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Implementation effects in the relationship between CRM and its performance☆

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ABSTRACT

Customer relationship management (CRM) is one of the most frequently adopted management tools and has received much attention in the literature. From a company-wide perspective, CRM is viewed as a complex process requiring interventions in different company areas. Previous research has already highlighted the pitfalls and failures related to a partial and incomplete view of CRM. This study advances research on CRM by investigating the impact of the relative implementation time according to which interventions are implemented in different areas (customer management, CRM technology, organizational alignment, and CRM strategy) on CRM performance. The results of the empirical study reveal that compared to other critical CRM activities, a later implementation of organizational alignment activities has a negative impact on performance. Further, our results show that CRM implementations do not equally address the areas of customer acquisition, growth, and loyalty, since this clearly depends on company objectives and also on geographical differences.

1. Introduction

In the current competitive landscape, in which competition is intensifying, the ability to strengthen customer relationships is viewed as a likely source of competitive advantage (Chang, Wong, & Fang, 2014; Santouridis & Veraki, 2017; Thakur & Workman, 2016). Companies have, therefore, invested significantly in the implementation of customer relationship management (CRM) during the past few years (Badgett, Ballou, & LaValle, 2004; Chang, Park, & Chaiy, 2010; Radcliffe, 2001). According to Payne and Frow (2005), CRM is a management approach that seeks to create, develop, and enhance relationships with carefully targeted customers to maximize customer value and corporate profitability. The academic literature and business press recognize the difficulties of correctly implementing CRM (Bohling et al., 2006; Boulding, Staelin, Ehret, & Johnston, 2005; Ryals, 2005; Wilson, Daniel, & McDonald, 2002). Several authors (Keramati, Mehrabi, & Mojir, 2010) have tried to identify the required areas of interventions for a successful CRM. This is in line with recent CRM literature that emphasizes the necessity of an integrated view of CRM projects (Payne & Frow, 2005). An integrated view considers the multiple facets of a CRM implementation—such as customer-oriented strategies, customer management processes, organizational alignment, and technologies in a customer-centric organization—and links them to CRM performance measures (Richards & Jones, 2008).

Based on the literature, we conceptualize CRM as a set of business activities that pertains to four different areas of intervention (four CRM dimensions: strategy, organization, technology, and customer management) with improved customer relationships as the end goal. Kumar and Reinartz (2006) emphasize that each CRM dimension is necessary, although not sufficient, to implement CRM. In order to implement CRM successfully and be competitive, a company should be on par with its competition across all its CRM dimensions and facilitate the positive orchestration of them. Keramati et al. (2010) point out that the harmonious integration of the different CRM dimensions plays a crucial role in CRM's ability to create value for the customer and the firm.

Many authors have investigated CRM and its ability to impact on performance (Chen & Wu, 2016; Krasnikov, Jayachandran, & Kumar, 2009; Law, Ennew, & Mitussis, 2013). However, studies on CRM's impact on performance report inconclusive findings (Ernst, Hoyer, Krafft, & Krieger, 2011; Reimann, Schilke, & Thomas, 2010). Recent CRM literature, therefore, began to focus on factors that may influence the relationship between CRM and performance (e.g., Krasnikov et al., 2009). This investigation enables managers and researchers to understand the intervening and contextual influences on the CRM-

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performance link (Krasnikov et al., 2009). However, the literature still lacks knowledge of the mechanism that translates the different facets of CRM implementation into a company's performance. Zablah, Bellenger, and Johnston (2004) argue that these mechanisms, through which CRM enhances performance, are not well understood.

Various authors have already highlighted the pitfalls and failures related to a partial and incomplete view of CRM (Becker, Greve, & Albers, 2009; Payne & Frow, 2005). CRM projects should not be guided only by a technological investment. For instance, Peppers and Rogers (2004, p. 37) state that a clear customer-oriented strategy should guide CRM implementations. Chen and Popovich (2003) emphasize the employees' effort to adopt the new customer-centric philosophy. In fact, these authors indicate that CRM, by helping to align an organization with its customers, can assist a company with growing its revenue and improving customer management conditions. The results, however, could fall short of expectations if interventions in critical company areas are discarded or delayed (Rigby, Reichheld, & Schefter, 2002). We, therefore, argue that a delay in the implementation of the organizational alignment dimension, compared to that of the other CRM dimensions, has negative consequences for the success of the entire CRM process. Prioritized investments in these critical activities are, therefore, necessary to ensure a successful CRM process. The rationale for our hypothesis is the service-profit chain literature (Heskett, Jones, Loveman, Sasser Jr., & Schlesinger, 2008), which argues that a successful customer-centric strategy draws its strength primarily from a strong focus on people and from an aligned organization. Only when the internal organization has been correctly aligned, trained, and designed around the customer, can companies provide superior customer service and build strong customer relationships with profitable customers.

This study contributes to a better understanding of failure rates concerning CRM projects by taking the distinct CRM dimensions and their relative implementation time into account. More specifically, this paper intends to advance knowledge in the CRM field by investigating whether (1) the relative implementation time of the four CRM dimensions matters in the performance enhancement process, and whether (2) a delayed implementation of the organizational alignment activities impacts negatively on CRM performances. Recent CRM research posited that culture and context can potentially affect the mechanism whereby CRM is translated into performance. CRM is, therefore, implemented differently in various countries, which leads to different results. The majority of CRM studies have been conducted in only one country without comparing countries. Although comparative CRM studies, which take countries and cultures into account, are scarce, it is in high demand, because it can explain how CRM can increase performance (Chang et al., 2010). Our study intends to fill this gap by investigating CRM's impact on performance in Europe and the USA. As such, novelty of this study lies in the data collected from several countries. To our best knowledge, this is the first empirical study that sheds light on the CRM-performance link by taking the relative implementation time of CRM activities, as well as cultural elements, into account.

The structure of this paper is as follows: In the next section, we present the literature review and the development of the hypotheses. We then explain our methodology, including the measure development and the survey-based data collection process. The last section highlights the results of our empirical study. We conclude this paper by discussing the managerial and academic implications of this research and by providing directions for further research.

2. Literature review and research framework

2.1. The CRM concept and its dimensions

Various authors have proposed diverse conceptualizations of CRM, taking the basic premise that companies should develop customer management practices to maximize their value during the relationship's entire lifecycle (Santouridis & Veraki, 2017). Recent literature explained CRM conceptualizations according to specific implementation dimensions (Thakur & Workman, 2016) with each dimension representing a set of business activities (Reinartz, Thomas, & Kumar, 2005). For instance, Becker et al. (2009) insist that the technology and organization dimensions are very important for capturing the complexity of CRM implementation. Technological implementation refers to systems such as databases, analytics, and software applications, while organizational implementation refers to the efforts of companies to align the internal structures, people, and processes with the CRM customer-centric perspective. Similarly, Reinartz, Krafft, and Hoyer (2004) focus on customer management, technology and organizational alignment dimensions. They describe the impact of customer management on CRM performance and highlight the supporting role that CRM technology and organizational alignment play in, for example, appropriate compensation schemes that help to align the entire organization. Peppers and Rogers (2004, p. 415) emphasize the CRM strategy dimension and claim that, unless top management supports a clear customer-centric strategy, a CRM implementation cannot deliver good results.

Several papers acknowledge the impact of the strategic, organizational, customer management, and technological dimensions on CRM performance (Cao & Gruca, 2005; Day & Van den Bulte, 2002; Gustafsson, Johnson, & Roos, 2005; Nguyen & Mutum, 2012; Palmatier, Scheer, Houston, Evans, & Gopalakrishna, 2007). Chen and Popovich (2003) draw attention to the technological and organizational dimensions by describing CRM as a combination of people, processes, and technology. Similarly, Verhoef and Langerak (2002) support the view that CRM requires an internal organization, structured around customers, in which different departments and employees jointly focus on creating superior value for these customers. Finally, Kumar and Reinartz (2006) realize a synthesis. They theoretically identify four different CRM dimensions: organizational alignment, customer management, technology, and CRM strategy implementation. This conceptualization is perfectly consistent with the notion that CRM is predicated on addressing four key areas: strategy, technology, people, and processes (Day, 2003). Table 1 highlights the CRM dimensions emphasized by the CRM conceptualizations in the literature.

Based on this literature review, we identify four CRM dimensions: organizational alignment, customer management, CRM technology, and CRM strategy implementation. The CRM strategy implementation dimension implies a need for defining a clear customer-oriented strategy with top management support, customer-oriented performance metrics, and a comprehensive view of the customer across the entire organization with central customer data processing that includes different touch points (Palmatier et al., 2007). The organizational alignment dimension captures the importance of redesigning and aligning processes to reflect customer centricity. Organizational alignment generally refers to incentive systems, training for employees, as well as process reengineering and synchronization, all of which maximize customer value (Kumar & Reinartz, 2006). According to the literature, customer relationships can be effectively managed if the customer management part of CRM mirrors the fundamental principle that different customers should be treated differently (Reinartz et al., 2004). A company develops effective strategies for the different segments along the customer lifecycle in order to customize its marketing activities according to customer value and needs (Peppers & Rogers, 2004, p. 401). Technology encompasses the degree to which analytical, operative, and collaborative CRM applications are implemented to collect customer information across the touch points and to facilitate information dissemination and analysis (Buttle, 2004).

The recent CRM literature adopts a more comprehensive CRM view that encompasses the four dimensions (Ernst et al., 2011; Nguyen & Mutum, 2012). Our paper focuses on these four dimensions and their temporal integration for ensuring a successful CRM implementation.

Table 1
CRM dimensions emphasized by CRM conceptualizations as reported in existing literature.

Study	CRM dimension			
	CRM organizational alignment	CRM strategy	CRM technology	CRM customer management
Badgett et al. (2004)	✓	✓	✓	✓
Becker et al. (2009)	✓		✓	✓
Ernst et al. (2011)	✓		✓	✓
Radcliffe (2001)	✓	✓	✓	✓
Jayachandran, Sharma, Kaufman, and Raman (2005)	✓		✓	✓
Kumar, Sunder, and Ramaseshan (2011)			✓	
Kumar and Reinartz (2006)	✓	✓	✓	✓
Payne and Frow (2005)		✓	✓	✓
Peppers and Rogers (2004)	✓	✓	✓	✓
Reimann et al. (2010)				✓
Reinartz *et al.* (2004)	✓		✓	✓
Rigby *et al.* (2002)	✓	✓	✓	✓
Ryals (2005)				✓
Winer (2001)				✓

Note: We considered how each study conceptualizes CRM.

2.2. CRM dimensions and performance

Several papers acknowledge the impact of the strategic, organizational, customer management, and technological dimensions on CRM performance (Cao & Gruca, 2005; Gustafsson et al., 2005; Palmatier et al., 2007; Rapp, Trainor, & Agnihotri, 2010; Reinartz et al., 2004). Reinartz et al. (2004) define CRM as a systematic process for managing and improving customer relationship initiation, maintenance, and termination across all customer contact points to maximize the value of the customer base. Similarly, Becker et al. (2009) recognize three objectives of a customer relationship management process: customer acquisition, maintenance, and retention. Since CRM is a cross-functional process aimed at improving customer relationships, we posit that CRM and its four dimensions impact positively on customer acquisition, growth, and loyalty. This is the basis of hypotheses H1a, H1b, H1c, and H1d (Fig. 1).

Several authors recognize the necessity to align the internal organization for ensuring CRM success (Becker et al., 2009; Chen & Popovich, 2003). Organizational alignment, which is necessary for customer orientation and disseminating customer knowledge within the organization (Slater & Narver, 1995) leads to the structural changes that the organization requires (Makkonen, Johnston, & Javalgi, 2016; Reinartz et al., 2004). Furthermore, changing employees' attitude towards customers definitely requires organizational alignment, which is mentioned as an important area of change and very necessary for building a customer-centric culture, as well as increasing customer value (Chen & Popovich, 2003). As a part of the organizational alignment, employees should be motivated with incentive systems (Reinartz et al., 2004; Rigby et al., 2002), as well as procedural and continuous employee training programs (Greenberg, 2004). Incentive systems help employees to build quality relationships with customers, while training conveys the importance of CRM in the effort to build customer value. Employees should be empowered to face and solve critical customer problems that can damage the relationship in the long run (Ernst et al., 2011). Processes should be synchronized and reengineered to provide value for the customers during the relationship's entire lifecycle. According to the above premises, we thus posit that:

H1a. Organizational alignment, as a dimension of CRM, is positively related to CRM performance (acquisition, growth, and loyalty).

Technologies refer to analytical, operational, and collaborative systems (Greenberg, 2004) that are used for collecting customer

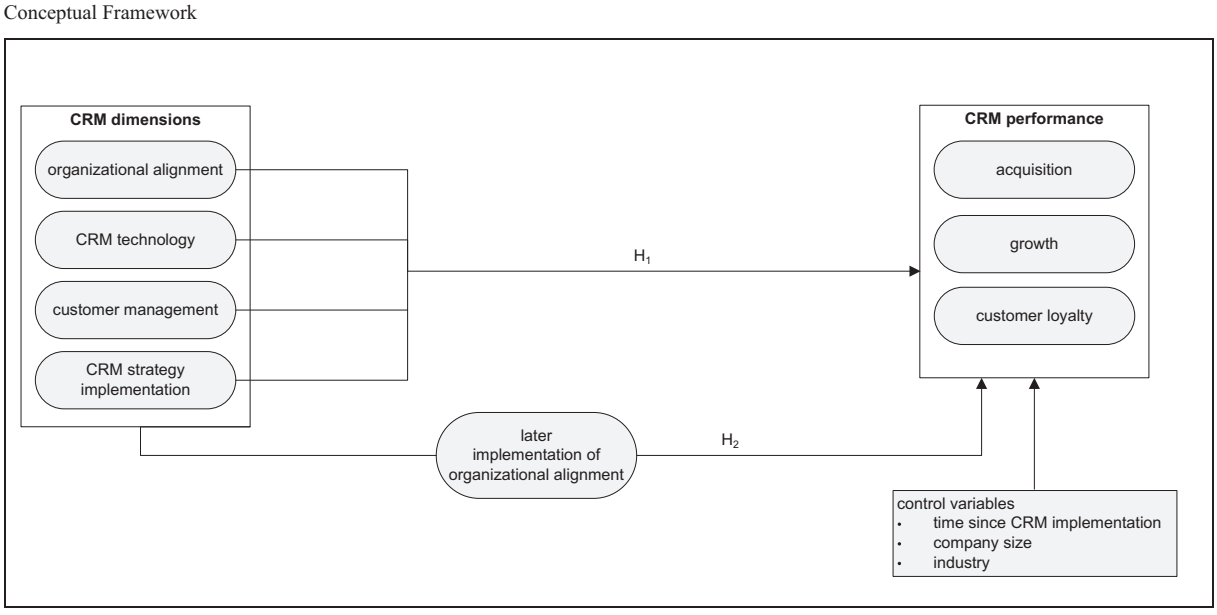

Fig. 1. Conceptual framework.

information, disseminating customer knowledge across the organization, and maximizing customer lifetime value. Analytical CRM enables firms to analyze data and information, and to disseminate the resulting knowledge throughout the organization. Collaborative CRM, which is used in external operations with customers, facilitates a two-way interactive dialogue between the company and its customers. With technology, companies can collect customer information each time that it interacts with a customer. Operational CRM, which is used in internal operations such as sales and marketing, aims at automating activities.

CRM applications utilize technology innovations, particularly their ability to collect and analyze data on customer patterns, to understand customer behavior, to develop predictive models, to respond with timely and effective customized communications, and to provide profitable customers with customized product and service values. This improved knowledge can also enhance service recovery efforts and result in customers having a greater perception of service quality, which can lead to stronger customer relationships. On the basis of the above discussion, we posit that:

H1b. CRM technology, as a dimension of CRM, is positively related to CRM performance (acquisition, growth, and loyalty).

From a CRM perspective, the allocation of different resources to different customer tiers is a key customer management goal (Thakur & Workman, 2016). The customers' economic value or profitability determines their membership (Kumar, Dalla Pozza, Petersen, & Shah, 2009; Segarra-Moliner & Moliner-Tena, 2016). Then, with the objective of customizing its marketing activities according to customer value and needs, the company develops effective strategies for the different segments (Peppers & Rogers, 2004). Customer strategies should also target the different stages of the customer lifecycle (Kumar & Reinartz, 2006). To summarize: Customer management in CRM implies the development of different marketing strategies to target distinct customer segments defined according to their value, needs, and customer lifecycle stages. An improved customer segmentation based on customer value and needs, helps to meet the specific demands of individual customers with quick delivery of customized products and services, thereby keeping an eye on the company's profitability goals (Ernst et al., 2011). It also allows companies to target economically attractive market segments with their products, which boosts cross-selling opportunities and customer relationship growth. All things considered, we argue that, in a CRM process, a higher level of customer management is related to a higher level of CRM performance across the three stages of the customer relationship.

H1c. Customer management, as a dimension of CRM, is positively related to CRM performance (acquisition, growth, loyalty).

Several authors suggest that a successful CRM should incorporate a clear customer-oriented strategy (Peppers & Rogers, 2004) which is supported by the top management. Past studies emphasized the importance of top management involvement for implementing (Jarvenpaa & Ives, 1991; Sabherwal, Jeyaraj, & Chowa, 2006) and strategically orientating (Narver & Slater, 1990) a company's CRM. Without top management support, CRM risks failure (Elmuti, Jia, & Gray, 2009). A CRM strategy is necessary for setting clear key customer performance indicators across the company and at every customer touch point (Rigby et al., 2002). In addition, it should create a unified view of the customer across the company (Kumar & Reinartz, 2006). This, together with customer-oriented goals, allows for a superior customer experience, the end goal of which is improving customer relationships across their different phases (Chari, Tarkiainen, & Salojärvi, 2016). We, therefore, posit that:

H1d. CRM strategy, as a dimension of CRM, is positively related to CRM performance (acquisition, growth, and loyalty).

2.3. Relative implementation time for the organizational alignment and performance

Certain authors have reservations about the link between CRM and performance, because this link is unclear to them (Krasnikov et al., 2009). Zablah et al. (2004), for instance, request more research to identify the mechanisms through which CRM enhances performance and argue that managers do not yet have clear guidance. Similarly, Shugan (2005) asserts that the mechanisms through which CRM affects performance are not well understood.

Reimann et al. (2010) point out that recent academic studies report contradictory and inconclusive findings regarding CRM's effect on performance. Although several studies report a positive relationship between CRM and performance (Krasnikov et al., 2009; Sin, Tse, & Yim, 2005; Verhoef, 2003), others identify a negative or insignificant relationship (Reimann et al., 2010; Reinartz et al., 2004; Voss & Voss, 2008). Voss and Voss (2008), for instance, found a negative correlation, which is measured as revenue and expenditure, between CRM and performance. In a similar vein, Hong-kit Yim, Anderson, and Swaminathan (2004), as well as Reinartz et al. (2004), report mixed results that depend on the performance metrics and the CRM implementation dimensions. Moreover, the business press, which reports a high failure rate for CRM implementations, claim that approximately 70% of them result in losses or no bottom line improvement (Gartner Group, 2003).

Recent research on the link between CRM and performance tried to identify the intervening variables that may shed light on the CRM-performance link. This research investigated, for instance, the mediating role of the company's main business strategy such as differentiation or cost leadership (Reimann et al., 2010) and new product performance, as well as the moderating role of industry characteristics (Sharma & Iyer, 2007).

In this regard, Sharma and Iyer (2007) propose that regional and cultural heterogeneity are significant factors that determine the CRM success. However, their findings reveal contradictory results. Coviello, Brodie, Danaher, and Johnston (2002) do not find differences between services and goods, or between the business-to-business and business-to-consumer arenas, in the CRM-performance link. Similarly, Reimann et al. (2010) draw attention to the effect of CRM on performance in low and high commodity industries. The authors, however, do not find significant differences concerning industry commoditization. Kumar et al. (2011) highlight the importance of time dynamics in CRM projects. They apply the Bass diffusion model to CRM implementations to capture the learning dynamics over a period of time. Specifically, they take the learning effects between regions into account by using a generalized cross-regional diffusion model of CRM technology adoption across regions.

Our paper aims to supplement this literature by investigating the intervening variables in the CRM-performance link. We focus specifically on the relative time according to which the four CRM dimensions are implemented in a company. One of the main initial reasons for the high failure rate of CRM projects is the focus on technology. CRM projects tend to fail if technological investment is the only consideration with no significant attention to, for instance, a clear definition of the customer-oriented strategy or the employee training effort that is necessary to instill a new customer-centric philosophy (Kumar & Reinartz, 2006). CRM involves the integration of processes and technologies, and also requires that organization members support the customer-oriented strategy (Chen & Popovich, 2003). Certain authors argue that a clear customer-oriented strategy should precede CRM implementation (Peppers & Rogers, 2004). Similarly, Rigby et al. (2002), in their well-known critical analysis of the reasons for CRM project failures, warn managers that CRM can only deliver the expected results after a customer acquisition and retention strategy has been conceived and implemented, because “to implement CRM without determining marketing goals would be like trying to build a house without

engineering measures or an architectural plan."

Based on the above premises and business evidence, we claim that the relative implementation time of CRM dimensions can impact its performance. Companies should, therefore, not only learn how to better implement CRM, but should also understand that, for a successful CRM, certain CRM dimensions are necessary building blocks for other dimensions. Learning how to better implement CRM also implies an understanding that certain company changes and CRM dimensions should, as a set of business activities, be prioritized in the overall process. We specifically argue that a delayed implementation of the organizational alignment dimension in relation to the other CRM dimensions has negative consequences for the success of the entire CRM process.

The service-profit chain literature, which supports this argument, tries to identify and test the chain of effects that result in company profitability, starting with internal service quality (that is, internal quality of work, the employees' level of training, the employees' reward opportunities, etc.), as well as customer satisfaction and loyalty. The literature argues that company profits stem from customer loyalty and satisfaction, which, in turn, result from the value provided to the customer (Heskett et al., 2008). This value depends on productivity, internal processes, and the employees' quality of work, which, in turn, depends on the employees' satisfaction and loyalty (Loveman, 1998) and also on the internal service quality (the care taken with employee selection, training, empowerment, and compensation). Based on their practical experience, Heskett, Sasser, and Schlesinger (1997) point out that customer value depends on process quality, which should exceed customer expectations, and also on internal service quality. Companies can only provide superior customer value and build strong customer relationships with profitable customers after the internal organization has been correctly aligned, the processes have been redesigned around the customer, and employees have been trained, empowered, and rewarded for their customer-centric efforts. Therefore, in a customer-centric approach, the service-profit chain paradigm recognizes that superior profits result from the centrality and priority of organizational alignment in terms of processes and employees.

In his best-seller titled "Employees first, customers second," Vineet Nayar supports the importance of placing the organization and its employees at the center of management, which sparked a revolution at HCL, an Indian technology and IT enterprise (Nayar, 2010). By arguing that the ownership of "change" should be transferred to the employees in the value zone—frontline employees who are far lower on the hierarchical pyramid, who deal with customers on a daily basis, and who directly create customer value—, the author maintains that any company can bring about a fundamental change in the way value is provided to customers by putting its employees first.

The firm's customer value-based theory also highlights the priority of organizational alignment in customer-centric strategies. According to the customer value-based theory (Slater, 1997), which underpins CRM (Ling-yee, 2011), companies can achieve superior performance if they have a customer value-based organizational culture and organize themselves according to customer value delivery processes. Internal marketing efforts in terms of training and education, reward systems and incentives, internal communication, and employee involvement should be used to disseminate a customer value-based orientation among the key staff at the organization's interface with its customers (Zikmund, McLeod, & Gilbert, 2003). Based on the above discussion, we highlight the critical role of organizational alignment in CRM processes and posit that:

H2. A later implementation of organizational alignment within the entire CRM implementation process is negatively related to CRM performance (acquisition, growth, and loyalty).

2.4. Cultural elements, CRM, and performance

Empirical research that examined the CRM-performance link has produced contradictory findings (Chang et al., 2010). These findings necessitate the identification of mediating or moderating variables that affect the mechanism by which CRM can translate into superior business performance. Cultural elements can be one of the moderating factors. Since the majority of CRM-related studies are being conducted in Western countries (Chang et al., 2010), as Boulding et al. (2005) point out, there is a growing need for cross-cultural studies in CRM.

Nguyen and Mutum (2012) posit that CRM activities, depending on when and where they are implemented, have differential effects. Chang et al. (2010) argue that CRM implementations, due to cultural elements, can translate differently into performance.

In their study of a Korean setting, Chang et al. (2010) argue that CRM could have a stronger impact on performance in Eastern countries than in Western countries, because Eastern cultures tend to value existing relationships with firms or contact persons more. Consequently, Eastern cultures can improve performance more effectively if CRM is correctly implemented. Their study identified organizational culture as a major antecedent of CRM technology use. According to Jayachandran et al. (2005), organizational culture influences the objective of firms and the means to accomplish such goals, namely a firm's allocation of resources.

In his analysis of CRM in Saudi Arabian companies, Basahel (2016) examines the combined impact of leadership and culture on CRM implementation, and also the effect of leadership and culture on each other. The research finds that leadership plays a very important role in CRM implementations in Saudi Arabia, especially because leadership can also influence culture—especially in high power distance societies like Saudi Arabia.

Our research aims at extending CRM studies to multiple countries and cultures by studying how CRM translates into performance in several European countries and also in the USA. In our conceptual model, we compare the inner model relationships between Europe and the USA to capture and analyze these observed heterogeneity stemming from, for example, cultural differences and different value orientation. This comparison is an important contribution, since it also identifies possible differences in CRM implementation in Europe and the USA.

3. Research methodology

3.1. Data collection and sample

We conducted a cross-sectional survey in Europe and the USA in order to test our framework and hypotheses on how the relative implementation time of CRM dimensions impacts on performance. We pre-tested the questionnaire with a sample of forty senior marketing managers and CRM experts, which resulted in minor changes to the wording of the items and instructions on how to answer the questionnaire.

In order to reach companies with substantial CRM experience, a letter of invitation was sent to top managers who subscribe to a CRM consultancy company's newsletter, asking them to participate in a CRM survey on condition that, first, they had substantial experience with CRM implementation; second, they had been involved in a top level CRM project; third, they had been involved in a CRM project from its inception; and, fourth, they could consult with other people in the company regarding the survey questions they could not answer. We used a personalized e-mail containing a digital questionnaire to identify and target 1035 potential participants. Having deleted responses with missing data (e.g., companies with missing data in their performance metrics), we were left with 350 usable responses. Our sample consists of 142 responses from Europe and 208 responses from the US, with a good balance between small and large companies. The industries and number of respondents are as follows: advertising and marketing services (n = 46), consulting services (n = 40), financial services and insurance (n = 44), telecommunication and technology services (n = 60), other services (n = 60), retailing (n = 36), manufacturing, chemical, and

pharmaceutical industries (n = 54), and others (n = 10). To assess whether our sample differed in the industry distribution when compared to the initial sample, we conducted a $\chi 2$ homogeneity test. The results indicate no significant differences in the distribution of the two groups.

We tested non response bias by comparing the indicator values in respect of the early and late respondents (Armstrong & Overton, 1977). The data set was divided into quarters according to the number of days from the initial mailing until receipt of the returned questionnaire. Since all our twenty-nine measures showed insignificant ($p > .05$) differences between the early and late respondents, we conclude that non response bias is not an issue in our data. We also used Harman's single factor test to conduct a statistical check for common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). If common method bias were a serious issue, a single factor would emerge, or one general factor would account for most of the variance. A principal component analysis of all the measures yielded eight factors with eigenvalues > 1.0. The largest factor accounted for < 25% of the variance. This indicates that common method variance is unlikely to be a major concern in our research model.

3.2. Measure development and analysis

To test our hypotheses, we developed a structured survey instrument for the companies. We developed our scales based on a literature review and on interviews with CRM experts from academia and practice. Since we were only partially able to rely on existing scales that cover the intricacies of the CRM context, we had to develop new scales to account for the range of activities that cover the CRM implementation. We conceptualized CRM at the companywide level according to its four dimensions (Kumar & Reinartz, 2006): organizational alignment, customer management, technology, and CRM strategy implementation. To measure these CRM dimensions, we identified a total of fifteen items, which reflect activities necessary for a firm to be considered as implementing CRM on a company-wide level. We measured the CRM strategy implementation dimension by using four reflective items that capture top management involvement, performance management, the implementation of a comprehensive view of the customer across the company, and customers' experience. This dimension accounts for the extent to which the CRM strategy is incorporated into the management of the company. It particularly reflects top management involvement in the customer strategy definition (Kohli & Jaworski, 1990). This dimension also implies that customer-oriented metrics are defined at the outset of the CRM project (Newell, 2003), that a comprehensive view of the customer is created across the entire organization, and that a company focuses on its customers' experiences (Meyer & Schwager, 2007).

The organizational alignment dimension consists of four reflective items and involves people and processes (Chen & Popovich, 2003). The processes should be specifically redesigned and aligned with the customer-centric philosophy. People should be appropriately trained (Ruekert, 1992) and empowerment should be considered. Incentives and rewards should be redesigned and aligned with the CRM strategy (Deshpande & Webster Jr., 1989; Ruekert, 1992).

Customer management was measured by using four reflective items, which reflect customer differentiation according to their value (Niraj, Gupta, & Narasimhan, 2001) and needs, and also according to the implementation of different actions for different customers during the customer lifecycle (Peppers & Rogers, 2004). Our technology dimension consists of three reflective items and encompasses the degree to which analytical, operative, and collaborative CRM applications are implemented (Buttle, 2004; Jayachandran et al., 2005). A principal component analysis confirms the four factor structure. Appendix A provides a list of our fifteen items.

A *later implementation* of the CRM dimensions within the CRM process was measured by using a rank-order rating scale. The respondents were asked to indicate the chronological order according to which they implemented the fifteen CRM-related activities (items). These activities represent the four dimensions of the CRM process (e.g., there are four items for the CRM strategy implementation dimension). "1" was assigned to the activity implemented first, "2" to the activity implemented second, and so on. The same number was assigned to activities that were simultaneously implemented. We averaged the rank-order ratings of the items related to one CRM dimension in order to capture the average implementation time of that dimension. We created the "relative time of implementation" variable for each CRM dimension. Thus, one dimension's lower score of 'relative time of implementation' indicates an earlier implementation within the implementation process. In this way, each company was assigned a set of four numbers (see Appendix B).

We measured CRM performance by adapting scale items from the study by Becker et al. (2009). In order to measure performance, we asked the companies' respondents to estimate the improvement in customer acquisition, growth, and loyalty since the start of CRM implementation. *Customer acquisition* was measured by two formative indicators expressing the improvement in the number of new customers and regained lost customers (Buttle, 2004). *Customer growth* comprised three reflective indicators and encompassed improvements in customer revenue, customer profits, and customer lifetime value (Kumar & Reinartz, 2006). Finally, *customer loyalty* was measured by two reflective indicators expressing the improvement in customer retention and satisfaction. All our performance measures were rated on a five-point scale ranging from "much worse" to "much better."

We added an industry composite by using dummy variables to control for variances across the different industries. This allowed us to incorporate the mean differences in the performance measures. We also controlled for company size and the period of time since the CRM implementation. Company size was operationalized by two reflective indicators measuring the number of employees and annual revenues. The period of time since the CRM implementation was measured in years that have passed since commencement of the implementation.

We conducted principal component analyses and tested for composite reliability to check the reliability and validity of the reflective constructs. Principal component analyses confirmed that our factor structure and composite reliability, ranging from 0.78 to 0.97, corroborate the appropriateness all the reflective constructs. Since our formative measurement model is based on linear equation systems, we had to ensure that the collinearity between the formative indicators did not affect the stability of the indicator coefficient. As a result, our calculation of the variance inflation factors was well below the common cut-off figure of three, thus indicating no harmful collinearity between the indicators. Finally, we assessed the discriminant validity based on the criterion proposed by Fornell and Larcker (1981). The results indicate that discriminant validity is not an issue. Table 2 shows the means and average variance extracted (AVE) from the constructs, as well as the correlations between them. The variance inflation factors (VIF ≤ 2.32 for all exogenous measurement models) show no signs of multicollinearity issue. Appendix A lists our scale items, as well as the relevant figures proving that they meet the quality requirements.

3.3. PLS path modeling

In order to test H1a, H1b, H1c, H1d and H2, we used partial least squares (PLS) path modeling by means of SmartPLS 2.0 (Grewal, Cote, & Baumgartner, 2004; Ringle, Wende, & Will, 2005). This analysis aims at simultaneously testing the direct impact that the four CRM dimension implementation levels, as well as the relative implementation time of the organizational alignment within the implementation process, have on CRM performance (Hendricks, Singhal, & Stratman, 2007).

In order to capture the different objectives of CRM implementations, we measured CRM performance with three measurement models: (1) customer acquisition, (2) customer growth, and (3) customer loyalty.

Table 2
Descriptive statistics: means, correlations, and AVEs.

	Mean	AVE	1	2	3	4	5	6	7	8	9	10
1. Organizational alignment	2.64	0.63										
2. CRM technology	2.85	0.62	0.53**									
3. Customer management	2.86	0.57	0.67**	0.65**								
4. CRM strategy implementation	3.03	0.54	0.61**	0.55**	0.64**							
5. Later implementation of organizational alignment (1)	4.11	–	−0.03	−0.04	−0.06	0.05						
6. Company size	4.04	0.95	0.00	0.02	0.07	0.00	0.07					
7. Time	2.41	–	0.30**	0.26**		0.41**	0.05	−0.05				
8. Acquisition	3.86	–	0.28**	0.19*	0.22**	0.19*	−0.03	−0.07	0.13			
9. Growth	3.75	0.76	0.17**	0.21**	0.13	0.25***	−0.14	−0.02	0.12	0.41**		
10. Customer loyalty	3.77	0.64	0.29***	0.37***	0.33***	0.32***	−0.07	−0.11	0.11	0.53**	0.59**	

Notes: (1) 'relative time of implementation' for each CRM dimension.
*** $p < .01$.
** $p < .05$.
* $p < .10$.

PLS estimation was chosen for a number of reasons. First, one of our performance measurements (customer acquisition) is a formative measurement. Second, PLS shows estimates for multiple individual item loadings and weights, not in isolation, but in the context of a theoretically specified model (White, Varadarajan, & Dacin, 2003). Third, if the sample size is relatively small, as in our study, PLS is preferred to maximum likelihood estimation approaches. In our opinion, PLS is, therefore, an appropriate estimation technique for our purposes. We also capture the observed heterogeneity between Europe and the USA for the inner model, while keeping the outer model relationships (i.e., measurement models) for the two groups constant to perform a multi-group analysis.

4. Analysis and results

Table 3 shows the beta coefficients, as well as the significance of the structural model, in conjunction with the coefficient of determination R^2 of our three CRM performances as indicated by the PLS analysis for Europe and the USA. We used a bootstrapping routine to determine the stability and significance of the parameter estimates and we calculated the t-values based on 500 bootstrapping runs. Our R^2 values range from 0.12 for customer growth to 0.26 for customer loyalty in Europe, and from 0.11 for customer acquisition, to 0.30 for customer loyalty in the USA. The predictive relevance of the model was tested by means of the Stone-Geisser test (Q^2). The Q^2 values of the three performance measures are positive (Europe: 0.23 for customer acquisition, 0.13 for customer growth, and 0.26 for customer loyalty; USA: 0.10 for customer acquisition, 0.24 for customer growth, and 0.30 for customer loyalty) and indicate a sufficient level of predictive relevance (Fornell & Bookstein, 1982). We also included control variables for the type of industry, the period of time since the CRM implementation, and the company size. We find significant relationships between the industry composite and acquisition in Europe ($\beta = -0.20$, $p < .1$), and between the industry composite and acquisition ($\beta = -0.11$, $p < .1$), growth ($\beta = -0.26$, $p < .01$), and customer loyalty ($\beta = -0.28$, $p < .01$) in the USA. No significant effects are found for the period of time since the CRM implementation and the performance measures. We also find that company size has a significant negative effect on acquisition ($\beta = -0.20$, $p < .05$) and customer loyalty ($\beta = -0.25$, $p < .05$) in Europe.

H1a proposes, in more detail, that there is a positive relationship between organizational alignment and acquisition, growth as well as loyalty. The hypothesis is partially supported, because we find a significant positive effect related to customer acquisition ($\beta = 0.31$, $p < .05$) and customer loyalty ($\beta = 0.25$, $p < .1$) in Europe, and customer acquisition ($\beta = 0.28$, $p < .05$) in the USA. Concerning the positive effect of CRM technology on performance (H1b) as postulated, we find significant and positive relationships in Europe between CRM technology and customer acquisition ($\beta = 0.19$, $p < .1$), growth ($\beta = 0.30$, $p < .05$), and customer loyalty ($\beta = 0.30$, $p < .01$), and between CRM technology and customer loyalty ($\beta = 0.23$, $p < .1$) in the USA. Our date does not corroborate H1c, because we do not find significant positive relationships between customer management and our performance measures. However, we find partial support for H1d, in which we posit that CRM strategy implementation has a positive impact on performance. In the USA, the effect of CRM strategy implementation on performance is significant and positive concerning growth ($\beta = 0.35$, $p < .01$) and loyalty ($\beta = 0.34$, $p < .01$).

Analyzing the relative implementation time of the CRM dimensions aimed at verifying H2. We find that a later implementation of the organizational alignment dimension has a significant and negative effect on customer acquisition ($\beta = -0.26$, $p < .01$) and customer loyalty ($\beta = -0.14$, $p < .1$) in Europe, and on customer growth ($\beta = -0.22$, $p < .05$) in the USA, but not to the same extent.

Our results show significant differences in the impact of CRM implementation on performance in Europe and the USA. We, therefore, did a multi-group analysis with PLS for the inner model relationships by keeping all indicator loadings and weights constant for both groups. We used the bootstrapping routine based on 500 bootstrapping runs to calculate the t-values for the differences in the structural relationships. Table 3 shows that the positive relationship between organizational alignment and customer loyalty is much stronger in Europe than in the USA. These differences highlight the importance—only in Europe—of customer-focused behavior and processes to maximize customer value, increase customer satisfaction, and keep customers loyal to the company. Although CRM strategy implementation is the strongest driver of CRM performance in the USA, we do not find any significant relationship in Europe. A possible explanation for this finding is, that American companies have deeper insight into customer needs and wants and constantly better CRM technology in place to share a unified view of the customer across the entire company. As a result, these companies have better systems in place and benefit from top management involvement, which highlights how important CRM activities and achieving customer metrics are to them. Finally, a later implementation of the organizational alignment dimension has a more significant negative impact on customer acquisition in Europe than in the USA. This highlights that the interplay between the implementation of different CRM dimensions is much more important for acquiring new or regaining lost customers in Europe than in the USA.

Since we find that organizational alignment does not have a significant direct relationship with growth, but that growth has a significant relationship with the relative implementation time of organizational alignment, we examine the mean values of the implementation time. Based on this examination, we conclude that the organizational alignment activities in our full sample are, on average, implemented later (mean value: 4.11) than the other critical CRM dimensions (such

Table 3
Results of hypotheses tests.

Hypothesized path	Hypothesis	Proposed direction	Standardized path coefficient for Europe	Standardized path coefficient for the USA	t-Values of multi group comparison
Organizational alignment → acquisition	H1a	+	0.31**	0.28**	0.14
Organizational alignment → growth	H1a	+	0.20	0.00	0.82
Organizational alignment → customer loyalty	H1a	+	0.25*	−0.09	1.71
CRM technology → acquisition	H1b	+	0.19*	0.02	0.68
CRM technology → growth	H1b	+	0.30**	0.05	1.13
CRM technology → customer loyalty	H1b	+	0.30**	0.23*	1.71
Customer management → acquisition	H1c	+	−0.11	−0.18	0.23
Customer management → growth	H1c	+	−0.33**	−0.13	0.71
Customer management → customer loyalty	H1c	+	−0.03	0.00	0.10
CRM strategy implementation → acquisition	H1d	+	−0.12	0.13	1.02
CRM strategy implementation → growth	H1d	+	0.05	0.35***	1.46
CRM strategy implementation → customer loyalty	H1d	+	−0.04	0.34***	2.01
Later implementation of organizational alignment → acquisition	H2	−	−0.26***	0.09	0.14
Later implementation of organizational alignment → growth	H2	−	−0.12	−0.22**	0.82
Later implementation of organizational alignment → customer loyalty	H2	−	−0.14*	−0.04	1.71
Control variables					
Industries					
Industries → acquisition			−0.20*	−0.11*	0.65
Industries → growth			−0.05	−0.26***	1.50
Industries → customer loyalty			−0.13	−0.28***	1.18
Period of time since CRM implementation					
Period of time since CRM implementation → acquisition			0.09	0.08	0.06
Period of time since CRM implementation → growth			0.03	0.09	0.44
Period of time since CRM implementation → customer loyalty			−0.12	0.07	1.27
Company size					
Company size → acquisition			−0.20**	0.04	1.58
Company size → growth			−0.11	0.11	1.42
Company size → customer loyalty			−0.25**	0.00	1.75
R^2 (CRM performance: acquisition)			0.24	0.11	
R^2 (CRM performance: growth)			0.12	0.21	
R^2 (CRM performance: customer loyalty)			0.26	0.30	

n (Europe) = 142 and n (USA) = 208. Note: We calculated the standard error estimates and t-values by means of a bootstrapping routine with 500 samples.
*** $p < .01$.
** $p < .05$.
* $p < .10$ (one-tailed).

as customer management (mean value: 3.58) and CRM strategy implementation (mean value: 3.12)). We acknowledge that the customer management activities were implemented, on average, before the organizational alignment activities. This could mean that the employees had to implement customer management actions without appropriate training or an incentive system, and that they lacked the necessary motivation to obtain the required results. Since companies have different development approaches for quantitative models aimed at managing customer acquisition, growth, and loyalty, and since these different activities are often managed by different departments and divisions in the organization, coordination problems, which do not create customer value, can arise. Similarly, companies may not have the right skills, due to a lack of training, to process large amounts of customer data, which can be used to increase profits.

In view of our objective, which is to study how the implementation time of the organizational alignment dimension relates to the other CRM dimensions and CRM performance, we performed additional analyses to investigate the robustness of our results. The primary objective of these further analyses are to deepen our knowledge about how a later implementation of organizational alignment affects CRM performance compared to implementation effects of the other CRM dimensions. We therefore investigated, in separate models, if a later implementation of the CRM customer management dimension, CRM strategy implementation dimension, and CRM technology dimension has an effect on CRM performance. We do not find significant relationships between a later implementation of the remaining three CRM dimensions and CRM performance. This proves that, of all the CRM dimensions, the organizational alignment dimension is of utmost importance in the overall CRM process.

We also estimated a full model, which includes the effects of later implementations of all four CRM dimensions, to further validate if our nested model results—of how a later implementation of organizational alignment affects CRM performance—are robust when controlling for the other CRM dimensions' time of implementation. Our results show that the estimates and their significance are robust in all analyses. We can, thus, argue that organizational alignment is particularly critical in a CRM process and that it requires a higher priority.

5. Discussion

This paper contributes to existing research on the link between CRM and performance. It explains how to interpret CRM performance with reference to the relative time of implementation of CRM dimensions. Rigby et al. (2002) provide recommendations for prioritizing several CRM activities, but we maintain that special attention should be paid and priority given to the development and integration of activities that are related to the organizational alignment dimension, the delayed implementation of which—compared to the implementation of the

other CRM dimensions—has a negative effect on performance. The current literature describes the practice that CRM processes are presently often implemented in steps and in subsequent activity groups. Building on this consideration, our paper emphasizes the importance of prioritizing organizational activities to boost CRM performance. When companies decide in which area they should invest first in order to build a successful CRM process, they should, taking budget constraints into consideration, prioritize the organizational alignment dimension. Our findings are aligned with those of Reinartz et al. (2004) and Becker et al. (2009), who claim that it does not suffice to implement CRM activities and to merely hope they will directly affect performance. Companies should pay attention to their integration over a period of time.

Our paper gives several managerial insights. First, and in line with Becker et al. (2009), our results show that CRM implementations do not equally address the areas of customer acquisition, growth, and loyalty, since this clearly depends on company objectives and also on geographical, environmental, and cultural differences.

Regarding customer acquisition, we find that only organizational alignment and CRM technology are crucial for acquiring new customers and regaining lost ones. The weak significance of this performance measure is consistent with the answers from our sample, which show that companies mainly implement CRM to increase their revenue and stimulate customer growth (30% of the sample), and also to improve customer loyalty (29%). A smaller percentage (only 17% of the sample) alleges that they implement CRM to improve customer acquisition. This finding is consistent with Ko, Kim, Kim, and Woo (2008) who find that the encouragement of repurchase is one of the most frequently mentioned benefits of CRM. Thus, although the literature stated that it is a mistake to treat CRM and customer acquisition as separate activities (Verhoef & Langerak, 2002), our sample clearly shows that companies prefer to focus on growth and loyalty in their CRM implementations.

Moreover, concerning the different impacts on performance in Europe and the USA, we find that the organizational alignment dimension (including the time of its implementation in relation to the other CRM dimensions), the customer management dimension, and the CRM technology dimension are the main drivers of CRM performance in Europe, whereas the CRM strategy implementation and organizational alignment (including the time of its implementation in relation to the other CRM dimensions) are the key factors in the USA. Based on post hoc interviews with CRM experts, as well as ex post rationalizations, we can give a reasonable explanation for these unexpected findings. On the one hand, a review of our responding firms shows that European companies have little experiences with CRM processes and technologies. They have just started to shift their emphasis towards a more pronounced market-oriented perspective. We speculate that customer managements' negative impact on CRM performance in such companies is simply an effect of firms in transition—particularly in three ways: from function to process, from an isolated to a cross-functional activity, and from an operational to a strategic activity (Storbacka, Ryals, Davies, & Nenonen, 2009). On the other hand, our interviewees reveal that an earlier implementation of CRM technology, such as the USA in our dataset, can help companies to set their customer-oriented metrics more accurately for CRM projects and to better understand their customers' needs from different functional perspectives. We, therefore, speculate, that companies in the USA are better at defining and implementing a CRM strategy.

Our most interesting and relevant findings result from the study of a delay in the implementation of the organizational alignment dimension. Our results show that, compared to the other CRM dimensions, a later implementation of the organizational alignment dimension has a negative effect on our three performance measures. A dominant focus on technology and especially a delayed implementation of the activities that are necessary to align processes and people according to the CRM objectives, are some of the main reasons for CRM project failure. These activities require time to deliver positive results—hence, the necessity to consider these activities in the early stages of CRM implementation.

The importance of organizational alignment aligns with the current literature, which emphasizes the “employees first, customers second” paradigm (Nayar, 2010) for a successful customer-oriented strategy. The role of the relative implementation time may help to explain the ambiguity of CRM effects on performance as stated in the current literature. For instance, Reinartz et al. (2004) find that CRM-compatible organizational alignment has no direct effect on performance and that technology has a negative direct effect. We speculate that the incorrect prioritization of implementation activities, with technology implementation favored above organizational alignment, may explain this unexpected finding. This was a common mistake in earlier CRM implementation, according to Reinartz et al. (2004).

6. Limitations and conclusion

Our study is limited in several respects and, therefore, further avenues for research are possible. First, we use single informant reports to identify the independent and dependent variables. Although our results do not reveal any common method bias issues, future research should validate our findings by using multiple data sources. Second, we relied on cross-sectional data to analyze the impact of the implementation sequence on performance outcomes. Future research should focus on analyzing this issue from a longitudinal perspective. Third, although our interviews with CRM experts do not indicate endogeneity issues concerning the relationship between a later implementation of organizational alignment and CRM performance, further studies need to investigate the time dynamics and contingencies of these variables. Despite these limitations, our study makes an important contribution to the literature regarding the role that the CRM dimensions' relative time implementation plays in CRM performance. This study specifically contributes to the literature (1) by confirming that CRM dimensions do not contribute equally to customer acquisition, growth, and customer loyalty; and (2) by demonstrating that, compared to other CRM dimensions, a later implementation of organizational alignment lessens performance significantly. The insignificant effect of the customer management dimension on CRM performance specifically requires further investigation. Future research on the adoption and implementation of customer management activities in different departments with customer contact (e.g., the sales or the research and development departments) would be valuable. Finally, our findings support the notion that distinct CRM dimensions should not be seen in isolation, but in their overall orchestration: The relative time of implementing CRM activities can, therefore, affect CRM performance. In this regard, our study suggests that future research should consider the temporal integration of complex process dimensions to investigate the synergies in their order over a period of time.

Appendix A

Constructs measurement items

Construct • Measure	Loading/ weights	Composite reliability
CRM strategy implementation (5 = strongly agree, 0 = strongly disagree)		0.82
• The top management is involved in the definition of the customer-oriented strategy at the company level, but not at the departmental level (top management involvement)	0.82***	
• The company created objectives and set *customer*-oriented metrics for the CRM project, such as retention, acquisition rate, customer satisfaction (performance management)	0.80***	
• The company created a unified view of the customer across the enterprise with the creation of a shared data warehouse (data strategy)	0.74***	
• The company focuses on the customer's experience	0.54***	
Organizational alignment (5 = strongly agree, 0 = strongly disagree)		0.87
• Processes have been synchronized to maximize value for the customer (process synchronization)	0.60***	
• Processes have been reengineered and aligned with the customer-based objectives (process reengineering)	0.77***	
• Employees have been trained and coached to maximize value for the customer (training)	0.90***	
• Incentives and rewards have been defined to empower customer- focused behavior (empowerment)	0.86***	
Customer management (5 = strongly agree, 0 = strongly disagree)		84
• Customers have been tiered according to their value for the enterprise (differentiation by value)	0.79***	
• Customers have been grouped according to their needs (differentiation by needs)	0.74***	
• We have introduced customer portfolio (segment) managers (customer portfolio managers)	0.76***	
• We have implemented different strategies for the different stages of the customer lifecycle (acquisition, growth and retention) (lifecycle management)	0.72***	

Construct • Measure	Loading/ weights	Composite reliability
CRM technology (5 = strongly agree, 0 = strongly disagree)		0.83
• We have implemented applications such as data warehousing, analytics, knowledge management, and business intelligence, OLAP (Analytical CRM)	0.77***	
• We have implemented applications such as campaign management, sales force automation, call center optimization, and incentive management (Operational CRM)	0.82***	
• We have implemented applications such as content management, personalization, mobile CRM solutions, web site implementation (Collaborational CRM)	0.78***	
Acquisition (5 = much better, 1 = much worse), scale items adapted from Becker et al. (2009)		–
• Number of new customers	0.66*	
• Number of regained customers	0.62*	
Growth (5 = much better, 1 = much worse), scale items adapted from Becker et al. (2009)		0.91
• Lifetime value	0.86***	
• Profitability	0.88***	
• Revenue per customer	0.88***	
Customer loyalty (5 = much better, 1 = much worse),scale items adapted from Becker et al. (2009)		0.78
• Retention	0.81***	
• Satisfaction	0.79***	
Company size (ordinal scales with intervals)		0.97
• Number of employees	0.98***	
• Annual revenues	0.97***	

Note: *** p < .01 (one-tailed)

Appendix B

The variable "later implementation of organizational alignment"

Here we describe how the variable "later implementation of organizational alignment" was developed. The respondents to our questionnaire received a list, in table form, of the items that make up the CRM dimensions (for the full list of items, please refer to the fifteen items listed in Appendix A that make up the four CRM dimensions: CRM strategy implementation, organizational alignment, customer management, CRM technology). Each item corresponds to a CRM activity.

1. The respondents were asked to indicate the chronological order in which they implemented each CRM activity (item). "1" was assigned to the activity implemented first, '2' to the activity implemented second, and so on. Since we have fifteen items (activities), it was possible to assign

numbers from '1' to '15'. The same number was assigned to activities implemented simultaneously. See Table 4 for an example with some extracted items

Table 4
Respondents assign order to CRM activities (items).

Item	Rank order assigned by respondent
Processes have been synchronized to maximize value for the customer (process synchronization)	5
Processes have been reengineered and aligned with the customer-based objectives (process reengineering)	4
Employees have been trained and coached to maximize value for the customer (training)	6
Incentives and rewards have been defined to empower customer-focused behavior (empowerment)	3
We have implemented applications such as data warehousing, analytics, knowledge management, and business intelligence, OLAP (Analytical CRM)	1
We have implemented applications such as campaign management, sales force automation, call center optimization, and incentive management (Operational CRM)	1
We have implemented applications such as content management, personalization, mobile CRM solutions, web site implementation (Collaborational CRM)	2
…	

2. From Table 4, we extracted the items that correspond to each CRM dimension.
3. We averaged the rank-order ratings of the items related to each CRM dimension in order to capture the average time of that dimension's implementation. We created the variable 'relative time of implementation' for each CRM dimension. See Table 5 for an example.

Table 5
Creation of the 'relative time of implementation' variable.

CRM dimension	Item	Average time of implementation variable
Organizational alignment	Processes have been synchronized to maximize value for the customer (process synchronization) Processes have been reengineered and aligned with the customer-based objectives (process reengineering) Employees have been trained and coached to maximize value for the customer (training) Incentives and rewards have been defined to empower customer focused behavior (empowerment)	4,51 Value of the 'later implementation of organizational alignment' variable
CRM technology	We have implemented applications such as data warehousing, analytics, knowledge management, and business intelligence, OLAP (Analytical CRM) We have implemented applications such as campaign management, sales force automation, call center optimization, and incentive management (Operational CRM) We have implemented applications such as content management, personalization, mobile CRM solutions, web site implementation (Collaborational CRM)	2,33
Customer management	…	3.58
CRM strategy implementation	…	3.93

4. From Table 5, it is possible to see that for this company, on the average, the dimension 'CRM technology' was implemented earlier that the 'organizational alignment' dimension.

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