MARKETING SCIENCE
Vol. 25, No. 5, September–October 2006, pp. 477–493
ISSN 0732-2399 | EISSN 1526-548X | 06 | 2505 | 0477

DOI 10.1287/mksc.1060.0209

Returns on Business-to-Business Relationship Marketing Investments: Strategies for Leveraging Profits

Robert W. Palmatier
University of Cincinnati, 422 Carl Linder Hall, P.O. Box 210145, Cincinnati, Ohio 45221,
rob.palmatier@uc.edu

Srinath Gopalakrishna
University of Missouri–Columbia, 434 Cornell Hall, Columbia, Missouri 65211,
srinath@missouri.edu

Mark B. Houston
University of Missouri–Columbia, 339 Cornell Hall, Columbia, Missouri 65211,
houstonmb@missouri.edu

Firms invest heavily in different types of business-to-business relationship marketing activities in the belief that such programs bolster their bottom line. In this study, we develop and test a conceptual model that links customer-specific relationship marketing investments to short-term, customer-specific financial outcomes. Data from a matched set of 313 business customers covered by 143 salespeople of 34 selling firms indicate that investments in social relationship marketing pay off handsomely, financial relationship marketing investments do not, and structural relationship marketing investments are economically viable for customers serviced frequently. We conceptualize relationship marketing in a context involving nested participants (customers, salespeople, selling firms) and employ a hierarchical linear modeling approach to account for observations that are not independent. Across the three hierarchical levels, the impact of the financial, social, and structural components of relationship marketing investments and the potential moderating factors offer valuable insights into contextual factors and managerial strategies for leveraging relationship marketing investments. In an attempt to suggest normative guidelines to managers, we extend our analysis to a simple resource allocation model that describes the optimal mix of relationship marketing resources based on firm strategies.

Key words: relationship marketing; customer relationship management; marketing strategy; financial outcomes; allocation; hierarchical linear modeling
History: This paper was received July 29, 2005, and was with the authors 2 months for 2 revisions; processed by Gary Lilien.

Introduction

Relationship marketing has undergone explosive growth during the past decade (Sheth and Parvatiyar 2000) due to widespread beliefs that it leads to improved financial performance. However, empirical evidence on this topic is mixed (Dowling and Uncles 1997, Reinartz and Kumar 2000), and more research is needed to isolate the conditions where relationship marketing is effective (Shugan 2005). Although some studies address relationship marketing issues in business-to-business (B2B) interactions (e.g., Ryals 2005), no research has documented the returns from specific B2B investments in relationship marketing programs, or has explained how to leverage these investments for specific customers. This is especially surprising given the academic and managerial interest in measuring marketing productivity and customer-level effects (Bolton 1998, Bolton et al. 2004, Gupta and Lehmann 2005, Johnson and Selnes 2004). Furthermore, two aspects complicate the investigation of customer-specific payoffs of relationship marketing:

1. Different relationship marketing programs (financial, social, and structural) may build different types of relational bonds and norms that generate varying levels of return (Berry 1995, Bolton et al. 2003, Cannon et al. 2000).

2. The returns from relationship marketing programs may vary according to factors associated with any of the relational participants (customer, salesperson, selling firm), but the factors for each participant influence a different set of relational bonds (Reinartz and Kumar 2000, Sirdeshmukh et al. 2002). Customer factors affect returns from relationship marketing investments only for that customer, whereas salesperson factors influence the efficacy of relationship investments for all customers handled by that salesperson, and selling-firm factors leverage investments across all the customers of a selling firm.

The first observation implies that investment returns may vary by relationship marketing program and must be isolated to unravel the distinct effects that are masked within an aggregate measure. The second observation suggests that each relational participant's perspective should be considered when investigating the factors and strategies that may leverage the effect of relationship marketing investment on returns. In effect, these points imply that customer, salesperson, and selling firm variables may interact with different relationship marketing programs and alter their return on investment. For example, Berry (1995) argues that financial relationship marketing programs may be ineffective for segments of deal-prone customers because of the lack of switching barriers for financial-based relational bonds. Therefore, the return on financial programs should be greater for customers who are not deal prone but who are inherently committed to the relationship. We should not expect the same effects for other relationship marketing programs based on relational bonds, which are not easy to replicate (e.g., interpersonal bonds take time and effort to produce). Because customer, salesperson, and selling firm factors affect the payoff of relationship marketing but involve different sets of customers, any related research framework must align a potential moderator with its corresponding set of relevant customers. Some mixed findings in the extant relationship marketing literature may be due to a failure to incorporate these distinctions.

In this study, we examine the customer-specific return (CSR)—a marginal return on investment—of relationship marketing efforts in a B2B context within three nested levels of data: 313 customers served by 143 salespeople from 34 selling firms. Based on extant studies, we categorize relationship marketing efforts into three components: financial, social, and structural. We examine how each component can generate distinctive customer bonds and norms, and whether the program will eventually pay off. Furthermore, we identify and empirically test customer, salesperson, and selling firm factors that may leverage those payoffs. Finally, through a resource allocation model, we provide guidance on spending levels for each type of program, contingent on salesperson and selling firm factors. Our primary theory contribution is a framework of the varied and complex paths through which relationship marketing investments affect customer-specific profitability that specifies theoretical drivers and key moderators from each relational perspective. We also contribute to practice by examining specific strategies that can alter the payoffs of relationship marketing and isolating the differing payoffs of three relationship marketing programs.

We organize this article as follows: In the second section, we explicate the impact of relationship marketing investments and other drivers on CSR. In the third section, we isolate the drivers and potential customer, salesperson, and selling firm factors that may leverage the impact of relationship marketing on CSR. We describe our research method and model in the fourth section, and our data analysis and results in the fifth section. Finally, in the sixth section, we offer discussion and managerial implications.

Influence of Relationship Marketing Investments on CSRs

Dwyer et al. (1987) initiated research on the key role of relationships in B2B exchanges, describing how relationship marketing activities can generate customer-seller bonds and exchange norms. Subsequent research in B2B, in applying insights from transaction cost economics (Anderson and Weitz 1992) and relational norms (Heide and John 1992), has found that, in certain conditions, strong buyer-seller relationships enhance exchange performance, though these linkages may be multidimensional (Cannon et al. 2000). Researchers in service and consumer markets have linked relationship marketing activities to intermediate outcomes (e.g., sales growth, higher customer share, lower price sensitivity) that should enhance a firm's profit (Gwinner et al. 1998, Reynolds and Beatty 1999). Similar to B2B researchers, these researchers propose that various relationship marketing activities lead to different forms of relational ties.

Overall, findings from studies in B2B and consumer markets are consistent: Relationship marketing efforts affect a customer's value to the firm by increasing the length, breadth, and depth of the buying relationship and generating positive word of mouth (Bolton et al. 2004, Verhoef 2003). Different relationship marketing activities may also generate distinctive customer bonds and relational norms, affect the relationships unevenly, and thereby vary in terms of economic returns. Therefore, relationship marketing efforts must be broken down into components prior to any evaluations of customer-specific economic returns.

Relationship Marketing Investments

The extant literature uses several criteria to describe and disaggregate relationship marketing efforts, such as customer bonds formed (Berry 1995), exchange control mechanisms utilized (Cannon et al. 2000), benefits offered (Gwinner et al. 1998), functions served (Hakansson and Snehota 2000), and content area supported (Morgan 2000). These diverse typologies use different perspectives and criteria to identify the salient categories for grouping relationship-building activities, but the outcomes remain consistent. Most typologies include financial (economic), social, and structural components and suggest that customer-seller linkages are similar within each category, but

that they vary with regard to their effectiveness across categories. We adopt Berry's (1995) labels of financial, social, and structural relationship marketing programs.

Financial Relationship Marketing Programs. These programs include discounts, free products, or other financial benefits that reward customer loyalty. However, unless enabled by unique sources (e.g., low-cost structure), any advantage accruing from financial relationship marketing is unsustainable because competitors can easily match the programs (cf. Day and Wensley 1988). Moreover, customers attracted by such incentives may be deal prone and less profitable to serve (Cao and Gruca 2005). However, Bolton et al. (2000) find that financial programs can provide sufficient returns in certain situations.

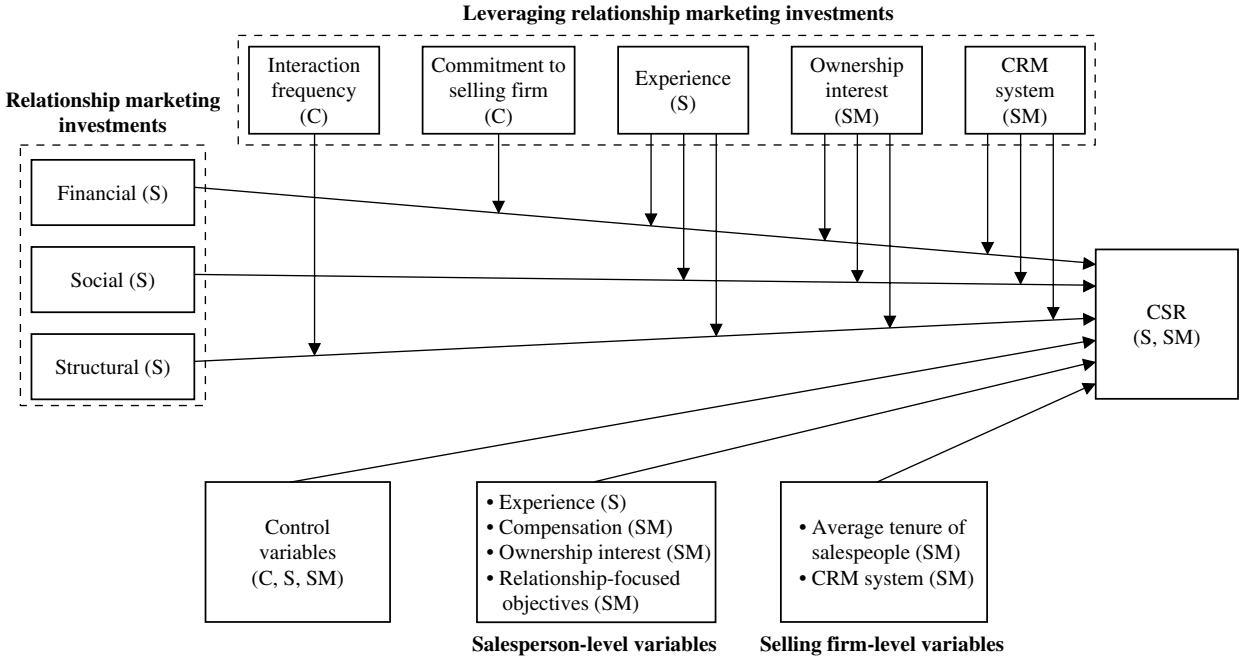
Social Relationship Marketing Programs. These include meals, special treatment, entertainment, and personalized information. The resultant social bonds are difficult to duplicate and may lead customers to reciprocate via repeat sales and recommendations, and by ignoring competitive offers (Blau 1964, De Wulf et al. 2001). These programs are believed to have a strong impact on relationships (Gwinner et al. 1998).

Structural Relationship Marketing Programs. These programs increase productivity or efficiency (or both) for customers through investments that customers would probably not make themselves. Examples include customized order processing systems, dedicated personnel, and tailored packaging. These programs typically require considerable setup efforts and offer unique benefits; thus, customers may be reluctant to switch or fragment their business among suppliers. Such idiosyncratic investments bind the buyer and seller. Structural bonds also may generate strong competitive advantages because customers increase their business with the seller to take full advantage of these value-enhancing linkages (Berry 1995). Overall, although the nature and magnitude of effects may vary, we expect all three relationship marketing programs to have a positive impact on customer-specific return (see Figure 1).

Customer, Salesperson, and Selling Firm Factors

In addition to relationship marketing, other factors may influence CSR. Typical B2B customers interact with salespeople and the selling firm; thus, customer, salesperson, and selling firm factors all could affect exchange performance. The literature suggests two types of customer factors: relational (affective or behavioral) and customer characteristics (Dwyer et al. 1987). Rust and Verhoef (2005) conclude that these types of factors are also key in consumer contexts, finding that heterogeneity of response to CRM interventions was explained in part by customers' past interactions with the company and by unique customer characteristics. Customer commitment to the selling firm (desire to maintain a valued relationship) captures the customer's affective state toward

Figure 1 Effects of Relationship Marketing Investments on Customer Specific Return



Notes. C: Reported by customer; S: Reported by salesperson; SM: Reported by sales manager. Customer relationship management (CRM), customer-specific return (CSR).

the selling firm, whereas interaction frequency with the firm and relationship duration are key behavioral factors. Turning to customer characteristics, a customer's sales growth can lead to increased selling firm sales; other customer characteristics that may affect profit are captured within a salesperson's perception of the customer's potential or attractiveness (Johnson and Selnes 2004).

Research on salesperson performance suggests that both ability and motivation are critical to sales and profit outcomes (Churchill et al. 1985). We use experience as a general proxy for ability, because experienced salespeople are more proficient in uncovering and closing sales opportunities and adapt more easily to different situations (Grewal et al. 2001). For motivation, we recognize from sales and agency theory literature that compensation (base salary plus commission) affects job satisfaction and motivation, which in turn affect selling effort. As more effort is exerted, sales performance and profits should increase (Fang et al. 2004). Aligning firm and salesperson goals through ownership interest (profit sharing, stock ownership plans) makes the profit impact of actions more salient to salespeople (Bergen et al. 1992). Finally, relationship-focused objectives should enhance customer satisfaction, leading to greater retention and superior financial outcomes.

Next, we identify factors that reflect a selling firm's indirect and direct efforts to build and maintain profitable customer relationships. For indirect efforts, we consider the average tenure of salespeople at the firm because tenure results in stronger customer relationships, fewer customer defections, and more customer-specific knowledge (Bendapudi and Leone 2002), which can minimize customer churn and enhance profits. To capture overall direct efforts, we assess the use of customer relationship management (CRM), a strategic approach to create shareholder value by developing relationships with key customers and customer segments through the use of data and information technology (Payne and Frow 2005). In addition, CRM indicates support for relationship marketing because access to integrated customer data should enable firms to target their efforts more effectively, thereby increasing customer-specific profits (Mithas et al. 2005, Reinartz et al. 2004). Consistent with prior research, we control for advertising expenditures and selling firm size.

Leveraging the Effects of Relationship Marketing Investments

In this section, we identify drivers and variables that may leverage relationship marketing investments across the three exchange participants (customer, salesperson, and selling firm). Next, because the three types of programs (financial, social, and structural) operate through different mechanisms, we evaluate some proposed moderation effects across programs. Table 1 summarizes our theoretical rationale, possible leveraging variables, and the variables included in the model.

Customer-Level Moderators

From the customer perspective, commitment-trust theory and related relationship marketing literature (De Wulf et al. 2001, Morgan and Hunt 1994) suggest two theoretical drivers that may leverage the impact of relationship marketing investments: the customer's motivation to have a relationship, and willingness to reciprocate the seller's investments. Higher returns may ensue from customers who desire a relationship and reward sellers for their relationship-building efforts. Cost savings and benefits from a relationship also affect a customer's loyalty. If relationship marketing efforts create tangible benefits, the customer will be motivated to respond positively. However, if those efforts introduce inefficiencies (e.g., added costs, unwanted social interactions), resentment may result (Bagozzi 1995, De Wulf et al. 2001). Thus, factors that increase a customer's motivation to engage in a strong relationship with the seller should increase the return on investments.

Many factors can increase a customer's need or motivation for stronger relational linkages, including customer dependence, interaction frequency, product involvement, and environmental uncertainty (e.g., Cannon et al. 2000, De Wulf et al. 2001). Because relationship marketing programs operate through different relational mechanisms, each program must be evaluated separately to determine if a proposed moderator would alter a customer's relational motivation or perceived value. For example, interaction frequency has been noted as a way to increase the value of structural relationship marketing for a customer (Berry 1995). Because structural programs can increase customer productivity or efficiency (or both) through a customized interface, more frequent interactions lead to increases in perceived value as customers gain greater productivity during more interactions, and there is little reason for any diminishing effects at higher interaction levels. The cost (to seller and buyer) to implement a structural program is typically fixed; after the interface is set up, the additional costs to maintain the program are minimal. Thus, customer value increases with interaction frequency, resulting in stronger bonds, enhanced loyalty, and more business to the selling firm. We do not expect the same effect, however, for social or financial programs. For social programs, when a strong relationship has been built, there is little additional value for the customer from more interactions, and the costs for the seller and buyer to build and maintain a social bond are more variable. Thus, we do not expect

Table 1 Customer, Salesperson, and Selling Firm Variables for Leveraging the Influence of Relationship Marketing Investments on Customer-Specific Return

Perspectives	Theoretical driver(s) for leveraging relationship marketing investments	Potential leveraging variables	Variables tested
Customer	Factors influencing a customer's motivation to have a strong customer-seller relationship (Dwyer et al. 1987, Morgan and Hunt 1994)	Interaction frequency, customer dependence, product involvement, environmental uncertainty, relationship proneness (individual difference variable), and customer's processes for rewarding strong supplier relationships	Interaction frequency
	Factors influencing customer's willingness to reciprocate for benefits received (Cialdini 2001, De Wulf et al. 2001)	Customer commitment, possibility of future interaction, customer stake (i.e., investment) in the relationship, individual difference for reciprocity, and customer firm's norms	Customer commitment
Salesperson	Factors influencing a salesperson's ability to allocate relationship marketing investments efficiently (Weitz et al. 1986)	Experience, adaptive selling skills, and interpersonal skills	Experience
	Factors influencing a salesperson's motivation to allocate relationship marketing investments efficiently (Bergen et al. 1992)	Ownership interest, sales management attention, and supervision of relationship marketing expenditures	Ownership interest
Selling firm	Factors influencing a selling firm's employees' ability to allocate relationship marketing investments efficiently (Mithas et al. 2005, Reinartz et al. 2004)	Selling firm's CRM; customer segmentation processes; management and tracking processes for relationship marketing investments; and employee recruiting, training, and incentive programs	CRM
	Factors influencing a selling firm's employees' motivation to allocate relationship marketing investments efficiently (Boulding et al. 2005; Deshpande et al. 1993)	Selling firm's CRM, market orientation, or customer-centric culture, and organizational climate	CRM

Note. Customer relationship management (CRM).

customers to perceive higher value from social programs as the interaction frequency increases. Similarly, interaction frequency will not affect the value of a financial program, because its value depends chiefly on economic savings. We test these claims by assessing whether interaction frequency leverages the influence of structural investments on CSR.

The second theoretical driver—customer's willingness to reciprocate—indicates that relationship marketing will have a greater effect on profit when invested in customers who are willing to reciprocate the value they receive. Thus, factors that increase the likelihood of reciprocation should leverage the economic payoff. For example, if a buyer expects to interact with a seller in the future or has a stake in maintaining the exchange, the buyer should behave less opportunistically (Anderson and Weitz 1992). Those efforts toward customers committed to maintaining the relationship should generate higher returns, because these customers are likely to reciprocate (e.g., increase sales, pay a price premium) to maintain the relationship. For which type of program would willingness to reciprocate be most meaningful? The proposed moderating effect is most likely to occur with programs that require little investment by the customer (cost, time, or effort) to extract value, because such programs inherently offer little protection from opportunism (Cao and Gruca 2005). Recall that social and structural programs require more time and effort to develop than financial programs. Moreover, as Berry (1995, p. 239) makes clear, the positive effect of financial investments on profit may be undermined if benefits are provided to deal-prone customers who are open to (and may even seek out) competitive offers. Thus, we expect that a customer's commitment to the selling firm will positively moderate the impact of financial relationship marketing investments on profit, but will not moderate social or structural investments, which involve more effort and are difficult to switch among sellers. We test this conjecture by including customer commitment as a potential moderator of the influence of financial relationship marketing on CSR.

Salesperson-Level and Selling Firm-Level Moderators

At the salesperson and selling firm-levels, we consider variables that influence the ability and motivation of decision makers to allocate relationship marketing investments efficiently. For example, experienced salespeople should be effective at selecting, aligning, and delivering targeted programs to select customers (Weitz et al. 1986). Thus, relationship marketing should have a greater impact on performance for experienced salespeople. Agency theory also suggests that ownership interest in the selling firm motivates salespeople to act in the best interests of the firm (Bergen et al. 1992), but if earnings are linked to sales

revenue and salespeople have no ownership interest, a misalignment may be created. Such salespeople, who have some discretion in allocating their expenditures, may spend their discretionary dollars aggressively on their customers without worrying about the direct costs of these programs. With ownership interest, salespeople would be more discerning in targeting their relationship building resources, and thus would minimize inefficient spending.

At the selling firm-level, variables that influence the ability or motivation of employees to spend resources wisely across customers should have a greater impact on performance (Deshpande et al. 1993). In general, CRM processes and systems motivate and enable employees to allocate marketing resources efficiently, and in a systematic and proactive manner (Mithas et al. 2005, Reinartz et al. 2004), by identifying those customers who meet criteria for specific programs (Chen and Iyer 2002), evaluating and improving the effectiveness of programs, or reducing the time needed to implement a program (or both). Thus, firms that employ CRM should be able to generate higher levels of profits for a given relationship building investment than other firms (Boulding et al. 2005).

Research Method and Model

Our data come from industrial customers, salespeople, and sales managers of each selling firm. These multiple sources reduce concerns about same-source bias, and enable us to collect data from the most knowledgeable sources. The selling firms were manufacturers' representative firms (rep firms), which typically represent several manufacturers as exclusive sales agents in specific territories. This context is well suited to assessing the economic impact of relationship marketing, because a rep firm does not manufacture or inventory the products it sells, and its costs do not vary with small changes in sales volumes except for the salesperson's variable pay. Thus, the rep firm's return on any incremental sales equals the manufacturer's commission less the salesperson's variable pay. For example, if the manufacturer pays a 5% commission on sales and the salesperson receives 30% of these commission dollars, the rep firm receives a 3.5% return on any incremental sales. This relationship holds until the revenue increases to the point that the rep firm needs additional resources to support its increased business.

This rep firm context offers two additional advantages for evaluating the return on relationship marketing investments. First, rep firms sell a range of products from multiple manufacturers; thus, the influence of any one product or brand is minimal. Second, rep firms have few tangible assets, and manufacturers normally can terminate an agreement simply with a 30-day notice, which makes their customer relationships their primary asset. Thus, rep firms institute a range of relationship marketing programs to solidify their relational assets.

Sample and Data Collection

We drew a random stratified sample of 3,000 industrial customers from 13,850 contacts provided by 41 rep firms, with support from the Manufacturers' Representatives Educational Research Foundation. A four-wave mailing (presurvey card, survey, follow-up card, and a second survey) to these customers generated 511 completed surveys, with 220 returned as undeliverable—an effective response rate of 18%. We then mailed surveys to the 195 salespeople who handle these customers. In cases in which the same salesperson covered multiple customers, the salesperson completed all measures for each customer. We received 165 salesperson surveys (85% response rate). To the sales manager at each rep firm, we sent a customized survey, listing each customer and salesperson by name and requesting two years of sales data for all 511 customers, compensation data for all 195 salespeople, and other data regarding the sales manager's rep firm. We contacted each sales manager to review the survey items for clarity. After a follow-up contact, 34 of 41 sales managers provided the requested data (83% response rate). After we removed those cases with missing data and outliers, the final data set included 313 triads across 143 salespeople from 34 rep firms, for an effective response rate of 11.3%.

We used multiple tests to assess response bias. First, following Armstrong and Overton (1977), we compared early and late responses (mean comparisons repeated for the first 25%, 33%, and 50% versus last 25%, 33%, and 50% of respondents) in the buyer and salesperson data for all variables and found no significant comparisons ($p > 0.05$). Next, we compared those respondents not included in the final sample due to missing triadic data with those whom we included. For example, on buyer-rated constructs, we compared buyers not included in the study with those who participated. Again, no comparisons were significant ($p > 0.05$), so buyer characteristics do not appear to affect whether salespeople or managers responded systematically. Finally, for salespersons and sales managers, we compared those included in the analysis with those who were not included due to deficiencies in corresponding data, and again, no comparisons were significant ($p > 0.05$). Based on these analyses, we believe that response bias is not a major concern.

Our sample includes firms that sell in a wide range of end markets, including electronics, electrical, plumbing, telecommunications, and maintenance supplies. Most of the rep firms' sales pertained to products rather than services (on average, 93% of sales came from products). Furthermore, the majority (69%) of sales resulted from products or services for which customers had an alternative supplier. The

average customer bought 3.8 different supplier lines from the rep firm.

Measurement

We used existing measures whenever possible and tested and refined all items through interviews with buyers, salespeople, and sales managers (see Appendix A). All measures used a seven-point Likert scale, unless noted otherwise. In Table 2, we summarize the descriptive statistics and correlations for all continuous variables.

Customers reported their commitment to the selling firm through three items (De Wulf et al. 2001) ($\alpha = 0.95$). They also provided single-item measures for interaction frequency (#/week), growth rate of the customer firm (%), and relationship duration (years).

The salespeople reported (for each customer) their financial, social, and structural relationship marketing investments. Each salesperson received a list of activities for each program, followed by a question regarding the average monthly spending for this customer over the past year for each activity. We repeated this process for each of the three relationship marketing programs. The list of activities for each program is based on previous studies (Berry 1995, Gwinner et al. 1998) and was refined during in-depth interviews. A final item asked about any relationship marketing efforts not captured by our list. A low mean (1.4) suggests that our items provided adequate coverage of the domain. Finally, salespeople also reported the overall sales potential and average commission rate (%) for each customer, as well as their experience (years).

Sales managers provided selling firm and salesperson information, as well as customer sales data. For selling firms, sales managers reported the average tenure of salespeople (years), CRM (0 = use CRM, 1 = do not use CRM; 21 of 34 firms use CRM), advertising ($), and selling firm size (million $). For each salesperson, the sales managers reported compensation ($), ownership interest (0 = no ownership, 1 = ownership; 73 of 143 salespeople had ownership interest), and relationship-focused objective (presence = 1, absence = 0; 55 of 143 salespeople received compensation tied to relationship-focused objectives). Sales managers also provided two years of archival sales data for each customer, which we used to calculate the returns. We calculated CSR for each customer by multiplying the sales revenue by the effective commission rate for that customer. Effective commission reflects the average commission from a customer reduced by (1 − variable salesperson pay) (see Appendix A). Thus, CSR represents the contribution margin a rep firm earns on sales, which remains valid until incremental sales require additional selling costs.

Model

In specifying our model to relate relationship marketing expenditures to CSR, we incorporate several important aspects in terms of the phenomena that must be reflected. First, we note that the effects of relationship marketing expenditures are likely to play out over time, especially because we are dealing with customer relationships that develop and evolve. To capture the effect of prior expenditures, we include, from the standpoint of parsimony, the CSR of the previous period, similar to a Koyck-type formulation that represents lagged effects (Hanssens et al. 2001). Second, in addition to relationship marketing expenditures, we include variables at the three different levels and note the relevant interaction effects. We specify our model as follows:

$$CSR_{it} = \alpha CSR_{i(t-1)} + \beta RM_{it} + \beta' X_t, \tag{1}$$

where

CSR_{it} = return generated from customer i in time period t

$CSR_{i(t-1)}$ = return generated from customer i in time period $(t-1)$

RM_{it} = relationship marketing expenditures on customer i in time period t

X_t = vector of control variables.

The vector X_t involves variables at three levels: customer, salesperson, and selling firm. We depict the entire model using $\beta_{0\text{-}21}$ to represent the fixed parameters; ν_{0k}, u_{0jk}, and e_{0ijk} to represent the selling firm-, salesperson-, and customer-level random deviations from the intercept (β_0); and $\nu_{1k,2k,3k}$, and $u_{1jk,2jk,3jk}$ to represent the selling firm- and salesperson-level random deviations from the financial, social, and structural relationship marketing investment coefficients ($\beta_1, \beta_2, \beta_3$), respectively. For ease of exposition, we drop the subscript t and note that CSR_{0ijk} is the return in the previous year for the ith customer served by the jth salesperson from the kth selling firm:

$$\begin{aligned} CSR_{ijk} = {} & \alpha CSR_{0ijk} + \beta_{0ijk} + \beta_{1jk}(FIN_{ijk}) + \beta_{2jk}(SOC_{ijk}) \\ & + \beta_{3jk}(STR_{ijk}) + \beta_4(INT_{ijk}) + \beta_5(COM_{ijk}) \\ & + \beta_6(GRW_{ijk}) + \beta_7(DUR_{ijk}) + \beta_8(POT_{ijk}) \\ & + \beta_9(FIN * COM)_{ijk} + \beta_{10}(STR * INT)_{ijk} \\ & + \beta_{11}(EXP_{jk}) + \beta_{12}(COP_{jk}) + \beta_{13}(OWN_{jk}) \\ & + \beta_{14}(REL_{jk}) + \beta_{15}(ADV_k) + \beta_{16}(SIZE_k) \\ & + \beta_{17}(TEN_k) + \beta_{18}(CRM_k) \\ & + \beta_{19}(FIN * EXP)_{ijk} + \beta_{20}(FIN * OWN)_{ijk} \\ & + \beta_{21}(FIN * CRM)_{ijk}, \end{aligned} \tag{2}$$

where

$$\beta_{0ijk} = \beta_0 + \nu_{0k} + u_{0jk} + e_{0ijk}, \tag{3}$$

Table 2 Descriptive Statistics and Correlations

Constructs	Mean	Std. dev.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Financial relationship marketing investments ($)	766.582	1,033.085	1.000													
2. Social relationship marketing investments ($)	330.096	292.355	0.136*	1.000												
3. Structural relationship marketing investments ($)	748.946	936.898	0.183**	0.208**	1.000											
4. Growth rate of customer firm (%)	6.764	19.611	0.065	0.034	−0.002	1.000										
5. Potential of customer	4.345	1.803	0.125*	0.312**	0.145**	0.025	1.000									
6. Relationship duration[1]	2.924	1.181	0.020	0.086	0.028	0.007	0.054	1.000								
7. Interaction frequency	1.898	1.447	0.018	−0.034	−0.068	−0.010	0.011	0.065	1.000							
8. Commitment to the selling firm	4.481	1.639	0.101	0.112*	0.031	0.033	0.087	0.071	−0.009	1.000						
9. CSR_{t-1} ($)	8,275.261	14,528.387	0.062	0.061	0.183**	−0.011	0.171**	0.115*	0.071	−0.015	1.000					
10. CSR_t ($)	9,077.102	14,709.535	0.086	0.127*	0.267**	0.030	0.224**	0.118*	0.067	0.010	0.975**	1.000				
11. Experience (years)	12.228	9.195	−0.020	0.178**	0.234**	−0.015	0.032	0.102	0.014	0.102	0.094	0.144*	1.000			
12. Compensation	3.125	0.885	0.021	0.128*	0.171**	0.030	0.054	0.089	0.015	0.048	0.075	0.071	0.286**	1.000		
13. Advertising ($)	21,559.105	14,263.001	−0.068	−0.065	0.012	−0.011	−0.034	−0.023	0.081	0.056	−0.063	−0.011	0.054	0.052	1.000	
14. Selling firm size (million $)	39.243	21.467	0.009	−0.060	0.141*	−0.001	−0.038	0.043	0.011	0.066	0.137*	0.163*	0.269**	0.085	0.446**	1.000
15. Average tenure of salespeople (years)	8.994	3.472	0.122*	0.064	0.149**	−0.013	0.010	0.094	0.075	0.001	0.140*	0.184**	0.164	−0.105	0.303	0.408*

Notes. Customer-specific return (CSR). $N = 313$ for evaluating pairwise correlations between customer-level variables and customer-, salesperson-, and firm-level variables; $N = 143$ for evaluating pairwise correlations between salesperson-level variables and salesperson-level and firm-level variables; $N = 34$ for evaluating pairwise correlations between firm-level variables.

[1]Square root transformation.

$^{**}p < 0.01$; $^{*}p < 0.05$.

$$\beta_{1jk} = \beta_1 + \nu_{1k} + u_{1jk}, \quad (4)$$

$$\beta_{2jk} = \beta_2 + \nu_{2k} + u_{2jk}, \quad \text{and} \quad (5)$$

$$\beta_{3jk} = \beta_3 + v_{3k} + u_{3jk}; \quad (6)$$

$CSR_{ijk} \sim \mathrm{N}(XB, \Omega)$; $[\nu_k] \sim \mathrm{N}(0, \Omega_v)$; $[u_{jk}] \sim \mathrm{N}(0, \Omega_u)$; $[e_{ijk}] \sim \mathrm{N}(0, \Omega_e)$; and

FIN_{ijk} = financial relationship marketing investments

SOC_{ijk} = social relationship marketing investments

STR_{ijk} = structural relationship marketing investments

INT_{ijk} = interaction frequency

COM_{ijk} = commitment to the selling firm

GRW_{ijk} = growth rate of customer firm

DUR_{ijk} = relationship duration

POT_{ijk} = potential of customer

EXP_{jk} = experience

COP_{jk} = compensation

OWN_{jk} = ownership interest

REL_{jk} = relationship-focused objectives

ADV_k = advertising

$SIZE_k$ = selling firm size

TEN_k = average tenure of salespeople

CRM_k = use of a CRM system.

Analysis and Results

We employ hierarchical linear modeling (HLM), which accounts for the lack of independence across different cases for some variables, and thus overcomes the limitations of traditional methods of analyzing nested data (Raudenbush and Bryk 2002). There is recent precedence in marketing for the use of HLM (e.g., Mittal et al. 2005) and other multilevel modeling methods (e.g., Elsner et al. 2004). Specifically, we estimate the models using HLM full maximum likelihood, in an empirical Bayes procedure, through the iterative generalized least squares algorithm in MLwiN 2.1d (Rasbash et al. 2000). We evaluate the CSR determinants using an incremental model-building approach (Table 3, Models 1–6), as suggested by Kreft and de Leeuw (1998). This technique allows sequential model testing, which balances theory and model parsimony. Random or fixed effects can be tested by comparing the deviance (−2 log likelihood criterion) between two nested models with a χ^2 distribution, such that the degrees of freedom equal the difference in the number of parameters between the two models (Ang et al. 2002). Multicollinearity is not an issue; the final model has a variance inflation factor of less than 10.

We compared a series of nested empty models with only CSR_0. Adding a random intercept effect at the salesperson-level significantly improved the model fit ($\Delta\text{deviance}_{(1)} = 26.777$; $p < 0.01$), as did adding a random intercept effect at the selling firm-level ($\Delta\text{deviance}_{(1)} = 14.110$; $p < 0.01$). These results suggest that salesperson-level and selling firm-level variables have direct effects on returns, in support of the notion that group membership matters. The total variation in CSR can be split among these levels: The customer-level explains 61.9%, the salesperson-level explains 9.5%, and the selling firm-level explains 28.5% of the variance.

Model 2 adds customer-level main effects to Model 1, explains 29.7% of the variance in CSR, and represents a significant improvement ($\Delta\text{deviance}_{(8)} = 96.086$; $p < 0.01$). Model 3 adds the products of the mean-centered variables to test the incremental effect of the customer-level interactions and demonstrates that customer-level direct effects and interactions explain 35.1% of the variance in CSR and that customer-level interactions significantly improve the model ($\Delta\text{deviance}_{(2)} = 24.745$; $p < 0.01$). With Model 4, we include the main effects of salesperson-level factors, which explains an additional 5% of the variance in CSR ($\Delta\text{deviance}_{(4)} = 17.656$; $p < 0.01$). Then, Model 5 adds the main effects of selling firm-level factors to Model 4 and explains an additional 9.6% of the variance in CSR ($\Delta\text{deviance}_{(4)} = 19.949$; $p < 0.01$). In Table 3, we provide a summary of the HLM estimations and variance extracted by each model.

Models 1–5 include random effects only for the intercept; they assume that the coefficients of customer-level variables are constant across different salespeople and selling firms (i.e., no random-slope effects). We test this assumption through a series of nested models. For example, modifying Model 5 by allowing the coefficient of financial relationship marketing investments to vary based on salesperson-level and selling firm-level factors adds four parameters: random variance coefficients for financial investments at the (1) salesperson and (2) selling firm-levels, (3) salesperson-level intercept-slope covariance, and (4) selling firm-level intercept-slope covariance. Thus, to determine whether the fit significantly improves, we can compare this modified model with Model 5 using a deviance difference test with four degrees of freedom, a procedure we repeat for social and structural investments. In this sample, slopes do not vary significantly for social or structural investments, which suggests that the parameter estimates for social and structural programs are constant across salespeople and selling firms when we control for the main effects of salesperson-level and selling firm-level factors. Thus, the random deviations for social (ν_{2k} and u_{2jk}) and structural (ν_{3k} and u_{3jk}) relationship marketing investment coefficients are both 0 in Equations (5) and (6) (Snijders and Bosker 1999). However, the model with random-slope effects for financial programs at the salesperson and selling firm-levels has a significantly better fit ($\Delta\text{deviance}_{(4)} = 29.290$; $p < 0.01$)

Table 3 Results: Hierarchical Linear Model Estimation for Customer-Specific Return[1]

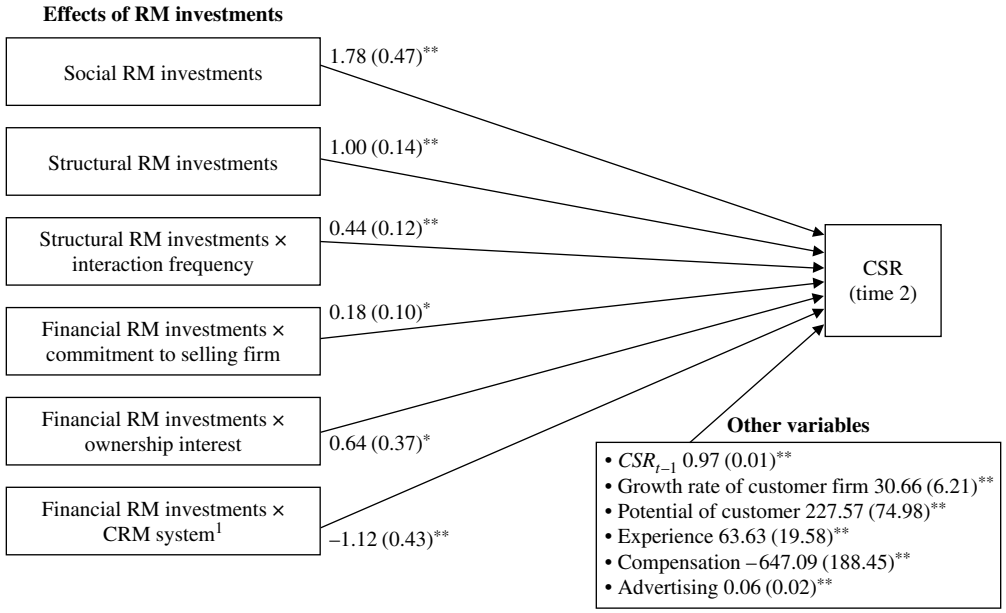
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	1,008.294**	−2,307.497**	−2,371.608**	−1,205.234	−2,959.734**	−1,781.380**
	(405.855)	(707.743)	(678.390)	(862.517)	(996.755)	(852.729)
CSR (prior period)	0.989**	0.971**	0.965**	0.967**	0.964**	0.971**
	(0.012)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)
Financial RM investments		0.128	0.021	0.052	0.022	−0.015
		(0.147)	(0.143)	(0.140)	(0.138)	(0.289)
Social RM investments		1.675**	1.765**	1.588**	1.766**	1.775**
		(0.543)	(0.524)	(0.517)	(0.510)	(0.467)
Structural RM investments		1.140**	1.142**	1.113**	1.072**	0.998**
		(0.163)	(0.156)	(0.154)	(0.154)	(0.142)
Interaction frequency		10.698	64.180	55.262	47.261	8.601
		(99.551)	(96.835)	(94.921)	(93.750)	(88.936)
Commitment to the selling firm		78.384	84.800	61.692	57.328	54.903
		(88.715)	(85.604)	(84.087)	(83.077)	(80.331)
Growth rate of customer firm		27.370**	30.043**	30.297**	31.184**	30.660**
		(7.201)	(6.914)	(6.766)	(6.688)	(6.205)
Relationship duration		69.438	98.774	91.765	51.600	1.557
		(129.706)	(124.999)	(122.492)	(119.613)	(107.755)
Potential of customer		269.032**	247.627**	248.329**	236.739**	227.574**
		(86.695)	(83.482)	(81.748)	(81.136)	(74.975)
Structural RM investments × interaction frequency			0.451**	0.439**	0.447**	0.435**
			(0.130)	(0.127)	(0.127)	(0.117)
Financial RM investments × commitment to the selling firm			0.321**	0.314**	0.304**	0.181*
			(0.093)	(0.092)	(0.091)	(0.104)
Experience				74.508**	65.290**	63.625**
				(20.692)	(19.743)	(19.583)
Compensation				−672.083**	−587.439**	−647.088**
				(215.964)	(205.546)	(188.846)
Ownership interest				47.033	96.678	−364.274
				(396.530)	(355.724)	(332.786)
Relationship-focused objectives				409.418	289.155	321.397
				(432.072)	(386.361)	(333.447)
Advertising					0.062**	0.064**
					(0.015)	(0.011)
Selling firm size					−10.578	−10.955
					(11.002)	(8.819)
Average tenure of salespeople					124.110*	44.502
					(59.964)	(45.559)
CRM system					−711.272	29.454
					(464.087)	(398.669)
Financial RM investments × experience						0.006
						(0.021)
Financial RM investments × ownership interest						0.637*
						(0.366)
Financial RM investments × CRM system						−1.122**
						(0.434)
Deviance (−2 log likelihood)	5,908.021	5,811.935	5,787.190	5,769.534	5,749.585	5,711.204
Deviance difference		96.086**	24.745**	17.656**	19.949**	38.381**
Degrees of freedom for evaluating deviance differences		8	2	4	4	7
Proportion of variance explained (%)		29.73	35.06	40.08	49.67	51.57

Notes. Relationship marketing (RM), customer relationship marketing (CRM), customer-specific return (CSR). $N = 313$ for customer-level; $N = 143$ for salesperson-level; $N = 34$ for selling firm-level. Unstandardized coefficients are reported with standard errors in parentheses.

[1]Degrees of freedom for t-test to evaluate the significance of the estimated coefficients are 298 for Level 1 variables and cross-level interactions, 138 for Level 2 variables, and 29 for Level 3 variables.

$^{**}p < 0.01$; $^{*}p < 0.05$.

Figure 2 Results: Direct and Indirect Effects of Relationship Marketing Investments on Customer Specific Return



Notes. Unstandardized parameter estimate (standard error) are shown for each significant effect.
Relationship marketing (RM), customer relationship management (CRM), customer-specific return (CSR).
[1]Negative coefficient represents the effect of not having a CRM system.
$^{**}p < 0.01$, $^{*}p < 0.05$.

than Model 5, which suggests we must investigate cross-level interactions between salesperson-level factors and financial investments and between selling firm-level factors and financial investments to explain this significant random-slope variance. Model 6, which adds the random-slope effects for financial programs and the proposed cross-level interactions, provides a significantly better fit ($\Delta\text{deviance}_{(7)} = 38.381$; $p < 0.01$) than Model 5, and explains 51.6% of the variance in CSR.

Model 6 (Table 3) and Figure 2, in which we summarize the significant results, thus offer insight into the complex pattern of effects for the influence of relationship marketing on CSR. The model's specification has an advantage in that the parameter estimates for relationship marketing investments can be interpreted as the marginal return for each type of program. For example, in our sample specifically, a \$1,000 additional investment in social relationship marketing generates \$1,775 of incremental profit (78% return) when we control for other variables in the model ($B = 1.775$; $p < 0.01$). Because both financial and structural programs have significant interactions, we also must account for the level of the moderators when we interpret the results. Investments in structural programs have a positive direct effect on CSR ($B = 0.998$; $p < 0.01$) but generate higher returns for those customers with high interaction frequency ($B = 0.435$; $p < 0.01$).[1] For example, at two interactions per week, structural programs appear to break even, but when customers engage in four interactions per week, a \$1,000 investment in structural relationship marketing generates \$1,231 of profit (23% return; interactions are mean centered).

The story of financial programs differs. As we show in Table 3, financial relationship marketing has no significant direct relationship with CSR, although variables at each hierarchical level demonstrate significant interactions with financial relationship marketing, namely, commitment to the selling firm ($B = 0.181$; $p < 0.05$, customer-level), ownership interest ($B = 0.637$; $p < 0.05$, salesperson-level), and the absence of a CRM system ($B = -1.122$; $p < 0.01$, firm-level). For example, even with committed customers (commitment = six on a seven-point scale), salespeople who have ownership interest and a selling firm that employs CRM, investing \$1,000 in financial relationship marketing produces only a \$686 return (31% loss).

[1] Although we only expected interaction frequency to moderate structural relationship marketing, for completeness, we also tested its moderating effect on financial and social relationship marketing programs, a procedure we duplicated for the interaction of customer commitment with social and structural relationship marketing programs. None of these additional four tests was significant.

In addition to the relationship marketing variables, we include other covariates at the three levels and find most results consistent with our expectations. At the customer-level, previous period CSR_0, customer growth rate, and customer potential have positive and significant effects on profit. At the salesperson-level, experience has a strong positive effect, but salesperson compensation has a significant negative impact on CSR (contrary to our expectations). Post hoc discussions with sales managers indicate that the negative impact of total compensation on CSR may be due to those highly compensated salespeople who reach a plateau and stop selling aggressively. At the firm-level, advertising dollars have a positive impact on profit. In summary, the final model (Model 6) captures more than half (51.6%) of the overall variance in CSR.[2]

Discussion

We model the customer-specific payoff for financial, social, and structural relationship marketing investments; provide a theoretical framework of customer, salesperson, and selling firm factors that may enhance relationship marketing productivity; and empirically support the framework by identifying four variables that leverage the impact of relationship marketing on CSR. These contributions align well with two recent trends in marketing: determining the return on marketing expenditures, and moving toward one-to-one customer marketing. Furthermore, the results support our premise that evaluations of the economic returns on these investments are more complex than they may first appear, which thus suggests implications for research and practice.

First, different relationship marketing programs appear to differ in their effectiveness; therefore, further research should disaggregate relationship marketing activities to isolate their actual effects. Second, the influence of relationship marketing on CSR is leveraged by factors associated with each of the three exchange participants (customer, salesperson, and selling firm). This finding indicates that program returns may be improved through diverse strategies, including customer segmentation, salesperson selection, training, incentives, and selling firm initiatives. Third, our empirical finding that moderators affect the three types of programs differently is consistent with the first two implications and underscores that relationship marketing effectiveness truly can be understood only when the unit of analysis stays at the program-customer-level.

Our findings also suggest that social expenditures have a direct and significant impact on profit and thereby reaffirm the notion that such investments are worthwhile and can translate to goodwill among B2B customers. Social investments appear to deliver the highest short-term return, which may be due to the immediacy of social relationship marketing, in that sellers can implement social programs in response to current events with little prior planning. Social programs also may create a feeling of interpersonal debt for customers that results in a pressing need to reciprocate, which then generates immediate returns (Cialdini 2001). Furthermore, social programs are not significantly moderated in our sample, which may be because of the interpersonal nature of delivery, where salespeople reallocate resources in real time to minimize misallocations.

Structural relationship marketing investments generate positive short-term economic returns for those customers with above-average interaction frequencies (>two interactions per week), which makes these programs attractive for some customers. Sellers can leverage their structural relationship marketing dollars by targeting customers with relatively more frequent interactions, for whom the customized structural solutions offer the most value. Structural linkages also should have an ongoing impact on profits into the future; although customer response in the short term may be based on reciprocation for a perceived investment (De Wulf et al. 2001), customers should continue to take advantage of the value provided by these structural interfaces in the long run.

The return on financial relationship marketing expenditures demonstrates a high degree of heterogeneity across customer, salesperson, and selling firm factors, even though the main effect is not significant and fails to generate positive returns in any context evaluated. The lack of positive short-term returns probably is linked to the ease with which competitors can match incentives (Berry 1995) and with which financial relationship marketing dollars can be misallocated. However, financial relationship marketing, though not economically viable in the short run, may have an important strategic role. First, such investments may be necessary to respond to competitive threats and protect existing business, rather than as means to generate new business. This reasoning implies that financial relationship marketing may be more defensive, whereas social and structural relationship marketing dollars represent offensive relational weapons. Second, an important component of customer portfolio management pertains to

[2] Model robustness and sensitivity to data were evaluated multiple ways. We compared parameter estimates (e.g., β for relationship marketing investments) generated from the final model with new estimates after varying the input data by ±20%, sequentially omitting five cases (until 10% dropped) on the basis of Mahalanobis distance, sequentially omitting independent variables and interaction terms, and using alternative model specification. In all these cases, directionality, significance level, and the relative value of parameter estimates remain consistent. Results from these additional analyses are available on request.

attracting less-valuable customers and building relationships that may grow in the long run (Johnson and Selnes 2004). The usefulness of financial relationship marketing in long-term relationship building remains an open empirical question that is worthy of future investigation, but it is interesting to note that many factors moderate its effectiveness. Again, this finding may indicate the relative ease, compared with social and structural programs, with which financial relationship marketing can be misallocated. For example, it is relatively easy for a customer service employee or salesperson to provide a financial incentive (e.g., free sample, special discount), whereas building an interpersonal relationship or implementing a structural program requires much greater investments of time and effort. Third, our findings are consistent with the premise that the advantage of CRM may not be to influence profit directly, but rather to improve the allocation and targeting of marketing efforts (Mithas et al. 2005).

The empirical support found for the moderators that we test increases our confidence in the theoretical framework (Table 1) and provides insight into other potential leveraging variables. This framework may enable relationship marketing research to move beyond testing Morgan and Hunt's (1994) key mediator model by identifying boundary conditions and contextual moderators.

Another important aspect of this article is our investigation of the effects of relationship marketing on profit across three levels of nested exchange participants (customers, salespeople, selling firms), for which we employed a mixed-effects model to account for the nested structure. Our use of data from three sources and the modeling of complex interactions combine to reduce concerns that our results may be explained by same-source biases. Furthermore, 61.9% of the variance in CSR comes from the customer-level, which reinforces the importance of customer-level variables and suggests that research operationalized at higher levels of analysis may be unable to isolate key drivers of profitability. The small percentage of salesperson-level variance (9.5%) in CSR is somewhat surprising for this industrial context, in which salespeople are viewed as critical. The remaining 28.5% of CSR variance comes from the firm-level, so firm-level strategies clearly are vital to performance.

Managerial Implications

Our analysis offers several perspectives that can help guide managerial activities. First, managers should have greater confidence knowing that relationship marketing programs work and that their impact on bottom-line results is measurable. In addition, the ability to document these economic returns provides managers with a stronger basis to request resources in support of relationship marketing. Second, our results identify those circumstances in which relationship marketing programs can be employed beneficially. For example, many firms may be underspending on social programs, and additional investments could generate greater profits for them. However, because the relational tie may reside with the salesperson, the firm also risks greater damages if the salesperson leaves. Because structural programs offer the greatest returns when directed toward those customers with whom the firm interacts frequently, managers could target their structural investments toward these specific customers. The recommendations for financial relationship marketing expenditures, however, grow more complex. The returns from financial programs are improved when the selling firm has CRM in place, the salesperson has ownership interest, and customers are committed to the selling firm; however, as a standalone investment, financial relationship marketing is not viable in the short run. Thus, financial programs should be used strategically, such as to respond to competitors or attract new customers, not with the expectation of a short-term increase in profit. Managers may want to institute formal policies to govern the conditions under which financial incentives are justified to limit misallocations. In this sense, financial incentives may resemble a pricing policy more than a relationship marketing program. Overall, managers should develop a profile of customers or customer segments that can become the focus of targeted relationship marketing efforts and vary the mix of relationship marketing programs according to the segment characteristics.

Because financial, social, and structural relationship marketing dollars provide different returns, allocating resources across programs is a complex challenge that must consider interactions with customer, salesperson, and selling firm factors (Gopalakrishna and Chatterjee 1992, Tellis and Zufryden 1995). How should a manager optimally allocate a given budget across relationship marketing programs? To address this question, we develop a post hoc resource allocation model that provides directional insights into the optimal mix of relationship marketing programs (for a given budget) for different salesperson and selling firm strategies (see Appendix B for the model details and Table 4 for specific results).

The optimization model indicates that, for our sample, sellers should allocate about two-thirds (69%) of their spending to social programs and the rest (31%) to structural programs, but nothing to financial programs. If we then evaluate the optimal relationship marketing mix after splitting the sample according to salesperson ownership interest and the use of a CRM system, we find that it makes sense to expend some dollars on financial relationship marketing activities

Table 4 Optimal Relationship Marketing Allocation

Description of scenario	Financial relationship marketing investments (%)	Social relationship marketing investments (%)	Structural relationship marketing investments (%)
Overall sample	0	69	31
Ownership interest	8	71	21
No ownership interest	0	64	36
No CRM system	0	74	26
CRM system	7	66	27

Note. Customer relationship marketing (CRM).

(8%) if salespeople have an ownership interest; otherwise, financial relationship marketing investments do not pay off. This finding reinforces the need for managers to control the use of financial relationship marketing when the interests of salespeople are not well aligned with those of the selling firm (Joseph 2001). Similarly, when the selling firm has a CRM system in place, shifting some relationship marketing dollars (7%) to financial programs is optimal. Across the five scenarios reported in Table 4, social investments remain within a range of 64%–74%, which implies social relationship marketing should be the key focus of any relationship marketing portfolio. Structural relationship marketing allocation ranges from 21% to 36%. The recommended allocations are highest for structural and lowest for social in the "no ownership" group, which suggests that when salespeople have little stake in selling firm profitability, building strong interpersonal customer-salesperson bonds may be suboptimal because salespeople can defect to competitors or may be more likely to allocate their social expenses poorly.

Conclusion

Determining the return on marketing activities remains a hot topic for academics and practitioners. In this research, we investigate the impact of a selling firm's relationship marketing expenditures on profit at the level of a specific customer. Although we note positive economic returns, we also identify 25 potential variables that can leverage these expenditures. Due to research design and measurement limitations, we only empirically test a subset of these variables, but we find significant moderation across all three exchange constituents (customer, salesperson, and selling firm) and across the three different theoretical drivers (motivation to build a relationship, customer's willingness to reciprocate, and seller's ability to efficiently allocate resources), suggesting future research should explore other potential factors that may leverage the return on investments.

These findings offer insight into the conditions in which the deployment of a specific type of relationship marketing activity might be most beneficial. Social programs manifest the highest payoff, probably because salespeople quickly adapt and channel these investments into specific social activities that incite returns. Additional development and empirical research might examine the role of salesperson adaptability in the allocation of social relationship marketing investments. We also challenge researchers to account for the nested structure of relationship marketing effects (customers, salespeople, and firms) in research design and analysis. Although we recognize that this issue can be managed through careful operationalizations (e.g., single-level effects) and data collection (e.g., collecting truly independent observations), our analytical approach accounts for fixed and random effects and enables testing of the interactions across nested levels. Future researchers may want to investigate these multilevel effects from a Bayesian perspective.

Our study also has limitations that suggest avenues for further research. First, given our objectives, we looked for a business context (rep firms) in which relationship marketing was critical to the sustainability of the business. However, it would be useful to replicate our approach in contexts in which relationship marketing activities may not have such a central role and examine returns in those arenas. The same note of caution on generalizability would apply to our results from the resource allocation model, as well. Second, we evaluate the returns from relationship marketing deployment in a specific year, so future efforts should consider longer-term effects. Idiosyncratic factors across periods (e.g., economy, industry-specific issues) may influence our reported effects. Thus, a study that examines the dynamics of the impact of relationship marketing expenditures, alternative relationship marketing typologies, and different measurement methods would be valuable. Furthermore, although short-term economic returns from investment decisions are critical to managers, relationship marketing programs should generate other long-term outcomes not captured in our data, such as cross selling and up selling. Further research could attempt to explore the long-term payoff of relationship marketing investments by including such variables.

Acknowledgments

The authors thank the Marketing Science Institute and the Manufacturers' Representatives Educational Research Foundation for their financial support of this research. Thanks also to David Curry, Murali Mantrala, Rebecca Slotegraaf, Leigh M. McAlister, Jean L. Johnson, Lisa Scheer, and Kenneth Evans for their input into this project. The authors thank the editors and reviewers for their constructive comments.

Appendix A. Construct Measures

Measures (units)	Source
Interaction frequency (interactions per week) How many times do you interact with this rep firm in a typical week?	Customer
Commitment to the selling firm (average of three seven-point Likert scale items, $\alpha = 0.95$) I am willing "to go the extra mile" to work with this rep firm. I feel committed to my relationship with this rep firm. I view the relationship with this rep firm as a long-term partnership.	Customer
Growth rate of customer firm (%) What is your estimate of your company's growth over the past year?	Customer
Relationship duration (years) How long have you had business dealings with this rep firm in your career?	Customer
Financial relationship marketing investments (annualized $) This customer often gets free product and services. This customer frequently gets special pricing or discounts. This customer receives special financial benefits and incentives. The average monthly cost to provide the financial benefits listed above is...	Salesperson
Social relationship marketing investments (annualized $) This customer is often provided meals, entertainment, or gifts by me or my rep firm. This customer often receives special treatment or status. This customer often receives special reports or information. The average monthly cost to provide the social benefits listed above is...	Salesperson
Structural relationship marketing investments (annualized $) This customer often receives special value–added benefits (inventory control, expediting, etc.). Special structural changes (EDI, packaging, etc.) have been instituted for this customer. Our policies and procedures are often adapted for this customer. Dedicated personnel are assigned to this customer beyond what is typical for our rep firm. The average monthly cost to provide the structural benefits listed above is...	Salesperson
Potential of customer (seven-point Likert scale) The customer represents a large potential opportunity for me.	Salesperson
Experience (years) How many years have you worked for any rep firm, including this one?	Salesperson
CSR ($) CSR = (sales to customer) * (average commission at customer) * (1 − salesperson variable pay); sales to customer ($), and salesperson variable pay (%) reported by sales manager; average commission reported by salesperson for each customer (%).	Sales manager and salesperson
The next three questions regarding salesperson compensation were prefaced by "Please answer the following questions for each salesperson listed."	
Compensation (1: <30k$, 2: 30k$ to 60k$, 3: 60k$ to 90k$, 4: 90k$ to 120k$, 5: >120k$) Total 2002 compensation	Sales manager
Ownership interest (0: 0% ownership interest in selling firm, 1: >0% ownership interest in selling firm) % of salesperson's ownership in the rep firm	Sales manager
Relationship-focused objectives (0: 0% of compensation based on relationship-focused objectives, 1: >0% of compensation based on relationship-focused objectives) % of total compensation which was based on customer satisfaction or relationship objectives	Sales manager
Advertising (annual spending in dollars) How much did your rep firm spend in 2002 on all types of marketing programs including tradeshows, advertising, brochures, etc.?	Sales manager
Selling firm size (annual sales in million of dollars) What was your rep firm's approximate annual sales for 2002?	Sales manager
Average tenure of salespeople (years) How many years does an outside salesperson typically stay at your rep firm?	Sales manager
CRM system (0: employ CRM system, 1: no CRM system) Did your rep firm utilize a CRM system in 2002?	Sales manager

Notes. All Likert items are seven-point scales anchored at 1 = strongly disagree and 7 = strongly agree. Customer-specific return (CSR), customer relationship management (CRM).

Appendix B. Resource Allocation Model

One important consideration in specifying a model is parsimony. A second is that the model reflects the basic features of the phenomenon. For example, interaction frequency and customer commitment are important variables that can leverage relationship marketing dollars. Therefore, we state the resource allocation model at the individual customer-level in the following manner:

$$Y = \alpha X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} X_6^{\beta_6}; \quad 0 < \beta_1, \beta_2, \beta_3 < 1, \qquad \text{(B1)}$$

where

Y = profit generated from customer i in 2003

X_1 = financial relationship marketing dollars spent on customer i

X_2 = social relationship marketing dollars spent on customer i

X_3 = structural relationship marketing dollars spent on customer i

X_4 =profit generated from customer i in 2002 (previous period)

X_5 = interaction frequency with customer i

X_6 = commitment level of customer i.

The α and all βs are parameters to be estimated.

Equation (B1) is a common functional form to represent a variety of marketing phenomena (Hanssens et al. 2001). The model specification is appealing on two levels. First, the multiplicative form (log linear) implicitly considers interactions between variables. Second, by specifying that $\beta_1, \beta_2, \beta_3 < 1$, the model features diminishing returns on spending. To maintain parsimony, interactions among customer-level variables are not explicitly specified, but are implicitly captured through the parameter α (Lilien et al. 1993). The model then can be solved to determine the optimal expenditures to maximize profits (see subsequent derivation). The optimal allocation of relationship marketing dollars is equal to the relative weighting of the β coefficients (an intuitive result driven by the functional form). Once β_1, β_2, and β_3 have been estimated for a given sample, the optimal allocation of a budget can be determined directly through Equations (B8), (B9), and (B10).

Optimal Relationship Marketing Expenditure Allocation

The model specified in Equation (B1) is estimated by taking the logarithmic transformation, which results in a linear form. The variables are specified at the customer-level. Although resources are deployed at the customer-level, our previous findings lead us to expect differential effects based on salesperson ownership interest and the use of a CRM system. Therefore, we split the sample according to salesperson ownership interest and use of a CRM system, and estimate the model for each group. Applying these parameter estimates to Equations (B8), (B9), and (B10) indicates the optimum allocation across the three types of relationship marketing investments for each of the scenarios (see Table 4).

Analytical Derivation of Optimal Allocation

The original expression for gross profit is

$$Y = \alpha X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} X_6^{\beta_6}; \quad 0 < \beta_1, \beta_2, \beta_3 < 1. \qquad \text{(B1)}$$

Let π = net profit = gross profit − relationship marketing expenditures, and

$$\pi = \alpha X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} X_6^{\beta_6} - (X_1 + X_2 + X_3). \qquad \text{(B2)}$$

To optimize, set the first derivative to 0:

$$\partial\pi/\partial X_1 = \alpha\beta_1 X_1^{(\beta_1 - 1)} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} - 1 = 0.$$

Simplifying, $\alpha\beta_1 X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} X_6^{\beta_6}/X_1 = 1$, which leads to

$$X_1^* = \beta_1 Y, \ (X_1^* = \text{ optimal financial expenditure}). \qquad \text{(B3)}$$

In a similar way, we obtain

$$X_2^* = \beta_2 Y \quad \text{and} \quad X_3^* = \beta_3 Y, \qquad \text{(B4)}$$

where X_2^* = optimal social expenditure, and X_3^* = optimal structural expenditure.

Given a budget K for which we are trying to find the optimal split,[3] we have

$$X_1^* + X_2^* + X_3^* = K. \qquad \text{(B5)}$$

Thus, from Equations (B3) and (B4), we obtain, after substitution into (B5),

$$(\beta_1 + \beta_2 + \beta_3) Y = K, \qquad \text{(B6)}$$

which leads to

$$Y = K/(\beta_1 + \beta_2 + \beta_3) = K/\sum \beta_i. \qquad \text{(B7)}$$

When we substitute the expression for Y in Equation (B7) into Equations (B3) and (B4), we get

$$X_1^* = \left(\beta_1/\sum \beta_i\right) K, \qquad \text{(B8)}$$

$$X_2^* = \left(\beta_2/\sum \beta_i\right) K, \quad \text{and} \qquad \text{(B9)}$$

$$X_3^* = \left(\beta_3/\sum \beta_i\right) K. \qquad \text{(B10)}$$

Thus, the optimal split is equal to the relative weighting of β_1, β_2, and β_3.

References

Anderson, Erin, Barton A. Weitz. 1992. The use of pledges to build and sustain commitment in distribution channels. *J. Marketing Res.* **29**(February) 18–34.

Ang, Soon, Sandra Slaughter, Kok Yee Ng. 2002. Human capital and institutional determinants of information technology compensation: Modeling multilevel and cross-level interactions. *Management Sci.* **48**(November) 1427–1445.

Armstrong, Scott J., Terry S. Overton. 1977. Estimating non-response bias in mail surveys. *J. Marketing Res.* **14**(August) 396–402.

Bagozzi, Richard P. 1995. Reflections on relationship marketing in consumer markets. *J. Acad. Marketing Sci.* **23**(4) 272–277.

Bendapudi, Neeli, Robert P. Leone. 2002. Managing business-to-business customer relationships following key contact employee turnover in a vendor firm. *J. Marketing* **66**(April) 83–101.

Bergen, Mark, Shantanu Dutta, Orville C. Walker, Jr. 1992. Agency relationships in marketing: A review of the implications and applications of agency and related theories. *J. Marketing* **56**(July) 1–24.

[3] A more general representation is $X_1^* + X_2^* + X_3^* \le K$, which leaves the total budget unconstrained and helps indicate the optimal total budget. Our goal, however, is to understand broad allocations across relationship marketing components rather than solve for the optimal budget.

Berry, Leonard L. 1995. Relationship marketing of services-growing interest, emerging perspectives. *J. Acad. Marketing Sci.* **23**(4) 236–245.

Blau, Peter. 1964. *Exchange and Power in Social Life*. John Wiley & Sons, New York.

Bolton, Ruth N. 1998. A dynamic model of the duration of the customer's relationship with a continuous service provider: The role of satisfaction. *Marketing Sci.* **17**(1) 45–65.

Bolton, Ruth N., P. K. Kannan, Matthew D. Bramlett. 2000. Implication of loyalty programs and service experiences for customer retention and value. *J. Acad. Marketing Sci.* **28**(1) 95–108.

Bolton, Ruth N., Katherine N. Lemon, Peter C. Verhoef. 2004. The theoretical underpinnings of customer asset management: A framework and propositions for future research. *J. Acad. Marketing Sci.* **32**(Summer) 271–292.

Bolton, Ruth N., Amy K. Smith, Janet Wagner. 2003. Striking the right balance designing service to enhance business-to-business relationships. *J. Service Res.* **5**(May) 271–291.

Boulding, William, Richard Staelin, Michael Ehret, Wesley J. Johnston. 2005. A customer relationship management roadmap: What is known, potential pitfalls, and where to go. *J. Marketing* **69**(October) 155–166.

Cannon, Joseph P., Ravi S. Achrol, Gregory T. Gundlach. 2000. Contracts, norms, and plural form governance. *J. Acad. Marketing Sci.* **28**(2) 180–194.

Cao, Yong, Thomas S. Gruca. 2005. Reducing adverse selection through customer relationship management. *J. Marketing* **69**(October) 219–229.

Chen, Yuxin, Ganesh Iyer. 2002. Consumer addressability and customized pricing. *Marketing Sci.* **21**(Spring) 197–208.

Churchill, Gilbert A., Neil M. Ford, Steve W. Hartley, Orville Walker. 1985. The determinants of salesperson performance. *J. Marketing Res.* **22**(May) 103–118.

Cialdini, Robert B. 2001. *Influence: Science and Practice*. Allyn and Bacon, Boston, MA.

Day, George S., Robin Wensley. 1988. Assessing advantage: A framework for diagnosing competitive superiority. *J. Marketing* **52**(April) 1–20.

De Wulf, Kristof, Gaby Odekerken-Schröder, Dawn Iacobucci. 2001. Investments in consumer relationships: A cross-country and cross-industry exploration. *J. Marketing* **65**(October) 33–50.

Deshpande, Rohit, John U. Farley, Frederick E. Webster, Jr. 1993. Corporate culture, customer orientation, and innovativeness. *J. Marketing* **57**(January) 23–37.

Dowling, Grahame R., Mark Uncles. 1997. Do customer loyalty programs really work? *Sloan Management Rev.* **38**(Summer) 71–82.

Dwyer, Robert F., Paul H. Schurr, Sejo Oh. 1987. Developing buyer-seller relationships. *J. Marketing* **51**(April) 11–27.

Elsner, Ralf, Manfred Krafft, Arnd Huchzermeier. 2004. Optimizing Rhenania's direct marketing business through dynamic multilevel modeling (DMLM) in a multicatalog-brand environment. *Marketing Sci.* **23**(2) 192–206.

Fang, Eric, Robert W. Palmatier, Kenneth R. Evans. 2004. Goal-setting paradoxes? Trade-offs between working hard and working smart: The United States versus China. *J. Acad. Marketing Sci.* **32**(Spring) 188–202.

Gopalakrishna, Srinath, Rabikar Chatterjee. 1992. A communication response model for a mature industrial product: Application and implications. *J. Marketing Res.* **29**(May) 189–200.

Grewal, Rajdeep, James M. Comer, Raj Mehta. 2001. An investigation into the antecedents of organizational participation in business-to-business electronic markets. *J. Marketing* **65**(July) 17–33.

Gupta, Sunil, Donald R. Lehmann. 2005. *Managing Customers as Investments*. Wharton School Publishing, Upper Saddle River, NJ.

Gwinner, Kevin P., Dwayne D. Gremler, Mary Jo Bitner. 1998. Relational benefits in services industries: The customer's perspective. *J. Acad. Marketing Sci.* **26**(2) 101–114.

Hakansson, Hakan, Ivan J. Snehota. 2000. The IMP perspective. J. N. Sheth, A. Parvatiyar, eds. *The Handbook of Relationship Marketing*. Sage Publications, Thousands Oaks, CA.

Hanssens, Dominique M., Leonard J. Parsons, Randall L. Schultz. 2001. *Market Response Models: Econometric and Time Series Analysis*, 2nd ed. Kluwer Academic Publishers, Boston, MA.

Heide, Jan B., George John. 1992. Do norms matter in marketing relationships? *J. Marketing* **56**(April) 32–44.

Johnson, Michael D., Fred Selnes. 2004. Customer portfolio management: Toward a dynamic theory of exchange relationships. *J. Marketing* **68**(April) 1–17.

Joseph, Kissan. 2001. On the optimality of delegating pricing authority to the sales force. *J. Marketing* **65**(January) 62–70.

Kreft, Ita, Jan de Leeuw. 1998. *Introducing Multilevel Modeling*. Sage Publications, Thousand Oaks, CA.

Lilien, Gary L., Philip K. Kotler, Sridhar Moorthy. 1993. *Marketing Models*. Prentice-Hall, Englewood Cliffs, NJ.

Mithas, Sunil, M. S. Krishnan, Claes Fornell. 2005. Why do customer relationship management applications affect customer satisfaction? *J. Marketing* **69**(October) 201–209.

Mittal, Vikas, Eugene W. Anderson, Akin Sayrak, Pandu Tadikamalla. 2005. Dual emphasis and the long-term financial impact of customer satisfaction. *Marketing Sci.* **24**(4) 544–555.

Morgan, Robert M. 2000. Relationship marketing and marketing strategy. J. N. Sheth, A. Parvatiyar, eds. *Handbook of Relationship Marketing*. Sage Publications, Thousand Oaks, CA.

Morgan, Robert M., Shelby D. Hunt. 1994. The commitment-trust theory of relationship marketing. *J. Marketing* **58**(July) 20–38.

Payne, Adrian, Pennie Frow. 2005. A strategic framework for customer relationship management. *J. Marketing* **69**(October) 167–176.

Rasbash, Jon, William Browne, Harvey Goldstein, Min Yang, Ian Plewis, Michael Healy, Geoff Woodhouse, David Draper, Ian Langford, Toby Lewis. 2000. *A User's Guide to MLwiN*. Centre for Multilevel Modeling, London, UK.

Raudenbush, Stephen W., Anthony S. Bryk. 2002. *Hierarchical Linear Models Applications and Data Analysis Methods*, 2nd ed. Sage Publications, Thousand Oaks, CA.

Reinartz, Werner J., V. Kumar. 2000. On the profitability of long-life customers in a noncontractual setting: An empirical investigation and implications for marketing. *J. Marketing* **64**(October) 17–35.

Reinartz, Werner J., Manfred Krafft, Wayne D. Hoyer. 2004. The customer relationship management process: Its measurement and impact on performance. *J. Marketing* **41**(August) 293–305.

Reynolds, Kristy E., Sharon E. Beatty. 1999. Customer benefits and company consequences of customer-salesperson relationships in retailing. *J. Retailing* **75**(1) 11–32.

Rust, Roland T., Peter C. Verhoef. 2005. Optimizing the marketing interventions mix in intermediate-term CRM. *Marketing Sci.* **24**(3) 477–489.

Ryals, Lynette. 2005. Making customer relationship management work: The measurement and profitable management of customer relationships. *J. Marketing* **69**(October) 252–261.

Sheth, Jagdish N., Atul Parvatiyar. 2000. *Handbook of Relationship Marketing*. Sage Publications, Thousands Oaks, CA.

Shugan, Steven M. 2005. Brand loyalty programs: Are they shams? *Marketing Sci.* **24**(2) 185–193.

Sirdeshmukh, Deepak, Jagdip Singh, Barry Sabol. 2002. Consumer trust, value, and loyalty in relational exchanges. *J. Marketing* **66**(January) 15–37.

Snijders, Tom A. B., Roel J. Bosker. 1999. *Multilevel Analysis*. Sage Publications, Thousand Oaks, CA.

Tellis, Gerard J., Fred S. Zufryden. 1995. Tackling the retailer decision maze: Which brands to discount, how much, when, and why? *Marketing Sci.* **14**(Summer) 271–299.

Verhoef, Peter C. 2003. Understanding the effect of customer relationship management efforts on customer retention and customer share development. *J. Marketing* **67**(October) 30–45.

Weitz, Barton A., Harish Sujan, Mita Sujan. 1986. Knowledge, motivation, and adaptive behavior: A framework for improving selling effectiveness. *J. Marketing* **50**(October) 174–191.