 2004)

So, it's expected that a company with a narrower technology gap will more easily take advantage of CRM's advantages and will have more success with the implementation process. It is also expected that the company will achieve better strategic and commercial results and will be more satisfied with its software's contributions.

Proposition 4: The gap in CRM technology is related to both CRM software results and the success of the implementation process

6.4 **Implementation Team/Partner**

A CRM implementation team focus has to shift from technology to a top-down operational evaluation. The need for systems integrators has significantly declined, now they spend less time technically

configuring an actual implementation and more time on consulting (Mckay, 2008). These consultant recommendations are specially expected to help companies create and maintain profitable customer relationships and build superior brand value.

In summary, the implementation team has a key role in the implementation process. It is responsible for offering good service, by which the receiver company will be able to take advantage of its investments at the end of the process.

6.4.1 Implementation service quality

The task realized by the team responsible for implementation is fundamental to CRM software implementation. It is known that the implementation process of a CRM solution supposes the risk of frustration to the receiver's company employees, since at times the learning cost, the comprehension problems and the lack of control makes their jobs more difficult than expected (Mukherjee and Hoyer, 2000). It also has been mentioned that the facility in using a product creates greater satisfaction among its users (Anderson and Ortinau, 1988; Downing, 1999; Kekre, Krishnan and Srinivasan, 1995).

Obviously, the implementation team will not get everything right or according to theory; and it seems clear that many companies would achieve better results if this situation were improved (Pries and Stone, 2004). Some reports cite consultant error as detrimental, since "when the consultant leaves, the final client has the CRM product with features turned on, but with no real understand of the process or adopted practices" (Mckay,2008). So, it is expected that if consultants succeed in enabling the receiver company to use the CRM software well, it will generate satisfaction not only with the consultant's job and the implementation process (Yoon and Suh, 2004), but also with CRM software contributions.

Proposition 5: Implementation service quality is related to both CRM software results and the success of the implementation process

7 POSSIBLE MEDIATOR VARIABLES

7.1 Implementation process length

According to Fichman and Moses (1999), many authors have noticed that the implementation process of information technologies needs a learning period and costs adjustments. So, the company process of adaptation to a new technology must be respected in order to achieve the planned goals (Leonard-Barton, 1988). Many cases of failure are due to the lack of adaptation to changes and to arrangements (Rigby, Reichheld and Schefter, 2002). So, we intend to analyze if an implementation process at a softer rhythm tends to benefit the receiver company in managing changes and other arrangements.

7.2 How long since the implementation process has been concluded

Some studies show that a satisfactory result regarding CRM software is not noticed as soon as the implementation process is concluded, but it tends to grow throughout time both with CRM software usage and the receiver company's increasing ability to operate the software (Jayachandran et al., 2005, Reinartz, Krafft and Hoyer, 2004).

Many companies give users of the new systems and process just a couple of hours, or a few short days in training rooms and expect them to perform well. It seems apparent that it is not sufficient and further practice with the new system under "live fire" situations, during formal follow-up training, and by utilizing refresher training available on call, is necessary to reach better CRM results (Harding et al, 2004).

7.3 Use level

The usage level is measured in two ways: measurement of use variability and frequency (Shih and Ventakesh, 2004).

Variability refers to the variety of manners in which a product is used. Regarding CRM software, variety is related to the software's different functions that are managed by users.

Frequency refers to the amount of time dedicated to the use of a product during a specific period of time. Considering CRM software, frequency is related to how often a user manages a certain function of the software.

The use of technologies leads to higher satisfaction with the technology itself (Shih and Ventakesh, 2004). Moreover, the use of CRM technology is expected to boost the ability of an organization to sustain profitable customers (Jayachandran et al, 2005). We conclude that the usage level may present some effect over CRM software implementation results.

8 CONTROL VARIABLES

The control variables to be considered are: activity sector (industry), the company's type of customers, annual revenues, number of employees, customer localization and whether or not the company belongs to a multinational group. They are all related to the receiver's company.

9 METHOD

This qualitative approach in CRM implementation was motivated both by the acknowledged absence of CRM-specific research in this area and the desire to provide a stronger foundation to guide thinking and subsequent empirical investigation regarding the implementation process of CRM technology.

Given the few studies that address these specific issues, it was considered appropriated to seek validation from CRM practitioners and users for the framework, which is derived from the literature. When previous empirical research within a specific domain is scant, qualitative methods have been used to generate a foundation for subsequent propositions and hypotheses (Drumwright 1996; Flint, Woodruff, and Gardial 2002).

10 DISCUSSION AND IMPLICATIONS

The purpose of this paper was to develop a grounded model that explains factors contributing to successful CRM implementation process. To examine this issue, it was argued that it should be focused on exploring the set of receiver company's characteristics, implementation partner service, implementation process success and CRM software results in order to transform CRM from a technological tool to a valuable resource.

The vast majority of this literature focuses on "static" critical success factors which are generally not explicitly linked to outcomes, nor are they treated as interrelated. (See table CSF for example). This paper represents a significant advance in this dialogue because the relationship of critical success factors to the results are directly measured and possible interrelations can also be observed.

The proposal also has a very practical focus and goes beyond the academic aspect. Through an empirical study, conclusions and recommendations can be addressed to CRM industry agents (e.g. CRM software vendors, implementation partners, consultants, and CRM customer companies) in order to adjust their strategies and obtain better results in selling, implementing and using CRM technology.

On the other hand, the model is currently under development and will be validated more precisely via interviews with key stakeholders in CRM-using organizations. A questionnaire is under development to

enable all the stakeholders involved in CRM implementation process to contribute to validating the CSF's.

11 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Prior to offering suggestions for future research, the limitations of this study should be pointed out. The model presented has been kept simple. It is an initial model. Certainly further variables and greater complexity could be added. For example, more CSF's could be included, such as differences between CRM software solutions. Also, further connections between variables could be shown. However, given that one of the key attributes to which model builders aspire is simplicity, it was decided to keep the model as simple as possible.

Perhaps the most probable next step in this research would be to develop and validate scales for all the factors identified. Another avenue of future quantitative research could be the development of a structural model for studying the multiple relationships between the variables proposed in this model.

An even more innovate approach of investigating barriers to implementation would be to undertake longitudinal studies where selected firms are followed throughout the entire CRM process.

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