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Price Skimming's Unintended Consequences

Gary F. Gebhardt

Does price skimming alienate early customers? Based on social justice theory, this study investigates the perceived “unfairness” of this common marketing practice, and suggests ways to ameliorate customers’ perceptions of injustice.

Report Summary

Price skimming is an important managerial tool for maximizing firm value. Its attractiveness is straightforward: by sequentially lowering price over time, capturing more customers with every price drop, a company realizes more revenue than it would if it set one price to capture the same number of customers.

A central assumption of price skimming is that each customer is satisfied with his or her purchase because the price paid is at or below his or her reservation price. However, beyond the purchase decision, there is scant research on customers’ postpurchase responses to price skimming.

Drawing on social justice theory, Gary F. Gebhardt proposes that there is an endogenous price-skimming effect: customers who buy at a higher price will perceive lower prices for new customers as unfair and, therefore, will be less likely to buy from the same provider in the future. Further, he proposes that certain types of most-favored customer pricing can moderate or eliminate perceptions of unfairness and, therefore, increase customer satisfaction and customer lifetime value.

These propositions are tested through four experiments in which participants respond to a number of hypothetical scenarios both with free-form remarks and ratings on a seven-point Likert scale. The first experiment investigates whom people choose to compare themselves with (their referent others) in three different pricing situations and how that choice affects their perception of whether they have been treated fairly.

The second examines various ways companies may deal with existing customers’ complaints of unfairness when new customers receive products or services for less. The third compares noncomplainers with complainers, examining assumptions about the association between complaining, not complaining, and satisfaction. It also examines customers’ reactions to a drop in competitors’ prices. Finally, the last experiment tests whether social justice theory or two alternative theories explain participants’ behavior better.

The results suggest that price skimming does indeed cause endogenous effects that most-favored customer pricing can ameliorate. These findings have significant implications for pricing strategies. ■

Gary F. Gebhardt is Assistant Professor of Marketing at the College of Business, University of South Florida.

Introduction

In June, they were calling it the God Phone. Yesterday, it was the Chump Phone. People who had rushed to buy the Apple iPhone over the last two months suddenly and embarrassingly found that they had overpaid by \$200 for the year's most coveted gadget. Apple . . . angered many of its most loyal customers by dropping the price of its iPhone to \$400 from \$600 only two months after it first went on sale. They let the company know on blogs, through e-mail messages and with phone calls. Yesterday, in a remarkable concession, Steven P. Jobs acknowledged that the company had abused its core customers' trust . . . "Our early customers trusted us, and we must live up to that trust with our actions in moments like these," Mr. Jobs wrote in a letter posted to Apple's Web site.
Hafner and Stone in *The New York Times*,
September 7, 2007

Price skimming—setting prices high at introduction and dropping them over time—is a common pricing strategy for new products and services. The managerial attractiveness of price skimming is straightforward: by sequentially lowering prices over time and capturing incremental customers with every price decrease, price skimming allows a firm to charge each customer his or her reservation price (e.g., Besanko and Winston 1990; Stokey 1979). For a wide variety of products and services, including high-definition televisions, global positioning devices, and wireless communication services, the use of price skimming is becoming more common, while product life cycles continue to shorten (Kotler and Keller 2009). Overwhelmingly, the literature on price skimming focuses on profit maximization and related variables, such as diffusion rates, competition, production learning curves, and costs (e.g., Irwin and Klenow 1994; Robinson and Lakhani 1975). In aggregate, price skimming enjoys extensive empirical support and is a widely accepted strategy for managers seeking to maximize firm profits when launching new products or services (Kotler and Keller 2009).

A central assumption of price skimming is that because consumers pay prices at or below their reservation prices, they are satisfied with their purchase (Koh 2005; Stokey 1979). An additional assumption is that there are no endogenous effects related to existing customers (Koh 2005; Stokey 1979). However, anecdotal data suggest otherwise. For example, early iPhone adopters were clearly incensed by iPhone's \$200 price cut two months after its introduction.

This research investigates whether and under what conditions consumers perceive price skimming as fair and how those perceptions affect post-purchase attitudes, behavioral intentions, and customer lifetime value. It relies on social justice theory (Tyler et al. 1997) to predict and explain consumer reactions to price skimming, as well as to explain the results of earlier studies relying on the notions of dual entitlement and familiarity (Kahneman, Knetsch, and Thaler 1986; Wirtz and Kimes 2007).

This research offers five contributions to the marketing, consumer behavior, and economic literatures. First, it identifies an endogenous price-skimming effect: lower prices offered to new customers affect the satisfaction of existing customers through perceptions of fairness. (Endogeneity refers to the ability of one variable in a model to predict another variable in an economic model.) Second, this research suggests that most-favored customer pricing policies can counteract this effect, allowing managers to charge higher prices at an earlier point in time without sacrificing existing customers' satisfaction when prices decrease. Third, it provides a social justice framework for pricing that enables researchers and managers to predict how consumers will react to price changes and policies for various types of products and services. Fourth, it suggests that while consumers' familiarity with a dynamic pricing policy moderates their acceptance of such policies, acceptance ultimately depends on how socially just consumers perceive those

pricing policies to be. Finally, it adds further support to the notion that consumers are most likely to compare their inputs and outputs with other consumers, rather than with providers.

The remainder of this paper is structured as follows. First, the literature on price skimming, yield pricing, and perceived fairness are reviewed and summarized. Then, four experimental studies are presented, the results of which support the notion (1) that skimming causes endogenous price effects due to consumers' social justice concerns, (2) that certain pricing policies can mitigate those effects, (3) that social justice concerns apply to providers' prices, not providers' competitors' prices, and (4) that social justice theory offers a superior explanation for consumers' reactions than do alternative theories. The paper closes with theoretical and managerial implications and suggestions for future research.

Literature Review

The literature covers three related concepts: price skimming, yield pricing, and pricing fairness. The pricing fairness literature relies on three theories that explain price fairness perceptions: social justice, dual entitlement, and familiarity.

Price skimming

The previous section gave a definition of price skimming and explained its rationale. A central assumption of price skimming is that since each customer pays a price at or below his or her reservation price, each customer is satisfied with his or her purchase because the price paid is at or below the utility received.

Investigations regarding price skimming have focused primarily on maximizing firm profit while assuming customer preferences remain unchanged (Besanko and Winston 1990; Koh 2005; Nair 2007; Stokey 1979). As a result, although price skimming is widely used by managers and its advantages have been widely

investigated in the economics, strategy, and marketing literatures, the impact of price skimming policies on current customers has received little attention.

Yield pricing

Similar to price skimming, the notion and managerial attractiveness of yield pricing is straightforward: maximize the revenue realized for a fixed resource (such as the number of seats on an airplane) by adjusting prices based on each customer's willingness to pay, risk tolerance, value preferences, and ability to commit (Kimes 1994). Sellers make the same assumption with yield pricing that they do with price skimming: they assume that each customer is satisfied with his or her purchase price because each customer purchased at or below his or her reservation price (Kimes 1994; Kimes 2003; Kimes and Wirtz 2003). Whereas with price skimming the price continuously declines, with yield pricing, customers can realize higher or lower prices at any point in time, depending on inventory availability, the competitive environment, demand, restrictions, etc. Thus, yield pricing results in varying prices for a specific service for discrete time periods, with a large number of possible time periods that continuously repeat (e.g., multiple New York-to-Chicago flights during a day, 365 days a year). While much of the research on yield pricing investigates how managers can maximize revenue relative to a firm's resources (similar to price skimming research), a number of studies have also looked at the impact of yield pricing on customer satisfaction. These studies have found that as consumers become increasingly familiar with yield pricing practices, they have come to view yield pricing as fair (Kimes 2003; Kimes and Noone 2002; Kimes and Wirtz 2003; Wirtz and Kimes 2007). Given that consumers perceive yield pricing as fair, yield pricing will be used as a control condition for evaluating customer reactions to price skimming practices.

Pricing fairness and satisfaction

Although there is a dearth of research addressing consumers' perceptions of price skimming, there is a growing body of literature investigating how customers respond to other types of price changes and price differences. The key pricing fairness concepts germane to price skimming—and subsequently tested in four experiments—are discussed and summarized below. They are social justice theory, dual entitlement, and familiarity.

Social Justice Theory. Social justice theory defines fairness as subjective and socially situated. As such, social justice theory helps us understand “what people think is right and wrong, just or unjust, fair or unfair” and “how such judgments are justified by the people who hold them” (Tyler et al. 1997). Social justice theory and some of its individual components have been relied on in the marketing literature to investigate pricing fairness (Bolton, Warlop, and Alba 2003; Bolton and Lemon 1999; Haws and Bearden 2006; Xia, Monroe, and Cox 2004), customer service failure and recovery (Smith, Bolton, and Wagner 1999; Sparks and McColl-Kennedy 2001), and customer complaint handling (Maxham and Netemeyer 2002; Maxham and Netemeyer 2003). Figure 1 shows a conceptual model of social justice in marketing, beginning with an event and progressing longitudinally to include the choice of referent other, assessment of distributive and procedural justice, perceptions of fairness, outcome satisfaction, attitudes toward the system/arbitrator, possible consumer actions, and, finally, the moderating impact of competition.

Referent Other. To ascertain the fairness of a given event or situation, a person must first choose a referent other to compare an event or situation with (Bolton, Warlop, and Alba 2003; Feinberg, Krishna, and Zhang 2002; Haws and Bearden 2006; Martins and Monroe 1994; Tyler et al. 1997). The referent other can be the person himself or herself at various points in time (past, current, or future), another individual at various points in time, a

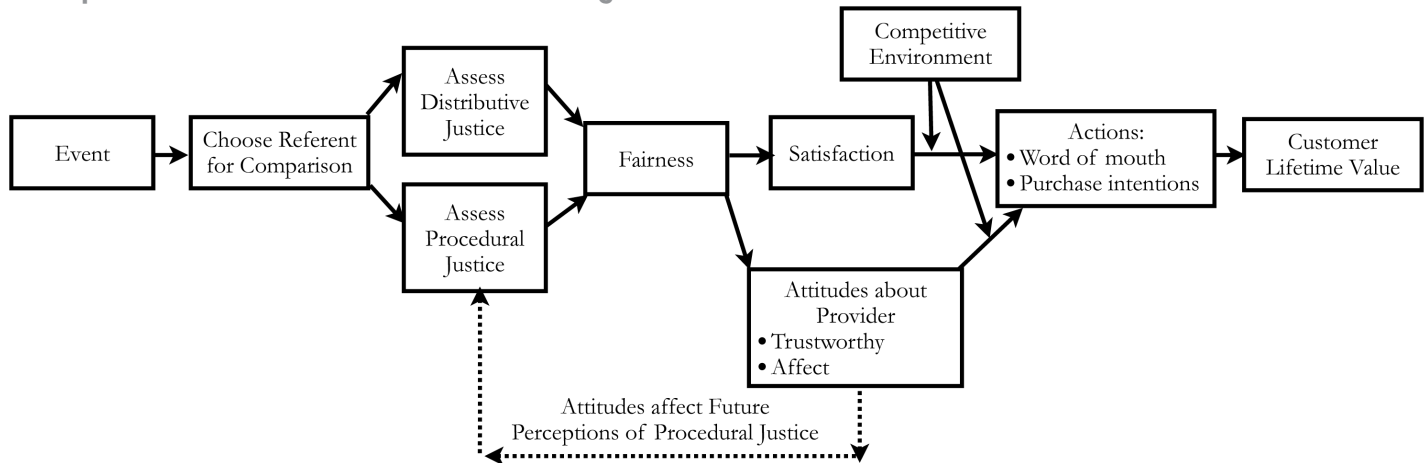
group the person belongs to at various points in time, or members of another group at various points in time.

In marketing contexts, consumers have the opportunity to choose referent others from a much larger set of possibilities than is true in other domains. For example, services that aggregate customer information—such as automotive information from *Consumer Reports* or *Edmunds.com*—provide referent others typically not available in nonmarketing contexts. Additionally, price- or discount-focused advertising provides a surrogate method for comparison, as customers may also compare themselves with people they *imagine* getting an advertised price.

Distributive Justice. Having chosen a referent other, a person determines distributive justice by comparing his or her relative inputs and outputs with the referent other (Tyler et al. 1997). People will perceive situations as distributively just if their ratio of outputs and inputs matches those of their referent others and distributively unjust if the ratios do not match (Adams 1965). Research has consistently found that equality of the ratios leads to the highest perceived levels of distributive justice, while a lower ratio of outputs to inputs leads to the lowest perceived levels of distributive justice (Haws and Bearden 2006; van den Bos, Vermunt, and Wilke 1997).

Procedural Justice. Whereas distributive justice is concerned with the perceived equality of inputs and outputs, procedural justice is concerned with the *process* that determines those inputs and outputs (Tyler et al. 1997). Across a wide range of studies, researchers have found distributive and procedural justice to be distinct constructs affecting people's perceptions of fairness (Homburg and Fürst 2005; Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekar 1998; van den Bos, Vermunt, and Wilke 1997). Researchers have found that fair procedures mitigate unfavorable outcomes, and people are more satisfied

Figure 1
Conceptual Model of Social Justice in Marketing



when favorable outcomes are the result of a fair process (Brockner and Wiesenfeld 1996; Tyler et al. 1997). For this research, procedural justice refers to whether consumers perceive they have the same opportunities and are treated the same as other consumers with whom they compare themselves.

Consequences of Social Justice. The most immediate (and measurable) consequence of social justice is perceived fairness. The higher an individual's perceptions of distributive and procedural justice, the more fair that individual perceives a transaction or interaction to be (Cohen-Charash and Spector 2001; Tyler et al. 1997). The social justice literature suggests a strong relationship between perceptions of fairness and attitudes toward the system/organization responsible for allocating rewards (Cohen-Charash and Spector 2001; Tyler et al. 1997). Research on customer complaining behaviors has identified similar relationships with customers' attitudes toward providers in marketing contexts, including provider trustworthiness, affect toward a provider, positive word-of-mouth, and repurchase intent (Homburg and Fürst 2005; Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekar 1998). This research expects similar relationships between consumers' perceptions of price fairness, satisfac-

tion, and behavioral intentions.

The Moderating Effect of the Competitive Environment. Even if customers are satisfied and trust their current providers, competitors are constantly communicating with them to encourage switching behavior (Feinberg, Krishna, and Zhang 2002; Oliver 1999; Rust, Lemon, and Zeithaml 2004). Hence, the competitive environment is expected to moderate the relationships between satisfaction and attitude toward the provider and their common behavioral consequences—positive word-of-mouth and repurchase intent. For example, even customers who perceive their relationship with their provider as being fair, who are satisfied with their purchase, and have positive affect regarding the provider may nevertheless purchase their next product or service from a competitor offering a significantly better value proposition or a significantly lower price for a similar value proposition. Thus, the competitive environment is expected to moderate the relationships between: (1) satisfaction and positive word-of-mouth, (2) satisfaction and repurchase intent, (3) attitude toward the provider and positive word-of-mouth, and (4) attitude toward the provider and repurchase intent.

Dual Entitlement. Dual entitlement posits that customers ascertain the fairness of the

provider's price changes by comparing their own inputs and outputs with the provider's inputs and outputs (Bolton, Warlop, and Alba 2003; Kahneman, Knetsch, and Thaler 1986). Although it has a different genesis, dual entitlement is very similar to the notion of distributive justice and equity theory. The key difference is that dual entitlement focuses on the customer-provider relationship to ascertain fairness, whereas with distributive justice the provider is just one of any number of comparative others.

Familiarity. Research has suggested that as consumers become more familiar with a pattern of price changes, they perceive those price changes as more fair (Kahneman, Knetsch, and Thaler 1986; Wirtz and Kimes 2007). In particular, increasing familiarity has been offered as the reason for increasing consumer acceptance of yield pricing across a variety of contexts. For example, Kimes and Noone (2002) found that in 1993, consumers viewed yield pricing as much more acceptable in the airline industry than in the hotel industry. However, by 2001, consumers indicated that yield pricing practices were equally acceptable for both industries. They attributed this change to consumers' becoming more accustomed to and familiar with yield pricing in the hotel industry over that time period.

Study 1: Endogenous Price Skimming Effects

This study investigates whether people perceive two different forms of dynamic pricing—yield pricing and price skimming—as equally fair. Given that consumers view yield pricing as fair (Kimes and Noone 2002), yield pricing will be used as a benchmark for understanding whether consumers perceive price skimming as similarly fair. Whereas yield pricing studies suggest that consumers view yield pricing as fair due to their familiarity with the practice, the social justice perspective suggests consumers view yield pricing as fair because it is

procedurally just: everyone is subject to the same rules and has the same opportunity to buy at a given price at a given point in time.

This first study investigates (1) whether the market context affects consumers' choice of a referent other and (2) how the choice of a referent other affects fairness perceptions and related consequences. Specifically, this study investigates consumers' choice of a referent other and fairness perceptions related to price skimming for a capital good and a relational service and compares those findings with the choice of a referent other and fairness perceptions related to yield pricing for a discrete service.

For this study and the three subsequent studies, participants were students attending a large, U.S. state university located in a southeastern port city. Three experimental conditions were created using products and services with similar price points that participants would be very familiar with: (1) a cruise as the discrete service, (2) a personal computer as the capital good, and (3) wireless phone service as the relationship service.

The expectation was that participants would choose different referent selves and referent others depending on the condition and, as a result, would view price skimming as less fair than yield pricing. Specifically, participants in the cruise condition (yield pricing) were expected to compare their historical purchase decision with referent others who could have purchased the cruise at the same point in time and, thus, would view yield pricing as fair. Conversely, participants in the wireless service condition (relational service price skimming) were expected to compare their current selves with new customers who could purchase the exact same service today at a lower price, and view a price decrease as the least fair of the three conditions. Finally, participants in the personal computer condition (capital good price skimming) were expected to compare their historical selves with other people who could have purchased the computer at an ear-

Table 1

Expected Choices of Comparison Others and Outcomes by Condition in Study 1

	Cruise	Computer	Wireless
Expected Referent Self	Historical Self	Historical and Current Self	Current Self
Expected Referent Other	Historical Customers	Historical and New Customers	New Customers
Rationale	Since customers already bought and enjoyed their cruise, they compare themselves to other customers who purchased and experienced a cruise six months earlier (or could have).	Because a personal computer is a capital item that customers are still using, the comparison is mixed. On the one hand, customers may compare themselves to other people who could have bought the computer and received six months of value. Conversely, since customers are still using their computer, they may compare themselves to new customers. Finally, some customers may “split the difference” and compare themselves to both groups.	Since customers are currently paying and consuming the service on a monthly basis, they compare themselves to new customers who enjoy the identical monthly service at a lower rate.
Expected Fairness Perceptions	If customers compare their purchase with historical customers, the discovery of a new, lower price for the same cruise will have no effect on their perceptions of fairness.	Fairness perceptions are expected to vary among customers. Discovery of a lower price offered to new customers will <ul style="list-style-type: none"> • Have no effect on fairness perceptions for those who compare themselves to historical customers, • Lead to perceptions of unfairness for those who compare themselves to new customers, and • Lead to intermediate perceptions of fairness for those who compare themselves to both groups of customers. 	If customers compare their current situation (paying \$39.99 a month) to new customers offered the new, lower rate (\$29.99 per month), they will perceive the offer as distributively unjust and, therefore, unfair.
Fairness and Consequences Relative to Other Treatment Conditions	Highest levels of fairness, satisfaction, positive affect, positive word-of-mouth intentions, and repurchase intentions.	Intermediate levels of fairness, satisfaction, positive affect, positive word-of-mouth intentions and repurchase intentions (lower than the cruise condition and higher than the wireless condition).	Lowest levels of fairness, satisfaction, positive affect, positive word-of-mouth intentions and repurchase intentions.

lier point in time (and used it during that time), as well as comparing their current selves with new customers who could buy the exact same computer today at a lower price. Table 1 provides further detail of the referent self and referent other participants were expected to choose, by condition, along with the rationale for the predictions and the expected impact on fairness perceptions and related consequences.

Methodology

Participants read and responded to one of three scenarios: (1) yield pricing for a cruise, (2) price skimming for a personal computer, and (3) price skimming for wireless phone service. Each scenario followed an identical script, interchanging the specific product/service attributes as appropriate. The script asked participants to imagine that six months

ago they had spent a lot of time trying to choose the product/service of interest. After much research and thought, they purchased one of the following: (1) a cruise from Zeus Vacations for \$999, (2) a computer from Zeus Data for \$999, or (3) wireless phone service from Zeus Communications for \$39.99 a month for 24 months (24 months x \$39.99 = \$959.76). Participants were told that they were very happy with their product/service and had hardly thought about it until yesterday, when they saw a Zeus advertisement for the exact same product/service for a lower price (\$799 or \$29.99 a month). For the cruise and computer conditions, this represented a \$200 price decrease. For the wireless service, this represented a \$10 price decrease per month, or \$180 for the remainder of the contract.

After seeing the advertisement, participants were told they called Zeus to see if they could get a refund “for at least part of the difference” for the cruise and computer, and “the lower monthly rate (\$29.99) instead of the higher rate you are currently paying (\$39.99)” for the wireless service. All participants spoke with “Bob,” the customer service representative and made their case. Bob indicated he “understood what you wanted, but he could not help you.” For the cruise condition, Bob stated, “the lower price was only for new bookings”; for the computer condition, “the lower price was for new sales only”; and for the relationship service condition he stated, “the lower rate was only for new customers.” All conditions concluded with Bob saying he was sorry, but there was nothing he could do about the different prices.

On the following page, participants were asked to write out their feelings and thoughts about the product/service and the provider. This free-form solicitation was expected to create higher levels of involvement and provide insight into participants’ thought processes and emotional states before asking specific questions that might alter their perceptions (Schwarz 1999). Participants’ free-form responses were also used to create a quantitative measure of their emotional reactions using Linguistic Inquiry and Word Count 2007 (LIWC) software (www.liwc.net). LIWC classifies the words people use into one or more linguistic categories (Pennebaker et al. 2007; Pennebaker, Mehl, and Niederhoffer 2003; Yadav, Prabhu, and Chandy 2007).

On the next page, participants indicated their agreement with a number of measures, including: (1) satisfaction with the product/service, (2) affect (positive feelings) for the provider, (3) perceived fairness of the pricing policy, (4) repurchase intent, and (5) intent to engage in positive word-of-mouth. Agreement was operationalized on a seven-point Likert scale, with one being “strongly disagree” and seven being “strongly agree.” The last page of the experiment asked participants to write down any additional thoughts they wanted to share.

Fifty-eight undergraduate students enrolled in marketing management participated in this study.

Results

Qualitative Analysis of Free-Form

Responses. A review of the free-form responses supported the notion that participants in the cruise condition were the most likely to compare their historical decision to purchase and consume with historical referent others who had the same opportunity. In contrast, participants in the wireless service condition were most likely to compare themselves today with referent others today and assessed the price change as unfair, since they were paying more than new customers for the same service. Participant responses in the computer condition varied from historical–historical to current–current comparisons, with the majority exhibiting some combination of the two. Representative participant quotes are shown in Table 2.

Quantitative Analysis. Differences among the dependent measures for the three manipulated conditions were tested using the Simultaneous Test Procedure (Bird and Hadzi-Pavlovic 1983). Specifically, a one-way multivariate analysis of variance (MANOVA) was conducted first, to minimize the risk of committing a Type 1 error, followed by analysis of variance (ANOVA) and directional contrasts among variables to determine which, if any, were significantly different among conditions (Bray and Maxwell 1985; Iacobucci 1994).

The results of the MANOVA suggested a significant difference among treatment conditions based on Roy’s greatest characteristic root ($F_{6,51} = 9.80, p < .001, \text{power} = 1.0$). Separate ANOVAs revealed significant differences for each dependent variable ($p < .02$). Study 1 means and ANOVA test statistics are presented in Table 3. Finally, directional contrasts comparing the wireless condition with the cruise and computer conditions found all dependent measures were significantly different ($p < .02$).

Table 2

Representative Participant Quotes, by Market Context, in Study 1

Cruise	Computer	Wireless
<p>“If you enjoyed your cruise it’s stupid to try to get a refund. Instead, you should take advantage of the lower price and book another cruise.”</p> <p>“I would not expect to get a refund for the \$200. I would assume that the price difference had to do with the season (off-peak). I do not think I would even try to get a refund.”</p> <p>“I’m not upset because the price of \$799 is a new promotion. I knew when I booked the cruise it was \$999 and I was fine with it at that time.”</p>	<p>“Well, considering how fast technology is advancing and becoming outdated, I would have no problems with Zeus Data. If I did my research I would know and understand this as a risk to my investment. I would not even have tried to ask for refund.”</p> <p>“I am extremely happy with the quality of the computer because it hasn’t given me any problems. I didn’t have a problem with the price, it was only when I saw the sale price that I became uneasy. Overall, I am still very pleased. Even though I didn’t get what I wanted, I knew a refund would be highly unlikely.”</p> <p>“My feelings for the computer are still the same. If for some reason I had seen the ad a week later and they were unwilling to help me then my feelings would be a little negative. It has been six months and the way technology is constantly changing, they probably dropped the price for that and plus this a way they can attract new customers to Zeus Data. In the end I would still have positive feelings for my computer.”</p> <p>“I would have been very upset that they could not refund part of my money. I appreciate the fact Bob was nice, but he should have still done something. Whether they give you free software or a \$50 gift card something they lack in customer service. I would not buy that computer or from that company again.”</p> <p>“I’m still happy with my computer. I’m a little upset about paying an extra \$200, but understand that things go on sale after being in the market a little while.”</p>	<p>“That is unfair - it sucks. You should be allowed the same plan as any other customer regardless of when you signed up, but would it be fair if the price increased?”</p> <p>“I would be extremely upset since as a loyal customer I would not be entitled to the discounted rate plan. I would do and talk to whomever I had to to get what I wanted, even if it meant threatening to cancel my device early.”</p> <p>“I feel ripped off. I would not speak well of the company to others. I would continue to call and speak with customer service and/or managers to try and find a compromise: 1) more minutes for my \$39.99, 2) more features, 3) upgraded phone. Anything to make my ‘required’ \$39.99 make me feel like I am getting my money’s worth. If I was not taken care of I would NOT renew.”</p>

Table 3

Study 1: Mean Values and Contrasts by Market Context

Variable	Treatment Means			ANOVA Statistics	
	Wireless	Computer	Cruise	p <	F value
% negative emotions	3.41	1.62 ^a	1.69 ^a	.02	4.54
Fair	3.33	4.39 ^b	5.37 ^a	.01	5.95
Satisfied	4.38	5.94 ^a	6.84 ^{a,c}	.01	16.11
Positive affect	3.76	4.94 ^b	5.84 ^{a,c}	.01	8.87
Repurchase	3.05	4.44 ^a	5.74 ^{a,c}	.01	12.05
Recommend	3.00	4.72 ^a	6.00 ^{a,c}	.01	13.91

^a Significantly different from wireless condition at $p < .01$

^b Significantly different from wireless condition at $p < .05$

^c Significantly different from computer condition at $p < .05$

Comparing the computer and cruise conditions, negative emotions ($p = .47$) and fairness ($p = .06$) were not significantly different, but satisfaction, positive affect toward the provider, and future behavioral intentions were all significantly different ($p < .05$).

Discussion

Study 1 supports the notion that consumers perceive the fairness of yield pricing and price skimming differently. In particular, participants viewed price skimming as less fair than yield pricing for a similar price decrease, and price skimming for a relational service as the least fair of the three conditions. The qualitative analysis of free-form responses supports the expectation that this difference is related to whom participants chose as their referent other to ascertain fairness. The data suggest participants in the wireless condition compared themselves today with new customers receiving lower prices, whereas participants in the yield pricing cruise condition compared themselves with referent others of six months ago, who purchased or could have purchased a cruise. Participants in the computer condition varied in their comparison choices, with some participants comparing their historical selves with historical others, whereas other participants compared their current selves with new customers, and, it appears, quite a few participants did both types of comparisons.

Differences between the perceived fairness for yield pricing and price skimming practices suggest that while greater familiarity with yield pricing may result in higher levels of perceived fairness (Kimes and Noone 2002; Kimes and Wirtz 2003; Wirtz and Kimes 2007), familiarity does not appear to have the same effect for price skimming practices. Furthermore, these differences suggest that price skimming may have an endogenous effect on existing customers, in contrast to the standard assumption in the price skimming literature (Stokey 1979).

Study 2: The Perceived Fairness of Existing-Customer Pricing Policies

Study 2 investigates the ability of existing-customer pricing policies to create higher levels of perceived fairness and satisfaction among customers who purchased their service or product at a higher rate or price. Four existing-customer pricing policies are investigated for relational service customers: (1) automatically adjust the remainder of the contract to the lower price; (2) adjust the remainder of the contract to the lower price only if the customer specifically requests the lower rate; (3) offer to replace the current higher-priced contract with a new contract containing the lower rate offered new customers; and (4) explain to customers that they signed a contract and the lower rates are available only to new customers.

The economics literature refers to automatically adjusting prices to the lowest price available as contemporaneous most-favored customer pricing and has suggested it is a suboptimal strategy for maximizing firm value (Besanko and Lyon 1993; Png 1991). The social justice framework suggests otherwise: most-favored customer pricing policies may be optimal because consumers perceive them as distributively and procedurally just, leading to higher satisfaction, likelihood to repurchase, positive word-of-mouth, and customer lifetime value than other policies. Hence, consumers are expected to view price-skimming practices combined with most-favored customer pricing as procedurally and distributively just and, therefore, the fairest of the investigated policies.

The no-action pricing policy informs customers who ask for the new lower rate that it is only for new customers. Customers should perceive such a policy as distributively unjust since they are paying more for the same service than new customers and procedurally unjust since existing customers are treated differently than new customers.

The contract replacement pricing policy gives existing customers the option of signing the same contract offered to new customers, replacing the less attractive existing contract. Customers should perceive such a policy as procedurally just, since everybody is treated the same and, by signing a new contract, anyone can realize the new price. However, customers will likely view a replacement policy as distributively unjust because it does not take into account an existing customer's previous inputs. Thus, customers will likely view the contract replacement pricing policy as less fair than the most-favored customer pricing policies, but more fair than the no-action policies.

Providers employing a negotiated pricing policy give existing customers the lower rate if they explicitly ask for it. Managers commonly use the policy as a profit-maximizing price discrimination method: price-sensitive customers invest more effort negotiating and, thus, obtain lower prices than less price-sensitive customers (Desai and Purohit 2004). Customers who obtain the lower price are expected to view such an outcome as distributively just, since their inputs and outputs now match their referent others'. However, they are also expected to perceive such a pricing policy as procedurally unjust, since not all customers are treated the same. Thus, customers will likely view the negotiated pricing policy as less fair than the most-favored customer pricing policy, but more fair than the no-action policy.

Methodology

A four-treatment experiment was created based on the wireless phone service manipulation in Study 1 by modifying the script beginning with the customer service representative's response. The four conditions were (1) most-favored, (2) negotiated, (3) contract replacement, and (4) no-action existing-customer pricing policies. For the most-favored condition, participants were told that the company has a policy of giving current customers the best rate offered and had already changed the plan to the new rate. For the negotiated condi-

tion, after Bob said he couldn't do anything about the price differences, participants were told they asked Bob again for the new rate. He then put the participant on hold and, when he returned, stated that he received permission from his manager to give the participant the new rate—since the participant was so nice. For the contract replacement condition, after explaining that the new rate was for new customers only, Bob said he could offer the participant the same rate if the participant signed a new two-year contract. The no-action condition was identical to the wireless script in Study 1. One hundred twenty-four undergraduate students in introductory marketing participated in this study.

Results

A one-way MANOVA with five dependent measures (fairness, satisfaction, positive affect toward provider, likelihood to repeat purchase, and likelihood to recommend) suggested a significant difference among treatment conditions based on Roy's greatest characteristic root ($F_{5,118} = 13.08, p < .001, \text{power} = 1.0$). Separate ANOVAs revealed significant differences between conditions for each dependent variable ($p < .001$). Directional contrasts revealed perceptions of fairness, intent to repurchase, and intent to engage in positive word-of-mouth were all significantly higher for the most-favored customer pricing policy condition ($p < .05$). However, while satisfaction and positive affect toward the provider were both significantly higher for the most-favored customer condition than the replacement and no-action conditions at ($p < .02$), they were not statistically different between the most-favored customer and the negotiated condition (satisfaction $p < .06$; positive affect toward the provider $p < .15$). Directional contrasts also revealed perceptions of fairness, satisfaction, positive affect toward the provider, intent to repurchase, and intent to engage in positive word-of-mouth were all significantly lower for the no-action customer condition ($p < .02$) in comparison to the most-favored customer, negotiation, and replacement pricing policies.

Table 4
Study 2: Mean Values by Existing-Customer Pricing Policies

Variable	Most Favored	Negotiate	Replace	No Action
Distributive/ procedural justice	high/high	high/low	low/high	low/low
Fair	5.77	4.55	4.35	2.58
Satisfied	6.16	5.87	5.26	3.87
Positive affect	5.97	5.52	4.52	3.55
Repurchase	5.52	4.74	4.03	2.84
Recommend	6.03	5.13	4.48	2.68

Discussion

Study 2 adds further support to the notion of an endogenous price-skimming effect and provides insights into how existing-customer pricing policies can mitigate or eliminate such effects. As expected, participants in the most-favored customer pricing policy condition responded the most positively of all the participant groups, while participants in the no-action pricing policy condition responded the least positively. These results support the notion that by increasing the distributive and procedural justice levels of existing-customer pricing policies, managers can moderate or eliminate price skimming's negative effects.

Study 3: Noncomplainers and the Competitive Environment

Study 3 investigates (1) the effect of price skimming practices when customers do not call a provider about their concerns and (2) the effect of industrywide price skimming when a provider's competitor lowers prices, but the provider does not. Some research has suggested that despite the fact that they complain, complaining customers are often as satisfied, as likely to repurchase, and as likely to engage in positive word of mouth as customers who don't complain (Bolton and Bronkhorst 1995; Singh 1990). However, a recent survey comparing noncomplainers with complainers finds that complainers who

received dissatisfactory recovery in service settings were less satisfied, less likely to repurchase, and less likely to engage in positive word-of-mouth than noncomplainers (Voorhees, Brady, and Horowitz 2006). Contradicting both of these perspectives, the social justice literature posits that the most basic and lowest level of procedural justice is voice—the opportunity to provide input into a decision (Tyler et al. 1997). Seeking to discover which of these three competing predictions will find support, Study 3 compares reactions to no-call and no-action conditions to determine if noncomplainers and complainers perceive the fairness and consequences of price skimming practices differently.

Regarding competition, previous research has suggested that consumers infer whether a provider is charging a fair price by comparing it to competitors' prices (Bolton and Alba 2006; Bolton, Warlop, and Alba 2003; Kahneman, Knetsch, and Thaler 1986). However, these studies encouraged comparisons and inferences across retailers and products less prone to significant price-skimming practices. Industrywide price-skimming practices, such as in the computer or wireless-communication industries, may limit the inferences consumers make about costs. Of particular interest is whether consumers perceive and react to their providers' competitors' price decreases in the same way as they perceive

and respond to declines in their providers' prices over time.

According to the social justice framework, consumers ascertain distributive justice, procedural justice, and fairness based on the actions of their provider, not a competitor. Therefore, participants in the provider price decrease condition should compare themselves with the provider's new customers (as in Study 1), but participants in the competitive-pricing condition should not compare themselves with the competitor's new customers. Therefore, participants in the provider price decrease condition should perceive the price decrease as less fair than participants in the competitive-pricing condition and be less satisfied with their service and exhibit lower levels of positive affect for their provider. However, the moderating effect of competition should lead to similar future behavioral intentions (i.e., repurchase, recommend) in both conditions.

Methodology

Study 3 used a 2 (competitive environment) x 4 (existing-customer pricing policy) factorial between-subjects design. The scripts from Study 2 were modified for the competitor condition by telling participants they saw an advertisement by Jupiter Wireless (a competitor of Zeus Communications) for cheaper, but identical, wireless service. Participants in the competitor condition were then told that they called Zeus Communications, talked to Bob and tried to get a lower rate equivalent to that offered by Jupiter Wireless. The second factor included three existing-customer pricing policies and a no-call condition: (1) negotiate, (2) replacement, (3) no action, and (4) no call by the customer to the provider (noncomplainer). For the no-call condition, the script ended after participants were told that they saw a Jupiter Wireless advertisement for an identical plan at a lower rate. Two hundred ninety-one undergraduate students taking introductory marketing participated in this study.

Results

Noncomplainers versus No Action. A one-way MANOVA comparing the no-call (non-complainer) and no-action conditions for the Zeus Communications (provider) conditions with a sample size of 74 participants suggested a difference between conditions based on Roy's greatest characteristic root ($F_{5,68} = 2.367$, $p < .049$, power = .722). However, individual ANOVAs revealed that none of the individual dependent measures were significantly different between conditions at $p < .05$.

Competitive Environment. A 2 (provider vs. competitor) x 4 (existing-customer pricing policy) factorial MANOVA tested the impact of the competitive environment. The competitive-environment factor ($F_{5,279} = 8.319$, $p < .001$, power = 1.0) and the social justice factor ($F_{5,281} = 16.702$, $p < .001$, power = 1.0) were both significant based on Roy's greatest characteristic root. Means for all conditions are shown in Table 5.

Next, 2 (provider vs. competitor) x 4 (existing-customer pricing policy) factorial ANOVAs were conducted for each dependent measure. As shown in Table 6, the competitive-environment and social justice factors were significant for perceptions of fairness, satisfaction, and positive affect toward the provider ($p < .01$). Intent to repurchase and positive word-of-mouth differences were insignificant for the competitive-environment factor ($p < .44$).

Discussion

The lack of differences between the no-call and no-action conditions suggests that even when customers don't complain, they view price skimming as unfair and are much less likely to repurchase than when existing-customer pricing policies are instituted to mitigate such effects. The lack of a significant difference between the no-call and no-action conditions suggests the lowest level of procedural justice—voice—had no impact on participants' perceptions of fairness, satisfaction, and future behavioral intentions. These results

Table 5

Study 3: Means by Social Justice Level and Competitive Environment

	Negotiate		Replace		No Action		No Call		Total	
	high/low		low/high		low/low		low/none		N/A	
Competitive environment	Zeus	Jupiter	Zeus	Jupiter	Zeus	Jupiter	Zeus	Jupiter	Zeus	Jupiter
Fair	4.21	4.87	3.91	4.38	3.43	4.05	2.71	4.58	3.55	4.44
Satisfied	5.85	6.00	4.88	5.27	4.55	4.98	4.09	5.08	4.83	5.29
Positive affect	6.03	6.13	4.58	4.84	3.80	4.69	3.79	5.05	4.52	5.12
Repurchase	5.15	4.90	4.00	3.73	3.05	2.81	2.88	2.95	3.74	3.51
Recommend	5.59	5.71	4.33	4.49	3.33	3.48	3.76	4.00	4.21	4.33

Table 6

Study 3: ANOVA Statistics by Social Justice Level and Competitive Environment

Variable	Social Justice		Competitive Environment	
	<i>p</i> <	<i>F</i> value	<i>p</i> <	<i>F</i> value
Fair	.01	3.82	.01	19.14
Satisfied	.01	10.25	.01	7.25
Positive affect	.01	19.92	.01	11.88
Repurchase	.01	21.63	.42	.66
Recommend	.01	19.96	.44	.60

are consistent with research finding that non-complaining customers are just as likely to switch providers as complaining customers (Bolton and Bronkhorst 1995; Singh 1990).

As predicted, the competitive environment moderated participants' intent to engage in positive word-of-mouth and repurchase. Nonetheless, participants appeared to consider social justice attributes only as they related to their provider's price-skimming behaviors, but not to their provider's competitor's price-skimming behaviors. This finding provides an important new insight for the pricing-fairness literature. Whereas existing research suggests consumers use competitors' prices to ascertain pricing fairness (Bolton and Alba 2006; Bolton, Warlop, and Alba 2003; Kahneman, Knetsch, and Thaler 1986), it appears such

inferences may be limited to industries with more stable or consistent pricing. In contrast, when price skimming occurs across an industry, Study 3 supports the notion that consumers expect their provider to treat all customers with distributive and procedural justice, but do not hold their providers responsible for competitors' actions. But, again, these differences do not exempt providers from having to offer competitive prices for similar services.

Study 4: Social Justice versus Alternative Explanations

Two theories other than social justice theory may explain the findings reported thus far. First, mental accounting (Thaler 1985; Thaler 1999) suggests that participants in the most-favored customer conditions may have more positive views of their situation and judge it to be fair in greater numbers because they are better off than participants in the other conditions. Second, the results may be related to participants being "delighted" by the unexpected positive outcomes relative to their a priori expectations (Kumar, Olshavsky, and King 2001). Whereas the social justice framework suggests a fairness ceiling effect (i.e., situations can't be "too" fair), mental accounting and customer delight explanations suggest that combining most-favored customer pric-

ing policies with fair price changes would exceed consumers' expectations and cause them to be even more satisfied and more likely to engage in positive word-of-mouth and repurchase behaviors.

This final study investigates these alternative explanations by comparing the impact of most-favored customer and no-action pricing policies for the three market contexts: (1) yield pricing for a discrete service, (2) price skimming for a capital good, and (3) price skimming for a relational service. If social justice concerns provide the best explanation for the results reported thus far, then the use of most-favored customer pricing policies should affect participant attitudes only in pricing situations perceived as socially unjust—namely, the two price-skimming contexts. Conversely, if customer delight or mental accounting is responsible for the results reported thus far, then yield pricing combined with most-favored customer pricing policies should lead to higher levels of positive consequences than are generated by yield pricing and a no-action pricing policy.

Methodology

This study employed a 3 (market context) x 2 (existing-customer pricing policy) factorial between-subjects design. For the no-action pricing policy conditions, the stimuli from Study 1 were used. For the most-favored customer pricing policy conditions, participants were told that Zeus has a price protection policy and a refund for the difference had already been sent out. The most-favored wireless service condition was identical to the same condition in Study 2. Two hundred eighteen undergraduate students in introductory marketing participated in this study.

Results

A one-way MANOVA comparing the no-action and most-favored customer conditions for the cruise condition for a sample size of 70 participants revealed a significant difference based on Roy's greatest characteristic root

($F_{5,64} = 2.628, p < .032, \text{power} = .771$).

However, individual one-way ANOVAs revealed only fairness ($p < .03$) was significantly different between conditions (Table 7 contains the mean values; Table 8 provides the ANOVA statistics).

Next, to confirm that participants in Study 4 reacted similarly to those in Study 1, a one-way MANOVA was conducted by dynamic pricing context for the no-action pricing policy. The MANOVA suggested a successful replication of Study 1, showing a significant difference by market context based on Roy's greatest characteristic root ($F_{5,106} = 14.41, p < .001, \text{power} = 1.0$). As shown in Table 9, individual one-way ANOVAs for each dependent measure were all significant ($p < .001$). Participants in Study 4 responded similarly to participants in Study 1 for the no-action pricing policy.

Finally, a one-way MANOVA comparing participants' reactions to most-favored customer policies in dynamic pricing contexts was conducted to test whether the social justice framework provides an explanation that is superior to mental accounting and customer delight. Roy's greatest characteristic root suggested a significant difference among market contexts ($F_{5,99} = 5.13, p < .01, \text{power} = .982$). Individual ANOVAs by dependent measure suggested these results were due to differences in perceptions of fairness ($p < .03$), as shown in Table 9. Individual contrasts revealed perceived fairness was significantly higher for the computer condition than the wireless condition ($p < .01$). However, the fairness levels for the computer ($p = .054$) and the wireless condition ($p = .55$) were not significantly different from the cruise condition. All other dependent measures showed insignificant differences between conditions.

Discussion

The results of Study 4 largely support a social justice explanation over mental accounting or customer delight across all four studies. First, in the cruise conditions, insignificant differences for satisfaction, positive affect toward the

Table 7
Study 4: Means by Pricing Policy and Product/Service

	Most Favored			No Action		
	Wireless	Computer	Cruise	Wireless	Computer	Cruise
Fair	5.57	6.45 ^a	5.78	3.33	5.42 ^a	4.87 ^a
Satisfied	5.63	6.24	6.13	4.44	5.95 ^a	6.45 ^a
Positive affect	6.09	6.16	5.88	3.58	5.61 ^a	5.47 ^a
Repurchase	5.54	5.82	5.63	2.50	5.11 ^a	5.11 ^a
Recommend	6.09	5.97	5.72	3.19	5.24 ^a	5.37 ^a

^a Significantly different from wireless condition at $p < .01$

Table 8
Study 4: ANOVA Statistics by Market Context versus Pricing Policy

Variable	Wireless		Computer		Cruise	
	$p <$	F value	$p <$	F value	$p <$	F value
Fair	.01	28.32	.01	9.45	.03	4.93
Satisfied	.01	8.80	.34	.93	.20	1.68
Positive affect	.01	46.90	.08	3.11	.26	1.29
Repurchase	.01	72.82	.03	4.76	.18	1.80
Recommend	.01	57.38	.02	5.54	.39	.75

Table 9
Study 4: ANOVA Statistics by Pricing Policy

Variable	Most Favored		No Action	
	$p <$	F value	$p <$	F value
Fair	.03	3.77	.01	12.81
Satisfied	.12	2.21	.01	19.58
Positive affect	.68	.40	.01	19.72
Repeat	.69	.37	.01	31.80
Recommend	.55	.60	.01	19.06

provider, and future behavioral intentions between the no-action and most-favored customer conditions support the notion that if customers perceive a situation as socially just, increasing social justice levels with a most-favored customer pricing policy will have no effect.

Additionally, comparing the most-favored customer pricing policies across market contexts, the lack of differences provides further support for the superior explanatory ability of the social justice framework. Specifically, if mental accounting or customer delight accounted for the earlier studies' results, then the cruise coupled with most-favored customer pricing condition would exhibit the highest dependent measures among all experimental conditions, because those participants were clearly the best off among the six conditions and should be the most delighted by their financial windfall. Instead, there were no significant differences for four of the five dependent measures among the three most-favored customer conditions. Hence, the observed results are consistent with social justice predictions, ruling out mental accounting or consumer delight as alternative explanations.

Theoretical Implications

First, this research suggests price-skimming practices have an endogenous effect on existing customers' perceptions of fairness, satisfaction, positive word-of-mouth, and repurchase intent. Second, while most-favored customer pricing policies are thought to be suboptimal in combination with price-skimming practices (e.g., Besanko and Lyon 1993), this research suggests that in certain cases the opposite may be true: most-favored customer pricing policies may be profit maximizing in the long term. Third, this research provides a social justice framework for analyzing the impact of price changes and existing-customer pricing policies. Fourth, regarding the notion that greater familiarity creates marketplace norms for pricing (Kahneman, Knetsch, and Thaler 1986), this research suggests that familiarity affects perceptions of pricing fairness only if, once familiar with a pricing practice, consumers conclude that it is socially just. Fifth, it appears that the notion of dual entitlement is germane for pricing fairness only if consumers are familiar with the cost structures of their providers or specific cues are used to frame price changes.

Managerial Implications

This research offers the social justice framework as a tool to help managers anticipate customer reactions to different realized prices among different customer segments. For example, and with perfect hindsight, the social justice framework explains consumers' strong negative reactions to two recent pricing events: Apple's decision to lower the price of the iPhone and Amazon.com's experiment with differential pricing. Two months after introducing the iPhone, Apple dropped its price from \$600 to \$400 (Hafner and Stone 2007). As a rationale, Steve Jobs, the CEO of Apple, commented that such a price drop is typical, saying, "This is life in the technology lane" (Jobs 2007). However, existing customers were

incensed. Why? The social justice model suggests that customers who bought the iPhone for \$600 in the prior two months compared themselves with new customers who could buy the exact same phone for \$400. Hence, they perceived the price drop as distributively unjust. The speed with which the price dropped (a mere two months after the iPhone's introduction) and the size of the price drop (33%) were extraordinary, even by computer industry standards. The ferocity of the outcry among early purchasers of the iPhone prompted Apple to offer them a \$100 store credit for any Apple product, therefore at least partially addressing the perceived inequity and placating existing customers.

Amazon.com experienced a similar revolt when customers discovered the company had been charging different customers different prices for the exact same product at the exact same time, based on their willingness to pay (Krugman 2000). Willingness to pay was derived based on past purchase behavior at Amazon.com. The outrage was so severe that Amazon.com was forced to cancel the pricing experiment. Why were customers so upset—particularly since they clearly only bought items that were at or below their reservation prices? The social justice framework suggests that charging different customers different prices for the same item at the same point in time violates the principle of procedural justice. All customers did not have the same opportunity to purchase the same product, at the same time, for the same price. The price that a "high-paying" customer saw, when he or she logged in at Amazon, was higher than that seen by a "low-paying" customer: the only way a "high-paying" customer could realize the lower price was to trick Amazon.com into thinking he or she was a new customer.

The impact of a 25% cut in rates—as used in the wireless service conditions in this research—may lead readers to assume that the near-term revenue losses associated with implementing most-favored customer pricing

would overwhelm any positive customer lifetime value effects. But data from the wireless industry suggest otherwise. In the first quarter of 2008, major wireless carriers Verizon Wireless, AT&T, T-Mobile, and Sprint-Nextel had monthly churn rates (percentage of customers discontinuing service) of 1.21%, 1.7%, 1.7%, and 2.45%, respectively (Moorman 2008). At AT&T's churn rate, if the company dropped its prices from \$39.99 a month to \$29.99 a month, a current customer paying \$39.99 a month would be worth \$2,352 in future revenue. However, if AT&T implemented a most-favored customer pricing policy and if, as a result, its monthly churn rate dropped to 1.25%, those same customers paying \$29.99 a month would each represent future revenues of \$2,399. Hence, increasing social justice by implementing a most-favored customer pricing policy could increase, rather than decrease, AT&T's long-term profitability.

Future Research

Although the above four studies support the notion of an endogenous price-skimming effect, there is much work to be done to understand its ramifications. For example, how do the time elapsed since the consumer purchased the product and the amount of the price decrease affect perceptions of fairness? Although Study 4 assumed a retroactive rebate for a computer purchased six months earlier, that was an extreme example to rule out a customer delight or mental accounting explanation. But the question of what compensation *would* adequately moderate the endogenous price-skimming effect in a similar context remains.

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The greatest opportunities for future research that would contribute to marketing practice are field studies assessing the impact of price skimming practices on current customers in the marketplace. For example, if a wireless carrier implemented most-favored customer pricing in one geographic market and other forms of existing-customer pricing policies in other markets, would the implementation of most-favored customer policies offset near-term revenue losses? How would different pricing policies affect churn rates? Although the four studies presented herein suggest most-favored customer practices may be the optimal policy in such situations, the nature of experimental studies makes it difficult to predict the persistence of unfairness perceptions over months or the moderating effect of real-world market dynamics. Although the theory and research underlying the social justice framework are formidable, the most robust test of a social justice framework for price skimming would be in the market, rather than in experimental settings.

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