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No Second Chance to Make a First Impression: A Field Study of Relationship Initiation and Development

By Michael Lewis, Kimberly Whitler, and JoAndrea Hoegg

Marketers should reconsider the trend toward advertising campaigns that aim to build customer relationships through emotional connections. This study finds that brand campaigns that emphasize product benefits outperform both the brand personality and standard promotion campaigns.

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Report Summary

Marketing practices that focus on developing and maintaining relationships between consumers and firms or brands can create customer lifetime value. But there has been a crucial gap in marketing research focused on the interrelationship between branding efforts and customer relationships. One question is whether advertising efforts aimed at developing the customer relationship should focus on defining the brand's personality or on communicating specific product benefits. In addition to determining the right types of attributes to communicate, structuring those communications is an important issue that may have an impact on relationship development.

Here, the authors focus on the early stages of the relationship and examine the relative importance of developing psychological connections versus attempting to influence consumers' perceptions of functional value. They report the results of a field study that tested several e-mail streams. They tested whether advertisements focused on the product, the brand personality, or on specific promotions employed during the early weeks of a firm–consumer relationship were most effective at generating e-mail response, revenue, and profit.

The results suggest that the campaigns that emphasized product benefits outperformed brand personality and promotion-oriented campaigns. However, when evaluated by segment, the promotional campaign performed best with more experienced consumers and the brand personality campaign performed best with low-involvement customers. In addition, the e-mail campaigns that produced the highest open and click-through rates did not yield the highest customer lifetime value.

Based on the study results, practitioners should reconsider using e-mail metrics as a proxy for overall campaign performance. First, the results highlight potential problems with using standard e-mail metrics to assess campaign effectiveness. The findings also call into question the current trend toward advertising that attempts to forge emotional connections by emphasizing brand personality. Finally, the research highlights the importance of utilizing individual-level consumer information to customize marketing efforts. Specifying a correct approach to relationship building is particularly challenging since firms typically lack detailed customer data at the onset of the relationship. ∎

Introduction

The primary purpose for developing brand–consumer relationships is to maximize the value of a firm's customer assets (Gupta and Lehman 2005). Like many relationships, the development of this type of relationship may be dramatically shaped by its initial interactions. These early interactions between the customer and the firm can be instrumental in creating associations and knowledge structures that eventually lead prospects to become customers. As such, marketing's role during the formative stages of the brand–consumer relationship is an important topic. There is, however, a relative dearth of empirical research that is focused on how specific marketing communications efforts can best be utilized during the initial phases of the customer life cycle to develop brand–consumer relationships (Malthouse and Calder 2005).

At its core, customer relationship marketing (CRM) comprises marketing practices that are focused on the development and maintenance of relationships between consumers and firms or brands. As such, relationship initiation is a crucial element of a comprehensive CRM effort. For durable goods or seldom-purchased items, CRM goals may be less about managing the relationship across purchases and more about developing it and maximizing the value of that one large purchase. In particular, since these types of purchases often involve a lengthy search process, there is often an important opportunity to develop a relationship with the consumer, even though repeat buying may not be a critical issue.

Our research investigates marketing communications from a CRM perspective for an important, high-involvement product that is infrequently purchased. Because of the nature of the product category, the decision-making process often takes several months and requires the development of a relationship between the customer and the brand. Specifically, we examine how particular

executional elements of an e-mail–based advertisement should best be structured at early stages of the customer life cycle in order to develop a customer–brand relationship and maximize customer lifetime value. E-mail advertising is becoming a common way of reaching customers because of its relatively low cost and the ability to encourage interaction through links. It can play an important role in customer relationship development because the customer, by signing up for e-mails, acts as a willing partner in the relationship. The company's goal then, is to create e-mail messages that develop and maintain a mutually beneficial relationship (Bergeron 2002). The question is how those e-mails should be structured and transmitted.

One important question in such an environment is whether advertising efforts aimed at developing the customer relationship should focus on defining the brand's personality (Aaker 1997) or on communicating specific product benefits. Given that customers are focused on a highly involved, major purchase, we might expect that advertising that provides clear information about the product would be the best approach (Celsi and Olson 1988). On the other hand, since product research can take months and likely involves comparisons with competitors that can provide similar product benefits, it may be more advantageous to focus on defining the brand's personality in an attempt to develop equity (Aaker 1997; Keller 1993), rather than overwhelming these novice consumers with product details (Johnson and Russo 1984).

In addition to determining the right types of attributes that should be communicated, structuring how those messages should be communicated is also an important issue that may have an impact on relationship development. Brands generally offer several benefits. Thus, the firm needs to consider carefully how to sequence the communication of its benefits. As relationships progress, it is possible that the consumers' level of knowledge and

involvement (Petty, Cacioppo, and Schumann 1983) with the brand may change. If consumer involvement decreases over time, using a long list of benefits up front may seem preferable, but may result in the dilution of each individual message. If consumer knowledge increases over time, moving from single easy-to-process messages to more complex multidimensional messages may be more effective, but could also be problematic if the consumer's interest tends to diminish over time. These issues of message sequencing and the evolving levels of motivation and knowledge highlight the importance of considering advertising response in a dynamic manner in terms of developing and maintaining a customer relationship.

The purpose for developing the brand–consumer relationship is to create customer loyalty and ultimately increase customer lifetime value (CLV). In a CRM context, the preceding discussion of advertising content and structure can be viewed as questions about how to best invest to maximize the value of new customer relationships. Recent work in CRM (Rust, Lemon, and Zeithaml 2004; Lewis 2005; Simester, Sun, and Tsitsiklis 2006) has highlighted that marketing efforts often represent investments in customer relationships. The questions of advertising content and structure are also investment decisions. However, while the CRM literature has focused on questions related to the *level* of investment, questions related to message have not been addressed. Considering advertising from a CRM perspective is also useful in that it highlights the potential benefits of customizing advertising based on customer characteristics.

In this research, we empirically study how the content and structure of a brand's initial communications influence the overall development of the customer relationship and value. The basis for our analysis is a set of field studies executed by a market-leading fashion brand. The firm operates in a context in which customers tend to make a single major purchase and perhaps some ancillary purchases over the

course, on average, of about seven months. The single-purchase aspect is salient as it provides an opportunity to study the relationship-building process from the customer's first experiences with the firm. The primary purpose of the research is to compare the relative benefits of using communications that focus on conveying product benefits with communications that focus on defining the brand's personality. We also test how these types of communication streams compare to both an absence of e-mail communications and communications that emphasize short-term promotions. Our second goal is to investigate how the messages are communicated. Specifically, we examine whether it is more effective to start by describing individual product benefits and end with a summary of all benefits, or whether it is preferable to start with a summary and then describe each one individually.

Our results suggest that the content and structure of the e-mail advertisements matter. In general, we found that advertising focused on developing a customer relationship (either through the product benefits or through brand personality) was more effective than short-term promotion advertising. For the key comparison between product and personality advertising, we found that the product-focused streams were the most profitable. However, it should be noted that when the CLV analysis was conducted at the segment level, we found that highly involved and more knowledgeable customers respond better to a campaign that emphasizes promotions.

In addition to revenue and CLV, we also evaluated e-mail response. Interestingly, although e-mail response is often used to assess advertising effectiveness (Farris et al. 2006), we found that the campaign with the highest open and click-through rates (the promotion campaign) had the lowest purchase incidence rates. Despite not being predictive of purchase incidence, the e-mail metrics were useful for assessing the relative merits of the multiple versus single message campaigns. We find that

the use of a multiple benefit message to start the campaign results in lower open rates but also lower wear-out rates over time.

The remainder of the paper is structured as follows. We begin with a brief literature review that highlights several streams of the CRM, persuasion, and branding literatures. We then describe the business environment and the field studies. The analysis of consumer response data is presented in three sections. First, we examine how the different communication streams have an impact on e-mail response behavior. Second, we statistically examine purchase incidence, purchase amounts, and cross-selling activity. Finally, we present an analysis that quantifies the financial impact of the different communication streams at both an aggregate and segment level. The paper concludes with a discussion of managerial implications, research limitations, and suggestions for future inquiry.

Background

A key tenet of CRM is that relationships with customers are valuable economic assets. Although the emphasis on the economics of customer relationships has encouraged a significant amount of empirical research on customer behavior over time (see Rust and Chung 2006; Gupta and Zeithaml 2006, for reviews), the existing literature has devoted only limited attention to studying how marketing can affect the relationship development process. A crucial gap in the literature is a lack of dynamically oriented studies focused on the interrelationship between branding efforts and customer relationships (Aaker, Fournier, and Brasel 2004).

When considering the potential role of branding in the relationship development process, it is useful to consider the perspective of the consumer. Gupta and Lehmann (2005) contend that the value that customers derive from a brand can be grouped into the categories of

economic, functional, and psychological value. In this classification, economic value relates to the monetary advantages of using a product, functional value involves factors that have an impact on product performance, and psychological value involves the intangible elements such as brand image and associations. If customers can gain different types of value from a brand, it may be worthwhile to consider which values should be emphasized at different phases of the customer relationship and for what type of customer. Our research focuses on the early stages of the relationship and examines the relative importance of developing psychological connections versus attempting to influence consumers' perceptions of functional value.

A significant body of literature has examined the role of advertising messages on persuasion that, while not directly applicable to questions related to how individual customer relationships evolve, helps to inform our investigation. Prior research on television advertising has examined related mass-market–level questions in terms of a number of factors, including advertising weight (e.g., Eastlack and Rao 1989; Lodish et al. 1995), consumer motivation levels (MacInnis, Rao, and Weiss 2002), advertisement executional cues (Chandy et al. 2001; MacInnis, Rao, and Weiss 2002; Malaviya, Kisielius, and Sternthal 1996), and market age (Chandy et al. 2001). In a particularly relevant field study, Chandy et al. (2001) studied the relative effectiveness of rational and emotional advertising appeals across markets that differed in terms of time since a service was introduced. Measuring immediate market response, the authors found that in new markets where customers lack knowledge, a rational approach is preferred. Extrapolating from the research by Chandy et al. (2001) to a comparison between brand-personality and product-benefit messages, a potential outcome for our field experiment can be predicted. Given the single purchase nature of the product and the fact that customers are almost entirely new to the category, we would expect

that customers should be highly motivated but have limited knowledge at the onset of the brand relationship. This might suggest that campaigns that emphasize specific product benefits should be the most effective. However, for a major purchase where the purchase cycle is long and product knowledge and motivation likely evolve over time, it is unclear whether advertising utilized early on would have straightforward effects on later customer purchase behavior. Rather, to understand the effects of branding messages in terms of their downstream effects on ultimate purchase decisions, a dynamic perspective that considers the development of the brand relationship must be adopted. From an applied perspective, it is also important to understand how individual-level differences can be inferred and how advertising content should be customized across heterogeneous customers.

Brand relationships may occur for a variety of reasons and at varying levels of intensity. In an influential study, Fournier (1998) presents a typology of brand–consumer relationship forms that includes metaphors such as courtships, flings, committed partnerships, and dependencies. Fournier claims that brands need to establish themselves as active relationship participants and provide meaning to consumers' lives. She notes that relationships are dynamic and evolve based on the series of interactions between partners. The stages of relationship development may include phases such as initiation, growth, maintenance, deterioration, and dissolution (Levinger 1983). There is, however, limited marketing literature that has studied how relationships may be best developed during different stages. One notable study that linked brand personality elements to relationship status was conducted by Aaker, Fournier, and Brasel (2004). In an experimental setting, the authors found that a sincere brand was able to develop deeper relationships than an exciting brand, but that sincere brands were less able to recover from a failure. Given the tendency and need of consumers to anthropomorphize brands (Fournier 1998), it is reasonable

to conjecture that a brand should strive to quickly establish its personality to foster the consumer-brand relationship during early stages.

In a review article, Keller and Lehmann (2006) identified several questions related to brand personality and consumer-brand relationships, and how marketing can best develop customer relationships via marketing activities. For example, the authors note that research is needed with regard to the roles of tangible versus intangible brand-image attributes in brand equity development. Our study partially addresses this question by investigating the relative performance of advertising that emphasizes product benefits versus advertising that emphasizes brand personality. Keller and Lehman (2006) also suggest that research into the "relative profitability" of different types of customer relationships is needed. A benefit of examining branding within a CRM context is that the financial merits of different messages can be quantified.

In addition to quantifying the relationship between the type of advertising messages and customer profitability, there are other interesting questions related to the role of advertising messaging in the relationship development process. Given that relationship development is a dynamic process and that consumer involvement levels may change over time, how brands should tell their stories to consumers is an open question. For example, a decision that managers make when determining how to initiate the brand-customer relationship is whether to communicate multiple product or service benefits or to focus on a singular benefit. Research has indicated that providing single benefits can lead to higher quality judgments because of lay theories that no single brand can "do it all" (Chernev 2007). However, given that firms often do need to communicate multiple benefits, how best to sequence the communication of these benefits to develop a strong customer relationship is an open and important managerial question.

The preceding questions are related to the dynamics of customer involvement. As it varies over time, so too does the motivation and ability to process advertising messages, which can have an impact on advertising effectiveness (MacInnis and Jaworski 1989; Holbrook and Batra 1987; Petty and Cacioppo 1986). For an expensive, rarely purchased item, motivation to process messages is likely quite high, particularly at the beginning of the customer or product life cycles when knowledge is lower and consumers have an incentive to learn (Chandy et al. 2001). This suggests that firms should begin with detailed, multifaceted messages at the onset of the relationship. On the other hand, if initial knowledge is too low, detailed messages may be difficult to process (Johnson and Russo 1984). In such cases, building up trust and comfort with the brand rather than conveying complex product benefits may be a superior strategy. These conflicting arguments further highlight the potential importance of firms having the ability to make judgments about customer traits based on "early" customer data. Ideally, a firm would be able not only to understand, but also to manage customer involvement over time.

Field Study Description

The field studies presented here investigate how advertising messages conveyed early in the customer relationship contribute to long-term customer value for the firm. We consider issues of message content and message sequencing in terms of consumers' involvement levels, and examine how these factors interact to have an impact on advertising response and subsequent purchase of a major, seldom-purchased item. Although the single-purchase nature of the product category seems unusual for a study rooted in CRM principles, a relationship between the consumer and the brand clearly exists. The firm communicates with its customers via regular e-mail and is able to learn about its customers over time (even before any purchase is made) through

e-mail responses and other online interactions. This environment enables the firm to continually monitor and learn about the consumer as the relationship develops. The environment also enables the firm to potentially use this information to customize messages at the level of the individual. We investigate how the knowledge the firm has about its customers can help to determine the optimal e-mail messaging strategy.

We designed a longitudinal field experiment to explore customer purchase behavior as it relates to different e-mail message strategies employed at the beginning of the consumer-brand relationship. Specifically, we investigate the efficacy of two types of brand message, one that focuses on functional product benefits and one that defines the brand's personality. We also compare these e-mail messages to the standard e-mail advertising utilized by the firm, which tends to focus on short-term promotions or offers. In addition, we examine whether message streams should be structured in a broad-to-narrow (BN) format with broad, multibenefit brand messages early on and narrowing to detailed individual benefit messages in later e-mails, or in a narrow-to-broad (NB) format, with individual benefit messages at the outset and broader messages later on.

The sponsoring firm is a market-leading fashion retailer that specializes in garments for major events. The firm does the majority of business at brick-and-mortar stores but also has an online presence, which is particularly important in terms of customer acquisition, as the brand's website is typically the first point of contact between the firm and customer. This contact involves a registration process whereby the customer provides basic information such as address and information about the event. The website also records behavioral data that includes upstream click behavior; these data enable us to understand the source of the registration (whether they clicked on a banner ad promoting a free product or were acquired through an onsite tool that helps them gain

Table 1
Message Excerpts

	Rational Messages
Quality	*Quality Matters:* Skilled artisans handcraft each (product) in our collection. Hand-sewing . . . In some cases we spend over 100 hours on each (garment).
Value	*Luxurious Looks for Less:* We are the designer, manufacturer, and retailer. By cutting out the middle man, we pass the savings on to our customers.
	Personality Messages
Caring	*We Care:* Your [Event] is the most important day in your life. We get that. And it means more to us than you'll ever know . . .
Friendly	*You've Got a Friend:* We invite you to come to [The Retailer] for a fun and friendly shopping experience. The moment you walk through the door, you'll be greeted by a warm and welcoming team . . .

knowledge) and may have predictive value in determining interest and motivation. The firm's only means of relationship development with consumers prior to a store visit is e-mail, with messages being sent out on a regular basis. These e-mails are intended to convey information about the brand and products, advertise promotions, and provide opportunities for deeper interaction through clickable links.

Design and stimuli
The customers in the study were acquired through the online registration process and then parsed equally and randomly across the four test conditions and two control groups. The consumers in all six groups were sent the same "welcome" e-mail at the start of the study. Subsequent e-mails depended on condition. The first control group was sent the standard e-mail stream that the company uses, comprised predominantly of promotion-oriented emails. The second control group was sent nothing during the test period. The four experimental groups were sent one of four series of e-mails designed to test the factors of interest: (1) the message content (functional product benefits vs. brand personality attributes), and (2) the message sequence.

Message content was manipulated by using six attributes that described the product's benefits

or outlined elements of the brand's personality. To determine which benefits to use, we used survey data from the retailer that measured the importance of several product-related and personality-related attributes. The ranking of the product benefits was: (1) quality, (2) value, (3) service, (4) assortment, (5) planning, and (6) convenience. The ranking of the personality attributes was: (1) reputable, (2) trustworthy, (3) caring, (4) dependable, (5) knowledgeable, and (6) friendly.

The attributes were then used to create six message ads for each condition, one for each attribute. A seventh summary ad was created that incorporated all six attributes. All the ads focused on the core retail brand. To ensure consistency in design, we used the same copywriter and marketing team for all creative executions. They were instructed to use the same format on all e-mails and to dedicate the same amount of space to copy/visuals across treatments. To ensure the test e-mails communicated the intended messages, a pretest survey was sent to 60,000 registered customers, with 1,786 completing the survey. The survey verified that the 14 e-mails successfully communicated their main message point. Table 1 provides excerpts from two messages focused on functional attributes and two messages focused on brand personality.

Table 2
Study Time Line

	Test Stream #1	Test Stream #2	Test Stream #3	Test Stream #4	Control Group #1	Control Group #2
Description	Branding: Product benefits Broad to narrow	Branding: Product benefits Narrow to broad	Branding: Personality Broad to narrow	Branding: Personality Narrow to broad	Promotion message (Current standard campaign)	No e-mail communication
Day 1: Registration	Customer registers on website	Customer registers on website	Customer registers on website	Customer registers on website	Customer registers on website	Customer registers on website
Day 2: E-mail #1	Generic welcome e-mail sent	Generic welcome e-mail sent	Generic welcome e-mail sent	Generic welcome e-mail sent	Generic welcome e-mail sent	Generic welcome e-mail sent
Day 3: E-mail #2	Multiple benefit: Summary of the six product benefits: quality, value, service, assortment, planning, convenience	Single benefit: Quality	Multiple benefit: Summary of the six personality attributes: reputable, trustworthy, caring, dependable, knowledgeable, friendly	Single benefit: Reputable	Promotion / Sale	Nothing
Day 4: E-mail #3	Single benefit: Quality	Single benefit: Value	Single benefit: Reputable	Single benefit: Trustworthy	Promotion / Sale	Nothing
Day 5: E-mail #4	Single benefit: Value	Single benefit: Service	Single benefit: Trustworthy	Single benefit: Caring	Promotion / Sale	Nothing
Day 6: E-mail #5	Single benefit: Service	Single benefit: Assortment	Single benefit: Caring	Single benefit: Dependable	Promotion / Sale	Nothing
Day 7: E-mail #6	Single benefit: Assortment	Single benefit: Planning	Single benefit: Dependable	Single benefit: Knowledgeable	Promotion / Sale	Nothing
Day 8: E-mail #7	Single benefit: Planning	Single benefit: Convenience	Single benefit: Knowledgeable	Single benefit: Friendly	Promotion / Sale	Nothing
Day 9: E-mail #8	Single benefit: Convenience	Multiple benefit: Summary of the six product benefits: quality, value, service, assortment, store experience, convenience	Single benefit: Friendly reputable	Multiple benefit: Summary of the six personality attributes: trustworthy, caring, dependable, knowledgeable, friendly	Promotion / Sale	Nothing
Day 10:	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
Day x on:	Regular e-mail stream	Regular e-mail stream	Regular e-mail stream	Regular e-mail stream	Regular e-mail stream	Regular e-mail stream

Table 3
Selected Descriptive Statistics

	Mean	Std. Dev.
Planning horizon	215 Days	91 days
Opens first e-mail	35.04%	
Acquired planning tool	22.37%	
Acquired win sweepstakes	27.31%	
Median income (zip)	$49,732.25	$16,922
Median house value (zip)	$197,420	$152,600

Message sequencing was manipulated by placing the summary ad first or last in the e-mail stream. In the broad-to-narrow context, the multiple-attribute e-mail was seen first, and the six single-attribute e-mails followed. In the narrow-to-broad context, the single-message e-mails were seen first, and the multiple-message e-mail was seen on the final day (see Table 2).

Procedure
All participants received the welcome e-mail on day one. The study participants in the four test cells and the first control group then interfaced with the firm over a series of seven e-mails during a two-week period (the second control group received no communications). Following this period, no e-mails were sent during the following five days, after which the test groups were rotated back into the typical e-mail stream (see Table 2). Behaviors and purchase incidence were recorded during the test period and over the next three months.

The key dependent measures were customer responses to e-mail and purchasing behaviors. E-mail response reveals information about individual customers and may have an impact on conversion. Two variables helped us understand the relative effect of the different ad streams on e-mail response, open rate, and click-through rate (CTR). Customer purchasing activities were monitored continuously from the start of the test. Specifically, we tracked purchase incidence (including repeat buying), cross-selling activity in terms of the customer's basket contents, and profit margins. These data enable us to link CLV results to advertising strategies.

Data and summarized results
The data consist of demographics, e-mail metrics, and purchase activity for 10,200 customers. Table 3 reports selected descriptive statistics for measures that are observable at the time of registration. The difference between the date of the event and the date of registration is taken as the customer's planning horizon for the event. For the sample in the test, the mean planning horizon is 215 days. The table also lists the percentage of customers who open the welcome e-mail (35%) and the percentages who are acquired via the firm's planning tool, an online resource that helps customers gain information about the product category and style options (22%), and via banner advertising that offered a chance to win merchandise (27%). The table also lists examples of variables that may be inferred based on the customer's zip code, such as income.

E-mail Responses. Table 4 presents summarized e-mail response rates for the field study. E-mail–based messages are interesting from a relationship perspective as they provide an opportunity for the consumer to interact with the brand. Higher open rates suggest that the subject lines are more appealing to the consumer. Higher CTRs suggest that the content is successful in motivating the consumer to click on a link that takes them to a specific web page.

The first two columns of the table report the open rates and CTR for e-mails sent during the test period. The standard promotion approach produced the highest response rates on both metrics. The open rate for the current stream was 21.6% compared to rates of less than 20% for the experimental conditions. In relative terms, this performance is 9% higher than the second best-performing and 21%

Table 4
E-mail and Purchasing Summary Statistics

	Open Rate: Test	Click-through Rate: Test	Open Rate	Click-through Rate	Buy Rate	Relative	Expenditure*
Product: Broad	19.36%	4.01%	18.48%	5.11%	16.47%	116.97%	$679.90
Product: Narrow	19.79%	4.18%	18.74%	5.38%	16.28%	115.63%	$690.11
Personality: Broad	17.88%	2.69%	17.98%	4.72%	14.96%	106.25%	$678.07
Personality: Narrow	19.87%	3.59%	18.91%	5.24%	15.63%	111.01%	$685.54
Promotion (Current)	21.63%	6.92%	18.28%	5.79%	14.08%	100.00%	$732.39
No e-mail					15.28%	108.52%	$665.44

*Contingent upon purchase.

higher than the worst campaign. A comparison of the CTRs is even more striking. The promotion stream yields approximately a 7% CTR, while the product benefit campaigns yield about a 4% rate and the personality campaigns yield CTRs of 3.6% and 2.7%. Compared to the second best-performing campaign, the promotion campaign increases click through rates by 65%.

Conversion Rates. Table 4 also provides the conversion rates for the different communication streams. The best-performing treatments were the brand message streams that emphasized product benefits. Through 12 weeks, these streams resulted in conversion rates that exceeded 16%. Interestingly, the worst performer was the promotion stream, which resulted in a conversion rate of about 14%. Even the second control condition (no e-mail) stream was better than the promotion campaign in terms of conversion, yielding an 8% improvement relative to the promotion campaign. This result is striking and is consistent with findings from the sales promotion literature that sales promotions can actually damage brand equity (see Neslin 2004).

In terms of relative performance, the branding campaigns that focused on functional product benefits yielded about a 16% increase in conversion. The campaigns that emphasized brand personality attributes yielded a 6%

improvement in the broad-to-narrow sequence and an 11% improvement in the narrow-to-broad sequence. The column "Expenditure" in Table 4 presents the average revenue per customer conditional on the customer making a purchase. A notable result from this column is that the "No e-mail" treatment yields the lowest expenditures while the promotion stream yields the highest. This result suggests that the promotional campaign may be more effective at up-selling or cross-selling, rather than driving conversion.

A comparison of the e-mail responses and the conversion suggests that the relationship between popular e-mail metrics and customer value is not straightforward. In terms of the two test campaigns, the product-focused streams tended to outperform the personality streams both in terms of e-mail response and customer asset value. The correlation between e-mail response and expenditures is predictable, as we would logically expect that greater interaction with the advertising stream would lead to increased conversion. However, while promotion messages outperformed the brand-oriented test streams in terms of the e-mail metrics, the promotion messages lagged in terms of generating purchases. It appears that higher e-mail response rates may not always indicate that a message is more effective at building a relationship and maximizing customer equity.

Analyses

We present the analysis of the field study data in three stages. We begin by analyzing the initial interactions between the firm and customers: e-mail open and click-through rates. These early interactions are believed to be critical in developing a relationship that leads to purchase. We then investigate customer purchasing decisions. Purchase behavior is multidimensional as it involves decisions related to whether to buy, whether to repeat buy, how much to spend, and how many subcategories to shop. The final stage of the analysis focuses on the financial outcomes of the relationship, examining how the advertising campaigns influence customer profitability.

E-mail response analysis

We begin the empirical analysis by considering customer responses to e-mails. E-mail is the brand's primary means for communicating directly with customers and provides a source of immediate feedback on advertising effectiveness. We analyze e-mail response in terms of open rates and CTRs. We model the open rates and CTRs using a bivariate probit model. In this model, y_1 is a binary variable equal to 1 if a given e-mail is opened and zero otherwise, and y_2 is a binary variable equal to 1 if a given e-mail is clicked on and zero otherwise. These binary variables are defined in terms of latent utility measures y_{1t}^* and y_{2t}^*. The latent utility measures are defined in terms of covariates Z and response parameters γ. The model relationships and the correlations between the two measures are defined as follows:

$$y_1^* = \gamma_1 Z_1 + \varepsilon_1 = \mu_1 + \varepsilon_1$$
$$y_2^* = \gamma_2 Z_2 + \varepsilon_2 = \mu_2 + \varepsilon_2$$

where

$$y_1 = 1 \quad \text{if } y_1^* > 0, \text{ and 0 otherwise,}$$
$$y_2 = 1 \quad \text{if } y_2^* > 0, \text{ and 0 otherwise,}$$
$$E[\varepsilon_1] = E[\varepsilon_2] = 0,$$
$$Var[\varepsilon_1] = Var[\varepsilon_2] = 1, \text{ and } Cov[\varepsilon_1, \varepsilon_2] = \rho.$$

The likelihood function for the bivariate model is given as

$$Log(L) = \sum_{i=1}^{n} \log \Phi_2 [(2y_{i1} - 1)\mu_1,$$
$$(2y_{i2} - 1)\mu_2, (2y_{i1} - 1)(2y_{i2} - 1)\rho]$$

where Φ_2 is the bivariate normal CDF. We use the bivariate specification because of the strong correlation between the two measures. A nested model that treats the opening decision and clicking decision as a sequence of choices is another possible approach; however, the capabilities of modern e-mail programs make it possible for consumers to view e-mail content and click on links without explicitly opening an e-mail message.

For the open model, we use the specification given below in Equation 1 to represent the deterministic portion, v_{it}, of the customer's utility of opening an e-mail.

$$\begin{aligned} \beta Open &+ \beta_{O,1} FBN + \beta_{O,2} FNB + \\ &\beta_{O,3} PBN + \beta_{O,4} PNB + \beta_{O,5} Num + \\ &\beta_{O,6} Num{\times}FBN + \beta_{O,7} Num{\times}FNB + \\ &\beta_{O,8} Num{\times}PBN + \beta_{O,9} Num{\times}PNB + \\ &\beta_{O,10} Opct + \beta_{O,11} Opct{\times}FBN + \\ &\beta_{O,12} Opct{\times}FNB + \beta_{O,13} Opct{\times}PBN + \\ &\beta_{O,14} Opct{\times}PNB + \beta_{O,15} Phone + \\ &\beta_{O,16} Awin + \beta_{O,17} Atool + \beta_{O,18} Inc + \\ &\beta_{O,19} Plan + \beta_{O,20} OTime + \beta_{O,21} STime + \\ &\beta_{O,22} Never + \beta_{O,23} Never{\times}Num \end{aligned} \qquad (1)$$

In this expression, *FBN* indicates that the customer receives the functional product-benefit campaign with the broad-to-narrow sequence, *FNB* indicates the functional product-benefit campaign with the narrow-to-broad sequence, *PBN* is the personality attribute campaign with the broad-to-narrow sequence, and *PNB* is the personality attribute campaign with the narrow-to-broad sequence. The campaign indicators are interacted with e-mail number, *Num*, which is the ordinal location of the e-mail in the overall sequence, and the individual customer's cumulative open rate, *Opct*. The expression also includes individual-level

transaction data. *Phone* is a binary variable that indicates if the customer has requested phone contact, *Awin* indicates that the customer was acquired via banner advertising that offers a chance to win merchandise, *Atool* indicates that the customer was acquired via the planning tool, *Inc* is the median income in the customer's zip code, and *Plan* is the customer's planning horizon in days. Other variables in the expression involve measures of past opening activity. *OTime* is the number of e-mails that have been sent since a customer last opened an e-mail, *STime* is the number of days since an e-mail has been sent, and *Never* is a binary variable that indicates a customer has never opened an e-mail.

The second dependent variable is whether a customer clicks on a given e-mail. Equation 2 provides the deterministic portion of the consumer's utility for the click model.

$$
\begin{aligned}
&\beta_{Click} + \beta_{C,1}FBN + \beta_{C,2}FNB + \\
&\quad \beta_{C,3}PBN + \beta_{C,4}PNB + \beta_{C,5}Num + \\
&\quad \beta_{C,6}Num{\times}FBN + \beta_{C,7}Num{\times}FNB + \\
&\quad \beta_{C,8}Num{\times}PBN + \beta_{C,9}Num{\times}PNB + \\
&\quad \beta_{C,10}Cpct + \beta_{C,11}Cpct{\times}FBN + \\
&\quad \beta_{C,12}Cpct{\times}FNB + \beta_{C,13}Cpct{\times}PBN + \\
&\quad \beta_{C,14}Cpct{\times}PNB + \beta_{C,15}Phone + \\
&\quad \beta_{C,16}Awin + \beta_{C,17}Aplan + \beta_{C,18}Inc + \\
&\quad \beta_{C,19}Plan + \beta_{C,20}CTime + \beta_{C,21}STime + \\
&\quad \beta_{C,22}Never + \beta_{C,23}Never{\times}Num \qquad (2)
\end{aligned}
$$

This model is similar to the open equation. The differences are that the open rate, *Opct* is replaced with the CTR and time since open, *OTime*, is replaced by time since a click, *CTime*.

Table 5 reports the results of the e-mail open models. The top of the table reports the treatment-specific intercepts. Three of the four brand campaigns (functional product benefits and personality attribute messages) yield slightly lower open rates than the baseline promotional stream. However, the intercepts are not statistically significant. In terms of a

rank ordering, the broad-to-narrow streams result in fewer opens. This is a reasonable result as the broad-to-narrow treatments are somewhat repetitive in nature.

A number of the variables in the e-mail open model reflect individual-level differences. For example, a willingness to be contacted by phone may indicate higher initial preference for the brand, while customers from higher income zip codes are likely to be more affluent. The analysis finds that customers from higher income zip codes, customers who allow phone solicitation, and those with longer planning horizons all tend to open greater numbers of e-mails. The model also includes two dummy variables that indicate how the customer was acquired. Customers acquired through the online planning tools were less likely to open e-mails, whereas those acquired via the sweepstakes opened e-mails at the same rate as other customers, suggesting that different acquisition channels may attract different types of customers.

The interactions between the number of e-mails and the communication stream provide evidence regarding the wear-out rate of each campaign. For our purposes, we are interested if e-mails from specific campaigns tend to be opened more frequently and whether these effects persist over time. The coefficient for the e-mail number is negative and significant, indicating that customers are less likely to open each subsequent e-mail and may be less involved with the marketing campaign as the relationship progresses. It should be noted that the coefficient on e-mail number reflects the wear-out rate for the promotional campaign. Relative to the promotional campaign, the wear-out rates are significantly lower for the brand campaigns. In particular, the broad-to-narrow brand campaigns exhibit less wear-out, suggesting that there is value in getting the brand's entire message out early.

The open rate, *Opct*, terms illustrate whether interaction with the various streams results in

Table 5
E-mail Response Models

Variable	Open Model		Click Model	
	Coefficient	Std. Error	Coefficient	Std. Error
Intercept	−1.384***	.023	−2.01***	.031
Product broad (FBN)	−.022	.020	.0032	.028
Product narrow (FNB)	−.012	.020	−.06**	.029
Personality broad (PBN)	−.032	.020	−.08***	.029
Personality narrow (PNB)	.004	.020	−.009	.028
Number (NUM)	−.006***	.0006	−.0033***	.001
NUM × FBN	.0036***	.0008	.0044***	.0011
NUM × FNB	.0030***	.0008	.0047***	.0011
NUM × PBN	.0043***	.0008	.0057***	.0011
NUM × PNB	.0024***	.0008	.0028***	.0011
Opct	2.40***	.034		
Opct × FBN	−.005	.044		
Opct × FNB	−.003	.043		
Opct × PBN	−.031	.044		
Opct × PNB	−.053	.043		
CLICK RATE			3.86***	.068
CLICK × FBN			−.23***	.088
CLICK × FNB			.36***	.098
CLICK × PBN			.38***	.100
CLICK × PNB			.21**	.095
Open recency	−.42***	.001	−.030***	.001
Never open	.37***	.016	.27***	.020
Never open × NUM	−.024***	.0017	−.026***	.002
Send recency	.0009	.0009	.008**	.001
Phone permission	.064***	.013	.044**	.017
Median income	.189***	.021	.134***	.029
Planning horizon	.011***	.0042	.019***	.006
ACQ: PLANNING TOOL	−.085***	.010	−.73***	.015
ACQ: WIN	−.006	.008	.009	.011
Rho	.98***	.014		
Log likelihood	−89,752			
Observations	201,949			

* $p < .10$
** $p < .05$
*** $p < .01$

relatively positive (or negative) feedback effects. There is a significant positive coefficient for the overall open rate, but no specific campaign results in significantly different feedback effects. It is worth noting that the baseline open-rate effect should not be taken

as evidence of a feedback effect, as this term may simply reflect individual differences in the propensity to open e-mails.

The second half of Table 5 shows the results from a model that predicts whether customers click on a given e-mail. Relative to the promotion (current) stream, the *FNB* and *PBN* campaigns are significantly negative. In terms of wear-out, the estimation results indicate that the *FBN* campaign causes negative feedback effects (relative to the promotional campaign), while the other brand campaigns yield positive feedback effects. In general, we observe many more significant differences in the click model results than in the open model.

The analysis of the e-mail response data reveals several interesting findings. First, the different campaigns produce different responses from consumers. While we might expect that e-mail advertising is a relatively low-involvement medium for consumers, we observe differences in terms of response rates and measures related to wear-out and feedback effects. Second, the existence of wear-out highlights the need for brands to get their most important messages out early in the relationship. Third, the differences between the feedback effects for open and clicking behaviors suggests that generating initial interest via exciting subject lines may not lead to strong relationships or better firm performance. Fourth, the difference in response rates for different customer types (phone permission, acquisition method, and so on) suggests that customers have different initial levels of involvement or expertise that may influence response levels.

However, while these findings are managerially relevant, it should be emphasized that e-mail response is at best an intermediate outcome. The true goal of the relationship-building efforts is to convert prospective consumers into revenue-generating customers. This is a salient point because a comparison of the e-mail response rates analyzed in this section and the customer buying levels reported in the previous section suggests an ambiguous relationship among e-mail response, prospect conversion, and CLV.

Customer buying behavior

While e-mail response provides some indication of how the firm-customer relationship is evolving, the ultimate goal is to increase customer value. In this section, we investigate how the various communication streams influence conversion and revenue metrics. We utilize a joint model of purchase incidence and expenditures developed by Zhang and Krishnamurthi (2004). This model explicitly accounts for the interdependence of purchase incidence and purchase amount. In this section, we briefly describe the key elements of this approach. For a full derivation of the model, we refer readers to Zhang and Krishnamurthi (2004).

Purchase Incidence Model. For our application, we assume that customers decide whether to make a purchase. We set I_{it} equal to 1 if customer i decides to make a purchase in week t, and 0 otherwise. The utility derived by customer i through making a purchase in week t is given by

$$
\begin{aligned}
U_{it} &= \beta' X_{it} + \varepsilon_{it}, \\
i &= 1 \ldots N, t = t_i^0, \ldots, T,
\end{aligned}
\tag{3}
$$

where t_i^0 is the week of customer i's first observation, and X_{it} is a vector of independent variables. The X variables include factors that influence the utility of a purchase such as marketing mix elements, household demographics, and household transaction histories. In our application, the primary elements of information include the communication stream to which the consumer is exposed and the transaction and registration data available to the firm. Assuming the error term, ε_{it}, follows a logistic distribution with location parameter 0 and scale parameter 1, the probability of purchase is given in Equation 4.

$$\Pr(I_{it} = 1) = \Pr(U_{it} > 0) = \frac{e^{\beta' X_{it}}}{1 + e^{\beta' X_{it}}}. \quad (4)$$

Purchase Expenditure Model. The second element of the approach is a model of customer expenditures. We assume that Y_{it}^* is the latent variable that determines how much customer i wants to buy in week t and define Y_{it} as the observed purchase amount as per the following relationship:

$$Y_{it} = \begin{cases} Y_{it}^* & if \quad I_{it} = 1 \\ 0 & otherwise \end{cases} \quad (4)$$

Additionally, we assume that $Log(Y_{it}^*) = \lambda' Z_{it} + \xi_{it}$, where Z_{it} is a vector of independent variables that may affect the purchase amount decision. The random error term ξ_{it} follows a logistic distribution with mean 0 and scale parameter δ. To capture the interdependence between the purchase incidence and purchase amount, we assume that $\varepsilon_{it}^* = -\varepsilon_{it}$ and ξ_{it} satisfies a bivariate logistic distribution with CDF

$$\begin{aligned} F(\varepsilon_{it}^*, \xi_{it}) = \\ F(\varepsilon_{it}^*) * F(\xi_{it}) * [1 + \rho * (1 - F(\varepsilon_{it}^*)) * \\ (1 - F(\xi_{it}))], \quad -1 \le \rho \le 1. \end{aligned} \quad (5)$$

In the preceding equation, ρ determines the correlation between ε_{it}^* and ξ_{it} (which is equal to $3\rho/\pi^2$) and is estimated from the data. During the estimation, we set $\rho = \sin(\theta)$ to ensure ρ falls between -1 and 1. Based on the above assumptions, the probability of observing $Y_{it} = y_{it} > 0$ can be written as in Equation 6.

$$\begin{aligned} &\Pr(I_{it} = 1, Y_{it} = y_{it}) = \\ &\frac{e^{\beta' X_{it}}}{1 + e^{\beta' X_{it}}} * \frac{\delta * e^{\delta*(\lambda' Z_{it} - \log y_{it})}}{[1 + e^{\delta*(\lambda' Z_{it} - \log y_{it})}]^2} * \\ &\left[1 + \frac{\rho}{1 + e^{\beta' X_{it}}} * \frac{-1 + e^{\delta*(\lambda' Z_{it} - \log y_{it})}}{1 + e^{\delta*(\lambda' Z_{it} - \log y_{it})}} \right] \end{aligned} \quad (6)$$

The specification for the deterministic portion of utility associated with making a purchase during a given week is shown in Equation 7.

$$\begin{aligned} \beta_{Buy} &+ \beta_{B,2}FBN + \beta_{B,3}FNB + \\ &\beta_{B,4}PBN + \beta_{B,5}PNB + \beta_{B,6}CUR + \\ &\beta_{B,7}Open1st + \beta_{B,8}Open1st \times FBN + \\ &\beta_{B,9}Open1st \times FNB + \beta_{B,10}Open1st \times PBN + \\ &\beta_{B,11}Open1st \times PNB + \beta_{B,12}Open1st \times CUR + \\ &\beta_{B,13}WK + \beta_{B,14}FBN \times WK + \\ &\beta_{B,15}FNB \times WK + \beta_{B,16}PBN \times WK + \\ &\beta_{B,17}PNB \times WK + \beta_{B,18}CUR \times WK + \\ &\beta_{B,19}WK^2 + \beta_{B,20}FBN \times WK^2 + \\ &\beta_{B,21}FNB \times WK^2 + \beta_{B,22}PBN \times WK^2 + \\ &\beta_{B,23}PNB \times WK^2 + \beta_{B,24}CUR \times WK^2 + \\ &\beta_{B,25}TOOL + \beta_{B,26}FBN \times TOOL + \\ &\beta_{B,27}FNB \times TOOL + \beta_{B,28}PBN \times TOOL + \\ &\beta_{B,29}PNB \times TOOL + \beta_{B,30}CUR \times TOOL + \\ &\beta_{B,31}WIN + \beta_{B,32}Phone + \beta_{B,33}INC + \\ &\beta_{B,34}Plan + \beta_{B,35}CEvent + \beta_{B,36}PSales + \\ &\beta_{B,37}Rec + \beta_{B,38}Rec^2 + \beta_{B,39}Never + \\ &\beta_{B,40}WK \times Never \end{aligned} \quad (7)$$

Many of the same elements used in the e-mail response models are used in this equation. *Open1st* is a binary variable that indicates whether the customer opened the "welcome" e-mail. This e-mail was identical across the six treatments. The variable *WK* corresponds to the time, in weeks, since the beginning of the test. The interactions between the week variable and the advertising indicators are designed to account for wear-out effects. The baseline condition for the model is the "No e-mail" condition.

We also include several measures of each customer's specific transaction history. The variable *CEvent* is the customer's cumulative spending on the event, *PSales* is the customer's buying previous to the focal event, and *Rec* is the time since last purchase. These variables are consistent with recency and monetary measures common in the database marketing literature (Hughes 2000). Other variables are defined as in the e-mail response models.

For the purchase amount equation, we utilize a similar specification as for purchase incidence. This is given below in Equation 8.

$$
\begin{aligned}
AMT = {} & \beta_A + \beta_{A,1}FBN + \beta_{A,2}FNB + \\
& \beta_{A,3}PBN + \beta_{A,4}PNB + \beta_{A,5}CUR + \\
& \beta_{A,6}Open1 + \beta_{A,7}Open1{\times}FBN + \\
& \beta_{A,8}Open1{\times}FNB + \beta_{A,9}Open1{\times}PBN + \\
& \beta_{A,10}Open1{\times}PNB + \beta_{A,11}Open1{\times}CUR + \\
& \beta_{A,12}WK + \beta_{A,13}FBN{\times}WK + \\
& \beta_{A,14}FNB{\times}WK + \beta_{A,15}PBN{\times}WK + \\
& \beta_{A,16}PNB{\times}WK + \beta_{A,17}CUR{\times}WK + \\
& \beta_{A,18}WK^2 + \beta_{A,19}TOOL + \\
& \beta_{A,20}FBN{\times}TOOL + \beta_{A,21}FNB{\times}TOOL + \\
& \beta_{A,22}PBN{\times}TOOL + \beta_{A,23}PNB{\times}TOOL + \\
& \beta_{A,24}CUR{\times}TOOL + \beta_{A,25}Phone + \beta_{A,26}Inc \\
& + \beta_{A,27}Plan + \beta_{A,28}WIN + \beta_{A,29}CEvent + \\
& \beta_{A,30}PSales + \beta_{A,31}Rec + \beta_{A,32}Rec^2 + \\
& \beta_{A,33}Never + \beta_{A,34}WK{\times}Never \qquad (8)
\end{aligned}
$$

The variable definitions in this equation are the same as in the purchase incidence model.

The purchase incidence model results are presented in Table 6. In terms of purchase incidence, the *FNB* and the *PNB* streams yield significantly higher buying rates than the "No e-mail" condition. The broad-to-narrow campaigns and the current stream yield positive but not significant coefficients. The coefficient for the binary variable that indicates the welcome e-mail was opened is positive and significant. Of the interactions between the welcome e-mail indicator and the five advertising streams, only the *PNB* interaction is significant. The coefficient for the interaction between opening the welcome e-mail and the *PNB* stream is negative, which means the segment that is most responsive to the initial e-mail is negatively affected by the *PNB* campaign.

The main effect and interactions involving the *TOOL* indicator are similar to the *Open1st* terms in that these terms may be interpreted as representing segment-level differences. In this case, the variable *TOOL* indicates the medium by which the customer was acquired. Customers who are acquired using the planning tool might reasonably be expected to have spent more time exploring the product

category. The statistical results suggest that for customers acquired via the planning tool, the promotion and "No e-mail" streams perform significantly better than the *PNB* and *FNB* streams. The promotion stream also performs significantly better than the broad streams ($p = .035$). Our speculation is that the users of the planning tool may be more knowledgeable about the brand and have greater expertise. As such, they may be more responsive to the campaign that emphasizes immediate discounts rather than brand development.

The interactions between the test week and the campaign indicators suggest that the branding communication streams do exhibit wear-out. Given the short-term nature of the test and the high frequency of e-mails, we would naturally expect that the impact of the communication would fade over time. The more salient results from the analysis are in terms of comparisons between the broad-to-narrow and narrow-to-broad campaigns. The broad-to-narrow streams exhibit less wear-out than the narrow-to-broad streams in both the product and personality streams. In the case of the product stream, the difference is significant ($p = .033$).

The model also includes terms that reflect whether the customer granted phone contact permission, the length of the customer's planning horizon, inferred median income, and whether the customer was acquired via an offer of a chance to win a sweepstakes. Customers who allow phone contact purchase at a higher rate, while income and planning horizon length are nonsignificant. The model yields a negative coefficient for customers who are acquired via the "*WIN*" sweepstakes' offer banner ads. This is an intuitive result as these customers may be motivated primarily by the sweepstakes.

The variables at the bottom of the table are individual transaction history measures. We find a significant positive coefficient for cumulative previous sales related to the focal event.

Table 6
Purchasing Models

Variable	Incidence		Amount	
	Coefficient	Std. Error	Coefficient	Std. Error
Intercept	–6.63***	.462	4.400***	.341
FBN	1.082**	.537	.663***	.227
FNB	.842	.542	.386*	.227
PBN	1.17**	.568	.471**	.228
PNB	.71	.562	.720***	.243
Promo (Current)	.147	.568	.571**	.261
OPEN1 (1st E-mail)	.522***	.104	–.071	.097
OPEN1 × FBN	–.198	.145	.0445	.139
OPEN1 × FNB	–.068	.145	.152	.135
OPEN1 × PBN	–.213	.149	.081	.142
OPEN1 × PNB	–.280*	.148	–.266*	.144
OPEN1 × promo	–.062	.151	.211	.147
Test week	.876***	.101	.119**	.048
Test week square	–.044***	.006	–.0036	.0024
Week × FBN	–.221*	.130	–.060***	.022
Week × FNB	–.126	.132	–.0355	.0228
Week × PBN	–.255*	.135	–.040*	.023
Week × PNB	–.083	.136	–.047	.024
Week × promo	–.036	.135	–.055**	.025
WeekSQ × FBN	.0123*	.0075		
WeekSQ × FNB	.0036	.0077		
WeekSQ × PBN	.0134*	.0077		
WeekSQ × PNB	.0023	.0079		
WeekSQ × promo	.0011	.0078		
ACQ: PLANNING TOOL (TOOL)	.1135	.124	.126	.115
TOOL × FBN	–.300*	.179	–.166	.164
TOOL × FNB	–.150	.176	–.269*	.158
TOOL × PBN	–.191	.182	–.061	.171
TOOL × PNB	–.450**	.195	.039	.195
TOOL × promo	.119	.174	.118	.166
Phone permission	.729***	.061	.089	.059
Median income	.0032***	.0012	–.0003	.0004
Planning horizon	–.0002	.0003	.0008	.0001
AQC: WIN	–.131**	.052	–.0029	.0500
Cumulative event sales	.0002***	.00004	–.0005***	.0001
Previous revenue	.0005**	.0002	.0000	.0002

Table 6
Continued

Variable	Incidence Coefficient	Std. Error	Amount Coefficient	Std. Error
Recency	−.245***	.034	−.124***	.032
Recency × recency	.0061	.007	.0279***	.0065
Never purchased	−.578***	.175	.708***	.163
Test week × never	−.142***	.018	−.018	.017
Scale	1.809***	.0575		
Correlation	−2.817***	.353		
Log likelihood				
Observations	115,554			

* *p* < .10
** *p* < .05
*** *p* < .01

This implies that customers who make a purchase are more likely, on average, to make additional purchases, and indicates that there is an opportunity for add-on selling, even in this single-event context.

The expenditure model yields several interesting results. In this specification, the baseline revenue amounts are what would be produced using the campaign that does not include any e-mail during the test period. Relative to the "No e-mail" approach, all campaigns except the *FNB* campaign yield significantly higher purchase amounts. The results show that an important consequence of not advertising is that expenditures, conditional on purchase, decrease.

The expenditure model includes interactions that test whether the advertising campaigns have differential effects for customers who open the welcome e-mail and customers who are acquired via the planning tool. For the segment that opens the welcome e-mail, the promotion stream yields a positive directional effect, while the PNB stream yields a marginally significant negative effect. A test of equivalence of the promotion stream and the PNB stream for the segment that opens the welcome e-mail yields a significant difference

(*p* = .045). The effects for the segment that is acquired via the planning tool are similar. The promotion stream yields a positive directional effect, while the brand streams yield negative directional effects.

The model also includes interactions between the test week and the campaign indicators. These interactions produce negative effects for all the streams. However, only the interactions involving the *FBN* and *Current* streams are significant. These negative effects are relative to the "No e-mail" test stream. The results are intuitive, as we expect the impact of test campaigns to fade as all customers receive the identical e-mail stream following the test period.

The other coefficients in the model are primarily to control for individual customer differences. Of these variables, we find that customers with longer planning horizons tend to make significantly larger purchases. The variables at the bottom of the table are designed to control for the effects of previous buying. The coefficient for cumulative previous event sales is negative and significant. Therefore, while previous event expenditures are positively correlated with additional buying, larger previous event expenditures are

negatively related to future purchase amounts. The model also includes a variable labeled Never Purchased that indicates that a customer has not made a purchase. The coefficient for this variable is positive and significant. This indicates that consumers' first purchases tend to be significantly higher than follow-up purchases.

The findings related to amount are primarily driven by the average number of items purchased by customers in each treatment. On average, customers in the promotion stream purchased 6.2 items compared to 6.07 in the PNB stream, 6.01 in the PBN stream, 5.94 in the FBN stream, 5.88 in the FNB stream, and 5.52 in the "No-e-mail" stream. These results suggest that the promotion e-mails drive revenue by increasing cross-selling and that the failure to e-mail results in significantly less cross-selling.

Customer asset value analysis

The purchase incidence and expenditure models reveal significant differences in the performance of the various advertising campaigns. In this section, we shift to a dynamic approach and use simulation to investigate the long-run differences in customer value to the firm. These analyses reveal the impact of the advertising campaigns on the firm's customer equity (Blattberg and Deighton 1996; Rust, Zeithaml, and Lemon 2000) and quantify the relationship between marketing decisions and overall firm results (Berger, Bolton, and Bowan 2002; Rust, Lemon, and Zeithaml 2004). Furthermore, by mapping the CLV estimates to individual traits, we are able to evaluate the results at a segment level. These results speak to how different message streams can alter CLV across a heterogeneous customer base.

For the simulation, we use the preceding model of purchase incidence and a model that predicts margin that uses the same variables as the preceding expenditure model. We use the margin as the dependent measure as it speaks

more directly to the value of the firm's customer assets. The simulations are conducted using a 16-week period. Table 7 shows the expected CLV for the six different advertising campaigns. Overall, the best-performing campaign emphasizes product benefits and uses a broad-to-narrow sequence. Relative to the promotion campaign, the FBN campaign increases expected contribution per customer from $67.11 to $82.65, an improvement of 23.2%. In contrast, the expected improvement from the FNB, PBN, and PNB campaigns are 4.9%, 1.0%, and 5.2%, respectively. The "No-e-mail" campaign results in a 4.5% decrease in CLV.

The preceding results suggest that customer relationships are most profitably built using advertising that emphasizes specific product benefits. In addition to this result, our data also allow for an evaluation of segment-level advertising effectiveness. The differences in segment-level response in the incidence and expenditure analyses suggest that it may be useful to customize advertising based on consumer characteristics. In the preceding demand models, we focused on factors such as whether the customer opened the welcome e-mail and how the customer was acquired. These data elements are likely to communicate something about the nature of each consumer. For example, customers who open the welcome e-mail may have higher initial interest or involvement levels. Customers who are acquired via the planning tool are likely to be more experienced with the brand and may have higher category expertise.

Table 7 also provides the expected contribution at a segment level where the segments are based on whether the customer opened the welcome e-mail and if the customer was acquired via the planning tool. The segment-level results show significant variation across the advertising campaigns, suggesting that there is value in utilizing CRM principles in a single-purchase, high-involvement context. The first segment listed does not open the

Table 7
Customer Economics Analyses

Percent	Open 1st E-mail	Planning Tool	Product: Broad	Product: Narrow	Personality: Broad	Personality: Narrow	Promotion (Current)	No E-mail
Customer Value Analysis								
Average			$82.65	$70.43	$67.81	$70.59	$67.11	$64.06
47.95%	No	No	$77.48	$58.13	$61.92	$73.12	$47.49	$48.65
29.54%	Yes	No	$100.32	$94.49	$83.10	$80.11	$84.23	$82.16
17.01%	No	Yes	$65.59	$56.53	$56.16	$51.49	$73.95	$64.39
5.50%	Yes	Yes	$85.55	$91.39	$73.15	$56.47	$125.06	$100.23
Conversion Rate								
	No	No	18.4%	15.2%	15.5%	16.9%	13.1%	15.2%
	Yes	No	24.8%	22.9%	20.9%	20.9%	19.8%	22.9%
	No	Yes	15.6%	14.9%	14.8%	12.5%	16.3%	14.9%
	Yes	Yes	21.4%	22.2%	19.1%	15.5%	23.8%	22.2%
	Average		20.0%	17.8%	17.2%	17.3%	16.2%	17.8%
	Versus promo		23.2%	9.8%	5.9%	6.4%	.0%	9.8%
Contribution per Buyer								
	No	No	$421.10	$382.45	$399.50	$432.70	$364.78	$317.88
	Yes	No	$404.53	$412.65	$397.61	$383.32	$425.42	$344.38
	No	Yes	$420.43	$379.42	$379.45	$411.98	$453.69	$387.03
	Yes	Yes	$404.43	$411.66	$383.00	$364.30	$525.45	$403.13
	Average		$415.17	$392.46	$394.62	$410.83	$406.65	$342.16
	Versus promo		2.1%	–3.5%	–3.0%	1.0%	.0%	–15.9%

welcome e-mail and is not acquired via the planning tool application. This segment is the largest of the four under consideration as it represents about 48% of the sample. This segment may be viewed as relatively uninvolved in the advertising medium. The second segment opens the welcome e-mail but is not acquired via the planning tool. This segment represents 29.5% of the sample. The act of opening the welcome email suggests that this segment has a relatively higher interest level in the e-mail advertising campaign. The third segment comprises 17% of the sample and is acquired via the planning tool but does not open the welcome e-mail. The fourth segment is acquired via the planning tool and also opens the welcome e-mail. Acquisition via the planning tool is pertinent because this tool

allows consumers to investigate the firm's products in some depth. These customers likely have more expertise and experience than other customers.

The variation in segment-level response suggests an opportunity to customize the e-mail campaign based on initial customer information. Customization of e-mail messages based on just the two segmentation variables under consideration would suggest that the largest segment would receive the campaign that emphasizes the product's functional benefits in a broad-to-narrow format (FBN). The segment that opens the first e-mail would receive the campaign that emphasizes the product's functional benefits in a broad-to-narrow format (FBN). The standard promotion campaign

Figure 1
First Six Weeks CLV

Figure 1
First Six Weeks CLV
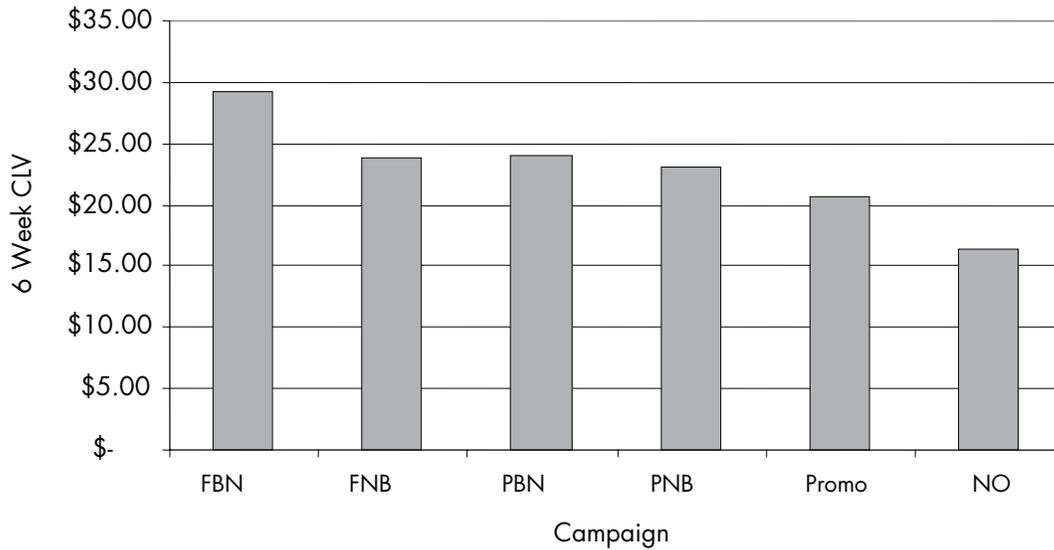
would continue to be used with customers who are acquired via the planning tool application. Overall, the prediction is that customization would increase overall contribution or average customer lifetime value by 28.5%. By simply sending the right branding messages in the right order to the right people, there is an opportunity to significantly increase firm performance without adding any incremental costs.

Table 7 also explores the drivers of the segment-level differences. In the segments where the FBN campaign is the most profitable, the advantage is largely driven by increased conversion rates. In contrast, in the segments where the promotion campaign is the best performer, the differences are due mainly to increased expenditures. For the segment that is acquired via the planning tool that opens the introductory e-mail, the contribution per buyer under the promotion campaign is $525 compared to about $400 for the other campaigns.

The segment-level customization has a logical appeal. The largest segment does not open the welcome e-mail and is not acquired via the planning tool. We might characterize this segment as relatively uninvolved with the brand and lacking in expertise. For this group, the campaign that strives to develop the relationship through product features is most effective. The second largest segment, comprising customers who open the welcome e-mail, also responds most favorably to the product-benefit messages, perhaps because they are motivated to collect information on product features. However, it is interesting to note that for the first, low-involvement segment, the performance of the personality campaign is relatively close to the functional product-benefits campaign. The final two segments involve customers acquired via the planning tool. These customers have taken the initiative to find the tool, and inasmuch as they have already started to investigate possibilities, likely have greater category expertise. The value of these segments is maximized through the promotion campaign. Our speculation is that these customers are already knowledgeable, so the most effective communications are those that emphasize calls to purchase.

It is also useful to consider the results from a more dynamic perspective. Figure 1 provides

Table 8
No Planning Tool Customers

Weeks	Product: Broad	Product: Narrow	Personality: Broad	Personality: Narrow	Promotion (Current)	No E-mail
1 to 6	$30.50	$24.28	$24.81	$25.07	$19.09	$14.94
7 to 16	$55.69	$47.71	$45.18	$50.72	$42.41	$46.48
Versus promo						
1 to 6	59.8%	27.2%	30.0%	31.3%	.0%	–21.7%
7 to 16	31.3%	12.5%	6.5%	19.6%	.0%	9.6%

the average customer contribution across the various treatments for the first six weeks of the test. Over the first six weeks of the test, the branding campaigns outperform the standard promotion campaign by at least 10% and the "No e-mail" stream by 40%. More to the point, when the differences between the 16-week and 6-week CLVs are considered it becomes clear that the superior performance of the branding campaigns is generated mainly during the first 6 weeks. Therefore, at the aggregate level, it appears that the impact of the branding campaigns lasts only for about a month after the end of the test. The key exception is the FBN campaign, which seems to have a more persistent impact on customer behavior.

At the segment level, however, the branding campaigns have longer lasting effects. Table 8 reports the CLVs for the first 6 weeks and for weeks 7 through 16 for customers not acquired via the planning tool. For this segment, the FBN campaign yields about a 30% greater profitability over the latter period, while the other three branding campaigns yield improvements ranging from 6.5% to 20% for weeks 7 through 16. These results suggest that when customer traits are considered, even small branding interventions can have persistent positive effects.

Consideration of the message-structure results at the segment level also yields some interesting findings. Our conjecture is that customers who open the first e-mail are likely more involved. For customers in the functional product-benefit message conditions, we find that the broad-to-narrow message structure results in the highest CLV (see Figure 2a), although both functional streams do well. These consumers desire information, and the first message in the broad-to-narrow sequence provides a summary of what each of the subsequent messages will entail. This may engage the highly motivated customer and encourage her to carefully consider the subsequent messages, which provide more specific details. The narrow-to-broad sequence is also effective with this group, although somewhat less so. The narrow messages are highly detailed and provide lots of information; however, a single, focused message at the outset may be too specific for some customers. If the initial messages do not address the particular need of that customer, the individual may lose interest in subsequent communications.

The personality messages do not do very well overall with this group of customers, but here too, the broad-to-narrow sequence slightly outperforms the narrow-to-broad. If the personality-oriented messages are generally not compelling for these more involved customers, then it seems the best-case scenario when using this message format is to transmit as many benefits as possible in the initial e-mail to maximize the information that is conferred before interest fades.

For the relatively uninvolved segment, the message stream that leads to the highest CLV

Higher-Motivation Customers

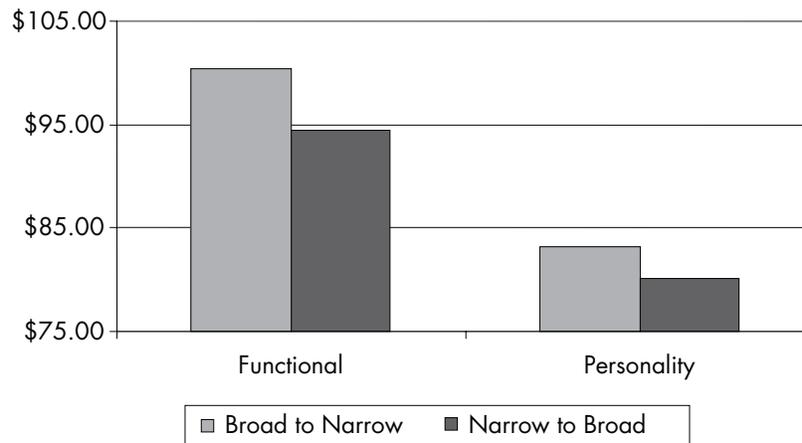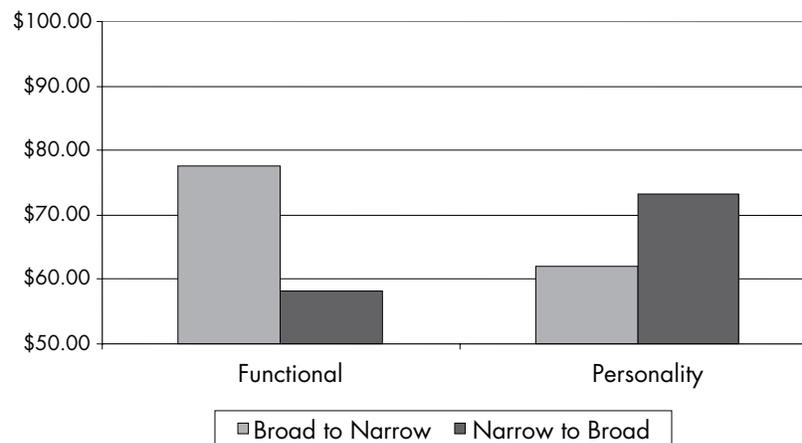Broad to Narrow ■ Narrow to Broad

Figure 2b
Lower-Motivation Customers

Broad to Narrow ■ Narrow to Broad

depends on the type of ad (see Figure 2b). For personality-oriented messages, the narrow-to-broad stream outperforms the broad-to-narrow stream, whereas for functional product-oriented messages, the broad-to-narrow stream outperforms the narrow-to-broad. In the case of low-involvement consumers, single brand personality messages are easy to process and understand and can help to build brand equity over time. In contrast, single functional product messages are highly specific and likely too detailed for these customers, who are presumably lower in product knowledge. Product

benefits transmitted one at a time are too detailed, too specific, and do not create a complete product picture. If functional product messages are used on this segment, one summary product message early on that provides a full picture of the product benefits without excessive detail is preferable. It should be noted that the preceding is our preliminary interpretation of the results, rather than the result of a precise theory test. Nonetheless, there appears to be some type of interaction among message sequence, message tone, and consumer involvement.

Discussion

The development of customer relationships is a challenging topic for empirical study. The dynamic nature of relationship development and the desire to quantify how marketing actions have an impact on firm performance create difficulties for laboratory methods. Field tests have the additional burden of trying to balance the goals of the researchers with those of the sponsoring firm. In this research, we have attempted to gain an understanding of the relative benefits of using different marketing appeals to develop brand–consumer relationships and to maximize CLV.

A unique aspect of the research was that we explored the benefits of different marketing appeals in a single-purchase, high-involvement category. The findings indicate that CRM principles can help drive customer lifetime value and firm performance in a category that does not involve significant repeat purchasing. In terms of overall learning, the aggregate results demonstrate that branding efforts are quantifiable investments. By comparing the impact of different marketing appeals to the absence of any marketing, we are able to quantify the value of marketing versus no marketing. In this test, all of the marketing streams delivered incremental value compared to the test condition that engaged in no e-mail messaging for the first two weeks of the relationship.

Regarding specific findings, the most significant is that the brand campaigns that emphasize product benefits tended to outperform both the brand personality and standard promotion campaigns. Given the plethora of practitioner literature and the drive by advertising agencies that believe that "human beings are powered by emotion not by reason" (Roberts 2005, p. 42), our test results suggest that managers may need to rethink the messages they develop in their quest to drive more profitable relationships with their customers.

Furthermore, both the product-benefit and brand personality campaigns drove significantly higher revenue and margin than did the standard promotion campaign. Given the pressure to deliver immediate results, marketers often employ promotions and sales to drive incremental sales. According to Cheetahmail (one of the country's leading e-mail distributors), most e-mails currently being distributed by retailers are focused on promotions. Very few companies, if any, include branding e-mail messages to help maximize firm performance. Moreover, because of the way that many marketing organizations are structured, there is little effort given to the design of the sequence of communications. However, as this research demonstrates, the most effective communication stream at increasing CLV was not the promotion stream, but rather messages focused on connecting the consumer to brand benefits.

The fundamental question we are interested in is how marketing communications early in the customer life cycle can create the strongest and most profitable relationships. Our results suggest that product-benefit messages are more effective in the aggregate, but this is not the case for all consumer segments. Consumers that have greater experience and knowledge through the firm's planning tool respond best to standard promotions. This latter point about segment-level differences highlights the importance of leveraging CRM principles and customizing marketing campaigns to different customer segments. While the product-benefit, broad-to-narrow stream is predicted to increase CLV by about 23%, the potential benefits of using segment-specific advertising campaigns, at 28%, is higher. The large differences in effects across the campaigns suggest that firms can achieve significant benefits by customizing advertising messages based on individual-level characteristics. Our results add to a growing body of research that quantifies the value of customization (Khan, Lewis, and Sing 2009) but does so in the realm of advertising messages.

While the research does suggest the importance of engaging in relationship building, the findings related to messaging structure are somewhat ambiguous. The summary data suggest that the narrow-to-broad streams result in slightly higher open rates and click-through rates. Another interesting finding from the e-mail data is that positive feedback effects exist for the brand campaigns in terms of clicking behavior, suggesting that these campaigns result in more positive interactions between the consumer and the brand. Given the importance of interactivity in relationships (Fournier 1998), this type of positive effect may well be a key to successful relationship development.

From a practical standpoint, the study results suggest a need to revisit the use of certain e-mail–based metrics. While the analyses do suggest that e-mail open rates are correlated with future e-mail open rates and conversion, the relationships are complex. A correlation analysis of customer revenue and e-mail open and CTRs reveals significant positive correlations between these measures. For instance, using individual-level customer data, a regression of customer revenue on the individual's e-mail open rate yields the following equation: $Revenue = 78.4 + 158.4 Opct$ ($p < .0001$). However, it is also true that the campaign with the highest open rate and CTR produced the lowest conversion rate (see Table 4).

The e-mail response analysis illustrates two critical points. First, intermediate metrics such as e-mail response need to be carefully linked to long-term goals. Even if the intermediate metrics are correlated with the long-term goals, reliance on intermediate metrics can lead to suboptimal marketing policies. This is an important managerial issue as many marketers rely on e-mail metrics as a proxy for overall campaign performance. Second, it is important to track not only consumer behaviors but also the marketing that influenced the behavior. This point is related to the notion that a responsibility of marketing is to increase the value of customer assets. While advertising itself represents an investment in customers, our results highlight that it is important to track not only the amount of advertising but also the messaging or structure of the advertising. More to the point, the results illustrate that firms can benefit from tracking and leveraging a wide variety of data including how customers are acquired, inferred demographics, and other factors when determining the correct marketing policies.

As with any field study, it is important to understand the limitations of the research. In this case, the field test was designed so that it could help achieve both the firm's goals and our research goals. As a result, there were several restrictions on the overall design of the test. For example, the realities of the marketplace precluded the use of experiments that tested single personality themes. Consequently, we were unable to execute tests similar to that used by Aaker, Fournier, and Brasel (2004) that tested the resiliency of a sincere brand relative to an exciting brand. It is also worth highlighting that the actual test was short in length, with the differences between the treatments being only two weeks' worth of e-mails. We note that given the attention that consumers pay to e-mail–based advertising, the magnitude of the results is impressive.

There are many additional avenues for future research. For example, while our focus was on whether advertising copy should emphasize product benefits or brand personality attributes, it might be useful also to manipulate the amount of advertising or the timing of advertising. These studies would be similar to traditional advertising research, but the issues of frequency and timing would be evaluated in a CRM context and would provide a clear link between marketing efforts and customer revenue. For example, it might be interesting to test mixed campaigns that begin with a set of brand personality messages and then progress to product-benefit messages or vice versa.

While our research focuses on brand development from the beginning of the firm-consumer relationship, it would be useful to conduct field tests at different points in the customer life cycle as the relationship evolves.

The findings related to message sequence were not clear-cut and suggest the need for additional research. Our interpretation of the sequence results was largely framed in the context of processing motivation (Petty, Cacioppa, and Schumann 1983). A difficulty with interpreting our data is the fact that they are collected via a dynamic field test and the consumer's level of involvement may change over the course of the relationship or based on the nature of the firm's advertising messages. Our research provides field data that highlight the need for research into how persuasive messages have an impact on consumers' future levels of motivation and ability.

Managerial Implications

While marketing organizations have enthusiastically embraced relationship management philosophies and invested significant financial resources in CRM systems, these efforts have often been viewed as failures. A critical issue is that firms have often struggled with how to convert customer data into actionable marketing policies. Furthermore, while academic researchers have begun to develop methods for formulating marketing policies for quantifiable elements of the marketing mix such as pricing (Lewis 2005) and contact frequency (Simester, Sun, and Tsitsiklis 2006; Gonul and Shi 1998), there is limited research that focuses on more qualitative aspects such as branding and copy strategy.

Our research provides several contributions that should be of interest to marketing practitioners. First, the financial results highlight potential problems with using standard e-mail metrics to assess campaign effectiveness. While the promotion-oriented campaign was

the most successful campaign in terms of open and click-through rates, this campaign also yielded the lowest conversion rate. However, the promotional stream does yield the highest expenditures conditional on purchase. The implication is that while promotion-oriented communications may not be appropriate during the early stages of the brand–consumer relationship, these types of communications can play a valuable role in terms of increasing add-on selling.

The findings also call into question the current trend toward advertising (Gobe 2007; Roberts 2005) that attempts to forge emotional connections by emphasizing brand personality. Our results suggest that at the market level, a campaign that focuses on utilitarian benefits is the most effective approach. Furthermore, while the single-category nature of our analysis limits the generality of this finding, it is important to note that our investigation is undertaken in a highly emotional category. It should also be noted that the brand personality campaign was most effective with relatively less engaged consumers. This is an interesting finding because it suggests that in environments where consumers are relatively uninvolved, emotion-oriented advertising may be useful.

Finally, the research highlights the importance of utilizing individual-level consumer information to customize marketing efforts. The specification of the correct approach to relationship building is a particularly challenging topic since firms will typically lack detailed customer data at the onset of the relationship. In our context, we utilized registration information, acquisition channel, and response to the firm's initial communication to infer customer characteristics. The identification of salient information at the onset of the brand–consumer relationship is a common issue and a topic that merits additional research. For example, the practice of developing so-called "Golden Questions" (Peppers and Rogers 2005) is an example of current efforts to identify key cus-

tomer traits as soon as possible. The estimated benefits of customization are also noteworthy,

as the financial benefits of one-to-one marketing have rarely been quantified.

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