

# The Roles of Price, Performance, and Expectations in Determining Satisfaction in Service Exchanges

In this article, the authors examine the roles that price, performance, and expectations play in determining satisfaction in a discrete service exchange. The authors maintain that the price fluctuations common to the many service industries that implement demand-oriented pricing, combined with the inherent heterogeneity of service performance, likely result in price-performance combinations that vary widely. Furthermore, the authors propose that the level of price-performance consistency in a service exchange moderates the relationship between performance expectations and subsequent performance and satisfaction judgments. When price and performance are consistent, expectations have an assimilation effect on performance and satisfaction judgments; when price and performance are inconsistent, expectations have no effect on performance and satisfaction judgments. To examine these issues, the authors develop a contingency model that they estimate using data from a multimedia experimental design. The results generally support the contingency framework and provide empirical support for normative guidelines that call for creating realistic performance expectations and offering money-back service guarantees.

Satisfaction research to date has been extensive and has focused primarily on the relationship between prepurchase performance expectations and postpurchase satisfaction (for a review, see Yi 1990). The empirical evidence from this research has been equivocal, with several studies reporting a positive relationship between expectations and satisfaction (e.g., Anderson, Fornell, and Lehmann 1994; Cadotte, Woodruff, and Jenkins 1987; Churchill and Surprenant 1982 [one experiment]; Oliver 1980 [one sample]; Tse and Wilton 1988) and others reporting no significant relationship (e.g., Churchill and Surprenant 1982 [one experiment]; Oliver 1980 [one sample]; Spreng and Olshavsky 1993). Normative guidelines for managing customer expectations are unclear as well, with the proposed recommendations ranging from inflating expectations (e.g., Boulding, Kalra, and Staelin 1996; Boulding et al. 1993) to keeping them at levels consistent with actual performance (e.g., Parasuraman, Berry, and Zeithaml 1991) to deflating them (e.g., Davidow and Uttal 1989).<sup>1</sup>

The effect of price on satisfaction has received considerably less research attention than have the roles of expectations and performance perceptions (Spreng, Dixon, and Olshavsky 1993). Yet price-based prescriptions for satisfying customers are proffered and practiced fairly widely. For example, money-back guarantees have been advocated for achieving total customer satisfaction (e.g., Heskett, Sasser, and Hart 1990), and fixed price (e.g., everyday low price) strategies have been recommended to satisfy and reward loyal customers (e.g., Ortmeyer, Quelch, and Salmon 1991). However, satisfaction literature offers little insight into the effect these pricing decisions might have on customer satisfaction.

Another shortfall in the extant satisfaction research is that only a small proportion of it focuses on services. This is a major deficiency because the paucity of search qualities associated with services is likely to produce greater performance uncertainty and, thus, decreased accuracy in consumers' predictive expectations. Prior research suggests that, when faced with performance uncertainty, consumers are likely to use price as a cue in forming performance expectations (Dodds, Monroe, and Grewal

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<sup>1</sup>Throughout the article, we use the term *expectations* to refer to predictive expectations, consistent with how the construct typically is defined in satisfaction literature (e.g., Yi 1990). The term is not to be confused with other types of "expectations" that have been suggested as comparison standards for service quality assessment (cf. Boulding et al. 1993; Parasuraman, Zeithaml, and Berry 1994) or satisfaction determination (cf. Spreng, MacKenzie, and Olshavsky 1996; Spreng and Olshavsky 1993).

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1991; Grewal 1995; Rao and Monroe 1988, 1989). However, service companies, because of their inability to inventory their offerings, often practice demand-oriented pricing, which results in widely varying prices for the same service depending on the time of day, week, or year, among other factors. As a result, consumers are likely to experience price–performance inconsistencies to a greater extent in service than in product contexts. As such, the influence of price and performance expectations, and that of price–performance consistency (or lack thereof), on satisfaction formation in service contexts is especially worthy of investigation.

In this study, we undertake such an investigation by developing a model that incorporates both pre- and postpurchase evaluations and testing it with data from a simulated service experiment. A unique feature of our study is the use of multimedia technology to simulate a service exchange. Previous attempts to manipulate service performance have relied largely on written scenarios (e.g., Boulding et al. 1993), sometimes supplemented with visual cues (e.g., Bitner 1990). The ecological validity of these methods of manipulating service performance has been assumed without verification. Recently, however, Bateson and Hui (1992) provided empirical evidence that slides and videotape offer an ecologically valid method to simulate service exchanges in experimental settings. Building on these findings, we use multimedia technology that incorporates text, audio, slides, and video to simulate—and capture customer reactions to—the prepurchase decision phase and the actual consumption of a hotel service.

### **A Contingency Model of Satisfaction Formation**

Much of the interest in the role that performance expectations play in determining postpurchase satisfaction can be traced to the disconfirmation-of-expectations model of satisfaction, which has been applied in a variety of contexts. In one of the early and more influential studies invoking the disconfirmation model, Churchill and Surprenant (1982) report inconsistent results for the effect of performance expectations on satisfaction. In an experiment using a videodisk player as the stimulus, satisfaction depended solely on perceived performance, whereas in an experiment using a house plant as the stimulus, satisfaction was explained by an augmented model that included performance expectations and perceived performance as independent variables. Churchill and Surprenant conclude that the effect of performance expectations on satisfaction might be moderated by the type of product category under consideration.

Other studies also have reported an inconsistent or weak association between performance expectations and subsequent perceptions of performance or quality (for a review, see Yi 1990). Anderson and Sullivan (1993, p. 139, *italics added*), for example, note that “the assimilation effect [of expectations] does not explain a large proportion of the variance in perceived quality. Further investigation of the as-

similation effect and *the conditions under which the effect is weak or strong* is a good topic for future research.”

These results collectively suggest that a contingency framework may be appropriate for modeling the satisfaction formation process. Assimilation-contrast theory (Sherif and Hovland 1961), which focuses on the effect attitudinal anchors have on how new information is processed and integrated, provides a theoretical foundation for developing such a framework. Applied to a postpurchase evaluation, assimilation-contrast theory predicts two potential outcomes: (1) If actual performance is close to expectations, assimilation will occur and subsequent judgments (i.e., satisfaction) will be influenced positively by those expectations or (2) If actual performance is sufficiently different from prepurchase expectations, assimilation will not occur and expectations will have either no effect or a negative (contrast) effect on subsequent judgments.

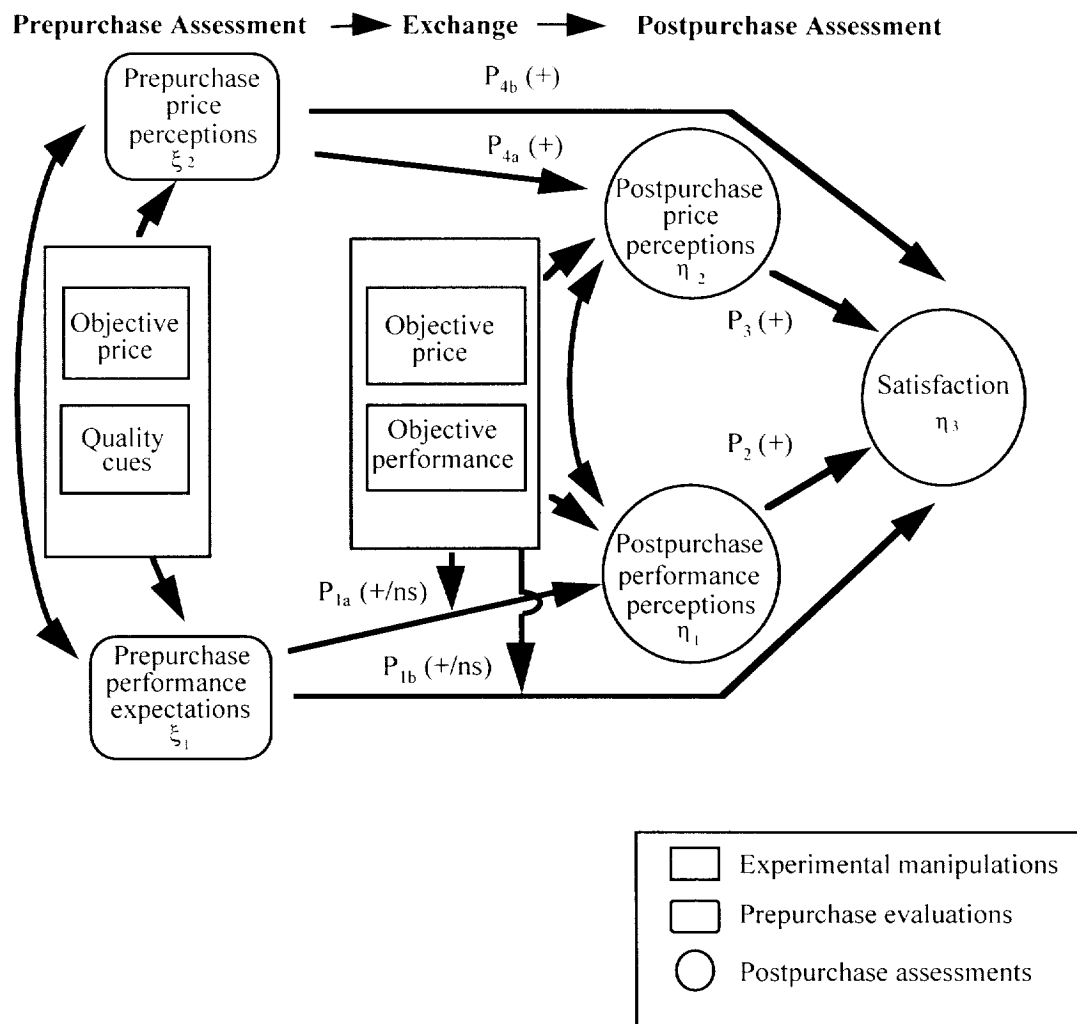
Our conceptualization exhibits similarities to Spreng, Dixon, and Olshavsky's (1993) model, but it departs from prior satisfaction research in that it posits that prepurchase expectations are a function of both price and quality information and that satisfaction is a function of price, performance, and expectations. We also posit that assimilation effects will be present only if performance is consistent with the price charged; if performance is inconsistent with the price charged, expectations will have no effect on either performance or satisfaction judgments. We portray our conceptual framework in Figure 1.

### **The Moderating Effect of Price–Performance Consistency on the Satisfaction Formation Process**

The majority of satisfaction research focuses on tangible products, but the collective results from several field studies that examine customer satisfaction in service contexts are also inconclusive regarding the role of performance expectations (see Table 1). Although a few studies find a positive expectations–perceived performance association, an equal number find no significant association. Support for an expectations–satisfaction link is even more sparse. This inference is supported further by Anderson's (1994) results: On the basis of a cross-category study using survey methodology, he finds that the expectations–satisfaction relationship is significantly ( $p < .001$ ) attenuated for service industries.

One possible reason for the mixed results across prior empirical studies of satisfaction is that none of them explicitly examines the role of price in postpurchase evaluations or the possibility that the postpurchase effects of prepurchase expectations might be moderated by the degree of consistency (or lack thereof) between the levels of performance and price. Moreover, previous studies were closer to field studies than to experiments, in that they did not manipulate performance levels explicitly. The relative lack of search characteristics associated with services, coupled with the wide fluctuations in their pricing and performance, might account for the weak and inconsistent findings pertaining to the effects of prepurchase expecta-

**FIGURE 1**  
**A Contingency Model of the Impact of Prepurchase Expectations and Postpurchase Perceptions of Price and Performance on Satisfaction**



tions. As was already mentioned, in such uncertain environments, consumers are likely to use price as a cue in forming prepurchase performance expectations. If they do, and if the price charged is the same as the price quoted prior to purchase, the extent to which prepurchase expectations influence postpurchase evaluations might depend on the degree of consistency between the price and the actual performance; that is, the greater the consistency, the stronger the assimilation effect of prepurchase expectations is likely to be.

This implies that the assimilation of postpurchase evaluations with prepurchase expectations is likely to occur only when the service performance is consistent with price, that is, when consumers buying a high- (low-) priced service also receive high (low) service performance. When the service performance is inconsistent with price—that is, a high-priced service delivers poor performance or a low-priced service delivers good performance—prepurchase expectations are likely to have either a negative effect or no effect on subsequent performance perceptions and satisfaction judgments. Be-

cause previous attempts to elicit a contrast effect for expectations on perceived performance and satisfaction judgments generally have not been successful (Yi 1990), we suspect that expectations will have no effect on performance and satisfaction judgments when price and performance are inconsistent. Therefore, we posit the following:

- $P_1$ : The effects of performance expectations are contingent on price-performance consistency: (a) Performance expectations will have a positive effect on perceived performance when there is price-performance consistency; they will have no effect when price and performance are inconsistent and (b) Performance expectations will have a positive effect on satisfaction when there is price-performance consistency; they will have no effect when price and performance are inconsistent.

#### ***The Roles of Price and Performance Perceptions in Satisfaction Formation***

Consumer behavior models typically suggests that (dis)satisfaction results from an evaluation of the rewards and sac-

**TABLE 1**  
**The Role of Performance Expectations Uncovered by Previous Satisfaction Studies in Service Contexts**

Study	Context	Link Between Performance Expectations and Perceived Performance	Link Between Performance Expectations and Satisfaction
Swan and Trawick (1981)	Restaurants	Not studied	Positive
Cadotte, Woodruff, and Jenkins (1987)	Restaurants	Positive	Not significant
Westbrook (1987)	Cable television	Not significant	Not significant
Gupta and Stewart (1996)	Banks	Positive	Not significant
Spreng and Mackoy (1996)	Undergraduate student advising	Positive	No direct link (but indirect positive link through disconfirmation)
Patterson, Johnson, and Spreng (1997)	Business-to-business professional services	Not significant	No direct link (but indirect negative link through disconfirmation)

rifices associated with the purchase (e.g., Howard and Sheth 1969). Although the purchase evaluation might involve multiple dimensions, here we focus on service performance as the key reward and price as the key sacrifice associated with a service exchange. Consistent with extensive conceptual and empirical work, we expect that performance perceptions will have a positive impact on satisfaction judgments.

P<sub>2</sub>: Postpurchase performance perceptions will have a positive impact on satisfaction.

Although the relationship between performance and satisfaction has been researched extensively, relatively few satisfaction studies have incorporated a sacrifice dimension specifically (cf. Spreng, Dixon, and Olshavsky 1993). Of the satisfaction studies that have involved examining sacrifice, several have invoked equity theory, sometimes in conjunction with disconfirmation. Oliver and colleagues (Oliver and DeSarbo 1988; Oliver and Swan 1989a, b) propose that satisfaction results from two comparison processes: *disconfirmation*, comparing perceived performance with expected performance, and *equity*, comparing the consumer's own outcome/input ratio with the salesperson's or retailer's outcome/input ratio. Framing equity as a stock investment outcome (i.e., investment return minus broker commissions), Oliver and DeSarbo report small effects of equity on satisfaction. Framing equity as paying more or less than a friend did for an airline ticket, Fisk and Young (1985) report a significant effect of equity on satisfaction. In a similar vein, Fornell and colleagues (1996) report a positive effect of perceived value (i.e., perceived quality relative to price) on satisfaction. Although these studies collectively suggest that perceived equity or value positively influences satisfaction, they do not examine the separate effects of postpurchase performance and price perceptions on satisfaction judgments. To our knowledge, ours is the first study to

explore these separate effects so as to facilitate inferences about the relative impact of performance and price on satisfaction. Consistent with our predictions regarding the impact of performance perceptions, we expect that more (less) favorable price perceptions will contribute to more (less) favorable satisfaction judgments.

P<sub>3</sub>: Postpurchase price perceptions will have a positive impact on satisfaction.

### ***The Impact of Prepurchase Price Perceptions on Postpurchase Assessments***

Previously, we argued that prepurchase performance expectations would have no direct or indirect impact on satisfaction, unless there is consistency between price (and, thus, price-induced expectations) and actual performance. In conditions characterized by performance uncertainty, prepurchase price perceptions likely play an increased role in determining both prepurchase preference and postpurchase satisfaction. This is especially true for service industries that practice demand-oriented pricing; as demand and prices for these services fluctuate from low to high, consumers sometimes are forced to pay more for the service than they believe is fair. In such cases, the fairness of the price—and not the service performance—might be the dominant determinant of satisfaction, and prepurchase price perceptions might act as reference points for both postpurchase price perceptions and subsequent satisfaction judgments. As long as there is no change in the actual price from the pre- to the postpurchase assessment, we expect that postpurchase price perceptions and satisfaction will assimilate with prepurchase price perceptions. Therefore,

P<sub>4</sub>: Prepurchase price perceptions will have (a) a positive effect on postpurchase price perceptions and (b) a positive effect on satisfaction.

## Research Design

We selected hotel services as an appropriate product category in which to examine our propositions. The major hotel companies use yield management pricing policies that produce wide variations in pricing for the same room in the same hotel depending on the day of the week and/or season of the year. Moreover, because hotel services are customized (Lovelock 1983), there is a strong likelihood that performance is heterogeneous across service encounters. Therefore, hotel services, by virtue of the uncertainty consumers are likely to experience in evaluating them prior to purchase, provide an appropriate context for examining our propositions. We use multimedia technology to simulate a hotel service exchange and collect the pre- and postpurchase measures.

### Subjects and Procedure

The formation of prepurchase expectations might be influenced by both company-related factors (e.g., pricing) and customer characteristics (e.g., experience level). Because we were interested in examining the effect of the former on the role of expectations in satisfaction formation, we attempted to control for the latter by using a relatively homogeneous, knowledgeable, and experienced sample, recruited from the faculty at a large, national university. To encourage participation, respondents were compensated with a \$35 dinner certificate good at one of three local, fine-dining restaurants. Telephone calls were made to 474 potential subjects, of whom 200 agreed to participate. The resulting sample consisted of generally knowledgeable, experienced travelers who made more than five trips per year that required them to stay overnight in a hotel; they were mostly male (84%), married (87%), age 35–64 years (88%), and had an annual family income exceeding \$45,000 (93%). Chi-square analyses indicated no significant differences between the sample and the university population distributions for gender ( $p = .34$ ) and rank (i.e., assistant, associate, or full professor;  $p = .90$ ).

Subjects were instructed to assume they were planning a personal trip to a major city that would require an overnight hotel stay, for which they would have to pay themselves. They interacted individually with a computer terminal during each of five steps: (1) a preliminary introduction and training session, (2) the prepurchase decision phase, (3) measurement of prepurchase price perceptions and performance expectations, (4) the simulated service exchange, and (5) measurement of postpurchase perceptions. Three precautions were taken to minimize potential response biases during each of the two measurement phases: (1) the ordering of questions was randomized by the computer program, (2) the multimedia program was designed so that most questions appeared in isolation on the computer screen—after a question was answered, the screen would change and respondents could not go back to check or change answers, and (3) a mix of positively and negatively worded items was used.

### Experimental Design and Stimuli

Two types of information were provided to subjects during the prepurchase decision phase: (1) price and room-availability information was provided by an audio “telephone

call” to the hotel and (2) information regarding the hotel’s amenities was displayed on-screen using the hotel’s actual sales brochure. The experimental design for the prepurchase phase was a between-subjects  $2 \times 2$  factorial that manipulated price (\$79/\$129)<sup>2</sup> and brand name (present/absent).<sup>3</sup> During the simulated service exchange, the price manipulation (\$79/\$129) was maintained (i.e., the low- [high-] priced cells in the prepurchase phase were retained as the low- [high-] priced cells in the postpurchase stage), an objective performance (high/low) manipulation was implemented, and the brand name was prominently featured in all treatments. Thus, the postpurchase design is, in effect, a  $2$  (high/low price)  $\times$   $2$  (high/low quality) factorial. Two of the four treatments (high price/high quality and low price/low quality) correspond to price–performance consistency conditions, and the remaining two treatments (high price/low quality and low price/high quality) correspond to price–performance inconsistency conditions.

In designing the videotaped service exchange, we identified manipulations for each of the five dimensions of service quality (Parasuraman, Zeithaml, and Berry 1988)—reliability, responsiveness, assurance, empathy, and tangibles—using a focus group. We then created two hotel check-in scenarios, one low quality and the other high quality, which were scripted and videotaped at the hotel site and pretested with four groups of student subjects (total  $n = 135$ ), at which time qualitative feedback was solicited on how to improve the ecological validity of the videotaped scenarios. The scenarios then were rescripted and videotaped a second time, using professional actors and camera crew. Two measures of ecological validity indicated that subjects believed the use of video to portray the service exchange was realistic (mean = 5.5, mode = 6, on a seven-point scale anchored by “very unrealistic” [1] and “very realistic” [7]) and the videotaped scenario itself was realistic (mean = 5.0, mode = 6, on a seven-point scale anchored by “very unrealistic” [1] and “very realistic” [7]). A manipulation check indicated that the quality manipulation had the

<sup>2</sup>The price points were selected on the basis of a pretest conducted with a convenience sample of 25 faculty members, who were given a copy of the hotel brochure and asked to give the lowest and highest prices they would expect to pay for a room at this hotel. The mean scores for the low and high prices were \$70.67 and \$132.54, respectively. The \$79/\$129 price points fall within this expected range and within the actual range at the stimulus hotel, which featured a \$59 weekend rate and a \$149 regular rate. A subsequent manipulation check indicated that the price manipulation had the desired effect on prepurchase price perceptions ( $p < .001$ ).

<sup>3</sup>For the brand-present treatment, brand information was provided in the hotel brochure; for the brand-absent treatment, the brochure was edited to eliminate references to the brand name. Brand name was used as a manipulation of service performance expectations on the basis of previous empirical support for a brand’s effects on product quality perceptions (e.g., Rao and Monroe 1989) and conceptual arguments that brand name should be even more important as a signal of service quality (Bharadwaj, Varadarajan, and Fahy 1993). The actual brand name used in this experiment is a widely recognized, national chain with a focused, upscale image. A manipulation check indicated that the brand manipulation had a nonsignificant (though positive) effect on performance expectations.

desired effect on performance perceptions ( $p < .001$ ). Appendix A provides a description of the scenarios.

### Measurement

We developed multiple-item scales for each of the five constructs shown in Figure 1. Appendix B provides a description of the measures, along with summary statistics, and details some minor refinements that were required for the performance expectations and perceptions scales. To operationalize performance expectations and perceptions, we developed items for each of the dimensions of service quality identified by Parasuraman, Zeithaml, and Berry (1988). This approach to measuring service performance expectations and perceptions is consistent with recent distinctions between perceived service quality and perceived service performance (e.g., Cronin and Taylor 1992; Zeithaml, Berry, and Parasuraman 1996). In conceptualizing price perceptions, we adopted Zeithaml's (1984, p. 615) definition of *price perceptions* as the "translation of [the objective price] into cognitions that are meaningful and relevant to the consumer." The resulting scales are consistent with the notion of price acceptability and with Thaler's (1985) transaction value, that is, the fairness of the financial aspects of an exchange. Consistent with Westbrook and Oliver's (1991) study, the satisfaction scale incorporates separate measures of positive and negative affect associated with the service performance.

Following Anderson and Gerbing's (1988) work, we assessed the validity of the scale items using confirmatory factor analysis (CFA). We conducted the CFA using multiple group analysis, following the procedures outlined by Jöreskog and Sörbom (1989, pp. 230–33). We began by es-

timating a base measurement model that allowed the values for the factor loadings (lambdas), the factor correlation (phi) matrix, and the item error terms (theta deltas) to vary across treatment groups. This model, which specifies that the four groups have a common factor structure that corresponds to the proposed measures, fits the data well (the  $\chi^2$  value was 280.4,  $df = 320$ ,  $p = .95$ ). We then conducted  $\chi^2$  difference tests to determine if the factor loadings and factor correlation matrices were invariant across treatment groups. These tests indicated that constraining the factor loadings to be invariant across groups did not lead to a significant decrement in model fit ( $\chi^2$  difference was 37.2,  $df = 45$ ,  $p > .10$ ) but that constraining the factor correlation matrix to be invariant across groups did lead to a marginally significant decrease in model fit ( $\chi^2$  difference was 43.6,  $df = 30$ ,  $p \approx .05$ ). These results support the stability of the proposed factor structure and measures across treatment groups, but they also suggest that the relationships between factors are not stable across groups. The latter finding is consistent with our proposed contingency model of satisfaction formation.

We assessed the convergent validity of the individual scales by averaging scores on relevant criteria across treatment groups (see Table 2). In each case, the measurement model explained an acceptable percentage of variance in the individual measures across treatments, and the construct reliabilities all exceeded the recommended minimum standards (see Bagozzi and Yi 1988). We then determined whether the measurement model satisfied three conditions that commonly are considered evidence of discriminant validity: (1) the squared correlation estimate between pairs of factors was less than the variance extracted for each con-

**TABLE 2**  
**Construct Measurement Assessment**

	Loadings	Average Construct Reliability	Average Variance Extracted
<b>Prepurchase performance expectations</b>		.90	.75
1. Overall quality	.89		
2. Reliability	.95		
3. Employee quality	.74		
<b>Prepurchase price perceptions</b>		.78	.55
1. Reasonable price	.82		
2. Expensive price	.58		
3. Pleased with price	.80		
<b>Postpurchase performance perceptions</b>		.83	.62
1. Overall quality	.85		
2. Reliability	.74		
3. Employee quality	.78		
<b>Postpurchase price perceptions</b>		.84	.63
1. Reasonable price	.69		
2. Satisfactory price	.86		
3. Rip-off	.83		
<b>Satisfaction with the performance</b>		.83	.63
1. Satisfied	.87		
2. Delighted	.81		
3. Unhappy	.69		

struct (e.g., the largest squared correlation was .49 between postpurchase performance perceptions and satisfaction [see Table 3], which is less than all of the values in the variance extracted column in Table 2); (2) the confidence interval for each pairwise correlation estimate (i.e.,  $\pm$  two standard errors) did not include the value of 1 (e.g., the confidence interval for the correlation between postpurchase performance perceptions and satisfaction was .58 to .82 [see Table 3]); and (3) for every pair of factors, the  $\chi^2$  value for a measurement model that constrained their correlation to equal 1 was significantly greater than the  $\chi^2$  value for the model that did not place such a constraint (e.g., for the postpurchase performance perception and satisfaction factors, the  $\chi^2$  difference between the constrained and unconstrained models was 27.3,  $df = 1$ ,  $p < .01$ ).

## Analysis and Results

To provide a theoretical basis for the analysis strategy we used in assessing the relationships in the conceptual model depicted in Figure 1, it is useful to consider a mathematical representation of the model. Equation 1 offers such a representation:

$$(1) \quad S_t = E\text{Perf}_{t-1} + F(\text{OPerf}_t, E\text{Perf}_{t-1}) + E\text{Price}_{t-1} + G(\text{OPrice}_t, E\text{Price}_{t-1}),$$

where

$S_t$  = satisfaction at time  $t$ ;

$E\text{Perf}_{t-1}$  = prepurchase performance expectations at time  $t - 1$ ;

$\text{OPerf}_t$  = objective performance at time  $t$ ;

$F$  = a performance perception function, presumably dependent on objective performance and prepurchase performance expectations;

$E\text{Price}_{t-1}$  = prepurchase price perceptions at time  $t - 1$ ;

$\text{OPrice}_t$  = objective price at time  $t$ ; and

$G$  = a price perception function, presumably dependent on objective price and prepurchase price perceptions.

The model represented by Equation 1 captures both the direct and indirect effects (mediated by postpurchase perceptions) of expectations on satisfaction. For example, testing for the effect of prepurchase performance expectations on postpurchase performance perceptions ( $P_{1a}$ ) involves examining the first-order derivative of the performance perception function ( $F$  in Equation 1) with respect to expectations. Dropping time subscripts for notational simplicity, if the performance perception function ( $F$ ) is subject to assimilation effects, the first-order, partial derivative of  $F$  with respect to expectations should be positive (i.e.,  $\delta F / \delta E > 0$ ). In other words, if we hold objective performance constant, higher (lower) expectations should produce higher (lower) performance perceptions. If  $F$  is subject to contrast effects, the first-order, partial derivative of  $F$  with respect to expectations should be negative (i.e.,  $\delta F / \delta E < 0$ , or if we hold objective performance constant, higher [lower] expectations should produce lower [higher] performance perceptions). If expectations have no effect on performance perceptions, the first-order, partial derivative of  $F$  with respect to expectations should be zero (i.e.,  $\delta F / \delta E = 0$ ). Testing for a direct effect of performance expectations on satisfaction ( $P_{1b}$ ) requires disentangling the direct effect of expectations on satisfaction from the indirect effect (exerted through postpurchase performance perceptions). Direct effects are manifested as significant partial derivatives for the first  $E\text{Perf}_{t-1}$  term in Equation 1. The analysis for direct and indirect price effects is similar to that for performance effects.

To test the model, we used multiple-group, path analysis (see Bagozzi and Yi 1989), a technique that is especially appropriate when the covariance matrices differ significantly across treatments, as is the case in our study. In effect, the multiple-group analysis removes the impact that objective performance ( $\text{OPerf}_t$  in Equation 1) and ob-

TABLE 3  
Construct Correlations and Discriminant Validity Assessment

Construct	I	II	III	IV	V
I. Prepurchase performance expectations	1.0				
II. Prepurchase price perceptions		1.0			
Correlation	-.02				
(Standard error)	(.11)				
t-value	-.17				
III. Postpurchase performance perceptions			1.0		
Correlation	.25	.23			
(Standard error)	(.10)	(.11)			
t-value	2.44	2.03			
IV. Postpurchase price perceptions				1.0	
Correlation	-.15	.70	.40		
(Standard error)	(.11)	(.07)	(.10)		
t-value	-1.32	10.21	4.08		
V. Satisfaction with the performance					1.0
Correlation	.28	.18	.70	.45	
(Standard error)	(.10)	(.11)	(.06)	(.09)	
t-value	2.76	1.63	11.28	4.72	

jective price (OPrice<sub>i</sub> in Equation 1) have on satisfaction and provides path coefficients for the remaining relationships. These completely standardized path coefficients can be interpreted as first-order, partial derivatives that correspond to the respective paths. Using multiple-group analysis also enabled us to determine whether the structural coefficients varied significantly across treatments. To do this, we examined the fit of three versions of the structural model: (1) an unconstrained model that allowed the beta and gamma coefficients to vary freely across the four treatments, (2) a partially constrained model that specified that the beta and gamma coefficients be equal across the two consistent conditions (i.e., low quality/low price and high quality/high price) and the two inconsistent conditions (i.e., low quality/high price and high quality/low price), and (3) a fully constrained model that specified that the beta and gamma coefficients be equal across all four treatments.

All three models fit the data well and explained a substantial proportion of the variation in satisfaction. For the fully constrained model,  $\chi^2$  was 366.8 (df = 397;  $p = .86$ ), the normed fit index (NFI) was .99, and the squared multiple correlation for satisfaction was .58; for the partially constrained model,  $\chi^2$  was 353.2 (df = 391;  $p = .92$ ), the NFI was .99, and the squared multiple correlation for satisfaction was .65; and for the unconstrained model,  $\chi^2$  was 343.1 (df = 379;  $p = .91$ ), the NFI was .99, and the squared multiple correlation for satisfaction was .63. A series of  $\chi^2$  difference tests indicated that the partially constrained model fit the data better than the fully constrained model ( $\Delta\chi^2 = 13.6$ , df = 6,  $p < .05$ ) and as well as the unconstrained model ( $\Delta\chi^2 = 10.1$ , df = 10,  $p > .05$ ). These results suggest that price–performance consistency had a significant moderating effect on the beta and gamma structural coefficients.

In Table 4, we present the standardized structural coefficients produced by the multiple-group analyses. We report three sets of coefficients: (1) aggregate-level coefficients (the first column of numbers), obtained by constraining the coefficients to be invariant across all four treatments; (2) coefficients for the consistent and inconsistent conditions (the second and third columns), obtained by imposing coefficient equality between the low-quality/low-price and high-quality/high-price treatments and between the low-quality/high-price and high-quality/low-price treatments, respectively; and (3) coefficients for each of the four treatments (columns four through seven). Although accurately assessing the true significance of the third set of coefficients is somewhat difficult because of the relatively small cell sizes (i.e., 50 subjects per cell), the overall pattern of these coefficients is in line with the pattern of coefficients for the partially constrained model (i.e., the second set).<sup>4</sup> Furthermore, only the coefficients for the constrained and partially constrained

models are necessary to examine the propositions formally. As such, we focus on these two sets of coefficients.

The aggregate-level results (betas and gammas invariant) in Table 4 suggest that performance expectations have a significant effect on performance perceptions ( $p < .01$ ) and satisfaction ( $p < .05$ ). These results are consistent with a majority of satisfaction literature (e.g., Anderson, Fornell, and Lehmann 1994; Cadotte, Woodruff, and Jenkins 1987; Spreng and Mackoy 1996; Swan and Trawick 1981; Tse and Wilton 1988). However, the data in Table 4 also suggest that the effects of performance expectations on performance perceptions and satisfaction differ significantly, depending on whether price and performance are consistent or inconsistent. The effects are positive and significant when there is price–performance consistency but nonsignificant when price and performance are inconsistent. These results support P<sub>1a</sub> and P<sub>1b</sub> and suggest that performance expectations serve as an assimilation anchor for postpurchase evaluations only when there is price–performance consistency. The apparent moderating role of price–performance consistency (or lack thereof) has not been investigated in previous studies and, therefore, is a plausible explanation for the differences in findings across those studies.

The aggregate-level results in Table 4 offer strong support for both P<sub>2</sub> and P<sub>3</sub>. Postpurchase performance perceptions have a significant, positive effect on satisfaction ( $p < .01$ ), as do postpurchase price perceptions ( $p < .01$ ). Although the findings pertaining to P<sub>2</sub> basically reinforce prior research, those pertaining to P<sub>3</sub> are relatively new because, as was mentioned previously, the separate effect of price perceptions on service satisfaction has not been investigated empirically. The coefficients for the partially constrained model reinforce the support for P<sub>2</sub> and P<sub>3</sub> and suggest that the relative impact of performance and price perceptions on satisfaction depends on price–performance consistency. The impact of performance may be stronger than that of price when there is price–performance consistency (.54 versus .31), whereas the impact of price may be stronger than that of performance when there is price–performance inconsistency (.77 versus .37).

The results in Table 4 also offer consistent support for P<sub>4a</sub>. Prepurchase price perceptions have a significant, positive effect on postpurchase price perceptions at the aggregate level, as well as within the various treatment conditions. However, contrary to P<sub>4b</sub>, the results do not show a positive impact of prepurchase price perceptions on satisfaction. In addition, the coefficients for the partially constrained model suggest that the effect of prepurchase price perceptions on satisfaction is moderated by price–performance consistency. When price and performance are consistent, prepurchase price perceptions have no impact on satisfaction; when price and performance are inconsistent,

<sup>4</sup>Although the coefficient patterns reported in Table 4 for the two consistent price–performance conditions are not identical, a series of  $\chi^2$  difference tests indicated that none of the coefficients was significantly different. For example, the structural coefficient for the postpurchase price perceptions-to-satisfaction path was .02 in

the low-quality/low-price condition, .61 in the high-quality/high-price condition, and .31 in the partially constrained, consistent condition. Relaxing the equality constraint for this coefficient in the partially constrained model did not produce a significant ( $p < .05$ ) improvement in the fit of the model to the data.



**TABLE 4**  
**A Contingency Model of the Impact of Prepurchase and Postpurchase Evaluations of Price and Performance on Satisfaction**

	Constrained Model	Partially Constrained Model		Unconstrained Model			
	(1) Betas and gammas invariant*	(2) Consistent conditions	(3) Inconsistent conditions	(4) Low quality/ low price	(5) Low quality/ high price	(6) High quality/ low price	(7) High quality/ high price
P <sub>1a</sub> Performance expectations → Postpurchase performance perceptions	.29 (2.78)	.51 (3.88)	-.07 (-.46)	.28 (1.43)	-.09 (-.43)	.03 (.16)	.63 (3.50)
P <sub>1b</sub> Performance expectations → Satisfaction	.18 (1.96)	.23 (1.73)	.04 (.35)	.06 (.40)	.10 (.64)	.05 (.31)	.38 (1.87)
P <sub>2</sub> Performance perceptions → Satisfaction	.52 (4.45)	.54 (3.78)	.37 (1.95)	.78 (4.15)	.40 (1.80)	.35 (1.39)	.24 (1.25)
P <sub>3</sub> Postpurchase price perceptions → Satisfaction	.41 (2.52)	.31 (1.47)	.77 (2.77)	.02 (.07)	.74 (2.18)	.82 (2.36)	.61 (2.18)
P <sub>4a</sub> Prepurchase price perceptions → Postpurchase price perceptions	.67 (5.05)	.55 (4.00)	.83 (4.96)	.51 (2.71)	.92 (4.59)	.73 (4.23)	.70 (4.14)
P <sub>4b</sub> Prepurchase price perceptions → Satisfaction	-.23 (-1.51)	-.05 (-.31)	-.71 (-2.37)	-.08 (-.39)	-.69 (-1.74)	-.73 (-2.13)	-.03 (-.09)

\*Completely standardized structural coefficients are reported along with t-values in parentheses.

prepurchase price perceptions have a negative, or contrast, effect on satisfaction.

## Discussion

Before discussing the implications of our findings, we note the limitations of our study. Because our study's primary focus is examining the pre- and postpurchase roles of price and performance on satisfaction formation, we do not model explicitly other customer-related constructs (e.g., disconfirmation of expectations, equity, affect) that also might influence satisfaction. In addition, certain market-related factors (e.g., availability of alternative brands, competitors' prices) likely to influence satisfaction are, in effect, held constant in our simulated experiment. Gaining a richer understanding of satisfaction formation would require adding such variables to our model and then empirically examining the augmented model. The standard limitations regarding generalizability of the results beyond the study population (the faculty at a major university) hold here as well; however, this population and the resulting sample share behavioral and demographic characteristics with the primary target markets for hotel services in general.

Generalizations beyond the specific context for this research (i.e., a hotel service exchange) also must be guarded, but it might be appropriate to extend the findings to services that share key characteristics with hotels, especially wide fluctuations in pricing and performance. If we invoke insights from Lovelock's (1983) classifications, our findings might be extended to services (1) that are directed at the consumer rather than at some asset the consumer owns; (2) whose purchase and delivery occur at discrete intervals, necessitating evaluations consistent with a modified rebuy each time; (3) that typically are customized, to some extent, for individual consumers; (4) for which the consumer goes to the provider rather than the provider to the consumer; and (5) that experience wide demand fluctuations over time. Examples of services sharing these characteristics include restaurants and passenger transportation services (e.g., air travel, rail travel, car rental).

### Research Implications

A significant body of research has involved examining the roles that price and performance quality play in prepurchase evaluations (for a review, see Rao and Monroe 1989). In contrast, much satisfaction research has focused on pre- and postpurchase assessments of performance (for a review, see Yi 1990). A key contribution of our study is the development and testing of a contingency framework that integrates both pre- and postpurchase assessments of price and performance in the satisfaction-formation process. Nevertheless, as was mentioned previously, there is room for enriching our knowledge of satisfaction formation by incorporating into this framework other customer- and market-related variables. Expanding the framework is a potentially productive avenue for further conceptual and empirical research.

Prior research that involved examining the effects of performance expectations on performance perceptions and satisfaction has produced mixed results. A plausible expla-

nation for inconsistent findings across previous studies is that they do not explore or control the degree of price-performance consistency in the contexts in which the studies were conducted. As insights from the multiple-group analysis in this study suggest, price-performance consistency is an important moderator of the impact that prepurchase expectations have on postpurchase assessments. Our results indicate that performance expectations have a significant effect on performance perceptions and satisfaction only when price and performance are consistent. In other words, when the level of delivered performance matches the price level, subjects apparently assimilate their performance and satisfaction judgments with their performance expectations. When the level of delivered performance does not match the price level (i.e., in the low-quality/high-price and high-quality/low-price conditions), we observe neither an assimilation nor a contrast effect. These results are necessarily an initial step toward reconciling the mixed findings from prior research. Additional research should identify and test other potential moderators and explore other plausible explanations.

An unexpected finding from our study is the negative impact of prepurchase price perceptions on postpurchase satisfaction, which should be interpreted as more favorable prepurchase price perceptions leading to less favorable satisfaction judgments. This finding, though surprising, is similar to Anderson's (1996) results, which reveal a negative association between price tolerance—the maximum price increase a customer is willing to tolerate—and satisfaction. However, the results from our study also show that the negative impact is not significant when price and performance are consistent, but quite strong when they are inconsistent (structural coefficient =  $-0.71$ ).

The high- and low-price treatments in our experiment were maintained from the pre- to the postpurchase phase. As such, the negative link between prepurchase price perceptions and satisfaction was observed for two groups of respondents: (1) those who received the same high price in both phases but experienced low quality in the postpurchase phase and (2) those who received the same low price in both phases but experienced high quality in the postpurchase phase. The negative link between prepurchase price perceptions and satisfaction observed in the first group suggests that, when experiencing poor service, consumers who evaluate the prepurchase price favorably (despite its being high) are likely to be more dissatisfied than are consumers who evaluate it unfavorably. In other words, the detrimental effect of a high-price/low-quality offering is magnified for consumers who were initially more price tolerant. A possible reason for this magnified effect is that these consumers may feel "betrayed" or experience an acute feeling of unfairness or inequity. The negative link in the second group suggests that, when experiencing superior service, consumers who evaluate the prepurchase price unfavorably (despite its being low) are likely to be more satisfied than are consumers who evaluate it favorably. In other words, the beneficial effect of a low-price/high-quality offering is more pronounced for consumers who were initially less price tolerant. Presumably, the pleasure of "getting a good deal" has been en-

hanced for these initially more demanding consumers. Additional research is needed to verify the stability of these findings across other settings and to examine further their underlying rationale. An especially intriguing question is what effect, if any, does the use of a high external reference price (designed to elevate consumers' internal reference price and, thus, their price tolerance) have on subsequent satisfaction judgments? Our results suggest that this rather commonplace practice might have a negative impact on satisfaction in certain circumstances.

Further research also should examine the effect that a price change (increase or decrease) has on postpurchase price and satisfaction judgments. In this study, the same high- and low-price conditions were maintained from the prepurchase to the postpurchase phase. It is important to understand how the moderating role of price-performance consistency uncovered for stable price conditions might change when the price changes between the pre- and postpurchase phases. A price change might affect the price-perception process itself, in addition to altering the degree of consistency between price and performance. There are many scenarios in which such a price change might occur, for example, services that offer price estimates rather than guarantees (such as auto repair and medical services) and retailers that practice bait-and-switch-type tactics. Using multimedia stimuli to simulate such scenarios is an especially promising approach for examining the impact of price changes.

Another interesting issue for additional research is the extent to which the moderating role of price-performance consistency, invoked by our conceptual framework and empirically supported by our results, is applicable to other service categories. For hotel services, the category investigated in our study, performance expectations are likely to be more ambiguous and weakly held, because of wide fluctuations in pricing and performance, than for other product categories. If so, a likely explanation for our results is that consumers of such services abandon their weakly held expectations when confronted with inconsistent evidence. It seems reasonable to hypothesize that our results would generalize to other categories characterized by pricing and performance heterogeneity. Apart from verifying this hypothesis, it would also be interesting and instructive to explore the impact of performance expectations on satisfaction for industries or companies that have a reputation for consistent service and pricing (e.g., McDonald's) versus industries or companies that have a reputation for inconsistent service and pricing (e.g., the airline industry).

A parallel avenue for further research is to investigate whether our findings regarding the role (or lack thereof) of expectations in satisfaction formation would hold when comparison standards other than predictive expectations (the focal antecedent construct here) are involved. Although predictive expectations are the comparison standard invoked in the vast majority of previous satisfaction research (both conceptual and empirical), other comparison standards also have been proposed (for example, see Cadotte, Woodruff, and Jenkins 1987; Spreng, MacKenzie, and Olshavsky 1996; Tse and Wilton 1988). When confronted with inconsistent price and performance information, are customers

likely to rely more heavily on comparison standards other than predictive expectations? Would a stronger anchor effect than revealed in the current study be detected by incorporating other comparison standards (e.g., desired rather than predicted service level [Parasuraman, Berry, and Zeithaml 1991; Spreng, MacKenzie, and Olshavsky 1996] or *should* rather than *would* expectations [Boulding et al. 1993])? These and related questions merit examination.

Finally, given that nonmonetary price components, such as waiting time and customer effort, which were held constant across treatments in our simulated experiment, also might influence customer satisfaction (Zeithaml 1988), future studies should include such components explicitly and explore their role in the satisfaction-formation process. Especially needed are studies that examine how consumers integrate monetary and nonmonetary price to arrive at an overall price assessment and how that overall assessment influences satisfaction formation.

### **Managerial Implications**

Our findings, though subject to verification and refinement through additional research, as is articulated in the preceding section, have important implications for marketing practice, particularly in service industries with general characteristics similar to those of hotel services. Some of our findings reinforce those from many previous satisfaction studies (e.g., the finding that perceived performance is an important determinant of satisfaction). However, because previous empirical research on satisfaction rarely has examined price, our results about the impact of price, as well as those about the moderating role of price-performance consistency, offer new insights pertaining to marketing and communication strategies for increasing customer satisfaction.

The finding that postpurchase price perceptions have a major impact on satisfaction—almost as high as that of performance perceptions (as is evidenced by the aggregate-level structural coefficients of .52 for perceived performance and .41 for price in Table 4)—offers empirical endorsement for using price-based strategies to enhance customer satisfaction. Although the extant literature acknowledges the need for such strategies (e.g., Heskett, Sasser, and Hart 1990, stressing the importance of money-back guarantees for achieving services marketing success), to date, empirical support for their potential effectiveness has been lacking. Our study, in addition to addressing this empirical void, underscores the need for companies not currently using price-based strategies to consider implementing such strategies.

Another key insight from our study is that performance expectations have a significant, positive effect on performance perceptions and satisfaction only in conditions of price-performance consistency, that is, when the delivered performance is commensurate with the price charged. This finding offers empirical endorsement for normative guidelines that call for creating realistic prepurchase expectations and maintaining price-performance consistency. For example, our results for the high-quality/low-price condition suggest that attempting to delight customers by offering superior service at a below-average price likely will have no

effect on satisfaction. For firms that charge above-average prices and deliver excellent service, however, creating high expectations commensurate with the superior service likely will enhance perceived performance and satisfaction (as is suggested by the structural coefficients of .63 and .38 in the last column of Table 4). This strategy also can reduce the risk of sending mixed cues to consumers and facilitate the designing of unambiguous prepurchase communications.

Our study also offers some insights regarding communication strategies for service firms that find it difficult to maintain price–performance consistency because of market characteristics (e.g., highly seasonal demand, fluctuating labor supply). Luxury resort hotels offering off-season prices that are less than commensurate with their service levels are an example of such firms. Our results suggest that these firms may benefit by informing potential consumers of the regular, peak-season price and giving them an explicit rationale for the lower price (e.g., “The room rate at our resort is \$300 per night during the peak tourist season, but we are able to offer you the same quality room and service at \$150 per night because this is the off-season”). Such an explicit, proactive communication strategy might help establish the regular (rather than discounted) price as the anchor that shapes prepurchase expectations. As such, those expectations will be more accurate, in that they will be commensurate with the superior service to be delivered. Such high, but realistic, prepurchase expectations might not only enhance ultimate satisfaction, as our results suggest, but also increase the likelihood of purchase. In addition, highlighting the actual discount offered by explicitly stating the regular price might increase the purchase probability further because of the enhanced pleasure of getting a deal (Grewal, Monroe, and Krishnan 1998).

Finally, another managerially interesting result from our study is that, though both postpurchase performance and price perceptions significantly influence satisfaction, their relative influence might be different in the price–performance consistency and inconsistency conditions. From Table 4, the structural coefficients for price and performance perceptions are, respectively, .31 and .54 when price and performance are consistent and .77 and .37 when they are not. This pattern of coefficients suggests that, when the delivered service is not commensurate with the price charged, the influence of price perceptions on satisfaction assessment may be higher than that of performance perceptions, as well as that of price perceptions when there is price–performance consistency. As such, service companies whose delivered performance is not commensurate with the price charged (for whatever reason) may benefit from ensuring that consumers’ interpretation of the price charged results in favorable price perceptions. This can be accomplished through proactive communications that offer a convincing explanation for the price–performance discrepancy. In the absence of such communications, customers might interpret prices that seem too high or too low unfavorably; the former might be interpreted as a rip-off, whereas the latter might be viewed with skepticism.

## Appendix A: Description of the Scenarios Depicted in the Videos

The scenarios used to simulate the hotel check-in process were approximately four minutes in length. Prior to seeing the video, each subject received the following instructions:

You are about to see a video that is designed to capture the hotel check-in process from the customer’s perspective; that is, the camera is the customer. It has been recorded in this manner to allow you to perceive the experience as if you were the customer. As you are viewing the video, please consider the following:

You decided to stay at this hotel and you made a reservation. Although you expected to arrive at the hotel early in the afternoon, you were delayed and are just now arriving at 9:00 P.M.

Each subject then viewed one of four videos: low service quality at \$79 per night, low service quality at \$129 per night, high service quality at \$79 per night, and high service quality at \$129 per night. To create these scenarios, low-quality and high-quality scenes were videotaped on location and later edited. The dollar amount charged for the room was mentioned one time in each scenario, and the low- and high-quality scenarios were edited to manipulate the audio (only) for the dollar amount charged (i.e., \$79 per night or \$129 per night). Following are the scripts for the low- and high-quality scenarios, along with brief scene descriptions.

### Low-Quality Scenario

#### *Low-Quality Arrival*

*Scene overview.* Curbside at the Porte Cochere. Camera/customer pans the entranceway, but there are no employees in sight. Camera/customer pans down to luggage stacked at customer’s feet and bends down as if to pick up luggage. Camera/customer straightens and proceeds to registration desk, avoiding the atrium, lounge, and so forth along the way.

#### *Low-Quality Registration*

*Scene overview.* There are several clerks working, but all are busy with other customers. The brand name is prominent on the wall behind the clerk. Desk clerk has been on duty for nearly eight hours. It has been a busy day, and she is tired and just a little cranky. Another customer is already in line when the camera/customer arrives.

Desk clerk: I’m sorry, sir, but we are all out of king-sized rooms.

Customer X: But I specifically requested a room with a king-sized bed!

Desk clerk: I’m sorry, sir, we are all out of king-sized rooms. But I can assign you a room with two double beds.

Customer X: I guess that will have to do. (Hands credit card to desk clerk)

(Desk clerk returns to the computer screen, locates room, prints out registration folio and credit card voucher, and presents them to Customer X.)

Desk clerk: If you’ll sign here and here.

(Desk clerk locates the key, checks the computer screen once again, collects the registration information from Customer X, looks it over, and presents the key to Customer X.)

Desk clerk: Room 315.

(Customer X leaves and desk clerk takes registration information back to the computer and begins inputting information. After five to ten seconds, she looks up, sees she has another customer, offers a stiff smile, but doesn't move.)

Desk clerk: Yes? What can I do for you?

....

Desk clerk: Name?

(Desk clerk plays with the computer for a while, checks a sheet of paper next to the computer, and looks back at the computer.)

Desk clerk: I'm sorry, we don't have a reservation under that name (looking up at the camera/customer). Perhaps you didn't provide a late arrival guarantee. In that case, the reservation is released after six o'clock.

(Looking back at the computer screen again)

Desk clerk: But we do have a small corner room available for \$79/\$129 per night.

(Looking up)

Desk clerk: How will you be paying for that?

(Desk clerk picks up credit card, locates room, prints out registration folio and credit card voucher, and presents them to camera/customer.)

Desk clerk: If you'll sign here and here.

(Collects the credit card voucher, returns to the computer screen, locates a room for camera/customer, finds the key, checks the computer screen once again, and finally presents the key.)

Desk clerk: Room 717.

(Camera pans to camera/customer's luggage.)

### **Low-Quality Elevator-to-Guestroom**

Camera/customer enters the elevator alone and camera focuses on the elevator panel (no atrium shot) as the lighted numbers change to the seventh floor. Camera/customer exits, pans back and forth, and then proceeds in the direction of the guestroom. Cut to corridor. Camera/customer proceeds down the corridor to the last room. Opens door, enters, and pans the standard hotel room with two double beds. Cut. End of scenario.

## **High-Quality Scenario**

### **High-Quality Arrival**

*Scene overview.* Bellman is responsive, congenial, reassuring, empathetic, and neatly groomed, in short, effusively charming. He is the perfect host, welcoming the customer into his "home." As soon as the camera rolls, the bellman is there to offer assistance with the luggage, which he handles with care.

Bellman: Good evening and welcome to the (brand name). If you want to go ahead and check in, I'll take care of your luggage and meet you at the registration desk.

(Camera/customer proceeds to registration desk, expansively panning the atrium, lounge, and so forth along the way.)

### **High-Quality Registration**

*Scene overview.* There are several clerks working the registration desk; one clerk has no one waiting in line. The brand name is prominent on the wall behind the clerk. The desk clerk maintains eye contact at all times. She is prompt, efficient, and assuring.

Desk clerk: Good evening and welcome. We've been expecting you. I have you preregistered into the room you requested.

(Looks down for the registration card)

Desk clerk: Let's see ... I have you registered for one night in a room with a king-sized bed, at \$79/\$129 per night. If you would just sign the registration card, David will be happy to show you to your room.

(Desk clerk hands key to the bellman.)

Desk clerk: Thank you very much and enjoy your stay.

Bellman: OK, if you'll follow me, the elevators are this way.

(Bellman presses button for elevator and holds elevator door for camera/customer.)

### **High-Quality Elevator-to-Guestroom**

(Camera/customer focuses on the atrium shot as the elevator goes up to the 20th floor.) The following conversation occurs during the elevator ride:

Bellman: Great view, huh? Have you stayed with us before? Well, in case you're hungry, the coffee shop is straight ahead and Ducks and Company is to the right. They serve seafood, steaks, duck, of course, and great salads for lunch. But if you like Italian food, try The Spindle Top. It's a revolving restaurant on the top floor with a great view of the city.

(When the elevator stops, bellman again holds elevator door while camera/customer exits.)

Bellman: It's this way.

(Camera/customer follows the bellman to the guestroom, briefly panning the atrium on the way. Bellman opens and holds guestroom door for camera/customer and follows with luggage. Hangs garment bag in the closet and places suitcase on the suitcase rack. While he's doing this, camera/customer is panning the small suite with a king-sized bed.)

Bellman: Is there anything else I can get for you?

(Camera/customer swings back to the bellman who approaches with the key in hand.)

Bellman: OK, here's your key.

(Gratuity exchange. Camera focuses on bellman's face.)

Bellman: Thank you and enjoy your stay!

Cut. End scenario.

**APPENDIX B**  
**Description of Measures and Summary Statistics by Treatment**

Description of Measures	Means and Standard Deviations*			
	Low Quality/ Low Price	Low Quality/ High Price	High Quality/ Low Price	High Quality/ High Price
<b>Prepurchase performance expectations**</b> (Each item had a seven-point scale anchored with "definitely would not" and "definitely would.") If I were to stay at this hotel, 1. the hotel would offer excellent overall service. 2. the hotel would offer accurate and dependable service. 3a. the employees would be courteous at all times. 3b. the employees would provide prompt assistance at check-in. 3c. the employees would provide personal, individualized attention.	5.53 <sup>a</sup> (.82)	5.65 <sup>a</sup> (.85)	5.66 <sup>a</sup> (.88)	5.71 <sup>a</sup> (.83)
<b>Prepurchase price perceptions</b> (The anchor labels were separated by a seven-point scale.) 1. Paying \$79 (\$129) for a hotel room is very unreasonable ⇔ very reasonable. 2. \$79 (\$129) for a hotel room is very inexpensive ⇔ very expensive. <sup>R</sup> 3. I would be pleased to pay \$79 (\$129) for a hotel room in downtown (city): disagree very strongly ⇔ agree very strongly.	4.83 <sup>a</sup> (1.07)	2.82 <sup>b</sup> (.89)	5.07 <sup>a</sup> (.92)	2.78 <sup>b</sup> (.91)
<b>Postpurchase performance perceptions**</b> (The anchor labels were separated by a seven-point scale.) 1. The service provided by this hotel was very low quality ⇔ very high quality. 2. The service provided by this hotel was unreliable ⇔ reliable. 3a. The hotel's employees were courteous ⇔ discourteous. <sup>R</sup> 3b. The hotel's employees were helpful ⇔ not helpful. <sup>R</sup> 3c. The hotel's employees were caring ⇔ uncaring. <sup>R</sup>	2.97 <sup>a</sup> (1.17)	2.52 <sup>b</sup> (.94)	6.13 <sup>c</sup> (.61)	6.16 <sup>c</sup> (.65)
<b>Postpurchase price perceptions</b> (The anchor labels were separated by a seven-point scale.) 1. \$79 (\$129) for this hotel room was a very unreasonable price ⇔ reasonable price. 2. I was satisfied paying \$79 (\$129) per night: disagree very strongly ⇔ agree very strongly. 3. \$79 (\$129) for a room at this hotel was a rip-off: disagree very strongly ⇔ agree very strongly. <sup>R</sup>	4.49 <sup>a</sup> (1.28)	2.58 <sup>b</sup> (1.12)	6.13 <sup>c</sup> (.75)	4.27 <sup>a</sup> (1.33)
<b>Satisfaction</b> (Each item had a seven-point scale with a midpoint labeled "neither agree nor disagree" and anchored with "disagree very strongly" and "agree very strongly.") 1. I was satisfied with the service provided. 2. I was delighted with the service quality provided. 3. I was unhappy with the level of service provided. <sup>R</sup>	2.46 <sup>a</sup> (1.39)	2.21 <sup>a</sup> (.95)	6.30 <sup>b</sup> (.81)	6.11 <sup>b</sup> (.87)

\*Different letters indicate significant differences between means across treatments (Duncan test,  $p < .05$ ).

\*\*The performance constructs initially were measured with six-item scales that included an overall quality measure and a measure for each of the dimensions of service quality (Parasuraman, Zeithaml, and Berry 1988). Because service quality has been conceptualized as a second-order, multidimensional construct, we analyzed these scales separately to assess their internal consistency. This analysis indicated that these constructs were captured best by dropping the tangibles item and using three-item scales consisting of overall quality, reliability, and an employee quality item created by collapsing the responsiveness, assurance, and empathy items into a single measure. All subsequent analyses used these three-item scales for the two performance constructs.

<sup>R</sup>Denotes reverse-coded items.

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