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An understanding of how to manage relationships with customers effectively has become an important topic for both academicians and practitioners in recent years. However, the existing academic literature and the practical applications of customer relationship management (CRM) strategies do not provide a clear indication of what specifically constitutes CRM processes. In this study, the authors (1) conceptualize a construct of the CRM process and its dimensions, (2) operationalize and validate the construct, and (3) empirically investigate the organizational performance consequences of implementing CRM processes. Their research questions are addressed in two cross-sectional studies across four different industries and three countries. The first key outcome is a theoretically sound CRM process measure that outlines three key stages: initiation, maintenance, and termination. The second key result is that the implementation of CRM processes has a moderately positive association with both perceptual and objective company performance.

The Customer Relationship Management Process: Its Measurement and Impact on Performance

An understanding of how to manage customer relationships effectively has become an important topic for both academicians and practitioners in recent years. Organizations are realizing that customers have different economic value to the company, and they are subsequently adapting their customer offerings and communications strategy accordingly. Thus, organizations are, in essence, moving away from product- or brand-centric marketing toward a customer-centric approach.

Nevertheless, some key problems need to be addressed. Although the conceptual underpinnings of a customer relationship management (CRM) strategy are hardly questioned, the implementation challenges appear to be enormous, as evidenced by commercial market research studies. These studies provide some convergent validity that approximately 70% of CRM projects result in either losses or no bottom-line improvement in company performance (Gartner Group 2003).

Previous studies have focused on components of CRM strategy, such as the link between satisfaction and business performance (Kamakura et al. 2002), the link between customer loyalty and profitability (Reinartz and Kumar 2000), customer profitability heterogeneity (Niraj, Gupta, and Narasimhan 2001), and customer loyalty programs (Verhoef 2003). However, there is a severe lack of research that takes a broader, strategic focus across firms. There is no clear evidence regarding either the characteristics of successful CRM approaches or the reasons CRM may potentially fail. Furthermore, the existing academic literature and practical applications of CRM do not provide a clear indication of what specifically constitutes the implementation of CRM processes. Some companies view CRM primarily as investments in technology and software, whereas others treat CRM more expansively and are aggressive in developing sound and productive relationships with customers. In addition, some companies have implemented CRM processes to a greater degree than others. Therefore, it is important to identify the types of CRM activities that companies can

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Journal of Marketing Research
Vol. XLI (August 2004), 293–305

employ and to explore how these relate to company performance and profitability.

Given this situation, the key contribution of this article is to conceptualize and operationalize a measure of the degree to which CRM processes have been implemented. In particular, we examine the functional and organizational competencies that are necessary to conduct effective and profitable CRM activities. Developing such a measure or index of CRM processes will enable us to determine whether higher levels of CRM implementation are associated with improved economic performance. We further examine some conditions in which CRM processes are associated with superior performance outcomes (i.e., moderators of this relationship).

THEORETICAL FOUNDATION OF THE CRM PROCESS

A challenge of defining CRM is that any definition is contingent on the level at which CRM is practiced in an organization or, for that matter, what the researcher or manager believes about the correct level of CRM. There are three different possible levels: (1) functional, (2) customer-facing, and (3) companywide.

In this article, we focus on the CRM process on the customer-facing level. This perspective includes the building of a single view of the customer across all contact channels and the distribution of customer intelligence to all customer-facing functions. This view stresses the importance of coordinating information across time and contact channels to manage the entire customer relationship systematically. For example, a bank customer who has both a loan product and a savings product might interact with the bank through various channels and different types of interactions (e.g., transaction, information request, complaint), which may change over time. A CRM process on the customer-facing level would capture these interactions and, on the basis of the generated intelligence, would result in coordinated and well-defined actions through different functions.

A key question is, How should the CRM process be conceptualized at the customer-facing level? The literature suggests that companies should recognize four distinct factors: (1) Building and managing ongoing customer relationships delivers the essence of the marketing concept (Morgan and Hunt 1994; Webster 1992), (2) relationships evolve with distinct phases (Dwyer, Schurr, and Oh 1987), (3) firms interact with customers and manage relationships at each stage (Srivastava, Shervani, and Fahey 1998), and (4) the distribution of relationship value to the firm is not homogeneous (Mulhern 1999; Niraj, Gupta, and Narasimhan 2001).

A key theoretical basis for CRM research is the relationship marketing literature. First, in this area it is theoretically held that the building and managing of ongoing customer relationships delivers the essence of the marketing concept (Morgan and Hunt 1994; Webster 1992). The new institutional economics approach uses economic theory to explain the development and breakdown of customer–firm relationships. For example, transaction cost theory (Rindfleisch and Heide 1997) focuses on minimizing the cost of structuring and managing relationships and maximizing the returns from them. Common to all theoretical approaches in the relationship marketing literature is that managing relationships is beneficial for the firm. This perspective has received preliminary support from Reichheld and Teal (1996). However, the observations have been tempered by empirical evidence (e.g., Niraj, Gupta, and Narasimhan 2001; Reinartz and Kumar 2000) that stresses the importance of moderating effects. Thus, it is probably not true that more relationship building is always better; rather, building the "right" type of relationship (which depends on situational factors) is critical. In other words, facilitators such as organizational design, adequate incentive schemes, and information technology resources, as well as industry, company, or customer structures, may affect the performance of relationship marketing activities.

The second aspect of our conceptualization is that the CRM process should acknowledge that relationships evolve with distinct phases (Dwyer, Schurr, and Oh 1987). Thus, relationships cannot be viewed as multiple independent transactions; rather, the interdependency of the transactions creates its own dynamic over time. In other words, CRM processes are longitudinal phenomena. The process of relationship evolution can be subject to termination at any point through customer causes (ceasing of category consumption), competitive causes, or internally unintended (attrition through service problems) or internally intended (customer firing) causes.

The third aspect is that the recognition of relationship evolution has implications for the organization: Firms should interact with customers and manage relationships differently at each stage (Srivastava, Shervani, and Fahey 1998). For example, Jap and Ganesan (2000) find that the effect of transaction-specific investments on relationship commitment in manufacturer–retailer relationships is positive in the exploration and the decline phases. A goal of CRM is to manage the various stages of the relationship systematically and proactively. For example, companies systematically attempt to mature relationships by cross-selling and up-selling products with high purchase likelihood (Kamakura et al. 2002).

The fourth aspect is the recognition that the distribution of relationship value to the firm is not homogeneous (Mulhern 1999; Niraj, Gupta, and Narasimhan 2001). This is a consequence of the increasing adoption of recent accounting practices, especially activity-based costing. The key advantage of activity-based costing is that firms are able to make profitability statements along customer relationship lines, not only along product lines. This enables firms to investigate resource allocations that are made against the customer relationship profitability distribution. A common finding is that best customers do not receive their fair share of attention and that some companies overspend on marginal customers. In a CRM paradigm, a key goal is to define different resource allocations for different tiers of customers, where the customer's tier membership depends on the economic value of that customer or segment to the firm (Zeithaml, Rust, and Lemon 2001).

The continuous balance of CRM activities at each stage (i.e., customer acquisition, retention, and relationship termination) should be guided by the attempt to maximize the value of the set of concurrent customer relationships and thus should be associated with better overall company performance. Therefore, we define the CRM process at the customer-facing level as a systematic process to manage customer relationship initiation, maintenance, and termina-

tion across all customer contact points to maximize the value of the relationship portfolio.

Thus, our view of the CRM process entails the systematic and proactive management of relationships as they move from beginning (initiation) to end (termination), with execution across the various customer-facing contact channels. This necessitates both information generation through the analysis of customer and prospect needs and behavior and action on this information, contingent on the customer's value and life-cycle stage. We attempt to capture the multidimensional components (life-cycle stage, customer evaluation, and interaction) in a multilevel model.

Similar to other multilevel models in the literature (Brady and Cronin 2001), our model suggests that each of the primary dimensions of the CRM process (relationship initiation, maintenance, and termination) has distinct subdimensions. Customer evaluation is the first subdimension of each primary dimension. The subsequent subdimensions are acquisition and recovery management for the initiation stage; retention, up-selling/cross-selling, and referral management for the maintenance stage; and exit management for the termination stage. These nine subdimensions provide a structure for different CRM-related activities and serve as the basis for a conceptual framework for the CRM process construct. We consider the nine subdimensions formative (i.e., consisting of explanatory combinations of indicators that cover the distinct activities involved).

Our conceptualization is intended to measure how systematic firms are in practicing the various activities of the CRM process. We believe that it is important to capture the systematic aspects of the process, particularly if the process is practiced on a large scale, such as in a business-to-consumer environment. If firms formalize their CRM efforts, they become more consistent in execution across contact channels, employees, and the portfolio of customers. It is important to note that we do not mean "formalization" in terms of rigidity but in terms of conformance to specification. For example, firms want to avoid the mistake of not identifying a good customer and subsequently not rewarding the customer accordingly (Type I error). Firms also want to prevent wrongful classification of low-value customers as high-value customers and subsequent overspending of resources (Type II error). The development of and reliance on a systematic approach that aids in the measurement of customer value and in the interaction with these heterogeneous customers decreases these errors.

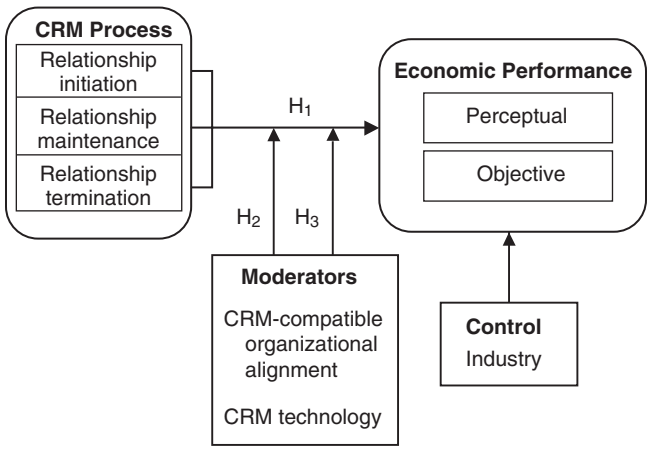
It is important to compare our approach with other frameworks that address similar issues, including the service profit chain (Heskett et al. 1994), return on quality (Rust, Zahorik, and Keiningham 1995), customer asset management (CAM; Berger et al. 2002), and customer equity (CE; Blattberg, Getz, and Thomas 2001; Rust, Lemon, and Zeithaml 2001). All four approaches are customer-centric, and customer knowledge (e.g., customer databases, surveys) is critical to their implementation. However, whereas the service profit chain and return on quality approaches address service quality issues, the CAM and CE approaches, as well as our measure of CRM processes, focus more on companies identifying profitable customers and treating them adequately. The CAM and CE approaches deal more with the application of traditional marketing techniques to manage customer assets in terms of homogeneous customer segments. In contrast, CRM expands on this approach by supplementing traditional marketing techniques with other relationship management activities (e.g., systems to regain lost customers, up-selling and cross-selling, referral management) at the clearly identified stages of the customer relationship (i.e., initiation, maintenance, and termination). Finally, CAM and CE focus on customer segments as *assets*, whereas our CRM process framework centers on *individual* customer relationships. Thus, our CRM approach supplements the important principles that emanate from these other frameworks. In addition, it is important to note that the key concept of customer satisfaction is a central foundation across all these approaches (Oliver 1999).

A MODEL OF THE PERFORMANCE OUTCOMES OF CRM IMPLEMENTATION

Adoption and implementation of the CRM process is only the initial part of the story. It is also critical to establish whether CRM is "a good thing" for the company. Given the dearth of sound empirical findings in the domain and that evidence now suggests that CRM strategies may not perform as well as many people had expected, an investigation of the CRM process–economic performance link should be of great interest to managers and academics. Thus, a second goal of this article is to conceptualize and test a model of how the three primary CRM dimensions are associated with organizational performance. Figure 1 presents an overview of the theoretical model, which has two key components. First, we investigate the main effect of the CRM process on economic performance. Second, we examine moderating effects, which may serve to establish some contingency conditions.

First, in terms of performance outcomes, we relate the three CRM dimensions to two types of performance measures: perceptual and objective. Although most research in marketing strategy assesses the impact of the focal con-

Figure 1
A MODEL OF THE PERFORMANCE OUTCOMES OF THE CRM PROCESS



struct on perceived performance (e.g., Bharadwaj, Varadarajan, and Fahy 1993; Kohli and Jaworski 1990), we also assess the association with a measure of objective economic performance (Varadarajan and Jayachandran 1999).

Second, regarding the contingencies of the CRM process–economic performance link, we examine several important moderating variables that are of interest to managers and that may either enhance or weaken the focal link (Bharadwaj, Varadarajan, and Fahy 1993; Holmström 1979). Supply-side characteristics include a CRM-compatible organizational alignment (i.e., training procedures, employee incentives, and organizational structure) and CRM technology (e.g., investments in CRM technology, one-to-one communication capabilities). Finally, the specification of our model controls for the types of industries investigated.

HYPOTHESIS DEVELOPMENT

Effects on Economic Performance

As we mentioned previously, our CRM process construct captures the degree of formalization of how to manage customer relationship initiation, maintenance, and termination. If companies are able to understand more effectively the value of the customer to the firm, they will perform better on these three primary dimensions. Companies will then be better able to manage individual customer relationships and to determine more effectively the contribution of these relationships to the profitability of the unit and/or the firm.

A high degree of CRM process implementation means that firms are able to adjust their interactions according to the life-cycle stages of their customers and that they may be able to influence the stages actively (e.g., by maturing or extending relationships; Zeithaml, Rust, and Lemon 2001). The goal of these activities is to align the resources spent on customers with the revenues or profits derived from the same customers (Mulhern 1999). Firms will spend a disproportionate amount of resources on highly profitable customers or ones that are worth the resource allocation because they are "high potentials." Furthermore, firms will economize on unprofitable or marginally profitable customers, who then either may leave the relationship or may build up their relationship with the focal firm. Therefore, we expect a significant and positive association between the degree of a business unit's customer management practices with regard to relationship initiation, maintenance, and termination and the business unit's economic performance.

H_1: Higher economic performance is associated with greater implementation of CRM processes at the stage of relationship (a) initiation, (b) maintenance, and (c) termination.

It should be noted that though all three subsections of the hypothesis are in the same direction, the possibility exists that the magnitude of the effect across the three stages varies. Therefore, there is a question of whether the effectiveness of the different stages can differentially contribute to economic performance. Unfortunately, prior research does not provide guidance to enable the development of specific hypotheses. However, we perform an exploratory analysis to address this important issue.

As we mentioned previously, there are several factors that may moderate the relationship between the implementation of the CRM process and economic performance. We examine two moderators that have been identified as having strong theoretical and/or managerial relevance and impact: CRM-compatible organizational alignment and CRM technology.

CRM-Compatible Organizational Alignment

Day (1992) argues that the various corporate functional units have become more marketing oriented because marketing is becoming more important. Likewise, the view that the marketing function is distinct and nonoverlapping with other corporate functions has become mostly obsolete (Webster 1992). Therefore, as firms become able to align their organizations and structures more effectively with their market goals, it is expected that they would be more successful in that market because they can adapt more readily to the needs of customers. To address these needs, there is an imperative to bring customer knowledge and orientation deeper into the organization (Day and Montgomery 1999; Kohli and Jaworski 1990).

A critical determinant of an organization's ability to influence CRM-compatible activities and processes is the development of appropriate compensation schemes and organizational structures. For example, agency theory argues that the design of incentive-compatible contracts with employees that realign company goals and the employees' utility is necessary to maximize company profit (Holmström 1979). Consistent with this argument, contingency theory hypothesizes that company profit will be maximized if appropriate organizational structures are depicted (Black and Boal 1994; Miller 1996). The more that these aspects support specific CRM-compatible behavior, the stronger the CRM process–economic performance link should be. In others words, if companies stress to employees that CRM activities are important, structure their organizations to facilitate these activities, and reward employees for engaging in CRM-related activities, the companies are more likely to stress these activities in their interactions with customers.

H_2: The greater the level of CRM-compatible organizational alignment, the stronger is the positive link between economic performance and relationship (a) initiation, (b) maintenance, and (c) termination.

CRM Technology

Another critical moderator of the CRM process–economic performance link may be the degree to which a firm uses supporting information technology. In this context, CRM technology is the information technology that is deployed for the specific purpose of better initiating, maintaining, and/or terminating customer relationships. The potential for information technology to constitute a sustainable competitive advantage has been amply discussed (Bharadwaj, Varadarajan, and Fahy 1993). The key point is that CRM technology plays a critical role in the context of leveraging CRM-related activities and thus contributes to improved organizational performance in the market; indeed, CRM technology is often (incorrectly) equated with CRM. Therefore, we would expect that, ceteris paribus, CRM technology functions as a facilitator of CRM activities and contribute to better performance in the market.

Nevertheless, this strong conceptual support should be tempered in light of evidence from practitioner and com-

mercial market research reports that investments in CRM-related technology may be associated with lower economic performance. Day (2000) echoes this view by suggesting that though the cost aspects of CRM investment are evident, the revenue enhancing aspects are much less obvious. Furthermore, there is anecdotal evidence that a large proportion of CRM technology deployments do not perform to expectations (Gartner Group 2003).

If this is so, there are likely to be multiple reasons, such as lack of defining objectives or lack of appropriate training procedures, for this disappointing result (Reinartz and Chugh 2002). However, this does not necessarily mean that the technology is at fault per se. It is also important to point out that investments in technology represent a direct short-term financial investment that may have a negative effect on the bottom line in the short run. The payoffs for these investments are more likely to be realized over a longer period.

Taken together, it is clear that there are conflicting arguments about the direction of the effect of CRM technology on firm or economic performance. However, because there seems to be more evidence on the positive side, we still hypothesize a positive moderating effect for CRM technology. Thus:

H_3: The greater the level of CRM technology, the stronger is the positive link between economic performance and relationship (a) initiation, (b) maintenance, and (c) termination.

Control Variable

To control for the possibility of variance across different industries, we entered the type of industry as a control. This enables us to account for mean differences of economic performance across industries.

METHODOLOGY

To test our framework, we collected data from both primary and secondary sources. First, a cross-sectional survey was conducted in the fall of 2001 in three countries: Austria, Germany, and Switzerland. We limited our investigation to consumer markets because business-to-business relationships are characterized by small numbers of customers and a strong reliance on salespeople as major means of communication between firms and clients. In our initial empirical work on CRM, we wanted to target a more diverse environment of multiple customer contact points, which is characteristic of consumer markets. Using literature reviews and pretest interviews, we selected industries on the basis of characteristics such as a large customer base, intensive use of various channels, professionalism in CRM activities, and market pressure to differentiate from competition. On the basis of these characteristics, we identified the following industries as adequate targets: financial services, hospitality, online retailing, and power utilities.

A pretest of the questionnaire was given to a small sample of marketing managers and CRM experts. Another pretest of the questionnaire was administered to assess the validity of the scales. We obtained the data from a large-scale mail survey. The final questionnaire was sent to a sample of 1015 companies, which we derived from industry associations' member lists. A personalized mailing was sent to the executives identified in premailing telephone calls as responsible for CRM operations. Whenever possible, we asked potential respondents to provide their e-mail address and to fill out an electronic version of the questionnaire. In 72% of the cases, we received digital responses rather than traditional mail responses. To increase the response rate, we conducted follow-up telephone calls three weeks after the initial mailing. This resulted in an effective response rate of 21.1%. We consider this rate satisfactory, given that average top management survey-response rates are in the range of 15% to 20% (Menon et al. 1999). Altogether, we obtained 214 responses, of which 211 were usable.

In more than 75% of cases, senior executives such as marketing or sales executives filled out the questionnaires. The executives were knowledgeable key informants about information pertaining to CRM design; they direct entities that, in most cases, are responsible for CRM activities. The unit of analysis was the strategic business unit (SBU).

To strengthen the insight and veracity of our analysis, we also collected objective performance measures for the existing set of firms. This is particularly important for empirical survey research in which a reliance on subjective performance measures may be a limitation (Jaworski and Kohli 1996). Our goal was to assess the degree to which the subjective and the objective performance measures converge in order to lend greater credibility to our survey results (Han, Kim, and Srivastava 1998). Because our sample consists of public and nonpublic firms from different industries, we could not rely on absolute performance measures; rather, we needed measures of relative performance. As in previous studies, we assessed performance in terms of profitability (Han, Kim, and Srivastava 1998; McKee, Varadarajan, and Pride 1989). We obtained the information on profitability from company reports for public companies and from secondary sources for nonpublic companies. We chose the return on assets (ROA) performance measure, which is consistent with previous studies (Han, Kim, and Srivastava 1998). In total, we were able to collect the objective performance measures for 98 companies (81 public, 17 nonpublic). The ROA measure that entered our analysis was the average ROA of the years 2001 and 2002. It is more appropriate for us to use the average because it is more realistic to expect a longer-term impact of the CRM process rather than a short-term spike.

A possible concern in single-informant studies is that an informant may not necessarily possess a totally accurate or unbiased view of the entire organization. Relatedly, the reliability of the subjective performance indicators used in the study could be questioned (i.e., they could be artificially related to the other indicators measured). Therefore, to cross-validate the analysis and to counter a possible common-method bias, we collected a second set of primary data from a different set of respondents in the same firm sample (hereafter, Sample 2). The objective was to assess the robustness of the Sample 1 findings with a separate sample of respondents (Deshpandé, Farley, and Webster 1993). The sampling frame was the 211 companies that responded in the first round of data collection. We collected the second set of data as soon as possible after we concluded Sample 1 to minimize any temporal biases. In Sample 2, we obtained 95 valid responses (45% response rate) from the same group of target respondents (senior executives, sales managers, marketing managers). Because a sub-

stantial percentage of participants in our study were small and medium-sized enterprises, it was extremely difficult to identify a second knowledgeable informant in such companies. Many respondents from Sample 1 were also reluctant to name second informants because they did not appreciate the cross-validation procedure. To assess potential differences in sample respondents, we compared Sample 1 and Sample 2 respondents on several descriptive variables; however, no differences between the groups were found.

Item Measurement and Index Construction

As mentioned previously, the key goal of our study was to develop a comprehensive operationalization of the three primary dimensions of CRM process implementation (i.e., relationship initiation, maintenance, and termination). To achieve this goal, scales and measurement items for the study were developed as follows: All our constructs reflect a composite of individual indicators across different, unique sources and are therefore operationalized effectively in a formative rather than reflective way (Bagozzi 1994). Therefore, we followed the guidelines for constructing indexes based on formative indicators, as proposed by Diamantopoulos and Winklhofer (2001). They identify four issues that are critical to successful construction of indexes with formative indicators: (1) content specification, (2) indicator specification, (3) indicator collinearity, and (4) external validity. Our focal independent variables are the three primary dimensions of the CRM process. To exemplify how we proceeded to construct valid indexes with formative indicators, we refer to these key constructs.

Content specification. We developed a new formative, multi-item scale of CRM processes at the customer-facing level that captures the three lifetime stages of customer relationships. More precisely, on the construct level, the domain of CRM process implementation was defined as covering the activities of acquisition management and regain management at the initiation stage; retention management, up-sell/cross-sell management, and referral management at the maintenance stage; and termination management at the final stage of the customer relationship. On the construct level, we also captured activities of customer evaluation at each of the three stages, which led to nine subdimensions of CRM process implementation. The subdimensions represent latent constructs that reflect the presence or absence of CRM activities. We also established higher-level indexes that express the total degree of CRM activities at the three stages of customer life cycles. Thus, in our content specification, we sought to capture major facets of evaluation and management activities along customer–company relationships.

Indicator specification. Critical for the design of valid indexes with formative indicators is the choice of items, because the indicators must capture the entire scope of the latent construct as described previously. On the basis of an extensive review of relevant articles in marketing journals, the business press, and exploratory interviews with managers who are responsible for CRM systems, we identified 42 items that were evaluated by participants of pretest interviews as capturing all major subprocesses in the implementation of CRM at the customer-facing level. These indicators are listed in the Appendix. All items were measured on a seven-point Likert scale.

Indicator collinearity. Because formative measurement models are based on linear equation systems, substantial collinearity among indicators would affect the stability of indicator coefficients. In our example, none of the 42 indicators revealed serious multicollinearity problems.

External validity. The very nature of formative measurement renders traditional assessments of convergent validity and individual item reliability irrelevant (Hulland 1999, p. 201). However, this does not enable researchers to link sets of items to constructs arbitrarily. Aside from strong theoretical foundations, researchers must ensure that all indicators that form a construct are included. To test for external validity, we follow the suggestions of Diamantopoulos and Winklhofer (2001) to estimate a multiple indicators and multiple causes model with our aggregate indexes INITIATE, MAINTAIN, and TERMINATE, as well as their respective subdimensions and formative indicators. We used four variables that capture the commitment of top management to implement CRM as reflective indicators of the implementation of CRM processes.[1] The loadings of all four items were highly significant, with loadings of .861, .839, .729, and .802.

As we described previously, the CRM process is conceptualized as a second-order factor measurement model that can be approximated with various procedures. One of the easiest procedures to implement is the hierarchical component model suggested by Wold (1980). In essence, a second-order factor is directly measured by observed variables for all the first-order factors. Partial least squares (PLS) is appropriate for estimating our measurement model because it provides a means for directly estimating component scores (i.e., the three dimensions of relationship initiation, maintenance, and termination). Because the latent variable scores are determinate, PLS can be used to model formative indicators, as is the case here. The determinate nature of the PLS approach avoids parameter identification problems that can occur under covariance-based analysis (Bollen 1989).

Nomological validity. Given that the formation of implementation of CRM processes as a new formative construct is a key objective of our study, we included 11 additional items in our survey. The items were measured on seven-point semantic scale formats ("With regard to your SBU, to what extent do each of the following activities represent a strength or weakness for you?"), where 1 = "major weakness," 4 = "neither strength nor weakness," and 7 = "major strength." To check the nomological validity of our nine subdimensions and the three higher-level indexes, we estimated the bivariate correlations between the subdimensions or indexes and the respective independent weakness/strength indicators.

Our formative index for acquisition management activities shows correlations of .36 and .34 with the independent strength/weakness items "acquiring high value customers" and "implementing systematic customer acquisition," and

[1]Two items were stated as "strongly disagree–strongly agree" seven-point Likert scale formats ("CRM is a central aspect of our business strategy" and "CRM has become a top management issue in our SBU"), whereas the other two items were measured on seven-point semantic scale formats ("With regard to your SBU, to what extent do each of the following activities represent a strength or weakness for you?" "The institutionalization of a CRM philosophy" and "Getting *top management* commitment to CRM"), where 1 = "major weakness," 4 = "neither strength nor weakness," and 7 = "major strength."

our regain management index reveals a correlation of .35 with the statement "regaining high value customers" as a strength of the SBU. The measurement at the maintaining stage index is significantly correlated with the item "understanding and determining the value of a customer" (ρ = .55). Similar strong associations are observable between our retention management index, retaining high value customers (.38) and building long-term relationships with our valued customers (.32). Our management of up-selling/cross-selling index reveals even stronger correlations with the items "implementing procedures for up-selling" (.50) and "implementing procedures for cross-selling" (.51). Correlations of .36 ("management of word-of-mouth") and .47 ("managing customer referrals") emphasize that the customer referral management index measures the degree of activities related to customer referrals. Because the weakness/strength statement "discontinuing relationships with low-value customers" is also significantly correlated to activities to demarket customers index (.44), we conclude that all our indexes represent valid measures of the respective constructs.

For the regression analysis, we constructed the relationship initiation, maintenance, and termination indexes by weighted multiplication of the individual indicators with the standardized PLS weights, similar to the American customer satisfaction index (Fornell and Johnson 1996).[2]

Model Specification and Estimation

The complete model specification is given in Equation 1. Variables are grouped into main effects (βs), interaction effects (γs), and control variables (δs). The control variables in our system of equations are dummy variables for industry effects.

(1) Economic performance = α
+ β_1 relationship initiation
+ β_2 relationship maintenance
+ β_3 relationship termination
+ β_4 CRM-compatible organizational alignment
+ β_5 CRM technology
+ γ_1 (CRM-compatible organizational alignment × relationship initiation)
+ γ_2 (CRM-compatible organizational alignment × relationship maintenance)
+ γ_3 (CRM-compatible organizational alignment × relationship termination)
+ γ_4 (CRM technology × relationship initiation)
+ γ_5 (CRM technology × relationship maintenance)
+ γ_6 (CRM technology × relationship termination)
+ δ_1 Industry 2
+ δ_2 Industry 3
+ δ_3 Industry 4
+ ε_1,

where

- Economic performance (perceptual) = formative, multi-item measure (adapted from the work of Desphandé, Farley, and Webster [1993] and Kohli and Jaworski [1990]) with four indicators,
- Economic performance (objective) = net income in year x/total assets in year x (ROA),
- Relationship initiation, relationship maintenance, relationship termination, CRM-compatible organizational alignment, and CRM technology = formative multi-item measures,
- Industry 2 = financial services,
- Industry 3 = power utilities, and
- Industry 4 = hospitality.

All multi-item measures are given in the Appendix. Table 1 lists the summary statistics for the measurement scales.

On the basis of our previous discussion, we estimate three different models:

Model 1: Economic performance $(\text{perceptual})_{\text{Sample 1}}$ = $f(\text{covariates})_{\text{Sample 1}}$,

Model 2: Economic performance (objective) = $f(\text{covariates})_{\text{Sample 1}}$, and

Model 3: Economic performance $(\text{perceptual})_{\text{Sample 2}}$ = $f(\text{covariates})_{\text{Sample 1}}$.

Given our data structure, this configuration maximizes the degrees of freedom for each estimation and simultaneously addresses the issue of common-method bias. We mean-centered the variables for the analysis.

RESULTS

The results of the estimation are summarized in Table 2. The effective sample size for the estimation with perceptual performance (Model 1) is 211 observations; for objective performance (Model 2), the effective sample size is 98 observations. Both estimations fit the data well; the R^2 is .24 for perceptual performance and .49 for objective performance. Thus, our model helps highlight some factors that are associated with more successful CRM process implementations.

We report one-tailed significance levels. This is appropriate because we exclusively test directional hypotheses. Because the hypothesized effects are equal for both performance measures (perceptual and objective), we discuss the results together.

Relationship Stages and Economic Performance

We hypothesized that the degree of CRM process implementation is positively associated with economic performance (H_1) at the three stages of initiation, maintenance, and termination. For our perceptual performance measure, support is strongest for maintenance ($\beta_2 = .71$, $p < .01$). For initiation, support is marginal ($\beta_1 = .47$, $p < .05$), and it is not significant for termination. In the case of objective performance, all three coefficients are marginally significant ($\beta_1 = 9.04$, $p < .1$; $\beta_2 = 8.16$, $p < .05$; $\beta_3 = 6.97$, $p < .05$). Thus, it seems that the more firms engage in implementing CRM processes, especially at the initiation and maintenance stage, the better they perform.

[2]Details of the measurement model, particularly a description of the data structure, correlations, and PLS coefficients, are available from the authors on request.

Table 1
SUMMARY STATISTICS FOR THE MEASUREMENT SCALES

			Sample 1				*Sample 2*			
Variable	*Number of Items*	*Frequency*	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*
Performance (perceptual)	4	—	18.4	4.4	6.0	27.0	19.0	4.0	8.0	26.0
Performance (objective)	1	—	.009	.06	–.19	.269	—	—	—	—
Relationship initiation	15	—	5.1	1.8	1.5	9.9	4.9	1.6	1.6	8.4
Relationship maintenance	20	—	7.1	1.8	2.4	11.2	6.7	1.6	3.2	10.5
Relationship termination	4	—	4.1	2.0	1.3	9.3	3.6	1.6	1.0	6.9
CRM-compatible organizational alignment	4	—	13.7	4.1	4.0	21.0	12.6	3.9	4.0	20.0
CRM technology	4	—	16.4	5.3	4.0	28.0	15.6	6.2	4.0	28.0
Industry 1 (online retailers)	1	64	—	—	—	—	—	—	—	—
Industry 2 (financial services)	1	78	—	—	—	—	—	—	—	—
Industry 3 (power utilities)	1	28	—	—	—	—	—	—	—	—
Industry 4 (hospitality)	1	41	—	—	—	—	—	—	—	—

Table 2
RESULTS OF MODELS 1–3

			Performance (Perceptual): Model 1		*Performance (Objective): Model 2*		*Performance (Perceptual): Model 3*	
Dependent Variable	*Description*	*Coefficient*	*Estimate*	*Standard Error*	*Estimate*[a]	*Standard Error*	*Estimate*	*Standard Error*
	Intercept	α	18.4***	.55	N.S.		17.3***	.74
Main Effects	Relationship initiation	β_1	.47**	.26	9.04*	5.59	.93***	.39
	Relationship maintenance	β_2	.71***	.23	8.16**	4.80	.60**	.33
	Relationship termination	β_3	N.S.		6.97**	3.44	N.S.	
	CRM-compatible organizational alignment	β_4	N.S.		N.S.		N.S.	
	CRM technology	β_5	–.16**	.07	N.S.		–.17*	.11
Interactions	CRM organizational alignment × relationship initiation	γ_1	.17**	.08	2.45**	1.77	N.S.	
	CRM organizational alignment × relationship maintenance	γ_2	N.S.		N.S.		N.S.	
	CRM organizational alignment × relationship termination	γ_3	.18***	.05	N.S.		N.S.	
	CRM technology × relationship initiation	γ_4	–.11**	.06	N.S.		N.S.	
	CRM technology × relationship maintenance	γ_5	N.S.		N.S.		N.S.	
	CRM technology × relationship termination	γ_6	.09**	.04	N.S.		N.S.	
Control Variables	Industry 2 (financial services)	δ_1	N.S.		N.S.		1.79	.92
	Industry 3 (power utilities)	δ_2	N.S.		N.S.		N.S.	
	Industry 4 (hospitality)	δ_3	1.53**	.80	33.92*	20.72	3.23***	1.11
N			211		98		101	
R^2			.24		.49		.29	

*$p \leq .1$.
**$p \leq .05$.
***$p \leq .01$.
[a]Dependent variable has been rescaled ($\times 10^3$).
Notes: We report one-tailed significance levels. N.S. = not significant.

Moderating Effects of CRM-Compatible Organizational Alignment

We hypothesized that a CRM-compatible organizational alignment has a positive, moderating effect on the CRM processes–economic performance link at each stage of CRM (H_2). For the perceptual performance measure, H_2 was marginally supported for the initiation stage ($\gamma_1 = .17$, $p < .05$) and fully supported for the termination stage ($\gamma_3 = .18$, $p < .01$). H_2 was not supported at the maintenance stage, but the association at least was in the hypothesized direction (positive). For objective performance, the moderating effect was marginally significant for initiation ($\gamma_1 = 2.45$, $p < .05$), but not for the other two stages.

Moderating Effects of CRM Technology

We hypothesized that CRM technology has a positive, moderating effect on the CRM processes–economic performance link at each stage of the relationship (H_3). For perceptual performance, H_3 was supported only in the case of termination ($\gamma_6 = .09$, $p < .05$). Notably, for the initiation stage, the moderating effect was negative ($\gamma_4 = -.11$, $p < .05$). At the maintenance stage, the moderating effect was in the expected positive direction, but it was not significant. In terms of objective measures, all three interaction effects were not significant. The findings are somewhat contrary to our expectations. Thus, the sophistication of the CRM technology used is not necessarily linked to a company's ability to improve economic performance through CRM processes.

Industry

Our control variables capture effects due to industry membership. The hospitality industry had marginally higher average performance compared with the base case, both for perceptual performance ($\delta_3 = 1.53$, $p < .05$) and for objective performance ($\delta_3 = 33.92$, $p < .1$). The remaining industry dummies were not significant for either perceptual or objective performance. Thus, our findings appear to be relatively consistent across industries.[3]

Common-Method Bias

When dependent and independent variable data are collected from a single informant, common-method bias can be a problem. Based on the work of Podsakoff and Organ (1986), we used Harman's one-factor test to examine the extent of this bias. The results of the principal components factor analysis revealed that there are ten factors with eigenvalues greater than 1.0, which accounts for 76% of the total variance. Common-method variance does not appear to be a problem because several factors were identified, the first factor did not account for the majority of the variance (only 24%), and there is no general factor in the unrotated structure (Podsakoff and Organ 1986).

To address any other concerns about common-method variance, we cross-validated the estimation of Sample 1 data with Sample 2 data. Specifically, we estimated the association of our Sample 1 covariates with the Sample 2 perceptual performance measure (Model 3). The results of this cross-validation are shown in Table 2.

Similar to Model 1, the estimated specification fits the data reasonably well, with an R^2 of .29. The key finding is that all three effects for H_1 were replicated. In other words, the relationship to economic performance is positive at both the initiation stage ($\beta_1 = .93$, $p < .01$) and the maintenance stage ($\beta_2 = .60$, $p < .05$). As in Model 1, the effect at the termination stage was negative but not significant. For H_2, the signs of all three coefficients are consistent with our findings for Model 1. However, they are not significant even at the initiation and termination stage. For H_3, we found all three coefficients to be consistent with our results for Model 1. Again, the coefficients are not significant even at the initiation and termination stages. However, we have a marginally significant, negative main effect for CRM technology ($\beta_5 = -.17$, $p < .1$). That the effect size for H_2 and H_3 is similar to that of Model 1 could be an indication that the nonsignificant findings of Model 3 are a function of the smaller sample size. This occurred because of a difficulty in acquiring second informants in many of the companies.

DISCUSSION

The goal of the current study was threefold: (1) to conceptualize and operationalize the process of CRM implementation, (2) to determine whether the implementation of CRM processes is positively linked to performance, and (3) to identify some key moderators of the relationship between CRM processes and performance. The results of this empirical effort from two studies produced several notable findings.

First, the data provide support for our conceptualization for the CRM construct. We grouped the key activities of a formalized CRM process in terms of three primary dimensions: relationship initiation, maintenance, and termination. We then developed items to assess the extent to which the dimensions are implemented. This is an important contribution for several key reasons. On the one hand, this represents a first step toward development of what constitutes a standard for defining the nature of CRM processes. As we mentioned previously, there have been different ways of conceptualizing CRM processes in the academic literature and in practice. A good metric for this construct is needed to establish a common ground so that the results of CRM processes can be compared across companies and research studies. This index can also be employed as a guide for further research. On the other hand, our conceptualization highlights the importance of separating the three dimensions of CRM processes, because performance may vary at each stage. Mere examination of CRM processes at a general level does not capture the detailed nature of relationship management. A key goal of further research could be to examine factors that influence performance at each stage in more detail.

Second, our findings indicate that the implementation of CRM processes is associated with better company performance in two of the three stages. The strongest effect is for relationship maintenance, followed by relationship initiation. The effects for relationship termination were either low or not significant (even in the negative direction for

[3]We also tested for differences in the effects of interest (initiation, maintenance, and termination) for the various industries for Model 1. None of the interactions was significant. We also explored the possibility of mean differences between the different countries. Taking Switzerland as a base case, we found a significant, positive effect for the cross-validation (Model 3) for Austria and Germany. For the other two equations (Models 1 and 2), the country effects were not significant. When we included the country effects, none of the other parameter signs or significances changed.

perceptual performance). Thus, CRM appears to produce some of the payoff that companies expect when they invest in CRM activities. However, some types of activities may increase performance and others may not. In the case of termination, a possible explanation for the negative results is that companies are subject to Type II errors. That is, it is possible that companies are reluctant to terminate relationships with customers who are not profitable. It is also possible that companies are not as effective in implementing CRM processes at this stage.

Additional notable results are provided by the moderator variables. First, there was a significant interaction between a CRM-compatible organizational alignment and both relationship termination and initiation. Thus, implementation of CRM processes is more likely to improve performance when the company develops an incentive and organizational scheme to support CRM-compatible behavior. It might be argued that CRM processes are already more developed at the maintenance stage, which leaves the greatest room for improvement at the initiation and termination stages. This rationale is supported by data in Table 1, which indicate that companies most often implement maintenance processes.

If a proper organizational structure and incentives are not in place, it may be difficult for CRM processes to produce the desired effects. Thus, it is not enough for a company simply to implement CRM processes. It must organize itself and install a reward structure to support these processes. This also suggests that organization variables need to play a key role in further research efforts that attempt to understand the performance impact of CRM.

Another notable finding is that our data are partially consistent with existing evidence that a large proportion of CRM technology deployments do not perform to expectations. We found one moderately positive effect and one moderately negative effect, and all other moderating CRM technology effects were not significant. This is an important finding because it attests to the difficulty of making CRM technology investments pay off. However, it could also be argued that technological investments offer positive returns only after initial implementation difficulties are overcome. Because CRM information technology investments are relatively recent, there could be a potentially reversed effect in the future.

Nevertheless, our results emphasize the key point that successful implementation of a CRM program requires more than just technology, and if firms focus on only this aspect, their efforts are likely to be disappointing, at least in the short run. In particular, the successful implementation of CRM requires a strong people-related component. This may partially explain the negative relationship for CRM technology at the initiation stage. Perhaps in establishing a relationship with a company, potential customers would rather have contact with people than with technology-driven systems. However, at the termination stage, it may be cost efficient to manage low-value relationships with technological support systems. Because our findings suggest that the effectiveness of CRM technology varies across the three stages, further work in this area needs to explore processes at each of these stages in more detail.

Managerial Implications

The results of our study have several important implications for managers. First, our research provides a systematic outline of the different CRM activities that occur at each of the three main stages. Thus, a company could use our approach to identify key activities that must be implemented to be successful, and an evaluation of the activities can provide a means for comparing their level of implementation with that of competitors and other industries.

Second, our results indicate that the CRM process–performance link is not as strong as we expected. This suggests that there is considerable room for improvement in the implementation of CRM processes. In particular, our findings strongly suggest that mere implementation of CRM technology will not lead to the desired effect; it may even have a negative effect. Therefore, managers need to evaluate the contributions of technology differently at the three stages of CRM processes.

Third, managers also need to pay greater attention to other aspects of CRM process implementation. Our data show that the alignment of organizational aspects is a critical element in the CRM implementation effort. For example, a customer focus needs to be brought deeper into the functional areas of the company; it cannot be isolated among marketing managers. The installation of technology or CRM software is not enough to ensure that a program will be profitable. Employees must be rewarded for engaging in CRM activities and customer-oriented behaviors.

Fourth, it is often argued that CRM works better in some industries than in others. However, in our data, we do not find support for this contention, at least for the four industries under investigation. Therefore, our findings suggest that many of the key issues and problems are relevant *across* various industries.

Limitations and Further Research

Although our study produced interesting and meaningful findings, there are some limitations that need to be discussed. First, a key objective of our study was to conceptualize and operationalize a measure of the three stages of CRM processes. In particular, we conducted an extensive search through the business press and academic literature and supplemented this with interviews of CRM experts to identify relevant CRM processes. Thus, we attempted to capture as many current, relevant CRM activities as possible. However, because new CRM processes evolve over time, it could be argued that our sets of processes at each stage will need to be "enriched" or updated as new activities become common practice.

Second, it should be noted that we are studying a dynamic phenomenon from a cross-sectional perspective. Because capturing this process over time is often difficult, we took a "snapshot" of the situation at a single point in time. Nevertheless, it is possible that some of the effects are more longitudinal in nature. For example, it is possible that the negative effects of technology change over time as employees and customers become more accustomed to the systems. It might be that in the long run, a more positive relationship between the two variables could be expected. Therefore, a future longitudinal study might also provide worthwhile insights.

Third, it would be worthwhile to investigate how various industry- and firm-specific characteristics drive the degree to which the three CRM dimensions are developed across firms. Finally, we examine CRM processes at the customer-

facing level only. It would be interesting to determine how our findings compare with observations from the company-wide or functional levels. The critical issues are different at these other levels. For a complete picture of CRM, all three levels must be examined.

APPENDIX: DESCRIPTION OF MEASURES

The scales for CRM initiation, maintenance, and termination are new and were considered formative constructs, rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree." The variance inflation factors of each item with regard to the other items of the respective construct are in parentheses.

CRM Initiation (INITIATE)

Measurement at Initiating Stage (IMEASURE)

With regard to your SBU, to what extent do you agree to the following statements?

- We have a formal system for identifying *potential* customers. (4.253)
- We have a formal system for identifying which of the *potential* customers are more *valuable*. (4.663)
- We use data from external sources for identifying potential high value customers. (1.590)
- We have a formal system in place that facilitates the continuous evaluation of prospects. (2.615)
- We have a system in place to determine the cost of reestablishing a relationship with a lost customer. (1.993)
- We have a systematic process for assessing the value of past customers with whom we no longer have a relationship. (2.021)
- We have a system for determining the costs of reestablishing a relationship with inactive customers. (1.953)

Activities to Acquire Customers (ACQUISIT)

With regard to your SBU, to what extent do you agree to the following statements?

- We made attempts to attract prospects in order to coordinate messages across media channels. (1.397)
- We have a formal system in place that differentiates targeting of our communications based on the prospect's value. (1.733)
- We systematically present different offers to prospects based on the prospects' economic value. (1.710)
- We differentiate our acquisition investments based on customer value. (1.580)

Activities to Regain Customers (REGAIN)

With regard to your SBU, to what extent do you agree to the following statements?

- We have a systematic process/approach to reestablish relationships with valuable customers who have been lost to competitors. (1.786)
- We have a system in place to be able to interact with lost customers. (1.881)
- We have a systematic process for reestablishing a relationship with valued inactive customers. (1.663)
- We develop a system for interacting with inactive customers. (1.796)

CRM Maintenance (MAINTAIN)

Measurement at Maintaining Stage (MMEASURE)

With regard to your SBU, to what extent do you agree to the following statements?

- We have a formal system for determining which of our *current* customers are of the highest value. (3.144)
- We continuously track customer information in order to assess customer value. (3.808)
- We actively attempt to determine the costs of retaining customers. (1.826)
- We track the status of the relationship during the entire customer life cycle (relationship maturity). (1.760)

Activities to Retain Customers (RETAIN)

With regard to your SBU, to what extent do you agree to the following statements?

- We maintain an interactive two-way communication with our customers. (1.453)
- We actively stress customer loyalty or retention programs. (1.379)
- We integrate customer information across customer contact points (e.g., mail, telephone, Web, fax, face-to-face). (1.581)
- We are structured to optimally respond to groups of customers with different values. (1.660)
- We systematically attempt to customize products/services based on the value of the customer. (1.870)
- We systematically attempt to manage the expectations of high value customers. (1.580)
- We attempt to build long-term relationships with our high-value customers. (1.282)

Activities to Manage Up-Selling and Cross-Selling (CROSS_UP)

With regard to your SBU, to what extent do you agree to the following statements?

- We have formalized procedures for *cross*-selling to valuable customers. (2.488)
- We have formalized procedures for *up*-selling to valuable customers. (2.902)
- We try to systematically extend our "share of customer" with high-value customers. (1.978)
- We have systematic approaches to mature relationships with high-value customers in order to be able to cross-sell or up-sell earlier. (2.289)
- We provide individualized incentives for valuable customers if they intensify their business with us. (1.415)

Activities to Manage Customer Referrals (REFERRAL)

With regard to your SBU, to what extent do you agree to the following statements?

- We systematically track referrals. (1.992)
- We try to actively manage the customer referral process. (2.487)
- We provide current customers with incentives for acquiring new potential customers. (2.440)
- We offer different incentives for referral generation based on the value of acquired customers. (2.103)

CRM Termination (TERMINATE)

Measurement at Termination Stage (TMEASURE)

With regard to your SBU, to what extent do you agree to the following statement?

- We have a formal system for identifying nonprofitable or lower-value customers.

Activities to Demarket Customers Actively (EXIT)

With regard to your SBU, to what extent do you agree to the following statements?

- We have a formal policy or procedure for actively discontinuing relationships with low-value or problem customers (e.g., canceling customer accounts). (1.237)

- We try to passively discontinue relationships with low-value or problem customers (e.g., raising basic service fees). (1.675)
- We offer disincentives to low-value customers for terminating their relationships (e.g., offering poorer service). (1.505)

We computed the following indexes on the basis of the construct formation: INITIATE = .389 × IMEASURE + .379 × ACQUISIT + .375 × REGAIN; MAINTAIN = .283 × MMEASURE + .340 × RETAIN + .388 × CROSS_UP + .267 × REFERRAL; and TERMINATE = .367 × TMEASURE + .759 × EXIT.

Perceptual Performance (Adapted from Desphandé, Farley, and Webster 1993; Jaworski and Kohli 1990)

(Rated on a seven-point Likert scale of "much worse," "worse," "a little worse," "same level," "a little better," "better," and "much better.")

Relative to your competitors, how does your SBU perform concerning the following statements?

- Achieving overall performance.
- Attaining market share.
- Attaining growth.
- Current profitability.

CRM-Compatible Organizational Alignment

(Rated on a seven-point Likert scale, anchored by "strongly disagree" and "strongly agree.")

With regard to your SBU, to what extent do you agree to the following statements?

- We have systematic training procedures for helping employees deal differently with high- and low-value customers.
- We reward employees for building and deepening relationships with high-value customers.
- Our SBU is organized in a way to optimally respond to customer groups with different profitability.
- Organizing people (i.e., changing organizational structure) to deliver differentiated treatment and products to different customer segments presents a strength for our SBU.

CRM Technology

(Rated on a seven-point Likert scale, anchored by "strongly disagree" and "strongly agree.")

With regard to your SBU, to what extent do you agree to the following statements?

- We invest in technology to acquire and manage "real time" customer information and feedback.
- We have a dedicated CRM technology in place.
- We have technologies that allow for one-to-one communications with potential customers.
- Relative to our competitors the quality of our information technology resources is larger.

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