2013

Not all repeat customers are the same: Designing effective cross-selling promotion on the basis of attitudinal loyalty and habit

Yuping Liu-Thompkins
Old Dominion University

Leona Tam
University of Wollongong, ltam@uow.edu.au

Not all repeat customers are the same: Designing effective cross-selling promotion on the basis of attitudinal loyalty and habit

Abstract

Not all repeat purchases are created equal. They can be driven by both positive reaction toward a brand (i.e., attitudinal loyalty) and automaticity triggered by non-brand-related contextual cues (i.e., habit). Combining the loyalty literature with recent habit research, the authors suggest ways to distinguish the two drivers of repeat purchase and examine how they affect consumer response to cross-selling promotions. In Study 1, the authors propose a method to derive individual-level habit strength from consumer transaction records and demonstrate the influence of both attitudinal loyalty and habit on repeat purchase. Studies 2a and 2b then show that attitudinal loyalty facilitates cross-selling, whereas habit has the opposite effect. Finally, in Study 3, the authors suggest a specific promotional design that works better for habitual consumers than those with attitudinal loyalty and demonstrate that ignoring these two underlying drivers can lead to unintended negative consequences on consumer behavior. This research adds to a richer understanding of repatronage and yields important managerial insights into more effective cross-selling to repeat customers.

Keywords

era2015

Disciplines

Business

Publication Details

Liu-Thompkins, Y. & Tam, L. (2013). Not all repeat customers are the same: Designing effective cross-selling promotion based on attitudinal loyalty and habit. Journal of Marketing, 77 (5), 21-36.

Yuping Liu-Thompkins & Leona Tam

Not All Repeat Customers Are the Same: Designing Effective Cross-Selling Promotion on the Basis of Attitudinal Loyalty and Habit

Not all repeat purchases are created equal. They can be driven by both positive reaction toward a brand (i.e., attitudinal loyalty) and automaticity triggered by non-brand-related contextual cues (i.e., habit). Combining the loyalty literature with recent habit research, the authors suggest ways to distinguish the two drivers of repeat purchase and examine how they affect consumer response to cross-selling promotions. In Study 1, the authors propose a method to derive individual-level habit strength from consumer transaction records and demonstrate the influence of both attitudinal loyalty and habit on repeat purchase. Studies 2a and 2b then show that attitudinal loyalty facilitates cross-selling, whereas habit has the opposite effect. Finally, in Study 3, the authors suggest a specific promotional design that works better for habitual consumers than for those with attitudinal loyalty and demonstrate that ignoring these two underlying drivers can lead to unintended negative consequences on consumer behavior. This research adds to a richer understanding of repatronage and yields important managerial insights into more effective cross-selling to repeat customers.

Keywords: brand loyalty, habit, repeat purchase, cross-selling, retailing

Consumers exhibit behavioral loyalty when they repeatedly patronize a business, often to the exclusion of competing offers. Although such repeat purchases are desirable from a financial perspective, it is not optimal to take behavioral loyalty at face value, because consumers' repeat purchases may be driven by different reasons, such as favorable attitude, switching barriers, and sunk costs (Dick and Basu 1994). Identifying the drivers of behavioral loyalty can help properly allocate resources among marketing tactics (Seetharaman 2004) and enable the creation of customized marketing programs for maximum effectiveness.

To this end, the current research focuses on two key mechanisms underlying behavioral loyalty: attitudinal loyalty and habit. Our decision to focus on this duo is driven by an extensive stream of literature that suggests their important role in consumer choice (e.g., Jeuland 1979; Roy, Chintagunta, and Haldar 1996; Tam, Wood, and Ji Song 2009). Extending this research stream, we explore in-depth how these two mechanisms differ, how they dictate opposite responses to cross-selling promotions, and how firms can adapt such promotions to each driver. The differences between attitudinal loyalty and habit are particularly intriguing in light of the high similarity in manifested behavior, such as high purchase frequency, low brand switching, and, oftentimes, high spending. Because these behavioral characteristics are often used in practice to segment customers, consumers driven by attitudinal loyalty and habit are typically lumped together and targeted with the same loyalty marketing tactics. Yet as our empirical studies show, attitudinal loyalty and habit can lead to distinct patterns of purchase behavior and divergent responses to cross-selling promotions. Our findings indicate that ignoring the differences between these two forces can undermine the effectiveness of promotions and even create unintended negative consequences on consumer purchases.

Our research contributes to both marketing research and practice. First, drawing from recent habit research, we conduct an in-depth analysis of the similarities of and differences between attitudinal loyalty and habit. We further suggest a way to measure habit from observed purchase behavior, improving on existing ways of modeling habit persistence as model parameters at the product-category level (e.g., Seetharaman and Chintagunta 1998). Because consumers may be habitual to varying degrees, our measure of individual habit strength more accurately accounts for habitual influences and enables identification of the true underlying drivers of repeat purchase.

Second, from the fundamental differences between attitudinal loyalty and habit, we investigate how these two forces moderate consumers' responses to promotional stim-

Yuping Liu-Thompkins is Professor of Marketing and E.V. Williams Faculty Fellow, College of Business and Public Administration, Old Dominion University (e-mail: YXXLiu@odu.edu). Leona Tam is Associate Professor of Marketing, School of Marketing and Management, University of Wollongong (e-mail: ltam@uow.edu.au). The authors thank Utpal M. Dholakia and Kiran Karande for their valuable comments on previous drafts of this article as well as the unnamed convenience store chains for providing data access for this research. Joseph Nunes served as area editor for this article.

ISSN: 0022-2429 (print), 1547-7185 (electronic)

uli and how marketers can design promotions to cater to these forces. This has not been considered in previous studies but has important implications for marketing practice. As our results suggest, ignoring the distinction between these two forces can render a well-intentioned promotional campaign ineffective and even detrimental for some consumers. We further show which promotional tactics work better with attitudinal loyalty versus habit to achieve maximum effectiveness.

Third, we enrich the cross-selling literature, which has received limited attention from academic researchers (Reinartz, Thomas, and Bascoul 2008). Our research responds to marketing scholars' call that "cross-selling must be implemented through carefully targeted customer contacts" (Kamakura 2008, p. 45) and suggests at least one way firms can construct such targeting. Moreover, we move beyond the focus on individual characteristics to identify not only whether to cross-sell to a consumer but also which tactics to use for the consumer. In doing so, our research provides practical guidance on how firms can combine marketing strategy and consumer understanding to yield optimal outcomes from cross-selling campaigns.

Conceptual Background

What Is Attitudinal Loyalty?

In a comprehensive discussion of brand loyalty, Oliver (1999, p. 34) defines loyalty as "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." According to his framework, attitudinal loyalty addresses the psychological component of a consumer's commitment to a brand and may encompass beliefs of product/service superiority as well as positive and accessible reactions toward the brand. Here, we follow Oliver's (1999) tradition and use the term "brand" in the broad sense to refer to both goods (e.g., beverages) and service (e.g., retail services) brands. This is consistent with literature that has used "brand" and "brand loyalty" to refer to a wide range of service entities such as retail chains, lodging providers, and coffee shops (e.g., Brakus, Schmitt, and Zarantonello 2009; Dick and Basu 1994; Morgan and Dev 1994).

Oliver (1999) considers behavioral loyalty a later stage of the loyalty process. Attitudinal loyalty first translates into a strong intention to buy from the brand and eventually repeat purchase behavior (Oliver 1999). Although we agree that attitudinal loyalty can lead to repeat patronage, we believe not all repeat purchases are the result of attitudinal loyalty. In this sense, our view is close to that of Dick and Basu (1994), who refer to behavioral loyalty without attitudinal loyalty as "spurious loyalty." Addressing this possibility, we focus on another major contributor to behavioral loyalty, habit, which can exist with or without attitudinal loyalty.

What Is Habit?

We define "habit" as a behavioral disposition that is exercised frequently and in which responses are triggered directly by contextual cues. Four types of contextual cues have been most often associated with habit (Wood and Neal 2009): (1) time (e.g., time of the day), (2) location (e.g., home, office), (3) social setting (i.e., whom one is with), and (4) preceding or ensuing events (e.g., before going to the gym). In the presence of one or more such stable contextual cues, habit is triggered, and the associated behavior is performed automatically. Two critical properties of habit are reflected in our definition. One is the important role of *stable* contextual cues in forming and maintaining habit. When contextual cues change, habitual behavior no longer sustains (Wood, Tam, and Witt 2005). The other property of habit is its automatic implementation when triggered by contextual cues. That is, when the right trigger is present, consumers implement habit easily and without conscious interference. Marketing literature has begun to acknowledge this associative nature of habit and explore specific contextual cues that can trigger it (Khare and Inman 2006).

To understand habit, it is important to recognize its distinction from related concepts. We compare habit with decision heuristics, convenience, and inertia in the Web Appendix (www.marketingpower.com/jm_webappendix). Although the term "habit" is not new to marketing (e.g., Jeuland 1979), our definition offers a few advantages over previous treatments of it. First, associating habit with stable contextual cues leads to a clear manifestation in behavior (e.g., stable patterns). As we show subsequently, it enables us to develop a simple empirical gauge of habit strength from a person's transaction history and increases the practical relevance of habit. Second, the literature often treats habit as purchase frequency (e.g., Breivik and Thorbjørnsen 2008). Although purchase frequency is an important part of habit, it alone cannot differentiate truly habitual consumers from attitudinally loyal consumers who buy frequently out of evaluative or affective forces. Our approach therefore provides a more discriminating assessment of the exact drivers behind individual consumers' repeat purchases.

Finally, by identifying the associative nature of habit, we can draw on the recent literature on habit and automaticity (Bargh 2002) to predict how habitual consumers may respond in a given situation. That is, we can not only differentiate attitudinally loyal and habitual consumers but also build on that intelligence to gain insight into how these consumers respond to promotions. As we show in our empirical studies, using this prediction can enable optimal promotional design based on the underlying drivers of repeat purchase.

Comparison of Attitudinal Loyalty and Habit as Drivers of Behavioral Loyalty

Attitudinal loyalty and habit can result in similar purchase behavior. Both lead to persistent choice of the same brand, despite unfavorable factors such as a higher price (Chaudhuri and Holbrook 2001). Both result in no search or limited search when making a purchase (Dick and Basu 1994; Kaas 1982). When competitors try to induce customer switching, both attitudinally loyal and habitual consumers may be highly resistant to such efforts (Desai and Raju 2007; Klemperer 1987). Despite these overt similarities, attitudinal loyalty and habit operate at different levels, with

the former being motivated by favorable attitudes at the brand level and the latter being associated with the presence of stable cues at the purchase context level. Furthermore, they differ in how they develop, what triggers them, how they manifest in behavior, and how persistent or malleable they are. In the following subsections, we briefly describe these differences (for a more detailed discussion, refer to Tam, Wood, and Ji Song 2009).

Development process. Attitudinal loyalty and habit are formed differently. The former stems from positive brand evaluation. Researchers have attributed its development to a variety of factors, such as satisfaction (Oliver 1999) and perceived value (Johnson, Herrmann, and Huber 2006). In contrast, the only essential factors for habit development are behavioral repetition and stable context (Duhigg 2012). Habit is developed through associative learning in which behavior repetition in a consistent context increases the automaticity of the behavior when the contextual cue is encountered (Lally et al. 2010). Whereas attitudinal loyalty builds on conscious brand evaluation, consumers may be unaware of the associative learning process that leads to habit.

An important question for marketers is what makes consumers repeat their prior choice before habit is formed. A straightforward answer would be positive attitude or preference, which can engender both attitudinal loyalty and habit. This suggests potential overlap between the development of the two forces.[1] However, a key difference is that preference remains a conscious part of attitudinal loyalty, whereas it drops out of habit after the behavioral tendency is formed and automated. Furthermore, preference is not the sole precursor to habit. Other factors, such as satisficing (Simon 1955) and risk avoidance (Heilman, Bowman, and Wright 2000), can fuel repeat choice. In both examples, positive attitude is not required. Consumers may select an option only because it satisfies some minimum requirements (i.e., satisficing), or they may choose an option they are familiar with to minimize risk (i.e., risk avoidance).

Triggering mechanism. Attitudinal loyalty and habit trigger repeat purchases differently. The former drives repeat purchase on the basis of favorable evaluation. It represents a positive attitude, and the stronger it is, the greater the likelihood of repeat purchase. In contrast, contextual cues, such as time and location, trigger habit-driven repeat purchase automatically as part of the mental association of habit, without guidance from attitudes, intentions, or goals (Ji Song and Wood 2007). Therefore, purchases due to strong habit will likely repeat even when evaluation has changed, as long as the contextual cues that trigger habit remain (e.g., Neal et al. 2011).

[1]The development of attitudinal loyalty and habit can overlap in various forms. In the most obvious case, consumers' attitudinal loyalty drives purchase repetition. With stable contextual cues, it eventually becomes habitual. In a second scenario, attitudinal loyalty and habit develop in parallel. Cumulative satisfactory brand experiences evolve into attitudinal loyalty. If these experiences also occur under stable contexts, habit can develop simultaneously. In the least obvious case, habit may also serve as the precursor to attitudinal loyalty through a self-reflection process in which consumers infer retrospectively that their attitudinal loyalty is high because they buy the brand often.

Behavioral manifestation. Repeat purchases due to attitudinal loyalty can happen across a variety of situations, because strong attitudinal loyalty persists over time and is resistant to situational and social conditions (Dick and Basu 1994). As a result, attitudinal loyalty-driven repeat purchases are relatively flexible and can occur under different contexts. In contrast, because habit is triggered by contextual cues, repeat purchases driven by habit tend to be more rigid and will *only* occur when those cues are present (Ji Song and Wood 2007). As a result, such behavior is relatively stable and typically happens under the same contexts. As such, it should be possible to gauge habit strength on the basis of contextual characteristics of behavior in addition to frequency.

Persistence and change. Both attitudinal loyalty and habit are highly resistant to change, but under different conditions. Because habit represents an automatic process triggered by stable contextual cues, its persistence requires the continued availability of such cues. To maintain habit-driven repeat purchase, companies should keep common contextual cues (e.g., store hours) and factors that facilitate the automatic execution of habit (e.g., store layout) consistent. By the same token, to change habit, the supporting contextual cues must be changed (e.g., Neal et al. 2011), which will inhibit the cuing mechanism and, thus, subsequent behavior. In contrast, the endurance of attitudinal loyalty is built on the valence and strength of the brand–attitude association. It is more resistant to situational and social changes (Dick and Basu 1994) but is susceptible to dissatisfactory experiences (Oliver 1999). To change attitudinal loyalty, marketers should aim to change either the favorability or strength of attitude (or both). More favorable attitude fosters stronger preference and likelihood of purchase, whereas stronger attitude facilitates the retrieval of brand associations and promotes repeat purchase (Roehm, Pullins, and Roehm 2002).

Overview of the Studies

Recognizing the differences between attitudinal loyalty and habit, we conduct four studies to examine how these two drivers influence consumer behavior differently. In Study 1, we demonstrate how to measure habit from transaction history and demonstrate the contribution of both attitudinal loyalty and habit on repeat patronage. Studies 2a and 2b then explore the differential effects of the two forces on consumer response to cross-selling campaigns. Finally, in Study 3, we show that a promotion that does not consider habitual consumers can disrupt customers' purchases even after the promotion. We further demonstrate how this situation can be remedied.

Study 1

Data

We illustrate in Study 1 how to measure individual habit strength from consumers' observed purchase behavior and examine how both habit and attitudinal loyalty toward a retail service brand play a role in observed behavioral loyalty at the company. Our analysis is based on two data sets. The first consists of 12 months of transaction records from

April 2006 to March 2007 for 25,970 consumers enrolled in a convenience store chain's loyalty program. We used the first 12 weeks of data to derive habit and the following 40 weeks to estimate the main model.

Our second data set came from an online survey of the company's loyalty program members, conducted at the end of 2006. A link to the survey was sent to 5,753 customer e-mail addresses on file, of which 618 responded. Many participants did not provide a valid member number, which prevented us from linking their responses to transaction history. Matching the two data sets resulted in 181 complete responses. Together, these consumers made 7,157 transactions during the 40-week main period. They shopped between .03 and 6.75 times per week and spent between $.10 and $179.47 in a transaction.

Measuring Individual-Level Habit

To measure individual habit strength, we draw on habit operationalization in the literature that uses the multiplication of contextual stability and action frequency (e.g., Wood, Tam, and Witt 2005). Prior habit measures typically relied on consumer self-report, which is inaccurate and may be impractical for a business. We improve these measures by deriving action frequency and contextual stability from transaction records. The Web Appendix (www.marketingpower.com/jm_webappendix) outlines the steps in our approach. In this research, we focus on two types of contextual stability, time and location of purchase, which are the most common bases of habit (Wood, Quinn, and Kashy 2002).

To derive time stability, we began by defining time segments. The segmentation scheme should be based on knowledge of the industry's consumer behavior and typical purchase rhythm (e.g., more refined for fast-moving industries and broader for less frequently purchased categories). For the current context, we followed radio advertising practice to divide a day into six dayparts (Belch and Belch 2011). The rationale is that radio dayparts are organized around people's driving behavior, which has a heavy influence on convenience store visits (Chanil 2004).

After we defined a segmentation scheme, we calculated the percentage of a consumer's transactions that occurred during each segment; the highest percentage indicates time stability for the consumer. For example, a nonhabitual customer who purchases evenly among the six dayparts receives a time stability score of 1/6, or 16.67%. In contrast, a habitual customer who makes 90% of his or her purchases during the "morning drive" segment receives a time stability score of .90. Using the first 12 weeks of the transaction data as the initialization period, we calculated time stability for our sample to range from 30% to 100%. A similar approach can be used to derive location stability. We first calculated the percentage of a consumer's transactions that occurred at each location and then selected the highest percentage to represent location stability. Our sample consumers visited up to five stores, and location stability ranged from 27.8% to 100%. The two stability dimensions correlated moderately (r = .36).

Drawing on the habit literature (Wood, Tam, and Witt 2005), we averaged time and location stability to derive a consumer's overall stability index. We then multiplied this by the consumer's average weekly purchase frequency during the same period to yield a final habit score. For our data, habit scores ranged from .08 to 6.69 with a mean of .82 (for detailed statistics, see the Web Appendix at www.marketingpower.com/jm_webappendix). To evaluate these scores, knowledge of the industry and the brand is required. With the median shopping frequency at convenience stores being once a week (Chanil 2010), a typical shopper who splits up purchases between two locations and two dayparts would have a habit score of .5. With this benchmark, our sample appears to be skewed toward more habitual shoppers, possibly because these consumers are loyalty program members.

Model Overview

Applying individual habit strength derived in the previous subsection and attitudinal loyalty revealed by the customer survey, we then examined the relative contribution of these two drivers to behavioral loyalty at the convenience store chain. Because transactions at a single firm do not allow explicit observation of behavioral loyalty through measures such as share of wallet, we adapted Boatwright, Borle, and Kadane's (2003) method, which uses the proportional relationship between interpurchase time and transaction size to gauge behavioral loyalty. If a consumer purchases from a single brand, prolonging the interpurchase time (e.g., doubling the typical interpurchase time) requires a larger purchase (e.g., twice the usual amount) to replenish inventory. However, if the consumer purchases another brand between the two transactions, such a proportional relationship will not be observable from the focal brand transactions. Therefore, the extent to which a consumer's transaction size and interpurchase time from the focal brand follows a proportional relationship can be used to infer the level of behavioral loyalty toward the brand. This approach was originally designed for online grocery shopping (Boatwright, Borle, and Kadane 2003) and has since been applied to offline retail customers (Liu 2007).

Mathematically, we derive customers' behavioral loyalty with the following equation:

$$(1) \qquad \text{LogAmt}_{ij} = \alpha_{i1} + \alpha_{i2}\text{LogIPTime}_{ij} + A_3X_{ij} + e_{ij},$$

where LogAmt_{ij} is the log-transformed amount consumer i spent in transaction j, LogIPTime_{ij} is the log-transformed number of days that elapsed between consumer i's last transaction j – 1 and the current transaction j, X_{ij} is a vector of control variables that we detail in the next section, and e_{ij} is the error term. The focal parameter is the coefficient for LogIPTime_{ij}, α_{i2}. Because both purchase amount and interpurchase time are log-transformed, α_{i2} represents the proportional relationship between the two and therefore reflects the behavioral loyalty of consumer i. This parameter typically falls between 0 and 1, with 1 representing total behavioral loyalty and 0 representing no behavioral loyalty (Boatwright, Borle, and Kadane 2003; Liu 2007).

We use hierarchical linear modeling to take into account individual heterogeneity in transaction size and behavioral loyalty (Raudenbush and Bryk 2002). Recall that our main goal here is to demonstrate the impact of attitudinal loyalty

($AttLoy_i$) and habit strength ($Habit_i$). Therefore, at the second level, we model α_{i1} and α_{i2} as follows:

$$(2) \quad \alpha_{i1} = \beta_1 + \beta_2 AttLoy_i + \beta_3 Habit_i + \tau_{i1}, \text{ and}$$

$$(3) \quad \alpha_{i2} = \beta_4 + \beta_5 AttLoy_i + \beta_6 Habit_i + \tau_{i2}.$$

Substituting Equations 2 and 3 into Equation 1, we obtain the following integrated model:

$$(4) \quad LogAmt_{ij} = \beta_1 + \beta_2 AttLoy_i + \beta_3 Habit_i + \beta_4 LogIPTime_{ij} + \beta_5 AttLoy_i \times LogIPTime_{ij} + \beta_6 Habit_i \times LogIPTime_{ij} + A_3 X_{ij} + (e_{ij} + \tau_{i1} + \tau_{i2} \times LogIPTime_{ij}).$$

In the model, β_1 signifies the average log-transformed spending when all predictors are equal to zero, and β_2 and β_3 represent the direct impact of attitudinal loyalty and habit on log-transformed spending when interpurchase time is one day (i.e., $LogIPTime_{ij} = 0$). Because attitudinal loyalty and habit are both mean-centered, the coefficient for $LogIPTimes_{ij}$ (β_4) reflects behavioral loyalty level for a consumer with average attitudinal loyalty and habit. The coefficients for $AttLoy_i \times LogIPTime_{ij}$ (β_5) and $Habit_i \times LogIPTime_{ij}$ (β_6) are the central parameters of interest here. They explain the effect of attitudinal loyalty and habit on the level of behavioral loyalty (α_{i2}). Finally, we have a vector A_3 signifying the effects of the control variables (X_{ij}), τ_{i2} representing the random variation in behavioral loyalty that is not systematically accounted for by the fixed coefficients, the transaction-level residual e_{ij}, and the individual-level residual τ_{i1}. Table 1, Panel A, presents the descriptive statistics of the key variables.

TABLE 1
Descriptive Statistics and Results (Study 1)

A: Descriptive Statistics

	Min	Max	M	SD	1	2	3	4	5	6	7	8
1. LnAmt	−2.30	5.19	1.85	1.04								
2. LnIPTime	0	5.33	1.38	.84	.09							
3. AttLoy	1	7	5.44	1.42	.16	−.13						
4. Habit	.08	6.69	.82	1.02	.11	−.54	.14					
5. Price	8.43	9.59	8.92	.45	.05	.01	.02	.01				
6. LnLPWks	1.10	4.58	4.10	.38	.10	−.10	.19	.15	.15			
7. Impulse	1.50	6	3.96	.84	.05	.06	.29	−.12	−.01	−.03		
8. Age	18	70	43.75	9.66	.05	−.11	.31	.26	.00	.02	−.04	
9. Gender	56.91% female, 43.09% male				.00	−.15	−.14	.15	−.01	−.02	−.06	.08
10. SurveyIntent	17.68% yes, 82.32% no				.08	−.06	.26	.06	.03	.04	.13	.15

B: Estimation Results

Variable	Separate Habit Components Model	Combined Habit Model	No Loyalty Model	No Habit Model
	Unstandardized Coefficients (t-Values)	Unstandardized Coefficients (t-Values)	Unstandardized Coefficients (t-Values)	Unstandardized Coefficients (t-Values)
Intercept	.85 (1.52)	.70$^{n.s.}$ (1.26)	.65$^{n.s.}$ (1.15)	.52$^{n.s.}$ (.92)
Attitudinal loyalty	.07* (2.45)	.08** (2.66)	—	.10** (3.06)
Habit	—	.12*** (3.35)	.13*** (3.67)	—
LogIPTime	.15*** (4.27)	.13*** (4.98)	.12*** (4.82)	.06** (2.81)
LogIPTime × AttLoy	.02* (2.01)	.02* (1.97)	—	.02* (2.07)
LogIPTime × Habit	—	.05*** (3.49)	.05*** (3.62)	—
Time habit	.08*** (2.81)	—	—	—
Location habit	.05*** (4.00)	—	—	—
Time habit × Location habit	−.008$^{n.s.}$ (.16)	—	—	—
LogIPTime × Time habit	.02** (2.49)	—	—	—
LogIPTime × Location habit	.03*** (3.59)	—	—	—
LogIPTime × Time habit × Location habit	−.005 (−.71)	—	—	—
AvgPrice	.07** (2.80)	.07** (2.82)	.07** (2.80)	.07** (2.81)
LnLPWks	.01$^{n.s.}$ (.15)	.01$^{n.s.}$ (.13)	.02$^{n.s.}$ (.27)	.01$^{n.s.}$ (.10)
Impulse	.15* (2.46)	.16* (2.56)	.18** (2.88)	.13* (2.06)
SurveyIntent	.01$^{n.s.}$ (.06)	.03$^{n.s.}$ (.18)	−.05$^{n.s.}$ (−.31)	.02$^{n.s.}$ (.13)
Age	−.003$^{n.s.}$ (−.55)	−.003$^{n.s.}$ (−.68)	−.003$^{n.s.}$ (−.67)	−.001$^{n.s.}$ (−.30)
Gender	−.05$^{n.s.}$ (−.52)	−.06$^{n.s.}$ (−.57)	−.07$^{n.s.}$ (−.63)	−.02$^{n.s.}$ (−.20)
Deviance	17,098	17,101	17,111	17,123
AIC	17,144	17,139	17,145	17,157

*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.
n.s.Not significant.

Variable Operationalization

Attitudinal loyalty. We measured consumers' attitudinal loyalty toward the retail service brand in the survey using the scale from Yi and Jeon (2003), which we adapted to the current context. The consumers rated how much they agree or disagree with each of four statements on a seven-point scale anchored by "strongly disagree" and "strongly agree": (1) "I like this store more than other convenience stores," (2) "I have a strong preference for this store," (3) "I give first considerations to this store when I need to buy convenience store items," and (4) "I would recommend this store to others." The Cronbach's alpha for the scale was .88, and we averaged the ratings of the four items to form an overall attitudinal loyalty score for each consumer.

Control variables. We included six variables to control for marketing influence and individual characteristics. We captured marketing influence by the average weekly price of a basket of top 100 products ($AvgPrice_{ij}$) and the number of weeks consumer i had been enrolled in the loyalty program ($LnLPWks_{ij}$), both for the week in which consumer i made transaction j. We log-transformed the latter to take into account the gradual slowing down of purchase quantity growth after joining a loyalty program (Liu 2007).

For individual demographics, we included age (Age_i) and gender ($Gender_i$). We also included two other individual characteristics derived from the survey. The first was the consumer's tendency to buy impulsively ($Impulse_i$), which can lead to spontaneous fluctuation in spending that is not driven by interpurchase time. This was measured by two items, "I often buy things spontaneously" and "I tend to plan out all my purchases" (reverse-scored), both on a seven-point scale anchored by "strongly disagree" and "strongly agree." We averaged the two items to create an impulsiveness score (r = .74). The final control variable addresses potential nonresponse bias from using a survey sample. We used a question from the survey asking the respondents whether they would like to participate in future surveys, which was meant to generate a list of likely survey participants for the company's future market research. It could be argued that people with a greater tendency to self-select into answering the company's surveys (for whatever reason) will be more likely to answer yes to this question. Therefore, we included each participant's answer as another control variable in the model ($SurveyIntent_i$).

Model Estimation and Results

We estimated the proposed model and three alternative models using maximum likelihood. Two of these alternatives omitted either attitudinal loyalty or habit, and the third model used another operationalization of habit: instead of combining time and location stability, we used each of the two stability components to create two separate habit constructs (time habit and location habit). These two constructs replaced the single habit variable in the proposed model, and we added the interactions between the two habit constructs. Table 1, Panel B, presents the estimates and fit statistics for all four models. The proposed model fits significantly better than both the model without attitudinal loyalty ($\chi^2 = 10.19$, $p = .006$) and the one without habit ($\chi^2 = 22.17$, $p < .001$). These results suggest that habit can explain individual variance in behavioral loyalty and that there is a need to consider both drivers. There was no significant difference in fit between our main model and the one with separate time and location habit ($\chi^2 = 3.00$, $p > .50$), though the Akaike information criterion (AIC) favored the main model as being more parsimonious.

Although the direction and significance of the coefficients stayed consistent across the models, their magnitude differed, suggesting that potential bias can be introduced when attitudinal loyalty and habit are not considered simultaneously. For the model with separate time and location habit, the two habit variables had similar effects and were in the same direction as the main model. The interactions between time and location habit were not significant. For brevity of discussion, we focus on the results from the main model. Both attitudinal loyalty ($\beta_2 = .08$, $p = .009$) and habit ($\beta_3 = .12$, $p < .001$) had a direct positive effect on log-transformed spending that went beyond their impact on behavioral loyalty. The intercept (β_4) for Equation 3 represents the behavioral loyalty level for a consumer with average attitudinal loyalty and habit. Its estimated value of .13 ($p < .001$) suggests a relatively low average level of behavioral loyalty, which is in line with previous applications (Boatwright, Borle, and Kadane 2003; Liu 2007). As we expected, both attitudinal loyalty ($\beta_5 = .02$, $p = .05$) and habit ($\beta_6 = .05$, $p < .001$) had a positive effect on behavioral loyalty.[2] This suggests the value of considering both attitudinal loyalty and habitual forces when studying repatronage. It is worthwhile to note that the correlation between attitudinal loyalty and habit was significant but relatively low (r = .14, $p = .04$), suggesting that habitual customers are not necessarily attitudinally loyal and vice versa.

Our results revealed a significant, positive effect of average weekly item price on purchase amount ($\beta = .07$, $p = .005$). Because the store also sells gasoline, this positive effect is likely due to the relatively inflexible demand for fuel. Longer participation in the loyalty program did not translate to a larger transaction size ($p = .90$). This differs from Liu's (2007) findings, possibly because the majority of our sample had participated in the program for a substantial period of time (86% had been members for at least six months). As a result, the gain from the loyalty program may have already been fully realized before the data period. Impulsive buying had an expected positive effect on purchase amount ($\beta = .16$, $p = .01$). The SurveyIntent variable was not significant ($p = .86$), nor were age ($p = .50$) and gender ($p = .57$).

Discussion

This study develops a measure of habit strength from consumer transaction history. Using the measure, we show that

[2]Although our findings suggest a stronger impact from habit than from attitudinal loyalty, we caution against generalizing this for two reasons: (1) The relative impact of attitudinal loyalty and habit may vary by industry. Research has shown routine to be an important part of convenience store shopping (Chanil 2004). In other industries, attitudinal loyalty may play a more important role instead. (2) Our sample of loyalty program members may represent more constrained variance in attitudinal loyalty (for details about sample selection, see the Web Appendix at www.marketingpower.com/jm_webappendix). This can lead to an underestimate of the effect of attitudinal loyalty than if we had used a general consumer sample.

attitudinal loyalty and habit both play important roles in convenience store shoppers' repatronage behavior. Moreover, attitudinal loyalty and habit strength only correlate weakly with each other, suggesting that the two are distinct forces and that they do not always coexist within the same consumer. Because studies of behavioral loyalty often consider only one of these forces at a time, our results support the argument made by marketing scholars that omitting one force can overestimate the other's impact and that researchers should account for both drivers when studying repeat purchase behavior (Seetharaman 2004).

Although our approach helps empirically separate the two drivers of behavioral loyalty, the practical value of doing so rests on the differential effects the two drivers may exert on consumer response to marketing efforts. That is, if these two forces lead to the same consumer response, there is no need for businesses to differentiate them. To date, there is limited empirical evidence that compares the effects of attitudinal loyalty and habit on marketing outcomes. Our next three studies, therefore, investigate this issue.

Study 2a

The aim of Studies 2a and 2b is to test the differential effects of attitudinal loyalty and habit on response to cross-selling promotions, which many companies engage in with the hope of maximizing customer lifetime value. Previous research has suggested the need to consider customer characteristics in cross-selling, making it an ideal context to explore the distinct impacts of attitudinal loyalty and habit (Güneş et al. 2010). We expect the effectiveness of cross-selling to increase with attitudinal loyalty, because the goodwill and trust from loyal shoppers can transfer to other business areas. This is in line with the path of relationship development in which people tend to expand the scope of a relationship as it develops (Reinartz, Thomas, and Bascoul 2008). In support of this view, researchers have found loyalty and trust to affect consumers' cross-buying intention and behavior positively (Aurier and N'Goala 2010).

We expect a different response from habit. As habit strengthens, shoppers are much more resistant to change (Tam, Wood, and Ji Song 2009). As a result, a cross-selling effort that requires shoppers to break their routine (e.g., having to come inside the store instead of just fill up on gas and go) may not induce behavioral change from habitual consumers. Supporting this notion, a meta-analysis by Webb and Sheeran (2006) shows that even when a person has an explicit intention to change behavior, this does not predict actual behavioral change well if the original habit is strong. Therefore, we expect a strong habit to deter consumers from expanding into other categories. This discussion leads to the following hypotheses[3]:

H_{1a}: A cross-selling promotion is more effective for consumers with high attitudinal loyalty than for those with low attitudinal loyalty.

H_{1b}: A cross-selling promotion is less effective for consumers with strong habit than for those with weak habit.

[3]It is important to note that attitudinally loyal consumers and habitual consumers are not two mutually exclusive groups. Instead, attitudinal loyalty and habit can be regarded as two dimensions behind each consumer's repeat purchase, and a consumer can have high levels of both (i.e., be highly loyal and habitual) or low levels of both (i.e., be neither loyal nor habitual).

Data and Model

In Study 2a, we test H_{1a} and H_{1b} with data on a promotion offered by the same firm as in Study 1. The firm operates both a gas station and a convenience store at each location. Because in-store items are much more profitable than gasoline, the firm was interested in cross-selling to customers who only bought gas. Although the promotion we studied was offered to all customers, its key purpose was to incentivize fuel-only shoppers to buy inside the store. The 22-week campaign rewarded consumers with a free bottle of soda for every 12 bottles purchased. The deal was announced over speakers at the gas pumps and window signs throughout the 22 weeks. All sample consumers bought gas during that time and therefore were all exposed to the promotion.

Our main data set contained transaction records of 21,725 active loyalty program members for the promotional period between July and December 2007. In addition, to identify whether a consumer was a cross-selling target (i.e., whether he or she was a fuel-only customer at the start of promotion) and to derive habit strength, we obtained another 12 weeks of prepromotion transaction records from April to June 2007. For attitudinal loyalty, we used the same survey as in Study 1. Matching the data sets generated a final sample of 198 customers.

Because the purpose of the promotion was to bring consumers inside the store, the management considered it of greater interest to determine whether the promotion achieved this goal than to sell the specific promoted items. Therefore, we chose the number of weekly in-store purchases as our dependent variable, yielding 4,356 total observations. To accommodate the excess (58.2%) zeros in the data, we used zero-inflated negative binomial regression (Greene 2003). Specifically, we modeled the probability of consumer i making y_{it} transactions during week t as in Equation 5:

$$(5)\quad \Pr(Y_{it} = y_{it}) = \begin{cases} \pi_{it} + (1-\pi_{it})\dfrac{\theta^{\theta}}{(\lambda_{it}+\theta)^{\theta}} & \text{for } y_{it} = 0 \\ (1-\pi_{it})\dfrac{\Gamma(y_{it}+\theta)\theta^{\theta}\lambda_{it}^{y_{it}}}{\Gamma(y_{it}+1)\Gamma(\theta)(\lambda_{it}+\theta)^{y_{it}+\theta}} & \text{for } y_{it} > 0, \end{cases}$$

where $\Gamma(\cdot)$ is the gamma function, $0 < \pi_{it} < 1$, $\lambda_{it} > 0$, and $\theta \geq 0$. We then model the log-transformed purchase rate λ_{it} as a function of consumer and marketing variables as follows:

$$\begin{aligned}(6)\quad \log(\lambda_{it}) = {} & \beta_0 + \beta_1 CS_i + \beta_2 Loyalty_i + \beta_3 Habit_i + \beta_4 CS_i \\ & \times Loyalty_i + \beta_5 CS_i \times Habit_i + \beta_6 AvgPrice_i \\ & + \beta_7 LnLPWks_{it} + \beta_8 Age_i + \beta_9 Gender_i \\ & + \beta_{10} SurveyIntent_i.\end{aligned}$$

Similarly, we predicted the zero-inflation parameter π_{it} with the same set of variables with a logistic linking function. Table 2, Panel A, presents the descriptive statistics for the variables.

TABLE 2
Descriptive Statistics (Studies 2a and 2b)

A: Study 2a Descriptive Statistics

Variables	Min	Max	M	SD	Y	Loyalty	Habit	LnLPWks	Price	Age	Impulse
Y (weekly in-store incidence)	0	7	.87	1.47							
Loyalty	1	7	5.05	1.27	.16						
Habit	.08	4.21	.68	.66	.70	.08					
LnLPWks	1.79	4.43	3.89	.43	.20	.14	.13				
Price	8.68	10.08	9.41	.32	−.03	.00	.00	−.01			
Age	18	103	45.50	16.16	.01	.01	.04	.12	.00		
Impulse	1.50	6	4.00	.88	.01	.08	−.10	−.03	.00	−.03	
Gender	55.56% male, 44.44% female				.18	−.08	.23	−.01	.00	.13	−.04
CS (cross-selling target)	29.29% cross-selling targets, 70.71% non-cross-selling targets				−.34	−.14	−.34	−.19	.00	.03	−.03
SurveyIntent	13.13% yes, 86.87% no				.06	.24	.04	.00	.00	−.13	−.07

B: Study 2b Descriptive Statistics

Variables	Min	Max	M	SD	SOV	Loyalty	Habit	Age
SOV	0	1	.10	.18				
Loyalty	1	7	3.56	1.78	.32			
Habit	0	1.89	.20	.38	.41	.35		
Age	18	52	22.13	6.07	.04	.28	−.11	
Gender	42.86% male, 57.14% female				−.01	−.11	−.10	−.01
Promotion group	47.62% experimental group, 52.38% control group				.20	.04	.19	−.03

Our key variables are CS_i, $Loyalty_i$, $Habit_i$, and their interactions. The dummy variable CS_i was set to 1 if a consumer was a cross-selling target (i.e., fuel-only customer) before the promotion. Those who already shopped inside the store (i.e., non-cross-selling targets) served as the baseline that we used to compare with fuel-only customers. Because cross-selling requires fuel-only customers to change their behavior, we expect these consumers to show a weaker reaction to the promotion than those who already shop inside the store (i.e., $\beta_1 < 0$). However, this differential reaction should diminish if the cross-selling is successful. That is, the more effective the promotion is in cross-selling, the smaller the difference should be between fuel-only and non-fuel-only customers, and the closer the effect of CS_i (β_1) should be to zero. We are especially interested in how the cross-selling effect varies by attitudinal loyalty and habit. Recall that we expected cross-selling to be more effective for customers who were high (vs. low) in attitudinal loyalty, as indicated by a positive interaction between CS_i and $Loyalty_i$ ($\beta_4 > 0$). We expect the opposite for habit, whereby cross-selling should be less effective for strongly habitual customers than for weakly habitual customers ($\beta_5 < 0$).

Variable Operationalization

Cross-selling. We defined cross-selling targets on the basis of company practice. Using management's estimate of in-store customers typically buying in-store products at least once a week, we considered consumers who bought gas but did not shop inside the store at all during the four-week period immediately before the promotion (i.e., June 2007) fuel-only shoppers. These consumers accounted for just under 30% of our sample and constituted the cross-selling targets. The rest of the sample were non-cross-selling targets and served as the baseline.

Attitudinal loyalty and habit. We obtained attitudinal loyalty using the same customer survey described in Study 1. The current sample's loyalty scores ranged from 1 to 7, with a mean of 5.05 ($\alpha = .89$). We derived habit also using the Study 1 approach, except we did so on the basis of the 12 prepromotion weeks and focused only on fuel purchases during that time period. This habit strength ranged from .08 to 4.21, with a mean of .68.

Control variables. We controlled for the influence of the same marketing and individual variables as we did in Study 1. Because this study is focused on in-store purchases, we based the weekly average price ($AvgPrice_t$) only on in-store items.

Results

We estimated the model using maximum likelihood with clustered robust standard errors. A likelihood ratio test showed that our model fit better than a null model with no explanatory variables ($\chi^2 = 2{,}842.7$, $p < .001$). Moreover, the expected portion of zero counts from the model was close to the observed portion (57.60% vs. 58.20%), suggesting a good fit. Table 3, Panel A, shows the model estimates. Our discussion focuses on the count model, because our interest lies in the effect of the promotion on consumers' in-store purchase rate.

Recall that we set CS_i to 1 for cross-selling targets. We expected these consumers to respond less favorably to the promotion because it required a greater change in their behavior than for consumers who already shopped inside the store and therefore could more readily benefit from the deal. The significant negative coefficient of CS_i ($\beta_1 = -1.74$, $p < .001$) supported this prediction. In addition to the general effect of cross-selling, we were particularly interested in the interactions between CS_i and attitudinal loyalty and

TABLE 3
Estimation Results (Studies 2a and 2b)

A: Study 2a Estimation Results

Variables	Unstandardized Coefficients	z-Values	*p*-Values	95% Confidence Intervals
Count Model Coefficients				
Intercept	−1.04	−1.39	.16	(−1.78, −.29)
Cross-selling (CS)	−1.74	−9.13	<.001	(−1.93, −1.55)
Loyalty	.28	4.97	<.001	(.22, .34)
Habit	.43	2.39	.02	(.25, .61)
CS × Loyalty	.60	4.19	<.001	(.46, .75)
CS × Habit	−.72	−3.43	<.001	(−.93, −.51)
Price	−.16	−3.29	.001	(−.2, −.11)
LnLPWks	.47	2.82	.005	(.3, .63)
Age	−.004	−1.10	.27	(−.01, 0)
Gender	.27	2.21	.03	(.15, .39)
Impulse	.04	2.19	.03	(.02, .06)
SurveyIntent	.001	1.72	.09	(0, .002)
Zero-Inflation Model Coefficients				
Intercept	−9.07	−1.07	.29	(−17.58, −.57)
Cross-selling (CS)	−6.28	−.80	.43	(−14.16, 1.60)
Loyalty	.36	1.01	.31	(0, .72)
Habit	−12.99	−2.42	.02	(−18.35, −7.63)
CS × Loyalty	2.17	1.36	.17	(.57, 3.76)
CS × Habit	−10.68	−1.00	.32	(−21.37, .02)
Price	.06	.16	.88	(−.30, .41)
LnLPWks	1.04	.53	.60	(−.92, 2.99)
Age	−.02	−1.27	.21	(−.03, 0)
Gender	.26	.56	.58	(−.20, .71)
Impulse	−.27	−.74	.46	(−.63, .1)
SurveyIntent	−.28	−.32	.75	(−1.15, .60)
Log-likelihood	−4,992.8	AIC	10,035.6	

B: Study 2b Estimation Results

Variables	Unstandardized Coefficients	SE	z-Values	*p*-Values	95% Confidence Intervals
Intercept	−4.07	.89	−4.57	<.001	(−5.78, −2.15)
Promotion group (PG)	.75	.40	1.86	.06	(−.03, 1.58)
Loyalty	.05	.12	.45	.66	(−.19, .29)
Habit	2.44	.48	5.06	<.001	(1.52, 3.43)
PG × Loyalty	.80	.25	3.24	.001	(.33, 1.30)
PG × Habit	−3.26	.95	−3.42	<.001	(−5.22, −1.44)
Age	.03	.04	.88	.38	(−.06, .10)
Gender	.79	.36	2.20	.03	(.08, 1.49)
Log-likelihood	−62.86	Pseudo R-square	.32		

Notes: Clustered robust standard errors were used.

habit. As expected, we found a significant positive interaction between CS_i and loyalty ($\beta_4 = .60$, $p < .001$). To interpret the interaction, we followed the procedure Aiken and West (1991) recommend and compared the simple slopes for CS_i at one standard deviation above and below the loyalty mean (M = 5.05, SD = 1.27). Recall that a more effective promotion leads to a CS_i simple slope closer to zero. Consistent with H_{1a}, when loyalty was high, the promotion was significantly more effective (simple slope = −.98, $p < .001$) than when loyalty was low (simple slope = −2.51, $p < .001$).

The opposite was true for habit, as reflected by the significant negative interaction between CS_i and habit ($\beta_5 = -.72$, $p < .001$). Comparing the simple slopes at one standard deviation above and below the habit mean (M = .68, SD = .66) revealed that the promotion was less successful for highly habitual cross-selling targets (simple slope = −2.22, $p < .001$) than for those with weak habit (simple slope = −1.27, $p < .001$). Therefore, H_{1b} was also supported.

Not surprisingly, our results revealed that for non-cross-selling targets (i.e., when CS = 0), loyalty had a positive effect on in-store purchase incidence ($\beta_2 = .28$, $p < .001$). The habit effect was also positive ($\beta_3 = .43$, $p = .02$). For the control variables, we found an expected negative effect for in-store product price ($\beta_6 = -.16$, $p = .001$). Consistent with the loyalty program literature, we found purchase incidence to rise if a consumer has been in the loyalty program for a longer period of time ($\beta_7 = .47$, $p = .005$). For the demographic variables, in-store purchase incidence was higher for male (vs. female) consumers ($\beta_8 = .27$, $p = .03$), but age did not matter ($p = .27$). Finally, both impulsiveness

($\beta_8 = .04, p = .03$) and intention to participate in future surveys ($\beta_9 = .001, p = .09$) had a positive effect on in-store purchase incidence.

Discussion

Companies often pursue high-value customers with offers from other business areas with the hope that these customers will extend their purchases into those areas. Addressing this context, this study reveals that cross-selling is not uniformly effective across all repeat customers. The cross-selling promotion in this study was more effective for highly loyal consumers than for consumers with low attitudinal loyalty because the former's positive affect toward the brand encouraged them to change their behavior to shop inside the store. For habitual consumers, however, the opposite was true. Because strongly habitual consumers are resistant to changing their routine, the promotion was less effective for them than for those with weak habits.

There are a few limitations to our studies thus far. First, we have considered only purchases with the focal brand and have ignored competition. Second, everyone in the sample was offered the promotion, and there was no control group. Third, the cross-selling target variable (CS_i) may be endogenous. That is, other systematic differences between fuel-only and non-fuel-only customers could have explained the results. Fourth, both Studies 1 and 2a used a loyalty program as the backdrop. It is unclear whether the findings will generalize to other industries and to a non-loyalty-program setting. We address these limitations in the next study.

Study 2b

Study 2b addresses several of Study 2a's limitations. First, we used a control group and manipulated cross-selling instead of relying on consumers' prior classification, thus avoiding self-selection into the cross-selling group as in Study 2a. Second, we captured purchases at all competing brands and used share of visit (SOV) as the dependent variable. This provides an alternative measure of consumer response and takes competition into account. Third, we used a non-convenience-store and non-loyalty-program environment to eliminate the potential bias from likely high levels of loyalty among loyalty program members.

Participants and Procedures

We conducted the experiment on a university campus that allows students and staff to use their university identification card as a campus debit card. Because the system records the transactions that cardholders make at all on-campus eateries and vending machines, it enabled us to get a complete and unobtrusive picture of consumer purchases at the focal and competing brands on campus. Furthermore, the card does not offer a reward program, which created a loyalty program–free environment. Finally, because the card system is not brand specific, we were able to design the study with a restaurant that did not have extremely high levels of loyalty.

We conducted the study in two stages. People using their card to pay for food and drinks were recruited on campus near the major dining area in exchange for an opportunity to win a $200 gift card. In the first stage, they filled out a survey containing attitudinal loyalty and other measures. They were then assigned through complete randomization to either the control or the experimental group. Participants in the experimental group were told that, in addition to the $200 gift card, they could also win an iPad. They would earn one entry for the drawing for each day they make a purchase at the focal restaurant during prespecified hours. We set the hours to be nonrush hours for the focal restaurant because cross-selling to customers at nonrush hours is a common restaurant practice to redirect traffic without losing customers to competitors. Participants in the control group were not aware of this promotion. In Stage 2, all participants submitted their card statement from the beginning of the semester through the end of the three-week promotional period. The statement detailed the date, vendor, and amount of each transaction. A total of 163 people filled out the Stage 1 survey, of which 63 returned their card statement to complete Stage 2. These 63 consumers made from 0 to 3.5 transactions (M = .33) per week with the focal brand during the promotional period, spending between $0 and $14.58 (M = $1.62) each week.

Data and Model

We used consumer transaction records for the entire promotional period. In addition, to derive habit strength, we used eight weeks of transactions for the period immediately before the promotion. For attitudinal loyalty, we used data from the Stage 1 survey. To gauge the performance of the focal brand relative to competition, we chose SOV at the focal restaurant during the promotional period as our dependent variable. We specified a logit model as in Equation 7. (Individual subscripts are omitted for simplicity.)

$$(7)\quad SOV = \frac{\exp(\beta_0 + \beta_1 Group + \beta_2 Loyalty + \beta_3 Habit + \beta_4 Group \times Loyalty + \beta_5 Group \times Habit + \beta_6 Age + \beta_7 Gender)}{1 + \exp(\beta_0 + \beta_1 Group + \beta_2 Loyalty + \beta_3 Habit + \beta_4 Group \times Loyalty + \beta_5 Group \times Habit + \beta_6 Age + \beta_7 Gender)}.$$

Table 2, Panel B, presents the descriptive statistics for the variables. Our key variables are Group, Loyalty, Habit, and their interactions. Group was a dummy variable set to 1 for those in the experimental group and 0 for those in the control group.[4] Given the attractive prize (iPad), we expected consumers in the experimental group to devote a greater share of their visits to the focal brand than those in the control group (i.e., $\beta_1 > 0$). As in Study 2a, we expected the promotion to be more effective for customers with higher attitudinal loyalty than for those with lower attitudinal loyalty (H_{1a}). This would be revealed by a positive interaction between Group and Loyalty ($\beta_4 > 0$). We expected the opposite for habit (H_{1b}), whereby the promotion should be less effective for strongly habitual customers than for those with weaker habit ($\beta_5 < 0$).

[4]The prestudy SOVs were not significantly different between the two conditions (6.23% and 9.52% for the control vs. experimental group, respectively; $t = 1.04, p > .30$), suggesting successful randomization.

Variable Operationalization

We computed SOV as the percentage of visits to the focal restaurant out of visits to all restaurants during the promotional period. It ranged from 0 to 1, with a mean of 9.9%. We measured attitudinal loyalty with the same scale adapted from the previous two studies. The current sample's loyalty scores ranged from 1 to 7, with a mean of 3.56 (α = .93). We derived habit using the same approach as in Studies 1 and 2a, except that it was based on the eight pre-promotion weeks beginning with the start of the semester. We included only time stability because the focal restaurant and most of the restaurants on campus only have one location. The habit scores ranged from 0 to 1.89, with a mean of .20. Because there were no price changes or promotions other than ours for any on-campus eateries during the semester, we did not include price in the model. The impulsiveness and future survey intention questions also did not apply here and were not asked in the survey. As in previous studies, we included age and gender as controls.

Results

Table 3, Panel B, shows the model estimates. A likelihood-ratio test showed that our model fits better than a null model with no explanatory variables (χ^2 = 58.50, p < .001). The pseudo R-square for the model was .32. In support of H_{1a}, we found a positive interaction between promotional group and loyalty (β_4 = .80, p = .001). We derived the simple slopes for Group at one standard deviation above and below the loyalty mean (M = 3.56, SD = 1.78). Consistent with H_{1a}, when loyalty level was high, the SOV for the experimental group was significantly higher than that for the control group (simple slope = 2.18, p < .001), suggesting the effectiveness of the promotion on highly loyal consumers. We observed no such difference when loyalty level was low (simple slope = –.67, p = .25). In support of H_{1b}, we found a negative interaction between promotional group and habit (β_5 = –3.26, p < .001). Comparing the simple slopes at one standard deviation above and below the mean habit level (M = .20, SD = .38) revealed that the promotion only worked for consumers with weak habit (simple slope = 1.99, p = .002) and not for strongly habitual consumers (simple slope = –.49, p = .28).

As we expected, participants in the experimental condition on average reported a marginally higher SOV than those in the control group (β_1 = .75, p = .06). The results also revealed a positive main effect for habit (β_3 = 2.44, p < .001). The effect of attitudinal loyalty was not significant (β_2 = .05, p = .66), possibly due to the generally low level of loyalty among the participants (M = 3.56 out of 7). For the control variables, male participants reported a higher SOV than did female participants (β_7 = .79, p = .03), whereas age effect was not significant (β_6 = .03, p = .38).

Discussion

This study replicates the findings in Study 2a using a different industry context and a true experimental design. Again, we showed that high attitudinal loyalty increased the effectiveness of a cross-selling promotion, whereas the opposite was true for habit. Together, the findings from Studies 2a and 2b demonstrate the utility in distinguishing attitudinally loyal and habitual customers. When cross-selling to these customers, it is necessary to vary the promotional design to fit the driver behind their repeat purchases. In the next study, we explore a promotional design that can effectively cross-sell to habitual consumers and examine the long-term effect of such promotions on high-value repeat customers.

Study 3

To further illustrate the need to separate the two drivers of repeat purchase, Study 3 considers consumer responses both during and after a promotion. We show that when a promotion does not consider habitual consumers' underlying psychological mechanism, it not only will be ineffective but also can disrupt habitual customers' purchases even after the promotion ends. We further demonstrate how to remedy this situation by building action repetition into the promotion. This study also circumvents consumer self-selection by comparing responses within the cross-selling group and thus tests the robustness of Study 2a's findings.

Hypotheses

Previous research has examined the success of cross-selling in moving consumers to the new category (e.g., Kamakura et al. 2003). Yet little is known about how this move may reciprocate on purchases in the old category. Although promotions typically motivate purchases, habit research suggests a possible downside in terms of habit disruption. When a habitual consumer encounters an offer that fits the goal of getting better value, such an implicit goal can be triggered (Neal et al. 2012) and can switch the consumer to conscious decision making about the next purchase. Because the formerly habitual consumer now makes conscious decisions for each purchase, the associative link between contextual cues weakens and habit is eventually eliminated.

Attitudinally loyal consumers, in contrast, are not likely to experience disruption in their purchases because of a cross-selling promotion. Recall that attitudinal loyalty is based on an enduring positive evaluation of and attitude toward the brand. Consequently, unless the new business area shows such an unsatisfactory performance that consumers must modify their belief about the brand, a cross-selling event is unlikely to diminish these consumers' positive attitudes. Indeed, expanding the customer relationship into other areas may even strengthen the positive brand associations that attitudinally loyal consumers have (Kamakura 2008), which can mitigate potential disruption in their purchase behavior. Overall, we expect attitudinal loyalty and habit to exhibit opposite effects on postpromotional behavior, as specified in the following two hypotheses:

H_{2a}: A cross-selling promotion is less likely to disrupt post-promotional purchases in the original category for consumers with high attitudinal loyalty than for those with low loyalty.

H_{2b}: A cross-selling promotion is more likely to disrupt post-promotional purchases in the original category for consumers with strong habit than for those with weak habit.

Although a cross-selling promotion may disrupt habitual purchases, this does not mean that such a promotion is

destined to fail. Because the old habit (e.g., buy fuel only) is broken, it is possible to foster a new habit (e.g., buy both fuel and in-store items each time) simultaneously. In support of this hypothesis, the habit literature indicates that suppressing an old habit is more effective if it is accompanied by the formation of a new habit (Wood and Neal 2007). This requires repetitive performance of the task to facilitate new habit formation. Applied to marketing, instead of a one-shot deal, a business can require shoppers to repeat a desired behavior to receive an incentive. In doing so, consumers will be more likely to translate the repeated behavior into a new habit and avoid disruption in their purchases (Wood and Neal 2009). This leads to the third hypothesis:

> H_3: The effect of habit on disruption as specified in H_{2b} is weaker when a cross-selling promotion requires consumers to repeat the behavior than when no such repetition is required.

Study Design and Procedures

We conducted a field experiment with a different convenience store chain. The chain operated in a different geographic area but offered a similar loyalty program as the other company. The study had two stages. In the first stage, an online survey similar to the one used by the other chain was sent to all loyalty program members who had an e-mail address on file. We used it to derive attitudinal loyalty as in previous studies. The survey link was sent to 26,715 deliverable email addresses, of which 1,023 consumers completed the questionnaire.

Three weeks after the survey, those identified as fuel-only customers (as defined in Study 2a) were assigned through complete randomization to one of two experimental conditions. In both conditions, consumers were told that they would receive a free 20-ounce bottle of water after they purchased three bottles from inside the store. In the baseline condition, there was no restriction on how the promotional requirement is fulfilled, whether through one or more purchases. In the action repetition condition, consumers had to buy one bottle during each of three in-store visits, at the end of which they would receive a bottle for free. The deal was announced by personalized e-mails and individualized audio messages at the fuel pump. The audio messages were played by a device installed at the pump that connected to a back-end database and thus could play individualized audio messages on the basis of the membership card recognized at the time of fueling. Matching data from the two stages yielded 328 consumers, including 130 from the baseline condition and 198 from the action repetition condition. The data covered a 12-week prepromotion period, the 4-week promotional period, and 12 postpromotion weeks. We operationalized the variables as in Study 2a (for descriptive statistics, see Table 4, Panel A).

Effectiveness of Cross-Selling Promotion

To examine consumer responses during the promotion, we used the same zero-inflated negative binomial model as in Study 2a (see Equation 5). Here, we model the log-transformed purchase rate as follows:

$$\begin{aligned}(8)\quad \log(\lambda_{it}) = {} & \beta_0 + \beta_1 AR_i + \beta_2 Loyalty_i + \beta_3 Habit_i + \beta_4 AR_i \\ & \times Loyalty_i + \beta_5 AR_i \times Habit_i + \beta_6 AvgPrice_i \\ & + \beta_7 LnLPWks_{it} + \beta_8 Age_i + \beta_9 Gender_i.\end{aligned}$$

This equation is similar to Equation 6 (from Study 2a), with a few changes. Because the entire sample here represents fuel-only customers, we no longer have CS_i and its interaction terms. Instead, the parameters for $Loyalty_i$ (β_2) and $Habit_i$ (β_3) directly measure the effect of the baseline promotion (i.e., when action repetition [AR] = 0) on attitudinally loyal and habitual consumers. We also do not have Impulse and SurveyIntent as controls, because the company chose not to ask those questions in the survey.

We estimated the model using 1,312 weekly observations during the promotion. Our model fits the data better than a null model with no predictors ($\chi^2 = 55.60, p < .001$). The expected portion of zero counts from the model was close to the observed portion (70.12% vs. 70.27%). Table 4, Panel B, shows the parameter estimates. Again, we focus on the count model and use clustered robust standard errors. In support of H_{1a}, consumers with high attitudinal loyalty showed a higher in-store purchase rate than did consumers with low attitudinal loyalty ($\beta_2 = .17, p = .02$). In addition, in support of H_{1b}, consumers with strong habit were less responsive to the baseline promotion than were consumers with weaker habit ($\beta_2 = -.76, p = .05$).

The AR_i main effect was not significant ($p = .41$), but it interacted with both $Loyalty_i$ and $Habit_i$. Loyal consumers responded less positively to the action repetition design than to the baseline condition ($\beta_4 = -.25, p = .02$), possibly because of the more restrictive purchase requirement. In contrast, habitual consumers responded more positively to action repetition than to the baseline condition ($\beta_5 = 2.02, p = .008$). Indeed, the simple slope for $Habit_i$ under action repetition was significantly positive ($\beta = 2.35, p = .01$), suggesting that habitual consumers responded better to the action-repetition cross-selling promotion than did nonhabitual consumers. This finding is consistent with the notion that habitual people respond more positively to behavioral modification if it helps them form a new routine (Wood and Neal 2009).

For the control variables, we found a marginally positive effect of loyalty program history ($\beta_7 = .27, p = .10$). The price variable was not significant, however ($p = .65$), possibly due to the low variation in price. The average price ranged from $9.41 to $9.55 during the four weeks, representing a mere 1.47% change. For the demographic variables, we again found male participants to buy more frequently than female participants ($\beta_9 = .53, p = .003$), but consumers' age did not matter ($p = .33$).

Postpromotion Disruption

A key objective of this study is to examine the long-term effect of a cross-selling promotion on purchases in the original product category. To do so, we compared the average weekly fuel purchase frequency of the 12 prepromotion weeks with the 12 postpromotion weeks. We coded a consumer as showing disruption (i.e., $Disruption_i = 1$) if the postpromotion frequency was less than the prepromotion

TABLE 4
Descriptive Statistics and Results (Study 3)

A: Study 3 Descriptive Statistics

Variables	Min	Max	M	SD	Y	Loyalty	Habit	LnLPWks	Price	Age
Y (weekly in-store incidence)	0	8	.51	.99						
Loyalty	1.20	7	5.55	1.24	.05					
Habit	.08	3	.31	.25	.03	.11				
LnLPWks	2.64	5.58	4.56	.84	.01	.05	.00			
Price	9.41	9.55	9.51	.06	−.01	.00	.00	−.002		
Age	18	72	41.11	12.62	−.01	−.08	−.03	.33	.00	
Gender	46.04% male, 53.96% female				−.06	−.14	.10	−.05	.00	
AR (action repetition group)	60.37% in the action repetition condition (AR = 1), 39.63% in the baseline condition (AR = 0)				.01	−.06	−.05	.07	.00	.05
Disruption	40.85% experienced disruption, 59.15% did not experience disruption				−.02	−.09	.08	−.08	.00	−.01

B: Study 3 Estimation Results

Variables	Unstandardized Coefficients	z-Values	*p*-Values	95% Confidence Intervals
Count Model Coefficients				
Intercept	4.83	.35	.73	(−8.97, 18.64)
Action repetition (AR)	.25	.82	.41	(−.06, .57)
Loyalty	.17	2.40	.02	(.10, .24)
Habit	−.76	−1.94	.05	(−1.16, −.37)
AR × Loyalty	−.25	−2.29	.02	(−.36, −.14)
AR × Habit	2.02	2.65	.008	(1.25, 2.78)
Price	−1.44	−.45	.65	(−4.64, 1.77)
LnLPWks	.27	1.64	.10	(.11, .44)
Age	−.01	−.98	.33	(−.02, 0)
Gender	.53	2.95	.003	(.35, −.72)
Zero-Inflation Model Coefficients				
Intercept	4.84	.06	.95	(−71.9, 81.58)
Action repetition (AR)	2.61	1.45	.15	(.82, 4.41)
Loyalty	.22	.49	.63	(−.23, .67)
Habit	−14.05	−3.43	.001	(−18.15, −9.95)
AR × Loyalty	−1.12	−1.87	.06	(−1.71, −.52)
AR × Habit	18.15	3.92	<.001	(13.52, 22.78)
Price	−4.35	−.24	.81	(−22.33, 13.63)
LnLPWks	2.86	2.26	.02	(1.6, 4.13)
Age	−.08	−1.11	.27	(−.15, −.01)
Gender	4.37	2.07	.04	(2.26, 6.48)
Log-likelihood	−1,224.9	AIC	2,491.86	

Notes: Clustered robust standard errors were used.

frequency, and 0 otherwise. We found that 40.85% of the sample showed a disruption in their fuel purchases. Although this dichotomization results in the loss of information, prior research has shown that it is superior when the response variable is subject to noise (Yue and Xue 2010). In the present context, consumers' fuel purchase frequency could have been affected by temporary change in travel/driving needs (for a variety of reasons), which we cannot account for. As a result, we chose to dichotomize the variable for more robust results.

We ran a logistic regression, as shown in Equation 9. For simplicity of expression, we omitted the individual subscripts in the equation. We used the same set of independent variables but had to adjust the two marketing control variables to accommodate the individual-level analysis here. Instead of weekly average price, which was the same for every consumer, we used the change in average fuel price each consumer paid post- versus prepromotion. This enabled price to vary by participant and reflected the effect of price fluctuation on his or her fuel purchase frequency change. For loyalty program history, we used the log-transformed number of loyalty program enrollment weeks at the beginning of the promotion instead of varying by week.

$$(9)\quad \frac{\text{Prob(Disruption} = 1)}{1 - \text{Prob(Disruption} = 1)} = \exp(\gamma_0 + \gamma_1 \text{AR} + \gamma_2 \text{Loyalty} + \gamma_3 \text{Habit} + \gamma_4 \text{AR} \times \text{Loyalty} + \gamma_5 \text{AR} \times \text{Habit} + \gamma_6 \text{PriceChange} + \gamma_7 \text{LnLPWks} + \gamma_8 \text{Age} + \gamma_9 \text{Gender}).$$

We fit the model on the 328 consumers in our sample. The model performed significantly better than a null model with no predictors ($\chi^2 = 25.20, p = .003$). The Nagelkerke's pseudo R-square for the model was .10. Using a cutoff threshold of .5, the model correctly classified 64.33% of the cases, which was significantly better than chance (Press's Q = 26.94, $p < .001$).

The results showed a significant effect of AR ($\gamma_1 = -.93$, $p = .02$), suggesting that action repetition is less likely to disrupt consumers with average attitudinal loyalty and habit than the baseline promotion. Contrary to expectation (H_{2a}), when exposed to the baseline promotion, more-loyal consumers were no less likely to experience disruption in their fuel purchase than less-loyal consumers ($p = .85$). The interaction between attitudinal loyalty and action repetition was also not significant ($p = .23$). In support of H_{2b}, the baseline promotion was more likely to disrupt the fuel purchase of strongly habitual consumers than that of weakly habitual consumers ($\gamma_3 = 2.04, p = .03$). Especially notable is the significant negative interaction between habit and action repetition ($\gamma_5 = -2.19, p = .04$). Consistent with H_3, the repetition requirement helped habitual consumers form a new routine and, as a result, alleviated the disruption in their purchases from the original category (fuel). Combining the slopes reveals that under action repetition, habit no longer predicted a greater tendency to experience disruption ($p = .89$).[5]

For the control variables, we found an expected positive effect of price change ($\gamma_6 = .12, p = .05$), suggesting that an increase in price is likely to lead to disruption in purchases. Furthermore, the longer a consumer had been in the loyalty program, the less likely he or she was to show disruption ($\gamma_7 = -.60, p = .019$). We also found older consumers to have a lower probability of experiencing disruption ($\gamma_8 = -.02, p = .05$). Gender did not matter ($p = .76$).

Discussion

In Study 3, we again demonstrate the opposite effects of attitudinal loyalty and habit on cross-selling response. We further show that a one-shot cross-selling promotion not only is ineffective for habitual customers but also can have a negative impact on their purchases in the original category. In addressing this problem, we find that companies can make their cross-selling more successful and alleviate potential disruption of habitual consumers by building action repetition into the promotion, thus encouraging the formation of a new routine. The significant interaction between habit and action repetition suggests that habit-driven consumers value the opportunity to adapt and optimize their routines more than their conscious goals. If a conscious goal (e.g., valuing time over money) had guided these consumers instead, they would not have sacrificed the extra time necessary to enter the store multiple times, as required in the action repetition approach. This shows the power of past behavior as reflected by habit. We surmise that this precedence of routine adaptation and optimization over conscious goals can be explained by the lower cognitive resources needed to modify a routine than to pursue a conscious goal (Wood and Neal 2007).

[5]Due to the long time period covered by our data, it is possible that the disruption effect was caused by seasonality, whereby people tend to travel/drive more during the summer months. Because our prepromotion period covered February to May and the postpromotion period covered June to September, this seasonality would have favored postpromotion, which is opposite to the disruption effect we found. An alternative impact from seasonality is that the change in season itself can disrupt a habit. Yet this universal influence on habitual consumers cannot explain different responses to the two designs. Another possible explanation for the decrease in fuel purchases is that consumers may have bought more in each transaction. Our data show a slight decrease in transaction size instead ($M_{prepromotion} = 10.77, M_{postpromotion} = 10.24; p = .05$), thus ruling out this alternative explanation.

General Discussion

Implications for Marketing Literature

Both marketing research and practice have often labeled consumers who repeatedly purchase a brand as loyal customers (e.g., Che and Seetharaman 2009). However, repeat purchase only represents a behavioral pattern that can be motivated by distinct underlying mechanisms such as attitudinal loyalty and habit. Little research has closely examined the underlying psychological difference between these two forces and the moderating effects they may have on consumer responses to marketing stimuli. Addressing this gap, we draw on recent advances in habit research and devise a way to measure individual habit strength from observed purchase behavior. This individual-level operationalization of habit strength enables more accurate integration of habit into studies of consumer repeat purchase.

Applying this approach to consumer transaction history at a convenience store chain, we reveal significant impact from both attitudinal loyalty and habit on repeat purchase. In three subsequent studies, we find that attitudinal loyalty increased the effectiveness of a cross-selling promotion, whereas habit showed the opposite effect and rendered the same promotion less effective. Furthermore, a generic cross-selling promotion not only is ineffective in moving habitual consumers to the new category but can also negatively affect their purchases in the old category, even after the promotion ends. We demonstrate how a firm can counter this negative impact by building action repetition into the promotional design.

Implications for Marketing Practice

Our findings suggest that it is not optimal to lump all high-value customers into one target segment, because these consumers may react differently to the same marketing stimuli. Instead, firms should tease out the drivers of repeat purchase and design their marketing programs accordingly. To implement the insight from this research, we suggest firms begin by creating a two-dimensional index to characterize each consumer on attitudinal loyalty and habit. Well-established scales are available to measure attitudinal loyalty through consumer surveys. The approach we proposed in Study 1 can then be used to derive a consumer's habit score. The only requirement is that past transactions be captured along key contextual dimensions (e.g., time and location of purchase). With a sufficiently extensive purchase history, firms can readily gauge habit strength by the frequency and contextual stability of past purchases.

With this two-dimensional representation of each consumer, firms can then devise proper interaction tactics on the basis of these two drivers of repeat purchase. Because abundant advice exists regarding how to appeal to attitudinally loyal customers' positive attitude and emotion, we focus on how to best manage habit-driven consumers. For these consumers, it is critical to maintain a consistent contextual environment to facilitate the performance of their routines. Marketers must be cautious about actions that are meant to encourage more spending but may inadvertently disrupt or inhibit habit execution (e.g., changing store layout, promoting purchases during hours outside the consumers' typical routine). If the strategic goal is to change habitual consumers' behavior such as cross-buying, it is more efficient to add the desired behavior onto their old routine than to disrupt the old habit and establish a completely new routine. Our results show that at least one way to do so is to build action repetition into a promotion. Because habit development requires repeating the same behavior over time under stable contextual cues, habitual consumers who are asked to repeat the same desired target behavior multiple times are much more likely to eventually integrate that behavior into their existing routine.

More specifically related to cross-selling, recent research suggests that not all cross-buying is profitable and that initially unprofitable consumers can carry over their nonprofitable behavior even when they buy from more areas (Shah et al. 2012). It is therefore wise not to make cross-selling offers to all consumers. Our research directly complements these findings by helping identify consumers who may fall into the "do-not-cross-sell" category. The two-dimensional representation of each consumer already indicates the consumer's habit strength. Combined with knowledge of consumer profitability, it is possible to identify unprofitable consumers who are also highly habitual. These consumers are most likely to carry over the same behavioral pattern to other business areas and therefore should be excluded from cross-selling.

Limitations and Further Research

This research has several limitations. First, our studies only covered a limited set of cross-selling campaigns. As the incentive rises, even habitual consumers may overcome the barrier and respond well to a promotion. This is worthwhile to address in further research. More broadly, there are other contexts in which attitudinal loyalty and habit can have intriguing effects, such as in encouraging word of mouth and addressing service failures. More research is needed to understand how these marketing actions should be adapted to the two drivers for maximum effectiveness. Relatedly, it will be beneficial to consider the firm-level implications of these individual differences, such as firm profit, customer turnover, and customer equity.

Second, the effects we found may not generalize to all contexts. Here, we only used two fast-moving services. But as Cool and Paranikas (2011) point out, turnover rate can change opportunities for making purchase decisions. Consumers are less likely to form habits for durable goods due to the low purchase frequency and potentially less stable contexts in each purchase, which in turn weakens the moderating effect of habit on cross-selling response. Our studies did not capture this distinction. Another issue that limits the generalizability of our results is the exclusive focus on loyalty program members in most studies and the reliance on survey responses for attitudinal loyalty, which further restricted our sample. Because consumers who self-select into the loyalty program and choose to answer the survey are likely to be more frequent and loyal buyers, our findings must be tested in a more general non–loyalty program context. Further research should also consider other measures of attitudinal loyalty (e.g., observable actions in social media) that can enable a broader consumer population to be examined.

Third, this research compared attitudinal loyalty and habit as independent constructs and did not consider how they may interact. In reality, a consumer can be both attitudinally loyal and habitual. If so, do these traits reinforce or interfere with each other? In contexts in which loyalty and habit have opposite effects, which effect will dominate? Relatedly, this research treated attitudinal loyalty and habit as a given and examined their subsequent impact on marketing actions. An equally intriguing question is how consumers arrive at different levels of attitudinal loyalty versus habit and how marketing actions can affect each path. Whereas behavioral repetition and stable context are necessary conditions for habit to form as an automatic process, attitudinal loyalty requires more deliberate information processing in the formation process. Better understanding their development processes will shed light on how to develop the relationship that a customer desires and how to maximize customer lifetime value.

Finally, because we focused on comparing attitudinal loyalty and habit, we did not consider the various components of habit in-depth. Although Study 1 shows similar influence of time and location stability, these stability components can play different roles in different situations and may also interact with each other. A more in-depth examination of the relationship among these components will lead to a deeper understanding of consumption habit and generate useful managerial insights in targeting specific contextual cues.

REFERENCES

Aiken, Leona S. and Stephen G. West (1991), *Multiple Regression: Testing and Interpreting Interactions*. Thousand Oaks, CA: Sage Publications.

Aurier, Philippe and Gilles N'Goala (2010), "The Differing and Mediating Roles of Trust and Relationship Commitment in Service Relationship Maintenance and Development," *Journal of the Academy of Marketing Science*, 38 (3), 303–325.

Bargh, John A. (2002), "Losing Consciousness: Automatic Influences on Consumer Judgment, Behavior, and Motivation," *Journal of Consumer Research*, 29 (2), 280–85.

Belch, George and Michael Belch (2011), *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 9th ed. Boston: McGraw-Hill/Irwin.

Boatwright, Peter, Sharad Borle, and Joseph B. Kadane (2003), "A Model of the Joint Distribution of Purchase Quantity and Timing," *Journal of the American Statistical Association*, 98 (463), 564–72.

Brakus, J. Joško, Bernd H. Schmitt, and Lia Zarantonello (2009), "Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty?" *Journal of Marketing*, 73 (May), 52–68.

Breivik, Einar and Helge Thorbjørnsen (2008), "Consumer Brand Relationships: An Investigation of Two Alternative Models," *Journal of the Academy of Marketing Science*, 36 (4), 443–72.

Chanil, Debra (2004), "Profile of the C-Store Shopper," *Convenience Store News*, (February 9), 1–7.

—— (2010), "Study Reveals Why and How Consumers Shop C-Stores," *Convenience Store News*, (March 22), 35–40.

Chaudhuri, Arjun and Morris B. Holbrook (2001), "The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty," *Journal of Marketing*, 65 (April), 81–93.

Che, Hai and P.B. (Seethu) Seetharaman (2009), "'Speed of Replacement': Modeling Brand Loyalty Using Last-Move Data," *Journal of Marketing Research*, 46 (August), 494–505.

Cool, Karel and Petros Paranikas (2011), "When Every Customer Is a New Customer," *Harvard Business Review*, 89 (5), 29–31.

Desai, Kalpesh Kaushik and Sekar Raju (2007), "Adverse Influence of Brand Commitment on Consideration of and Preference for Competing Brands," *Psychology & Marketing*, 24 (7), 595–614.

Dick, Alan S. and Kunal Basu (1994), "Customer Loyalty: Toward an Integrated Conceptual Framework," *Journal of the Academy of Marketing Science*, 22 (2), 99–113.

Duhigg, Charles (2012), *The Power of Habit: Why We Do What We Do in Life and Business*. New York: Random House.

Greene, William (2003), *Econometric Analysis*, 5th ed. Upper Saddle River, NJ: Prentice Hall.

Güneş, Evrim D., O. Zeynep Akşin, E. Lerzan Örmeci, and S. Hazal Özden (2010), "Modeling Customer Reactions to Sales Attempts: If Cross-Selling Backfires," *Journal of Service Research*, 13 (2), 168–83.

Heilman, Carrie M., Douglas Bowman, and Gordon P. Wright (2000), "The Evolution of Brand Preferences and Choice Behaviors of Consumers New to a Market," *Journal of Marketing Research*, 37 (May), 139–55.

Jeuland, Abel P. (1979), "Brand Choice Inertia as One Aspect of the Notion of Brand Loyalty," *Management Science*, 25 (7), 671–82.

Ji Song, Mindy and Wendy Wood (2007), "Purchase and Consumption Habits: Not Necessarily What You Intend," *Journal of Consumer Psychology*, 17 (4), 261–76.

Johnson, Michael D., Andreas Herrmann, and Frank Huber (2006), "The Evolution of Loyalty Intention," *Journal of Marketing*, 70 (April), 122–32.

Kaas, Klaus Peter (1982), "Consumer Habit Forming, Information Aquisition, and Buying Behavior," *Journal of Business Research*, 10 (1), 3–15.

Kamakura, Wagner A. (2008), "Cross-Selling: Offering the Right Product to the Right Customer at the Right Time," *Journal of Relationship Marketing*, 6 (3/4), 41–58.

——, Michel Wedel, Fernando de Rosa, and Jose Afonso Mazzon (2003), "Cross-Selling Through Database Marketing: A Mixed Data Factor Analyzer for Data Augmentation and Prediction," *International Journal of Research in Marketing*, 20 (1), 45–64.

Khare, Adwait and J. Jeffrey Inman (2006), "Habitual Behavior in American Eating Patterns: The Role of Meal Occasions," *Journal of Consumer Research*, 32 (4), 567–75.

Klemperer, Paul (1987), "Markets with Consumer Switching Costs," *Quarterly Journal of Economics*, 102 (2), 375–94.

Lally, Philippa, Cornelia H.M. van Jaarsveld, Henry W.W. Potts, and Jane Wardle (2010), "How Are Habits Formed? Modelling Habit Formation in the Real World," *European Journal of Social Psychology*, 40 (6), 998–1009.

Liu, Yuping (2007), "The Long-Term Impact of Loyalty Programs on Consumer Purchase Behavior and Loyalty," *Journal of Marketing*, 71 (October), 19–35.

Morgan, Michael S. and Chekitan S. Dev (1994), "An Empirical Study of Brand Switching for a Retail Service," *Journal of Retailing*, 70 (3), 267–82.

Neal, David T., Wendy Wood, Jennifer S. Labrecque, and Philippa Lally (2012), "How Do Habits Guide Behavior? Perceived and Actual Triggers of Habits in Daily Life," *Journal of Experimental Social Psychology*, 48 (2), 492–98.

——, ——, Mengju Wu, and David Kurlander (2011), "The Pull of the Past: When Do Habits Persist Despite Conflict with Motives?" *Personality and Social Psychology Bulletin*, 37 (11), 1428–37.

Oliver, Richard L. (1999), "Whence Consumer Loyalty?" *Journal of Marketing*, 63 (Special Issue), 33–44.

Raudenbush, Stephen W. and Anthony S. Bryk (2002), *Hierarchical Linear Models: Application and Data Analysis Methods*. Thousand Oaks, CA: Sage Publications.

Reinartz, Werner, Jacquelyn S. Thomas, and Ganaël Bascoul (2008), "Investigating Cross-Buying and Customer Loyalty," *Journal of Interactive Marketing*, 22 (1), 5–20.

Roehm, Michelle, Ellen Bolman Pullins, and Harper A. Roehm Jr. (2002), "Designing Loyalty-Building Programs for Packaged Goods Brands," *Journal of Marketing Research*, 39 (May), 202–213.

Roy, Rishin, Pradeep K. Chintagunta, and Sudeep Haldar (1996), "A Framework for Investigating Habits, 'The Hand of the Past,' and Heterogeneity in Dynamic Brand Choice," *Marketing Science*, 15 (3), 280–99.

Seetharaman, P.B. (2004), "Modeling Multiple Sources of State Dependence in Random Utility Models: A Distributed Lag Approach," *Marketing Science*, 23 (2), 263–71.

—— and Pradeep Chintagunta (1998), "A Model of Inertia and Variety-Seeking with Marketing Variables," *International Journal of Research in Marketing*, 15 (1), 1–17.

Shah, Denish, V. Kumar, Yingge Qu, and Sylia Chen (2012), "Unprofitable Cross-Buying: Evidence from Consumer and Business Markets," *Journal of Marketing*, 76 (May), 78–95.

Simon, Herbert A. (1955), "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics*, 69 (1), 99–118.

Tam, Leona, Wendy Wood, and Mindy Ji Song (2009), "Brand Loyalty Is Not Habitual," in *Handbook of Brand Relationships*, Deborah J. MacInnis, C. Whan Park, and Joseph R. Priester, eds. Armonk, NY: M.E. Sharpe, 43–62.

Webb, Thomas L. and Paschal Sheeran (2006), "Does Changing Behavioral Intentions Engender Behavior Change? A Meta-Analysis of the Experimental Evidence," *Psychological Bulletin*, 132 (2), 249–68.

Wood, Wendy and David T. Neal (2007), "A New Look at Habits and the Habit–Goal Interface," *Psychological Review*, 114 (4), 843–63.

—— and —— (2009), "The Habitual Consumer," *Journal of Consumer Psychology*, 19 (4), 579–92.

——, Jeffrey M. Quinn, and Deborah A. Kashy (2002), "Habits in Everyday Life: Thought, Emotion, and Action," *Journal of Personality & Social Psychology*, 83 (6), 1281–97.

——, Leona Tam, and Melissa Guerrero Witt (2005), "Changing Circumstances, Disrupting Habits," *Journal of Personality and Social Psychology*, 88 (6), 918–33.

Yi, Youjae and Hoseong Jeon (2003), "Effects of Loyalty Programs on Value Perception, Program Loyalty, and Brand Loyalty," *Journal of the Academy of Marketing Science*, 31 (3), 229–40.

Yue, Shentu and Minge Xue (2010), "A Note on Dichotomization of Continuous Response Variable in the Presence of Contamination and Model Misspecification," *Statistics in Medicine*, 29 (21), 2200–2214.