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Growing Existing Customers' Revenue Streams Through Customer Referral Programs

Customer referral programs are an effective means of customer acquisition. By assessing a large-scale customer data set from a global cellular telecommunications provider, the authors show that participation in a referral program also increases existing customers' loyalty. In a field experiment, recommenders' defection rates fell from 19% to 7% within a year, and their average monthly revenue grew by 11.4% compared with a matched control group. A negative interaction between referral program participation and customer tenure reveals that the loyalty effect of voicing a recommendation is particularly pronounced for newer customer–firm relationships. A laboratory experiment further demonstrates that referral programs with larger rewards strengthen attitudinal and behavioral loyalty, whereas smaller rewards affect only the behavioral dimension. This article contributes to our theoretical understanding of the roles played by the commitment–consistency principle and positive reinforcement theory as mechanisms underlying the effectiveness of customer referral programs.

Keywords: customer referral program, customer loyalty, commitment–consistency principle, positive reinforcement, propensity score matching

Customer referral programs (CRPs)—defined as deliberately initiated, actively managed, continuously controlled firm activities aimed to stimulate positive word of mouth among existing customer bases (Schmitt, Skiera, and Van den Bulte 2011)—have received increasing attention from marketing researchers and practitioners (Kornish and Li 2010; Ryu and Feick 2007; Schmitt, Skiera, and Van den Bulte 2011). Their objective is to use the social connections between existing customers and noncustomers to attract the latter to the firm. To achieve this conversion, the firm invites existing customers to participate in a CRP. When customers participate, they voice recommendations to prospects, which results in a reward if the recommendation leads to the recipient purchasing the recommended product (East, Lomax, and Narain 2001). Particularly in service industries, CRPs are well established. For example, the cellular telecommunication provider T-Mobile credits customers' accounts $25 for each successful referral, and Bank of America offers customers $25 if they refer a friend and $50 if they refer a business owner. Similar programs exist in an array of industries, including online retailers, energy providers, restaurants, accountants, and veterinary clinics. Referrals take on added strategic significance with the growing use of social networks to acquire product information and recommendations (Mooney and Rollins 2008).

Existing studies on CRPs have explored the drivers of recommendation likelihood (Biyalogorsky, Gerstner, and Libai 2001; Kornish and Li 2010; Ryu and Feick 2007; Wirtz and Chew 2002). Other research confirms them to be an effective and cost-efficient means for gaining new customers with superior profitability for the firm (Schmitt, Skiera, and Van den Bulte 2011). Although the implications of CRPs for customer acquisition are increasingly well understood, it is still not clear whether and how they affect recommenders' loyalty. Prior research has suggested some conflicting effects. Research into the relationship between commitment and consistency asserts that publicly stating a position, such as when making a recommendation, increases loyalty (Cialdini 1971). Ryu and Feick (2007) speculate, on the basis of self-perception theory, that engaging in word of mouth might reinforce recommenders' satisfaction with the brand, but they also note the concern that making recommendations in return for a reward may undermine this effect. Lacking deeper insights, marketing managers tend to assess CRPs exclusively from a customer acquisition perspective, thereby neglecting their potential effects on customer retention. The only empirical evidence shedding some light on the bonding effect of voicing a recommendation comes from Garnefeld, Helm, and Eggert (2011), who conduct a series of laboratory experiments and find that giving favorable word of mouth has a positive impact on existing customers' loyalty intentions, although the authors do not investigate rewarded recommendations.

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Considering the proliferation of CRPs in practice (Schmitt, Skiera, and Van den Bulte 2011), their impact on customer acquisition and customer retention is of great interest for marketing management and research. Although research shows that rewards stimulate referral likelihood (e.g., Kornish and Li 2010; Ryu and Feick 2007), it is also valuable to understand how referral fees affect recommenders' loyalty to the firm. Beyond that, the ability to identify groups of existing customers that are particularly prone to the bonding effect of voicing a recommendation is useful to both marketing scholars and practitioners. In this sense, our research differs from extant approaches in its focus on customer retention and growth goals rather than customer attraction components of CRPs.

With this unique perspective, our article makes three important contributions. First, it theoretically and empirically establishes CRPs as means for retaining and growing relationships with current customers. Second, it provides valuable information about whom firms should target with CRPs when adopting a customer retention perspective. We develop and empirically test a theoretical foundation for the effect of CRP participation on existing customers' loyalty and find it to be particularly pronounced for newer customer–firm relationships. Third, our research offers guidance on how to implement effective CRPs. More specifically, we explore reward size as a key design element of CRPs and find that referral programs with larger rewards strengthen attitudinal and behavioral loyalty, whereas smaller rewards affect only the behavioral dimension. In summary, our findings help support a strategy of increasing the lifetime value of customers and improving customer equity (Rust, Lemon, and Zeithaml 2004).

In the remainder of this article, we first explore attitudinal advocacy and the commitment–consistency principle as theoretical bases for explaining the effect of CRP participation on customer loyalty and the role of customer tenure. Next, we examine behavioral data obtained from a global cellular telecommunications provider, using a propensity score matching approach. To address the impact of rewards on the recommendation–loyalty link and shed further light on the bonding process associated with participating in a CRP, we turn to self-perception and positive reinforcement theory to develop a laboratory experiment. We conclude by discussing the results of both studies, identifying limitations, and providing suggestions for further research.

Study 1: The Loyalty Effect of CRP Participation and Customer Tenure

In CRPs, a complex set of exchange interactions occurs: the firm offers the reward, the current customer makes the referral, and the noncustomer potentially acts on the referral and purchases from the firm (Ryu and Feick 2007). The payment of the reward is contingent on the success of the referral: the current customer receives the referral reward from the firm only if the referral leads the noncustomer to purchase the product. We focus on the impact of the reward on the relationship between the referring customer and the firm subsequent to the customer's participation in a CRP. In this context, we find no studies that investigate the effects of a voiced recommendation on the recommender's attitudes and behavior, even though greater understanding of this mechanism would offer valuable insights for improving customer loyalty and the profitability of CRPs.

Theoretical Background

Our conceptual framework and development of hypotheses involve three steps. First, we explain the underpinnings of attitudinal advocacy and the commitment–consistency principle. Second, we argue that participating in a CRP constitutes a public commitment. Third, we analyze how customer tenure affects the recommendation–loyalty link according to self-perception theory.

Attitudinal advocacy and the commitment–consistency principle. Social psychology research shows that people who advocate a specific issue position tend to align their attitudes in the direction of that position (Cialdini 1971). Pledging or binding to a behavior results from having taken an action or made a statement (termed a "commitment" in psychology literature; Kiesler 1971). Such commitment arises because people who recognize that they have endorsed a position will attribute favorability toward it. A key factor that determines the magnitude of the advocacy effect is the "publicness" with which the person declares his or her commitment to a position (Cialdini 1971). Deutsch and Gerard (1955) find that commitments made in front of large groups are strongest, although broad publicity is not a necessary condition to evoke commitment; as Cialdini (1971) points out, intended advocacy also can induce it. The commitment–consistency principle is relevant to the desire to appear consistent to others (public consistency), but it also applies to a person's desire to be consistent within his or her own attitudes and behaviors (internal consistency).

Previous research has established, in diverse settings, the premise that people who make a commitment then tend to behave consistently with that commitment. For example, people who say they intend to vote are more likely to vote (Greenwald et al. 1987); people who publicly commit to losing weight are more successful in weight-loss programs (Nyer and Dellande 2010). Other studies confirm the relationship between commitment and socially desirable behaviors, including recycling (Katzev and Pardini 1987), energy conservation (Pallak, Cook, and Sullivan 1980), theft reduction (Moriarty 1975), use of public transportation (Bachman and Katzev 1982), and compliance with cause-related marketing communications (Vaidyanathan and Aggarwal 2005).

Recommendation as public commitment and loyalty as consistency. General commitment–consistency explanations apply to both recommendations and CRPs, because a recommendation is a type of commitment. Davidow (2003) and Nyer and Gopinath (2005) interpret word of mouth as a public commitment or public stance regarding an evaluation of the firm or its offerings. By engaging in word of mouth, the customer takes a public position that is difficult to change. For example, after spreading negative word of mouth, a customer would find it difficult to claim satisfaction and repurchase the product (Davidow 2003). The pressure to behave consistently with a commitment also functions in

recommendations, which imply an endorsement of the firm or its offerings (Chew 2006). If a customer recommends a firm but then switches to a different one, both the customer and others perceive those actions as inconsistent. In CRPs, the recommender also receives a reward from the firm if the recommendation leads the recipient to purchase the product or service (Ryu and Feick 2007; Schmitt, Skiera, and Van den Bulte 2011). Usually, all three parties (recommender, recipient, firm) know that the recommender has made a recommendation and that he or she received a reward if it successfully led the recipient to buy from the firm. This suggests that CRPs evoke public commitments that should have consistency effects.

This rationale therefore implies a recommendation–loyalty link for recommenders. In repurchase situations, a customer likely behaves in a way consistent with his or her recommendation. A recommendation thus increases the likelihood that the recommender remains loyal, meaning that he or she remains committed to repurchase or repatronize a preferred product or service from the recommended firm in the future (Oliver 1997). In summary, we hypothesize the following:

H_1: Participation in a CRP increases recommenders' loyalty.

Role of customer tenure. Customer tenure, defined as the length of the customer relationship with the firm at the time of participation in a CRP, may explain why some customers are less affected than others by participation in a CRP. Our reasoning is based on self-perception theory (Bem 1972), which explains that, in certain situations, people learn about their inner states (i.e., attitudes) by observing their own overt behavior and the situational cues surrounding it (Fazio, Herr, and Olney 1984). When customers hear themselves recommending a product or service, they may conclude that they like it because otherwise they would not have made a recommendation (East, Lomax, and Narain 2001; Garnefeld, Helm, and Eggert 2011).

However, only in the absence of stronger cues do freely performed behaviors toward an object offer a highly indicative reflection of its evaluation (Fazio, Herr, and Olney 1984). Therefore, attitude expressions based on self-perception processes should occur primarily for people with weaker prior attitudes toward the object (Chaiken and Baldwin 1981). Attitude strength can be defined as the "positivity or negativity (valence) of an attitude weighted by the confidence or certainty with which it is held" (Park et al. 2010, p. 1). Consequently, people can hold similarly favorable attitudes about an object but differ with regard to how certain they are (Rajagopal and Montgomery 2011). Longer-tenured customers are more likely to have formed strong attitudes about the firm before CRP participation than are shorter-tenured customers, because research has found knowledge about and direct experience with the attitude object to be important drivers of attitude strength (Krosnick et al. 1993; Marks and Kamins 1988). Thus, participation should have a stronger impact on the behavior of customers with shorter tenure, because they have weaker attitudes toward the firm at the time of CRP involvement.

We therefore suggest that successfully recommending the firm provides salient behavioral information and a stronger influence on shorter-tenured customers' inferred attitudes and subsequent behavior. In contrast, a self-perception account of attitude expression should be less pronounced for longer-tenured customers, because they rely on their rich knowledge base when deciding whether to remain with a firm.

H_2: The CRP participation–loyalty link is stronger for shorter-tenured than longer-tenured customers.

Field Study

Overview. A simple comparison of behavioral data from customers who either did or did not participate in a CRP would suffer from self-selection effects. In experimental terms, participation in a CRP can be interpreted as a treatment, and our research question pertains to whether the treatment causes a certain outcome (recommenders' loyalty). We aim to determine outcome differences (difference in loyalty) between customers in the treatment condition and similar customers without the treatment. However, we cannot know how the treatment group would behave if these participants had not received the treatment (had not participated in a CRP). Unlike in an experimental setting, we cannot randomly assign customers in a real-life setting to participation (i.e., treatment) and nonparticipation (i.e., control) groups. Rather, participants in a CRP have self-selected into the participation group, which implies they are at least somewhat satisfied and loyal. Customers who participate in a CRP likely differ substantially from those who do not, beyond their participation, so simply comparing the outcome variables for both groups is not a suitable solution.

Matching procedures can address such self-selection biases (Dehejia and Wahba 2002); researchers apply them frequently in economics (Dehejia and Wahba 1999; LaLonde 1986) and medical studies (D'Agostino 1998), as well as more recently in marketing research (Hitt and Frei 2002; Wangenheim and Bayón 2007a). Matching methods create an artificial control group to solve the self-selection problem (Caliendo and Kopeinig 2008; Wangenheim and Bayón 2007a). We accordingly matched each customer participating in the CRP with a similar customer ("statistical twin") who did not participate (Rässler 2002). We then compared the group of participants with the artificial control group of statistical twins in terms of their loyalty.

Different procedures exist for finding nonparticipants who match each participant and creating matched samples (for an overview, see Caliendo and Kopeinig 2008); we applied propensity score matching (Rosenbaum and Rubin 1983), which has proved advantageous in many settings (Dehejia and Wahba 2002; Wangenheim and Bayón 2007a). First, we conducted a binary logistic regression to calculate the propensity for participation in the firm's CRP. Second, we built an artificial control group by matching each customer from the treatment group (i.e., CRP participants) with a customer who did not participate but achieved a similar participation propensity score. Third, we evaluated the quality of the matching. Fourth, we compared the loyalty of the treatment and control groups.

Data. We analyzed data on German customers who were using prepaid cellular phones offered by a global telecommunications provider. Cellular telecommunications

provides the focal setting for diverse research on CRPs (e.g., Ryu and Feick 2007), and most cellular telecommunication providers use CRPs. Our focal firm grants a recommender a phone credit worth €10 if his or her recommendation results in the sale of a prepaid subscriber identity module card to a new customer. The size of the reward is similar to referral rewards for new prepaid contracts across the industry.

We obtained data from 1,116 prepaid customers who participated once or twice in the CRP during the treatment period (January–December 2007). We ensured that these customers participated in the CRP only during the treatment period and not before or after. All participants successfully took part in the CRP such that the firm gained a new customer from their recommendations. The service provider's CRP required these new customers to indicate who had referred them to the service before it rewarded the recommender. Therefore, in all cases, both new and existing customers were aware of the referral reward. In contrast, the service provider could not observe unsuccessful recommendations.

To build the artificial control group, we considered a random sample of 26,560 customers who never participated in the company's CRP and gathered data such as airtime (minutes per quarter), relationship length (days with the company before January 1, 2007), multimedia messaging service (MMS) (number per quarter), usage of high-speed downlink packet access (HSDPA) (yes/no), customer status (e.g., gold tier, platinum tier), and status points acquired in the company's affinity program. To operationalize loyalty as our endogenous variable, we assessed customer churn, because the duration of customer relationships is a widely used measure of loyalty (Bolton 1998; Nitzan and Libai 2011), as well as revenue streams. We applied a natural logarithm transformation to our revenue data to account for nonnormality. The behavioral data collection referred to the period between January 2006 and December 2008. All customer accounts were active in periods before and during the entire treatment period.

Binary logistic regression. We performed a logistic regression to calculate the propensity score of participation in the CRP and then ran the matching procedure. Generally, propensity score matching is applicable only if the exogenous variables of receiving the treatment (i.e., participation in a CRP) have been established theoretically or in previous empirical studies (Caliendo and Kopeinig 2008). Many studies outline the antecedents of articulating word of mouth (for an overview, see East, Hammond, and Wright 2007), so we consider this requirement fulfilled.

Satisfaction and loyalty are key determinants of word of mouth (e.g., Wangenheim and Bayón 2007b; Westbrook 1987). Because purchase amount and frequency often serve to operationalize loyalty (for an overview, see Verhoef 2003), we included customers' activity level (airtime) in our model. Innovators among the customer base are more influential and articulate more word of mouth (Engel, Kegerreis, and Blackwell 1969), so we also included MMS and HSDPA usage, which were in the beginning stages of their product life cycle in 2006 and mainly used by innovators. Wangenheim and Bayón (2007b, p. 244) find that new customers of a firm are more likely to articulate recommendations because they "try to communicate the 'goodness' of their choice to others, either to convince themselves or to prevent others from disregarding their ability to make good choices." Therefore, we predicted a negative link between relationship length and CRP participation. Compared with nonparticipants, CRP participants might be more deal prone, because they are interested in the reward (Ryu and Feick 2007). Thus, we included status and status points earned in the company's affinity program, with the assumption that customers interested in gaining rewards from the affinity program would also be interested in gaining rewards from the CRP.

To ensure that the treatment did not cause any of the selected exogenous variables, we required that the selected determinants be either fixed over time (e.g., gender) or collected before the treatment (Caliendo and Kopeinig 2008). Thus, we measured all the variables in the binary regression before the treatment period, in 2006.

We provide the results from the logistic regression in Table 1. This regression confirmed the effects of customers' activity level ($\beta = .016$, $p < .05$), relationship length ($\beta = -.092$, $p < .000$), and participation in the affinity program (status level $\beta = .302$, $p < .000$; status points $\beta = .054$, $p < .000$) on participation in a CRP. However, innovativeness did not receive confirmation as an antecedent variable (MMS $\beta = .046$, $p > .1$; HSDPA $\beta = .112$, $p > .1$). In line with Rubin and Thomas's (2000) suggestion, we included all theoretically derived variables in our calculation of propensity scores.

Matching evaluation. To match the propensity scores of participants with those of nonparticipants, we relied on the random order, nearest available pair-matching method algorithm (Smith 1997). With the Silverman (1986) rule, we determined a .001 tolerance zone for choosing a statistical twin. The tolerance zone specifies the maximal acceptable difference between the propensity scores of a participant and of a nonparticipant that could still be considered statistical twins. Even with this relatively restrictive tolerance

TABLE 1
Determinants of CRP Participation Propensity (Study 1)

Exogenous Variable	Regression Coefficient	Wald	*p*-Value
Constant	–2.298	499.74	<.000
Airtime (minutes)	.016	5.18	<.05
Relationship length (days before January 2007)	–.092	498.47	<.000
MMS sent (number)	.046	.22	>.1
HSDPA usage (yes/no)	.112	.64	>.1
Status level within the loyalty program	.302	86.64	<.000
Status points earned within the loyalty program	.054	91.96	<.000

Notes: The coefficients "status points earned within the loyalty program," "MMS sent," and "contract length" are divided by 100; "airtime" is divided by 1,000.

zone, we were able to match 1,097 of the 1,116 (98.3%) customers from the treatment group with customers who had not participated in a CRP. We were unable to find a statistical twin within this tolerance zone for only 19 of the 1,116 participants.

Following Rosenbaum and Rubin (1985), we calculated a percentage reduction in bias for all variables, a common tactic (Wangenheim and Bayón 2007a). As we show in Table 2, the matching procedure achieved a good bias reduction. Participants and nonparticipants exhibited different characteristics and behavior before the matching procedure but were relatively similar afterward. The average percentage reduction in bias for all variables was 86.3%.

Results. We use churn and revenue to operationalize loyalty. Researchers often use customer churn as a loyalty indicator (e.g., Schmitt, Skiera, and Van den Bulte 2011), because a lower churn rate implies that customers are staying with the firm for a longer time. Customers who do not churn repurchase the product or service, in line with our definition of loyalty. We also include revenue as a second indicator of loyalty. That is, high revenue results from a higher frequency of purchases, more money spent per purchase, and more cross-buying (Reinartz and Kumar 2003), which, in our context, can be due to customers concentrating their cellular communication spending with a specific provider.

Figure 1 depicts the churn-reducing effect of participation in a CRP. An analysis using the Cox (1972) model revealed a significant effect of participation in a CRP on the probability of being an active customer, that is, of not churning ($\beta = 2.1$, $p < .001$). Twelve months after the treatment period, the probability of being an active customer was 81% for nonparticipants but 93% for participants, in support of H_1. Participating twice in the CRP had no additional effect beyond the first recommendation ($\beta = .23$, $p > .34$).

Tenure, measured as the length of the customer–firm relationship at the beginning of the treatment period, revealed a negative interaction effect with participation in the CRP on the probability of being active ($\beta = -.03$, $p < .03$), in support of H_2. Specifically, participation amplified loyalty when customers were in an early stage of their customer life cycle. Those who had been with the company for a longer time exhibited weaker loyalty effects when participating in a CRP.

In Figure 2, we depict the natural logarithm of the monthly revenue of all active participants and nonparticipants from January 2006 to December 2008. We tested for differences in the revenue levels and trajectories (i.e., revenue development over time) between participants and nonparticipants before, during, and after the treatment period. In the pretreatment period (i.e., 2006), neither the revenue levels ($F(1, 2{,}193) = .68$, $p > .40$) nor the revenue trajectories ($F(11, 2{,}193) = 1.22$, $p > .26$) revealed significant differences between CRP participants and their matched nonparticipants. Both became significant during the treatment period (2007) (levels $F(1, 2{,}193) = 8.59$, $p < .004$; trajectories $F(11, 2{,}193) = 3.00$, $p < .001$). In 2008, after the treatment period, the level of revenues remained significantly different between groups ($F(1, 2{,}193) = 4.91$, $p < .028$), but their trajectories showed no significant differences ($F(11, 2{,}193) = 1.12$, $p < .35$). Again, we did not detect a significant difference between customers who participated once and those who participated twice ($F(1, 2{,}193) = .24$, $p > .87$).

These results provided reassurance that our matching process was effective in canceling out both observed and unobserved differences between the matched groups. For example, a possible argument might be that recommenders tend to have higher levels of satisfaction than a control group. Because we matched our groups on behavioral rather than attitudinal variables, the differences between groups could be attributable to systematic variations in customers' unobserved attitudinal disposition. In that case, we would expect differential revenue trajectories in the pretreatment

TABLE 2
Group Means Before and After Matching and Percentage Reduction in Bias

Before Matching			After Matching		
Control Group (N = 26,560)	Treatment Group (N = 1,116)	Exogenous Variable (2006)	Control Group (N = 1,097)	Treatment Group (N = 1,097)	Reduction Percentage in Bias[a]
414.36	1,006.56	Airtime	987.18	999.59	.98
2,179	1,550	Relationship length	1,597	1,566	.95
2.06	5.04	MMS sent	5.03	5.03	1.00
.03	.06	HSDPA	.06	.05	.67
2.32	2.71	Status level in the loyalty program	2.80	2.69	.72
86.39	225.61	Status points earned in the loyalty program	166.23	186	.86

[a]We calculated the percentage reduction in bias using the following formula (Rosenbaum and Rubin 1985):

$$PRB = 1 - \left| \frac{\bar{X}_i^A - \bar{X}_j^A}{\bar{X}_i^B - \bar{X}_j^B} \right|,$$

where PRB = percentage reduction in bias,
$\bar{X}_i^A$ = the mean for the treatment group after matching,
$\bar{X}_j^A$ = the mean for the nontreatment group after matching,
$\bar{X}_i^B$ = the mean for the treatment group before matching, and
$\bar{X}_j^B$ = the mean for the nontreatment group before matching.

FIGURE 1
CRP Participants' Lower Churn Rates

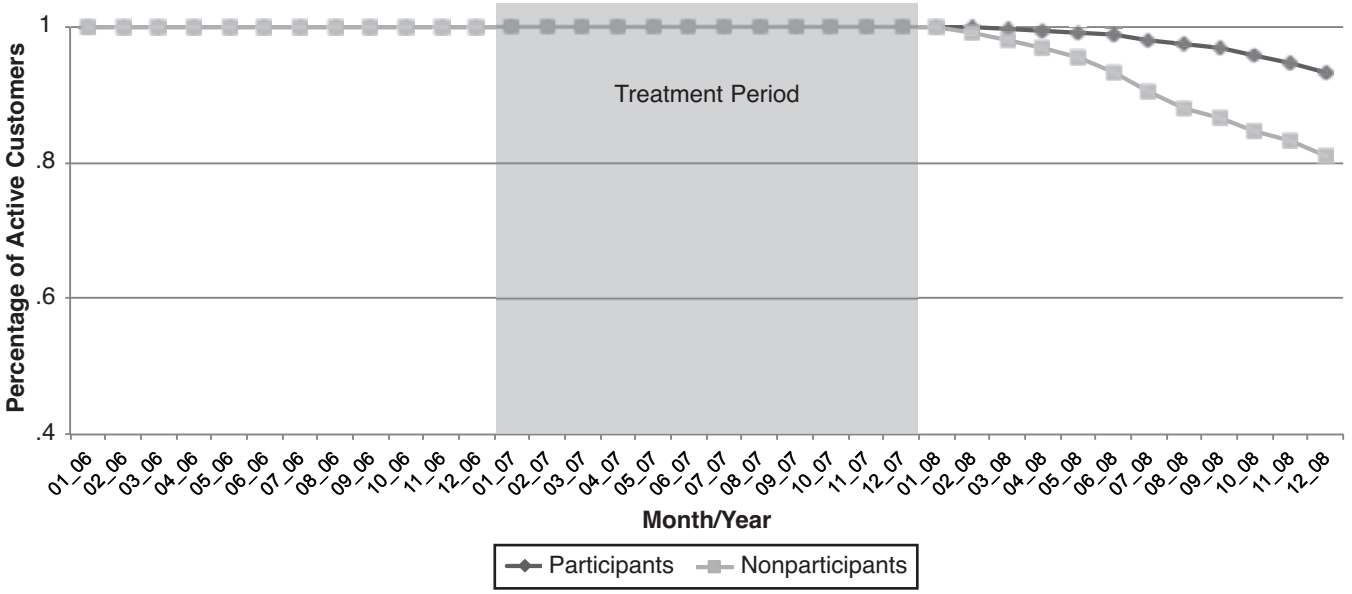
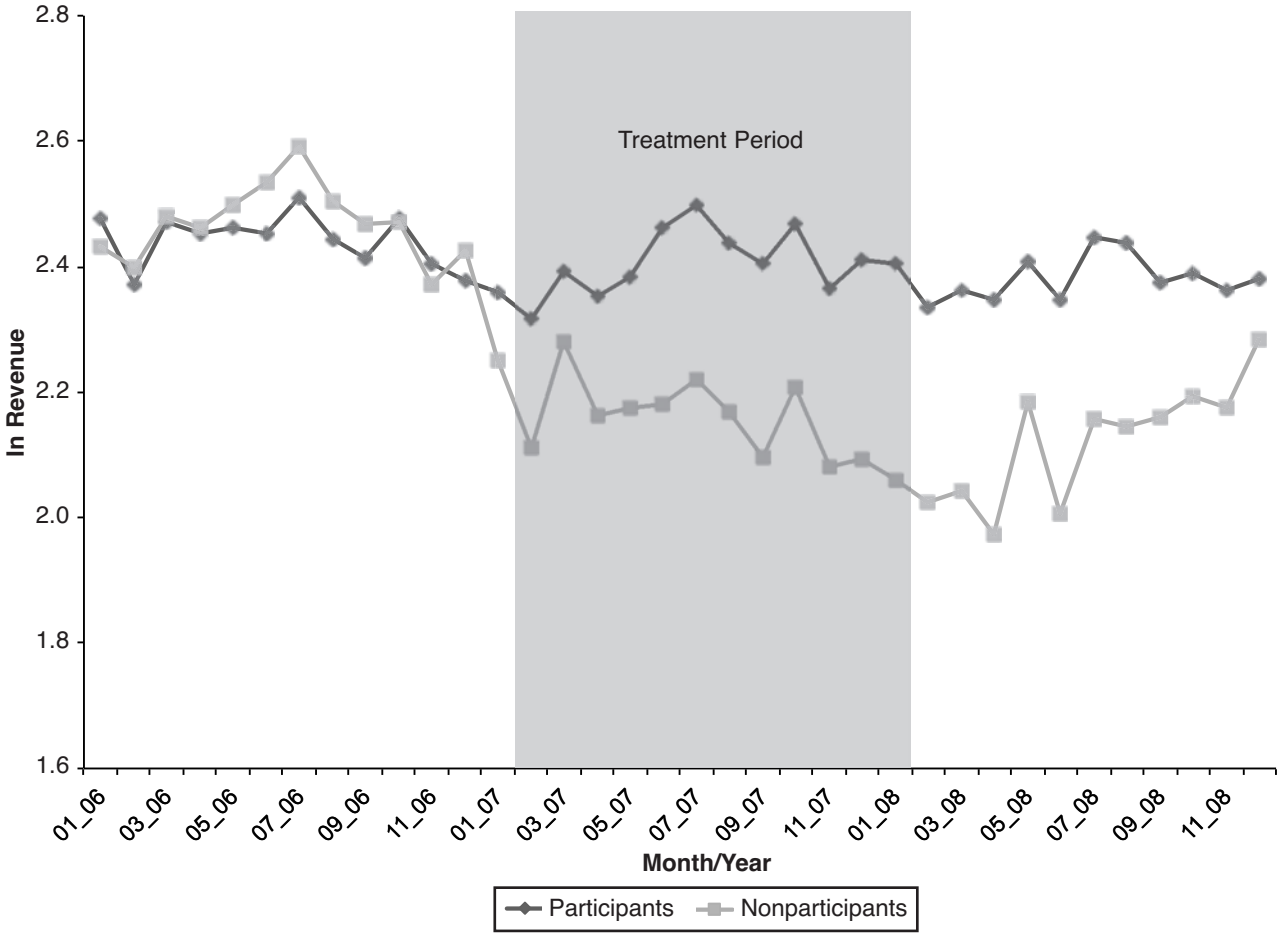


FIGURE 2
CRP Participants' Higher Revenue Streams



period as a logical consequence. That is, higher satisfaction levels in the recommender group would span the total observation period and be manifest in the more favorable revenue trajectory compared with that of the matched control group. The absence of a significant difference in the pretreatment period instead provided evidence that our matching procedure achieved its intended purpose and harmonized the groups beyond the set of behavioral variables employed for the matching procedure. Therefore, the observed differences during and after the treatment period manifest due to the loyalty effect of participating in a CRP, in further support of H_1.

Study 2: Loyalty and Reward Size

Study 1 confirmed a significant impact of participation in a CRP on recommenders' loyalty (H_1) and a negative effect of customers' tenure on the recommendation–loyalty link (H_2). However, it could not detail how voicing a recommendation translates into behavioral loyalty from a theoretical perspective. Study 1 also could not reveal the potential role of reward size—or the value of the reward relative to the value of the recommendation to the firm—because all recommenders received the same reward. Behavioral data based on different monetary reward sizes are difficult to find in real-life settings; companies typically offer only one reward for the same CRP. A managerial perspective still requires further insights into the effect of reward size on the recommendation–loyalty link to provide guidance for managers in determining whether paying small sums of money suffices to affect recommenders' loyalty or if they must offer larger sums to achieve such effects. For Study 2, we therefore conducted a laboratory experiment in which we manipulated monetary rewards and extended our analysis by distinguishing attitudinal and behavioral loyalty.

Theoretical Background

Prior research supports the two-dimensional measurement of loyalty as more accurate in its predictions of the future behavior of customers, because it can distinguish repeat purchase behavior that is attributable to convenience or chance versus that which arises from commitment (Yi and Jeon 2003). Oliver (1997, p. 392) defines loyalty as "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior." Accordingly, we differentiate attitudinal and behavioral loyalty. Attitudinal loyalty is grounded in liking and a positive psychological attachment to the firm, whereas behavioral loyalty refers to the act of staying with the firm or intentions to do so (Dick and Basu 1994; Fullerton 2003; Hansen, Sandvik, and Selnes 2003; Oliver 1997; Yi and Jeon 2003). Because a positive attitude toward the firm or its offerings is usually a precursor of behavioral loyalty, we expect a positive relationship between attitudinal and behavioral loyalty (Dick and Basu 1994; Gruen, Summers, and Acito 2000; Verhoef 2003):

H_3: Attitudinal loyalty has a positive effect on behavioral loyalty.

Participation in a CRP may affect the relationship between attitudinal and behavioral loyalty. Self-perception theory asserts that people cannot always infer their attitudes from their behavior, because the behavior might be caused by their prior attitude, an external cause, or both. Although both internal (e.g., prior attitudes) and external cue information can influence attitudinal judgments, the latter tends to dominate self-perception processes (Chaiken and Baldwin 1981). If several possible causes exist for a behavior, the actor must account for the configuration of factors that represent plausible reasons. Accordingly, an attitudinal discounting principle may come into play such that "the role of a given cause in producing a given effect is discounted if other plausible causes are also present" (Kelley 1973, p. 113). Having given a recommendation may weaken the strength of the link between attitudinal and behavioral loyalty because it represents an alternative cause for customers' behavioral loyalty that ceteris paribus reduces the importance of their psychological attachment and identification with the firm. The recommender could discount an internal cue (i.e., liking the firm) as a cause and instead attribute his or her behavior to an external cause (i.e., the recommendation). This alternative cause may be particularly important in driving subsequent behavioral loyalty, because recommendations evoke public commitments that could have stronger consistency effects than internal cues (Cialdini 1971). In summary, we hypothesize the following:

H_4: Participation in a CRP weakens the effect of attitudinal loyalty on behavioral loyalty.

Next, we predict the impact of reward size on the recommendation–loyalty link, using two competing theoretical frameworks. We begin with reinforcement theory and then outline an alternative explanation based on self-perception theory.

Positive reinforcement perspective. Studies of reinforcement in attitude formation and change in psychological and social psychological literature generally support the notion that attitudes can be strengthened through extrinsic and intrinsic rewards (e.g., Blau 1967; Kelley and Thibaut 1978). In most cases, liking for an attitude object, such as a group or task, increases with reward size (Leventhal 1964), and rewards positively affect attitudes toward the group or task (Aronson 2004). The notion of using rewards for positive reinforcement is also prominent in marketing thought, as exemplified by customer loyalty programs (Yi and Jeon 2003). In loyalty programs, obtaining rewards can generate customers' positive feelings toward the firm implementing the program (Tietje 2002) such that participants in loyalty programs show higher levels of attitudinal loyalty than do nonparticipants (Gomez, Arranz, and Cillan 2006). The perceived size of the reward also increases these positive attitudes (Yi and Jeon 2003).

Unlike loyalty programs, in CRPs the rewarded task is positive advocacy of the firm, which leads to a purchase by a new customer. Positive advocacy, as an activity, typically makes the communicator's attitude more extreme (Higgins and Rholes 1978). As East, Romaniuk and Lomax (2011)

assert, conveying positive word of mouth may reinforce the purchase propensity of the communicator because he or she becomes more convinced about the merits of the recommended product or service, thus supporting the argument that participation in a CRP positively influences the recommender's attitudinal loyalty. A reinforcement perspective would also suggest that referral rewards paid in the context of CRPs may bolster the rewarded recommender's attitudinal loyalty toward the firm that paid the reward and that this effect should increase with the size of the reward (e.g., Leventhal 1964), leading us to hypothesize the following:

H_5: Participation in a CRP with large rewards has a stronger effect on attitudinal loyalty than participation in a CRP with small rewards.

Self-perception theory perspective. Another explanation for the effect of the size of the reward, as initially suggested by Ryu and Feick (2007), is based on self-perception theory and leads to a contrary conclusion. According to self-perception theory, receiving a greater monetary sum prevents attitudinal inference from behavior (Fazio, Herr and Olney, 1984). In other words, the greater the inducement offered for performing an act that is consistent with a customer's beliefs, the less committed he or she is to that act (Kiesler and Sakumara 1966). Behavior induced by or associated with a large extrinsic incentive may also weaken the impact of recipients' attitudes due to the influence of overjustification (Bem 1972). Although it is expected that recommendations occur because the recommender has a positive attitude toward the firm (Chew 2006; Westbrook 1987), a large reward paid to CRP participants might override this norm (Ryu and Feick 2007). The attitudinal discounting principle may come into play (Kelley 1973) because several possible causes exist for the behavior. Having made a recommendation, the recommender could discount the internal cue (i.e., liking the firm) and instead attribute his or her behavior to the external cue (i.e., the large reward). Then the recommender would feel less committed to his or her advocated position, resulting in a weaker recommendation–loyalty link.

A larger reward offers a possible external causal attribution or justification that provides an alternative reason for attitude-discrepant behavior and also should serve as a highly salient external cue (Burger 1999; Chaiken and Baldwin 1981; Fazio, Zanna, and Cooper 1977). A smaller reward is less likely to do so such that the attributional discounting principle might not come into play when the referral rewards are smaller (Kelley 1973). From this discussion, we derive the following hypothesis:

H_{5alt}: Participation in a CRP with large rewards has a weaker effect on attitudinal loyalty than participation in a CRP with small rewards.

Experimental Study

Design and participants. We used a 2 × 2 factorial design in which we manipulated recommendations (referral, no referral) by exposing the treatment group to a situation in which participants had to articulate a recommendation; the referral reward was one of two levels (small reward, large reward). Thus, we experimentally created four groups.

For the data collection, we recruited participants using an online panel. The invitation to participate in an academic study directed any interested respondents to a website containing the experiment. In total, 234 participants took part in the study and were randomly assigned to one of the four groups. The mean age was 40.7 years, and 47.4% of the respondents were women. We chose a scenario design, a popular method in marketing literature (Palmatier et al. 2009; Wagner, Hennig-Thurau, and Rudolph 2009), and used postpaid cellular telecommunication services as our setting. In the sample population, familiarity with the specific service category is high: 96.2% of the participants owned a cellular phone, and of these, 61.6% used a contract based on a monthly rate (postpaid), whereas 38.4% used prepaid phones.

Procedure. Each participant read a short scenario that contained a description of the participant's relationship with a fictitious cellular telecommunication provider, "TelStar." It described the business relationship in positive terms, because satisfaction is usually a prerequisite for a recommendation (Biyalogorsky, Gerstner, and Libai 2001; Chew 2006). In the scenario, the employees in the shop and on the hotline were friendly, the coverage was fine, and the value of the offer was good. To manipulate reward size, we showed participants different TelStar web pages. In the small reward group, the web page indicated that TelStar was inviting its customers to recommend TelStar if they were satisfied with its services and offered €5 if they successfully recommended the provider (see the Appendix, Condition 1a). Participants in the large reward group read that TelStar offered €50 if they recommended the provider (Appendix, Condition 1b). These reward sizes reflected the actual range of rewards offered for successful referrals that led to two-year contracts in the German cellular telecommunications industry. Finally, we pretested several reward sizes, and the chosen amounts emerged as realistic and indicative of small and large rewards relative to the value of the recommendation to the provider (i.e., a new two-year contract).

To manipulate participation in the CRP, the respondents assigned to the referral condition read a scenario that described them giving a recommendation: while browsing TelStar's webpage, they were prompted to think of their friend Alex, who had just mentioned a desire for a new cellular provider. Because vividness contributes to the impact of recommendations on product judgments (Mangold, Miller, and Brockway 1999), we strove to make the recommendation articulation tangible and vivid. We asked participants to verbalize their recommendation in a text box (Appendix, Condition 2a), and all participants did, using sample recommendations such as, "I recommend TelStar because I am very satisfied with the service. They are friendly and the coverage is also good," "I recommend TelStar because I have been there a long time and never had any trouble," and "I recommend TelStar because they are cheap and good." The recommendations were similar across participants and typically consisted of one or two sentences. The scenario did not specify whether their CRP participation was successful (i.e., if the noncustomer made a pur-

chase). Participants in the no-referral condition read that they would have recommended the service provider but could not think of anybody looking for a new cellular telecommunication provider (Appendix, Condition 2b). This information was explicit, so any differences in the dependent loyalty measure between groups cannot be attributed to the additional attitudinal information for the experimental group (Aronson et al. 1990).

After reading the scenarios, all participants completed a short questionnaire that assessed the dependent variables and manipulation checks, using established scales adapted to our study context. We measure attitudinal loyalty with items such as "I like TelStar" (Gustafsson, Johnson, and Roos 2005), in accordance with our attitudinal loyalty definition of liking and positive psychological attachment to the firm. To measure behavioral loyalty, or the act of staying with the firm or intentions thereof (Dick and Basu 1994; Oliver 1997), we asked participants whether they would stay with TelStar if it were to raise prices as well as if a competing cellular telecommunication provider offered a better service or better deal (Ganesh, Arnold, and Reynolds 2000). To test the reward size manipulation, we asked participants from the small and large reward groups to indicate the attractiveness and size of the reward offered (Ryu and Feick 2007). Finally, we asked participants how well they could imagine being in the described situation. We measured all items on seven-point scales.

Validity assessment. We conducted a confirmatory factor analysis using IBM SPSS Amos 19.0. We assessed the convergent validity of attitudinal and behavioral loyalty on the basis of their factor loadings (≥.61), factor reliabilities (≥.84), and average variance extracted (≥.64) (see Table 3). All values exceeded the common thresholds. To check for discriminant validity, we used Fornell and Larcker's (1981) criterion (see Table 3).

Manipulation check. The manipulation of recommendation (referral, no referral) represented a distinct variable, so we did not need to perform a manipulation check on it. However, we pretested the scenarios extensively to ensure the validity of the manipulation of CRP participation. When participants in these pretests summarized the scenario descriptions, they perceived the different scenarios as clearly distinct in terms of whether they articulated a recommendation.

We also confirmed that participants perceived the large reward as larger than the small reward. Participants in the large reward group regarded the reward as significantly larger ($F(1, 233) = 7.0$, $p < .001$) and more attractive ($F(1, 233) = 14.3$, $p < .001$) than did participants from the small reward group. We ensured that there was no interaction effect between reward size and participation in a CRP on perceptions of reward size ($F(1, 233) = .4$, $p > .1$) and attractiveness ($F(1, 233) = .1$, $p > .1$). The main effects of participation on perceived reward size ($F(1, 233) = .5$, $p > .1$) and attractiveness ($F(1, 233) = .1$, $p > .1$) also were nonsignificant. Finally, the participants indicated that they could imagine being in the described situation (M = 5.4; 1 = "not at all easy to imagine," and 7 = "very easy to imag-

TABLE 3
Scale Characteristics and Discriminant Validity (Study 2)

Construct	Measure	Loading	M (SD)	Composite Reliability	Average Variance Extracted	Discriminant Validity[b]	
						Behavioral Loyalty	Attitudinal Loyalty
Behavioral Loyalty[a]			2.8 (1.42)	.84	.64	**.80**	
	If TelStar were to raise the prices, I would still continue to be a customer of this provider.	.67					
	If a competing mobile service provider were to offer a better service, I would still stay with TelStar.	.87					
	If a competing mobile service provider were to offer a better rate or discount on their services, I would still be staying with TelStar.	.85					
Attitudinal Loyalty[a]			4.05 (1.56)	.84	.64	.57	**.80**
	I like TelStar.	.87					
	I take pleasure in being a customer of TelStar.	.89					
	I am sure that TelStar is the provider that takes the best care of their customers.	.61					

[a]Agree–disagree scale (1 = "strongly disagree," and 7 = "strongly agree").
[b]Numbers in boldface on the diagonal show $\sqrt{AVE}$. Numbers in regular type represent the construct correlation.

ine") and were satisfied with the business relationship (M = 4.6; 1 = "not at all satisfied," and 7 = "very satisfied").

Results. We used structural equation modeling to test our hypotheses regarding the bonding process that results from voicing a recommendation. Structural equation modeling is well suited for testing complex causal processes with experimental data (for an application, see Hennig-Thurau et al. 2006; Wagner, Hennig-Thurau, and Rudolph 2009) and has several advantages over traditional analysis of variance approaches (Bagozzi and Yi 1989). In particular, it accounts for measurement error in the latent variables and thereby reduces the chance of type II errors. In addition, it "allows for a more complete modeling of theoretical relations, whereas traditional analyses are limited to associations among measures" (Bagozzi and Yi 1989, p. 282).

We chose variance-based structural equation modeling using SmartPLS software (Ringle, Wende, and Will 2005) because it "avoids many of the assumptions and chances that improper solutions will occur in LISREL analyses" (Bagozzi, Yi, and Singh 1991, p. 125). Because it tends to underestimate path coefficients compared with LISREL (Dijkstra 1983), variance-based structural equation modeling produces a conservative test of the substantive relationships.

The path estimates (Figure 3) confirmed the interaction effect of participation in a CRP and reward size on attitudinal loyalty (.1, $p < .05$), as we proposed in H_5. Whereas CRP participation had a nonsignificant impact (.07, $p > .1$) on attitudinal loyalty in the small reward situation, the interaction produces a significant impact in the large reward situation. We therefore reject H_{5alt}, which was built on a self-perception account of the impact of the size of the reward. Reinforcement theory thus emerges as a better predictor of the impact of reward size on the link between participation in a CRP and attitudinal loyalty. In support of H_3 and H_4, attitudinal loyalty had a positive impact on behavioral loyalty (.47, $p < .01$) negatively moderated by participation in a CRP (–.27, $p < .05$). Replicating our findings from Study 1, the laboratory experiment confirmed a positive relationship between participation in a CRP and behavioral loyalty (.26, $p < .05$).

General Discussion

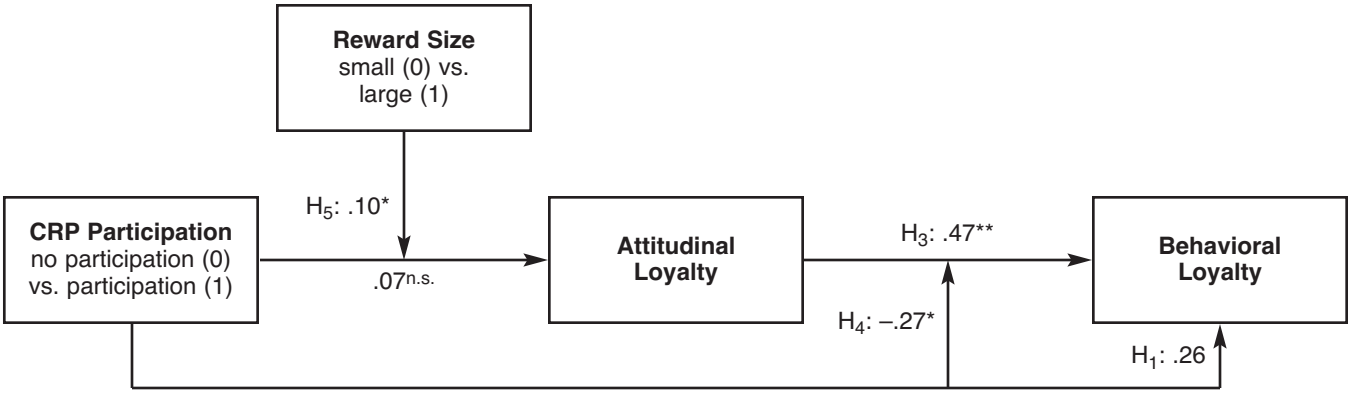
Core Issues

We organize our discussion of the results of these two studies around three core issues. First, we examine the direct impact of CRP participation on behavioral loyalty. We use results from both studies to interpret the theoretical implications. Second, we discuss the indirect impact of CRP participation on behavioral loyalty by considering how reward size and attitudinal loyalty interact with CRP participation, using the findings from Study 2. Third, we explore the influence of customer tenure on CRP, based on our results from Study 1. The subsection concludes with a review of the role of self-perception theory in CRP research.

Direct impact of participation in a CRP on behavioral loyalty. The results from both studies indicate that participation in a CRP directly influences the behavioral loyalty of the recommender. Study 1 demonstrates that purchase patterns are more stable and spending levels are higher among customers who participate in a CRP, in line with a commitment–consistency principle explanation, as advocated in other situations in which people make their position public (Deutsch and Gerard 1955). To achieve private and public consistency, their behavior must align with the advocacy implied by their referral—in this case, continued involvement with the firm. These results challenge previous speculation that rewarded referrals have limited impact on the recommender because customers interpret their recommendation as less reflective of their overall positive attitude (Ryu and Feick 2007). In the path analysis of our experimental data, we also found that the direct impact of CRP on behavioral loyalty (.26, $p < .05$) was independent of reward size (.07, $p > .1$).

Indirect impact of participation in a CRP on behavioral loyalty. In addition to the direct impact of CRP participation, we considered how rewards influence firm attitude as well as the impact of participation in a CRP on the relationship between attitude and behavioral intentions. The impact

FIGURE 3
The Bonding Process of Voicing a Recommendation



*Significant at the 5% level.
**Significant at the 1% level.
n.s.Not significant.

of rewards on attitudinal loyalty has been an issue of some contention, with competing perspectives about how customers internalize CRPs. Our findings indicate that CRP participation has a significant and positive impact on attitudinal loyalty for larger monetary rewards but no impact when rewards are small. This finding is consistent with a reinforcement perspective, which predicts that large rewards are more powerful in supporting positive attitude change (e.g., Leventhal 1964). However, it contrasts with self-perception explanations and the speculation that large rewards for referrals would lead customers to attribute their behavior to receiving the reward and, thus, not enhance their attitudes (Ryu and Feick 2007). Such overjustification may occur in the case of attitude-discrepant statements and behaviors, for example, as in the case of a CRP participant who, motivated by the reward, recommends the product or firm despite being dissatisfied.

Attitudinal loyalty also exerted a positive impact on behavioral loyalty, consistent with prior research (e.g., Dick and Basu 2004; Gruen, Summers, and Acito 2000). The impact is moderated by participation in the CRP. This is in line with consistency and self-perception arguments, in which the need for public consistency induced by CRP participation reduces the relative importance of attitudinal loyalty as a driver of behavioral loyalty. The results further indicate that attitudinal change is not a necessary condition for CRP participation to have an impact on behavioral loyalty.

Role of relationship tenure. In Study 1, we determined that participation in a CRP more strongly affects shorter-tenured customers' loyalty than longer-tenured customers'. This insight is consistent with the explanation that recommendations provide information about the recommenders' own beliefs about the organization. The results also are consistent with the notion that people strive to appear consistent to others (Fazio 1987). Customers' participation in a CRP compels them to remain with the firm or risk perceptions that they have acted inappropriately. Longer-tenured customers instead have a history of performance on which to base their loyalty decisions, so they are less influenced by self-perception effects and the public commitment instilled by participating in a CRP.

Finally, our results provide an interesting contrast on the role of self-perception theory in the study of CRPs. Contrary to a self-perception explanation, larger rewards had a positive influence on attitudes, which implies that rewards do not serve as an external cause in explaining subsequent behavior. At the same time, the public commitment instilled by participating in CRPs provides participants an alternative explanation and justification for behavioral loyalty. Although this suggests a limitation of self-perception as a unifying theory regarding recommender loyalty in CRPs, the results reflect the complex and competing psychological processes found in studies of the impact of rewards in other contexts. The controversy associated with the overjustification effect is widespread and can be observed in discordant views on the use of rewards as a motivational strategy (see Deci, Ryan, and Koestner [2001] vs. Cameron, Banko, and Pierce [2001]). In the CRP application, larger rewards seem to be a positive signal and buttress positive feelings about the firm, in line with a reinforcement perspective.

Contributions to Theory

By examining the impact of CRP participation on recommenders, our study makes several important contributions to extant literature. Most studies of word of mouth and CRPs take a customer attraction perspective; we provide novel insights by investigating how referrals influence the recommender. In line with previous research, we demonstrate that CRP participation affects both customer churn and spending behavior; we go further by showing that CRPs influence the revenue stream of the recommender to shed light on customer loyalty determinants and contribute to the development of loyalty-based marketing strategy models (Rust, Lemon, and Zeithaml 2004). We improve understanding of loyalty by demonstrating the role of word of mouth, delivered through CRPs, in fostering loyalty. Our explanation is anchored in a commitment–consistency framework and supported by reinforcement principles (Cialdini 1971; Kelley 1973; Leventhal 1964).

With our test of the impact of reward size, we help clarify the complex situations that emerge from scenarios involving multiple customers and the firm. In contrast with the proposition that large rewards might lead customers to think that they have acted only to gain the reward, with no predicted positive impact on customer attitudes (Ryu and Feick 2007), we find that a large reward translates into increased attitudinal loyalty and small rewards have no effect. This result contrasts with research examining the impact of reward size on the likelihood of a customer referral. In that case, research has found no difference between large and small rewards (Ryu and Feick 2007). The distinction is notable: small rewards seem effective in inducing the delivery of a referral, but larger rewards are required to affect the recommender's attitude toward the firm. Investigations of the more complicated structure of CRPs could advance the development of marketing thought even further.

The interplay between reward size, attitudinal loyalty, and behavioral loyalty reveals two routes to greater behavioral loyalty. First, the act of giving a recommendation affects behavioral loyalty, regardless of the reward size. Second, behavior can be influenced by the increase of attitudinal loyalty, though only in response to larger rewards. Greater behavioral loyalty can be supported by, but does not require, higher levels of attitudinal loyalty. These findings support the idea that participation in the CRP acts as a public commitment, and the recommender strives to act consistently with that advocated position.

Finally, our finding that participation in a CRP has a stronger impact on shorter-tenured customers' loyalty matches the notion that recent customers have limited information on which to base evaluations and therefore tend to behave in a consistent manner (Fazio 1987). We also might speculate that participation in a CRP reduces a shorter-tenured customer's uncertainty about his or her attitude toward the firm. That is, customers use both valence and certainty judgments to determine their attitudes, and both may affect behavior (Chandrashekaran et al. 2007; Park et

al. 2010). This reasoning suggests that when shorter-tenured customers participate in a CRP, it reduces their uncertainty about the provider in the same sense that engaging in word of mouth can reduce cognitive dissonance (Tax and Chandrashekaran 1992; Wangenheim and Bayón 2007b). Longer-tenured customers, who have considerable direct experience from which to derive their judgments, have stronger attitudes and are less influenced by CRP participation. Our findings thus offer an additional reason to focus on uncertainty in judgments rather than only on their positivity or negativity.

Managerial Implications

Referrals have long been identified as a source of new customer acquisition, especially in industries with high experience and credence qualities, in which it is difficult for potential customers to evaluate the service in advance (Dobele and Lindgreen 2011). Next, we provide recommendations organized around four core themes for managers to support effective use of CRPs. They must (1) understand the impact and assess the return on CRPs, (2) make decisions on reward size, (3) accommodate target audience issues, and (4) integrate CRPs into social media strategy.

Whereas prior research on CRPs has focused on their role as a vehicle to attract new customers, our research recognizes their important and substantial impact on customer retention, based on our findings of the positive influence such programs have on both the attitudes and behaviors of recommenders. Reduced customer defections are central to improving profitability (Rust, Zahorik, and Keiningham 1995), and our findings show that CRPs can offer excellent returns in terms of reduced churn and increased revenue through enhanced spending over time. When combining the substantial improvements of recommenders' lifetime revenue streams with the customer attraction benefits, firms can better understand the real return on their efforts. Given that CRPs compete with other marketing investments for scarce resources, it is important to consider their complete impact on firm profitability. The analytical approach we provide in Study 1 supports managers' ability to understand the customer retention impact to better assess the overall returns of CRPs.

The current, customer attraction–focused view of CRPs advocates designing them with smaller rewards on the basis of findings that reward size does not influence participation rates (Ryu and Feick 2007). In addition, speculation that managers should be concerned about undermining the positive impact of giving word of mouth on the referring customers' attitude if they receive more generous rewards suggests providing smaller payments (Ryu and Feick 2007). Our research challenges that speculation, because we find that only larger rewards have a positive influence on recommenders' attitudes. Therefore, if customer retention is a goal of the CRP, firms should consider larger rewards. This finding will require some experimentation to identify the amount needed to drive the retention effect.

Taking customer retention into account also leads to differences in which group firms should target more closely. When customer attraction is the only goal, longer-tenured customers represent a better investment for CRPs because they may be stronger and more credible advocates. In the case of customer retention, firms should pay increased attention to engaging shorter-tenured customers in the program, because we found that participation has the greatest impact on reducing their churn rate. One way to support new customers' participation in CRPs is to generate referrals at the time of purchase, such as by having customers identify referral prospects after initially experiencing a service. However, privacy and related risks of direct contact by the firm must be taken into consideration. Another approach (one more suitable to a variety of goods and services) would be to couple reminders of the CRP program with postpurchase satisfaction surveys to reinforce participation.

Typically, CRPs encourage referrals to closer ties, such as friends and relatives, in dyadic communication (e.g., Schmitt, Skiera, and Van den Bulte 2011). Given the robust impact of these programs for customer attraction and retention, we recommend that firms examine building CRPs into social media campaigns to take advantage of the increasing social commerce opportunities that take place in these settings (Kaplan and Haenlein 2011; Qualman 2009; Stephen and Toubia 2010). Although the implementation might involve a variety of approaches, providing customers a form of identification marker such that they can be credited by new customers as the source of the referral is essential. Given the potential magnitude of referrals that may come from a single customer in the context of social commerce, scaling rewards according to the number of referrals could be considered in designing the payouts.

Limitations and Research Opportunities

The limitations of this study provide several opportunities for research that further clarifies how recommendations influence customer decisions. We examined matched pairs (statistical twins) in our first study, which permitted a valid comparison of those who had and had not participated in a CRP. In addition to customer tenure, reward size, and attitudinal loyalty, it would be worthwhile to consider whether the loyalty effect varies by level of customer satisfaction. That is, the inclusion of satisfaction as a moderating variable could reveal how participation in CRPs affects customers with varying levels of satisfaction with the firm. We suggest studying customers who are less satisfied to determine if they are more strongly influenced by the self-perception effects of CRP participation than are highly satisfied customers, similar to the effect we found for customers with shorter tenure. In addition, further investigation of the loyalty effect of attitude-discrepant statements or behaviors on CRP participants who recommend unsatisfactory products to obtain a referral fee could help researchers better understand the boundary conditions of self-perception versus reinforcement perspectives.

The scenario-based experimental design in the second study enabled us to control and manipulate the variables of central interest, but it also suffered from traditional limitations of scenario-based studies. For example, it may not be possible to induce true attitudinal and behavioral loyalty with a fictitious scenario, because such relational variables typically need a longer time to develop. However, we

designed and pretested our realistic scenario that described a relationship with the service provider; to make it more vivid, we also included graphics. Prior research has shown that the creation of relational measures is possible within such scenarios (Homburg, Hoyer, and Koschate 2005; Palmatier et al. 2009; Wagner, Hennig-Thurau, and Rudolph 2009). In addition, we were able to replicate the loyalty effects of CRP participation with the behavioral data analysis in our first study, which increases the overall validity of our studies.

We focused on successful CRP participation in Study 1; all participants who had made a referral were rewarded. However, in the case of an unsuccessful referral, the effect of the recommendation is unclear. For example, a customer who frequently recommends but rarely receives a reward due to a low conversion rate by recommendation recipients might believe that his or her effort has not been fairly rewarded, which could have a negative impact on attitudinal and behavioral loyalty. In this case, what impact does a recommendation have if the recommender expects but does not receive a reward?

From a customer lifetime value perspective, it is also necessary to understand how long the loyalty effect of voicing a recommendation will last. Visual inspection of the revenue trajectories in Figure 2 suggests that the loyalty effect disperses at the end of our observation period, creating a research opportunity for assessing the time efficacy of CRP participation.

Finally, Study 2's results confirm that CRP participation does not affect attitudinal loyalty in response to small rewards, but we cannot identify the optimal reward size. We operationalized reward size relative to the value of the recommendation to the firm. Thus, the €5 reward seemed small, because the new customer's purchase of a long-term contract represents a large gain for the firm in terms of customer lifetime value. Receiving €5 for recommending a less expensive purchase, such as a restaurant or a prepaid contract without a minimum spending level, may be adequate. Further research should examine the conditions for establishing an adequate reward size and thereby develop optimal reward schemes for firms.

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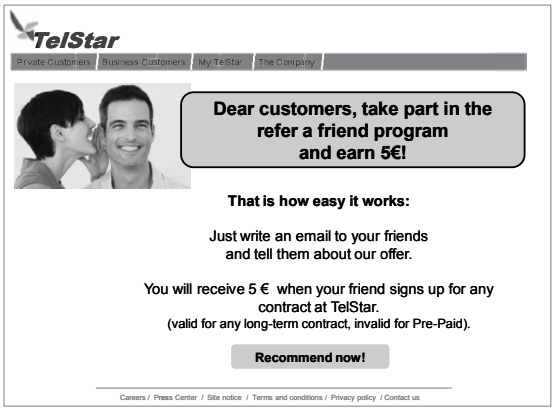
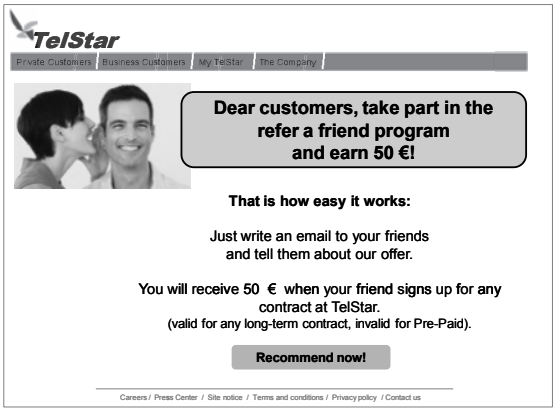
APPENDIX
Study 2 Manipulations

Condition 1: Reward

A: Small Reward Condition



B: Large Reward Condition



Condition 2: Participation in Customer Referral Program

A: Referral Condition

While surfing on the TelStar webpage, you think of your friend Alex, who is currently looking for a new provider. You decide to recommend TelStar to your friend. (Please fill in the text box.)

B: No Referral Condition

You would like to recommend the service provider TelStar. owever, at the moment, you cannot think of anybody looking for a new service provider. That is why you do not recommend TelStar.

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