Attention Arousal Through Price Partitioning

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ATTENTION AROUSAL THROUGH PRICE PARTITIONING

Abstract

Existing evidence suggests that preferences are affected by whether a price is presented as one all-inclusive expense or partitioned into a set of mandatory charges. To explain this phenomenon, we introduce a new mechanism whereby price partitioning affects a consumer’s perception of the non-focal (or secondary) benefits derived from the transaction. Four experiments support the basic hypothesis that a partitioned price increases the amount of attention paid to secondary attributes tagged with a specific price components. Characteristics of the offered secondary attributes such as their appeal, relative importance, and evaluability can therefore determine whether price partitioning stimulates or depresses demand. Beyond its descriptive and prescriptive implications, this theory contributes to the notion that pricing can transform (as much as capture) perceived value.

KEY WORDS: Consumer behavior, pricing, price partitioning, attention, information processing, framing effects.
A common approach to evaluating consumer preferences is to assume that individuals have a utility function defined along multiple underlying product attributes or dimensions (Keeney and Raiffa 1993). Price information then enters the consumer choice process indirectly through the budget constraint or, as is customary in conjoint and logit analysis (e.g., Green and Rao 1971; McFadden 1974), directly as a separate observable attribute in the utility function. Either way, the convention is that the role of price is to index the cost of making a purchase. From the standpoint of the firm, price is supposed to capture rather than shape value.

Although this framework has been usefully applied to a variety of marketing problems, recent research on the psychological aspects of pricing suggests that the relationship between price and choice might be more complex than anticipated by standard economic principles (Winer 2005). In particular, a number of studies have shown that the way price information is presented can often influence perceptions of value (e.g., Anderson and Simester 2003; Dholakia and Simonson 2005; Heath et al. 1995; Prelec and Loewenstein 1998).

Consistent with this view, this paper examines the effects of presenting a price either as one all-inclusive expense or partitioned into a set of mandatory charges. A retailer might, for example, price DVDs at $23.45 including overnight shipping and handling, or at $16.95 plus $6.50 for the expedited delivery service. One common intuition about price partitioning is that it makes transactions appear cheaper to consumers who have a tendency to neglect or discount smaller appended charges (Morwitz et al. 1998). We propose that price partitioning can also increase the “depth” to which consumers analyze the various dimensions of the offer. Our experiments show that consumers presented with an all-inclusive price are likely to concentrate their evaluation on the focal attribute of the transaction (DVDs, groceries, movie tickets, etc.). A partitioned price, on the other hand, increases the amount of attention paid to secondary attributes (shipping and handling, scheduled delivery, advance booking, etc.), which in turn affects preference and choice.

Our argument rests on the straightforward notion that attention is selective at the point of purchase (Berlyne 1960, 1974), and that the presence of multiple price tags can sensitize consumers to features they might otherwise overlook. We discuss this notion and its implications in the next two sections. We then report evidence from four experiments designed to test the unique predictions of our theory.
**Background**

The practice of price partitioning has become increasingly common. Instead of charging a simple, all-inclusive price, firms regularly post sets of mandatory charges attached to various attributes of an offer. Notably, this phenomenon is not limited to predictable settings such as Internet sites and catalogs. Today, one can also find furniture stores breaking out the cost of sofa pillows, hotels charging a separate fee for room keys, cable service companies itemizing the rental of set-top boxes and remote controls, and so on.¹

What are the effects of price partitioning on consumer behavior? Morwitz et al. (1998) showed in the context of an auction that individuals tend to underestimate the total cost associated with multiple charges because they anchor on the larger expense (the bid price) and adjust insufficiently for the remainder (a buyer’s premium). Further evidence of this processing heuristic and of the positive effect of price partitioning on demand was provided by Hossain and Morgan (2006) in a field experiment and by Ayres and Nalebuff (2003) in the context of services. Xia and Monroe (2004) have shown that the size, nature, and number of surcharges might reduce, but not reverse, this result.²

Equally intuitive is the prediction that price partitioning depresses demand because consumers perceive multiple losses as more punishing than a single loss of equal amount (Thaler 1985). Initial support for this mental accounting explanation was provided in the context of gambles (Thaler and Johnson 1990). Studies in the behavioral literature on bundling also found that listing the price of each bundle component magnified the disutility of paying (Drumwright 1992; Gaeth et al. 1990; Yadav and Monroe 1993).³ Schindler et al. (2005), marrying this view

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² But see Lee and Han (2002) for an interesting discussion of the role of affect in this framework.

³ A point of contention in the literature is whether price partitioning and bundling are different phenomena. According to Morwitz et al. (1998, p. 453), the former involves the division of prices of single products, the latter the collective pricing of distinct products, but others find this distinction irrelevant (Stremersch and Tellis 2002).
to perceptions of fairness, conclude that online retailers should avoid pricing the cost of delivery separately.

Whereas these accounts are concerned exclusively with the impact of price partitioning on the perception of expenses, we propose that the perception of non-price attributes, that is, of the benefits derived from the transaction, can also be affected. This new perspective has specific implications, chief among them that characteristics of the offered secondary attributes can determine whether price partitioning stimulates or depresses demand. Indeed, we show experimentally that a consumer’s response to a partitioned price depends critically on such basic traits of secondary attributes as their appeal, relative importance, and evaluability. Prescriptively, our findings suggest that breaking down an expense can potentially stimulate demand by highlighting dimensions of differentiation that might otherwise go unnoticed. If, on the other hand, a supplier’s strength lies with a focal attribute or the product offering is mediocre in terms of secondary attributes, an all-inclusive price might be well advised.

**Price Partitioning and Consumer Perceptions**

Our argument builds on basic principles in the cognitive psychology of attention (Berlyne 1960, 1974; Fiske and Taylor 1991). We assume that the various attributes of an offer represent multiple simultaneous stimuli that consumers process by exerting selective attention (Berlyne 1960, 1974), a well-documented phenomenon often encountered in extreme forms as when buyers ignore information that is readily available (Russo and Dosher 1983) or adopt myopic decision frames (Bettman et al. 1998). Selective attention is consistent with the notion of bounded rationality and the characterization of decision making as a goal-directed process governed by trade-offs between cognitive effort and accuracy (Johnson and Payne 1985; Shugan 1980).

When the price is all-inclusive, price presentation should have no specific impact on the relative salience of product attributes. Absent interference, we suggest that selective attention is guided by the consumer’s goal and the relevance of each attribute to the task at hand (Fishburn

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We emphasize the framing effect of price presentation; bundles are usually offered at special price and therefore viewed as a vehicle for price discrimination (Schmalensee 1982).
This results in an ex ante separation of focal (central) and secondary (subordinate) attributes, with focal attributes naturally receiving greater attention.

Price partitioning, in contrast, affects the process of selective attention because it highlights secondary attributes by tagging them with specific price components. We argue that price components act as indicating stimuli that make these secondary attributes more salient and direct attention to their potential value (or lack thereof) (Berlyne 1960). Research on attention suggests that salience is correlated with importance in decision-making (Taylor and Thompson 1982). Considering that secondary attributes are ex ante less salient than focal attributes, it follows that a shift from an all-inclusive to a partitioned price can increase the contribution of a secondary attribute to a consumer’s judgment about an offer.

The key implication of the proposed link between price format and consumer attention is that the effect of price partitioning on demand should ultimately depend on basic characteristics of the secondary attributes on offer. An obvious candidate characteristic is their appeal: a partitioned price could presumably be used to highlight an appealing secondary feature and an all-inclusive price to conceal an unappealing one. This reasoning leads to our first hypothesis:

**H1**: The effect (positive or negative) of secondary attributes on the overall assessment of an offer is greater when these features are associated with a distinctive price component (partitioned price) than when they are not (all-inclusive price).

Price components can function as indicating stimuli that raise attention only if consumers tend to overlook secondary attributes. When other independent factors increase the salience of these neglected attributes, the effect of price partitioning should diminish (if not disappear). This

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4 Everyday examples of (conditioned) indicating stimuli include finger pointing, signposts, alarms, traffic lights, and chapter headings. End-of-aisle or checkout displays, product labels, and advertising claims perform a similar function in marketing. Note that if price partitioning is unusual in the category in which it is being used, another attention effect, occasioned by stimulus novelty, might be that the price is altogether more salient. Alternatively, stimulus complexity associated with price partitioning might engender an experience of uncertainty that could discourage purchase. Our focus here is on attention effects that relate to the differentiated processing of the benefits derived from a purchase.
contingency suggests that a second characteristic of secondary attributes, their relative *importance*, should play a moderating role:

**H2:** The effect of price partitioning on the overall assessment of an offer is mitigated when price components are associated with secondary attributes of greater perceived importance.

Finally, while the impact of secondary benefits on evaluation is expected to increase under price partitioning (hypothesis 1), the magnitude of this effect may vary depending on how consumers integrate information from multiple attributes to form an overall assessment of the offer (Anderson 1971). One possibility is that consumers simply weight benefits according to their relative monetary worth such that secondary features associated with (typically) small expenses are of little consequence with respect to final preferences. However, research on evaluation modes (Hsee et al. 1999) and cue validity (Mellers et al. 1992) demonstrated that the influence of an attribute is often related to its evaluability, that is, whether a consumer can assess the attribute’s desirability with confidence (Hsee et al. 1999; Leclerc et al. 2005). In some cases, a highly evaluable secondary attribute brought to a consumer’s attention by a partitioned price can exert disproportionate influence in decision-making (Lewis et al. 2006). This suggests that a third characteristic of secondary attributes, their comparative *evaluability*, is needed to predict the eventual effect of price partitioning on demand. Accordingly, we propose our final hypothesis:

**H3:** Under price partitioning, the weight of a secondary attribute in the overall assessment of an offer is directly related to the evaluability of that feature. In particular, consumers are expected to place greater emphasis on secondary features that are comparatively easier to evaluate.

**Experiment 1: Price Partitioning and Attribute Salience**

Our first experiment was designed to test hypothesis 1. The stimulus described a purchase situation in which participants were asked to choose between two air travel alternatives. The
focal attribute was a one-way flight from Boston to San Juan; secondary attributes were in-flight entertainment and meal service. In a separate pre-test, 46 participants ranked these dimensions in order of importance. As expected, airfare was the primary feature for the majority (74%, $\chi^2(1) = 10.52, p < .001$). The experiment itself used a 2 (Price Format: All-Inclusive, Partitioned) × 2 (Appeal of Secondary Attributes: “Bad” Deal, “Good” Deal) full-factorial between-subjects design. A first option, Airline A, was held constant across conditions and described simply by its long travel time, two flight segments totaling seven hours and 49 minutes, and price of $165. The second option, Airline B, offered a four hour and 15 minute non-stop flight plus in-flight entertainment and meal service at either the all-inclusive price of $215 or a partitioned price of $205 for the flight and $10 for secondary attributes consisting of “one episode of a sitcom and refreshments” (Bad Deal condition) or “six movie channels and a full-service meal” (Good Deal condition).

The participants were asked, after reading their assigned scenario, to indicate their preference (1 = definitely Airline A to 8 = definitely Airline B) and evaluate the overall attractiveness of each option (1 = very unattractive to 7 = very attractive). To determine whether the appeal of the secondary attributes was manipulated as intended, we also collected an attractiveness rating for the in-flight entertainment and meal service (-3 = very unattractive to 3 = very attractive).

Participants

The participants ($n = 210$) were registered members of a subject pool managed by the research center of a large U.S. business school. We used this resource in all the experiments. At the time of the study, the pool’s population of 5,447 members was, on average, 61% female and 31 years of age. Eighty-seven percent of the members had completed undergraduate education or higher. The participants, selected at random and recruited via e-mail, were informed that the poll involved hypothetical purchase decisions, that there were no right or wrong answers, and that they should consider only their own preferences. Participation was voluntary, with a $5 payment upon completion. The experiment was carried out online.
Results

A preliminary analysis of variance (ANOVA) confirmed that participants rated the secondary attributes as more attractive in the Good Deal ($M_{\text{good deal}} = .91$) than in the Bad Deal ($M_{\text{bad deal}} = -.17$; $F(1, 206) = 20.59, p < .001$) condition. Neither the main effect for Price Format nor the interaction between Appeal of Secondary Attributes and Price Format was significant.

We then analyzed the participants’ preference scores in a $2 \times 2$ ANOVA with Price Format and Appeal of Secondary Attributes as the between-subjects factors. This analysis revealed a significant main effect for Appeal of Secondary Attributes such that a better deal on in-flight entertainment and meal service increased purchase intentions for Airline B ($M_{\text{good deal}} = 5.57$ vs. $M_{\text{bad deal}} = 4.75$; $F(1, 208) = 6.67, p = .010$). More important, this effect was qualified by the expected interaction with Price Format ($F(1, 206) = 9.52, p = .002$). To support hypothesis 1, the data should indicate that, relative to the all-inclusive price, the partitioned price increased preference for Airline B in the presence of a good deal on the secondary attributes, but decreased preference for Airline B in the presence of a bad deal. Planned contrasts yielded precisely this pattern of results (see figure 1): participants offered appealing secondary attributes were more likely to choose Airline B when the price was partitioned ($M_{\text{partitioned}} = 6.04$) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.16$; $t(101) = 1.99, p = .049$), but this effect was reversed when the secondary attributes were perceived to be unappealing ($M_{\text{partitioned}} = 4.20$ vs. $M_{\text{all-inclusive}} = 5.33$; $t(105) = -2.37, p = .020$).

The ratings of overall attractiveness yielded similar results. A $2 \times 2$ ANOVA on the evaluation of the offer made by Airline B showed a main effect for Appeal of Secondary Attributes ($F(1, 208) = 4.19, p = .042$), qualified by the interaction with Price Format ($F(1, 206) = 5.88, p = .016$). Consistent with hypothesis 1, the impact of Price Format was again found to be contingent on the attractiveness of the secondary attributes. Specifically, in the Good Deal condition, participants evaluated Airline B more favorably when the price was partitioned ($M_{\text{partitioned}} = 5.79$) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.29$; $t(101) = 1.79, p = .077$).
However, in the Bad Deal condition, participants evaluated Airline B less favorably when the price was partitioned ($M_{\text{partitioned}} = 4.91$) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.37$; $t(105) = -1.68, p = .096$).

Note that both the preference scores ($M_{\text{good deal}} = 5.16$ vs. $M_{\text{bad deal}} = 5.33$; $t(105) = -0.32$, ns) and attractiveness ratings ($M_{\text{good deal}} = 5.29$ vs. $M_{\text{bad deal}} = 5.37$; $t(105) = -0.25$, ns) of participants in the All-Inclusive condition were insensitive to changes in the secondary attributes offered by Airline B. This null result corroborates the view that all-inclusive prices fail to impact the process of selective attention discussed earlier.

Finally, one might argue that participants in the Partitioned condition paid undue attention to the secondary attributes not because of the way price itself was presented, but because these features were perceived to be unusual. While we acknowledge this possibility, it should be noted that we asked participants whether they felt this format was atypical (1 = not at all typical to 7 = very typical) and whether they believed airlines should always break down their prices to consumers (1 = strongly disagree to 7 = strongly agree). Participants rated typicality near the mid-point of the scale ($M = 3.82$ vs. 4; $t(102) = -1.12$, ns) and did not express strong convictions concerning the way airlines ought to price their offers ($M = 3.74$ vs. 4; $t(102) = -1.31$, ns), which suggests that the impact of surprise in these data is probably minimal. Furthermore, we should also mention that our results hold for more “conventional” attribute combinations as those used in experiments 2 and 3 below.

**Experiment 2: Effect Robustness**

Would informing the participants that there is no objective difference between the all-inclusive and partitioned price eliminate the impact of price format? Experiment 2 offers an additional test of hypothesis 1, while demonstrating the robustness of the effect even in cases in which consumers are aware that the price format is being manipulated.

The stimulus asked participants ($n = 85$) to compare two formats that could be used to present an online grocer’s prices to customers. An opening paragraph clearly informed participants that these formats were equivalent in terms of total expenditure. It was then explained via an example that the price of a typical shopping basket (focal attribute) plus the price of the delivery scheduling (secondary attribute, described in terms of “arranging a time slot
for having the goods delivered”) could be framed either as one lump sum of $95 (Format 1) or as separate charges of $86 and $9 (Format 2). A pre-test confirmed that individuals \( n = 43 \) perceived the shopping basket to be more important than delivery scheduling \( (74\%, \chi^2(1) = 10.34, p < .001) \). The appeal of the secondary attribute was manipulated between-subjects by offering a vague (eight hour), firm-selected time slot for delivery during working hours (Bad Deal condition) or a specific (one hour), customer-selected time slot for delivery any time during the week (Good Deal condition).

The participants were asked to indicate which of the two price formats made the offer look more appealing \( (1 = \text{definitely Format 1} \text{ to } 7 = \text{definitely Format 2}) \) and to rate the probability of purchase under each format \( (1 = \text{very low} \text{ to } 7 = \text{very high}) \). They were also asked to evaluate the attractiveness of delivery scheduling \( (-3 = \text{very unattractive} \text{ to } 3 = \text{very attractive}) \) and to judge whether it is unusual for an online grocer to price this component separately \( (1 = \text{highly usual} \text{ to } 7 = \text{highly unusual}) \).

Results

A one-way ANOVA with Appeal of Secondary Attribute as the between-subjects factor confirmed that delivery scheduling was viewed more favorably when it represented a good deal \( (M_{\text{good deal}} = .85) \) than when it represented a bad deal \( (M_{\text{bad deal}} = -.66; t(83) = 4.39, p < .001) \). We also established that pricing this attribute separately from the basket of groceries was not perceived to be unusual \( (M = 3.81 \text{ vs. } 4; t(84) = -.87, \text{ ns}) \), which again suggested that any eventual result could not be attributed to the surprise factor discussed in experiment 1.

The key finding of this study is that the results of experiment 1 generalize to situations in which individuals are conscious of the numerical equivalence of the two price formats. Instead of providing answers close to the indifference point on the scale, participants felt that the partitioned price made the offer look more appealing when the secondary attribute represented a good deal \( (M = 4.66 \text{ vs. } 4; t(40) = 2.35, p = .024) \) and that the all-inclusive price made the offer look more appealing when the secondary attribute represented a bad deal \( (M = 3.25 \text{ vs. } 4; t(43) = -2.68, p = .010) \). We further observed that varying the attractiveness of delivery scheduling influenced the likelihood of purchase in the Partitioned condition \( (M_{\text{good deal}} = 4.63 \text{ vs. } M_{\text{bad deal}} = 4.05; t(83) = 2.00, p = .049) \) but not in the All-Inclusive condition \( (M_{\text{good deal}} = 4.05 \text{ vs. } M_{\text{bad deal}} = \)
4.16; t(83) = -.31, ns). Both results are consistent with hypothesis 1, notwithstanding that the participants were aware of the logical equivalence of the two price formats.

**Experiment 3: Attribute Importance as a Moderating Effect**

The main goal of experiment 3 was to show that product evaluation becomes less sensitive to changes in price format when differences in the salience of focal and secondary attributes are mitigated by other contextual factors (hypothesis 2). If differences in evaluation across price formats are observed to diminish as secondary attributes gain importance for reasons independent of price format, then (1) the processing of non-price dimensions very likely contributes to the effect of price partitioning, and (2) selective attention is a plausible explanation for why secondary attributes are overlooked under an all-inclusive price.

To address this issue, we extended the design of experiment 1 to a 2 (Price Format: All-Inclusive, Partitioned) × 2 (Appeal of Secondary Attribute: “Bad” Deal, “Good” Deal) × 2 (Importance of Secondary Attribute: Low Importance, High Importance) full-factorial between-subjects design. Participants (n = 339) were shown a single scenario involving the purchase of a movie ticket (focal attribute) using a telephone booking service (secondary attribute). The transaction price was either all-inclusive $10.25 or partitioned into $8.75 for the ticket and $1.50 for the booking service. The booking service in the Bad Deal condition required participants to queue at the box office to complete the transaction. In the Good Deal condition it allowed participants to skip the queue and use an automated ticket-dispensing machine. Finally, Importance of Secondary Attribute was manipulated by telling participants either that the movie had been screening for some weeks and the session was likely to be empty (Low Importance condition), or that the movie was premiering that very night and the session was likely to be quite full (High Importance condition).

In terms of dependent measures, participants were asked to rate the transaction (1 = very bad deal to 9 = very good deal) and the probability of purchase (1 = very low to 9 = very high). We also asked them to indicate whether they believed the offer represented a “good buy” (1 = strongly disagree to 9 = strongly agree). To further test whether price format affected the amount of attention paid to the booking service, we posed the following question: “How much attention do you think you paid to the telephone booking service when you evaluated the overall offer? (1
= very little attention to 7 = a lot of attention).” Finally, to check our manipulations we asked participants if they agreed with the statement: “I consider the booking service to be a central component of the offer” (1 = strongly disagree to 7 = strongly agree) and, as in experiments 1 and 2, to rate the attractiveness of this attribute (-3 = very unattractive to 3 = very attractive).

Results

We present first the results of the two manipulation checks. Separate three-way ANOVAs confirmed that participants were more likely to view the secondary attribute as a central component of the offer in the High Importance condition ($M_{\text{high}} = 4.79$) than in the Low Importance condition ($M_{\text{low}} = 3.99; F(1, 337) = 15.98, p < .001$), and more attractive when it represented a good deal rather than a bad deal ($M_{\text{good deal}} = .85$ vs. $M_{\text{bad deal}} = -.80; F(1, 337) = 73.55, p < .001$). The direction of both results was as expected, and no other main, two-way, or three-way effect was statistically significant.

Given the high correlation of responses to the three preference measures (Cronbach’s $\alpha = .88$), we decided to collapse the data into a single preference measure by taking the average scores. The results of a $2 \times 2 \times 2$ ANOVA on this composite measure revealed a main effect for Appeal of Secondary Attribute ($F(1, 337) = 10.64, p = .001$) and a significant Appeal of Secondary Attribute by Price Format interaction ($F(1, 335) = 2.82, p = .094$). More important, both effects were qualified by the three-way interaction predicted by hypothesis 2 ($F(1, 331) = 5.81, p = .016$), as shown in figure 2.

Note that the pattern of responses when the importance of the telephone booking service was low closely replicates that of the first experiment. Consistent with hypothesis 1, changes in the appeal of the secondary attribute had a greater impact on the overall assessment of the offer when the price was partitioned: a bad deal on the telephone booking service hurt preferences more under a partitioned price ($M_{\text{partitioned}} = 4.22$) than under an all-inclusive price ($M_{\text{all-inclusive}} = 4.93; t(79) = 1.76, p = .083$), but the effect reversed when this attribute was viewed as a good deal ($M_{\text{partitioned}} = 5.57$ vs. $M_{\text{all-inclusive}} = 4.62; t(95) = 2.38, p = .018$).

The outcome was noticeably different for the four conditions in which the importance of the booking service was high. Under these conditions, the secondary attribute appeared to be taken into consideration in the overall assessment of the offer both when the price was
partitioned and when it was all-inclusive. That we found no difference between price formats whether the booking service was perceived unfavorably ($M_{\text{partitioned}} = 4.58$ vs. $M_{\text{all-inclusive}} = 4.48$; $t(84) = .22, \text{ns}$) or favorably ($M_{\text{partitioned}} = 5.24$ vs. $M_{\text{all-inclusive}} = 5.43$; $t(84) = -.50, \text{ns}$) suggests that price format no longer affects the evaluation process for attributes that are equally salient.

Our final analysis involved the subjective measure of attention. A three-way ANOVA revealed a main effect for Importance of Secondary Attribute ($F(1, 337) = 23.48, p < .001$) as well as a significant two-way interaction between this factor and Price Format ($F(1, 335) = 25.38, p < .001$). These were the only significant effects in the analysis. In the more common event that an attribute such as the telephone booking service is relatively unimportant, presenting a partitioned price might be sufficient to induce heightened attention ($M_{\text{partitioned}} = 5.50$ vs. $M_{\text{all-inclusive}} = 3.64$; $t(331) = 7.38, p < .001$). If the attribute is important, however, price format might not have an effect ($M_{\text{partitioned}} = 5.47$ vs. $M_{\text{all-inclusive}} = 5.39$; $t(331) = .36, \text{ns}$). As expected, changes in the relevance of the secondary attribute had no effect on attention when the price was partitioned ($t(331) = .15, \text{ns}$), but had a significant effect when the price was all-inclusive ($t(331) = -6.46, p < .001$).

**Experiment 4: The Impact of Attribute Evaluability**

Hypothesis 3 predicts that preferences formed under price partitioning are biased towards attributes buyers find easier to evaluate. To test this proposition in an experiment, we first had to resolve two issues: (1) how to infer attribute weights from participants’ overall evaluations and (2) how to operationalize evaluability. We addressed the first issue by presenting participants with different partitions (or price “splits”) of the same underlying expense. When the total cost of a transaction is held constant, any increase in the price of one attribute implies a decrease of equal magnitude in the price of the other attribute (assuming of course that there are only two attributes). Therefore, as long as preferences are sensitive to changes in partitioning, we can infer
which specific attribute is driving the aggregate response by looking at the direction of this change.

The second issue was addressed by manipulating the range of prices participants were expected to consider when evaluating the offer. One factor known to influence evaluability is price expectations (Kalyanaram and Winer 1995; Urbany and Dickson 1991). In particular, when the range of acceptable prices for any given attribute is narrow (broad), consumers can decide with greater (lesser) confidence whether that feature is worth the associated price tag. Given our objective, we reasoned that the stimulus should feature a product category in which the range of acceptable prices for both the focal and secondary attribute was initially broad. From there, we would then manipulate evaluability by providing some participants with a narrow range of market prices for the focal attribute, the secondary attribute, or both.

Design and Procedure

The experiment employed a 3 (Price Split: +$5/-$5, Expected Price/Expected Price, -$5/+$5) × 4 (Increased Evaluability: Secondary Attribute Only, Focal Attribute Only, Neither Attribute, Both Attributes) full-factorial between-subjects design. Participants (n = 531) were provided with a purchase scenario in which the focal attribute was a Christmas tree (expected price, EP = $40) and the secondary attribute was netting (EP = $6.50). These expected prices were elicited in a pre-test (n = 43). The pre-test also gave us the opportunity to confirm that consumers feel equally uncertain about the range of prices they find acceptable for each attribute ($M_{\text{tree}} = 1.70$ vs. $M_{\text{netting}} = 1.61; t(84) = .24, \text{ ns}$).

The first factor, Price Split, varied the way price was partitioned across three levels such that one condition used the expected attribute prices collected in the pre-test and the other two conditions shifted allocation of the total expense by $5 in favor of the focal or secondary attribute. The second factor, Increased Evaluability, was manipulated across four levels such that

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5 The pre-test asked participants to estimate three market prices – maximum, minimum, and expected – for each attribute. Expected prices were rounded down to the nearest dollar value. The maximum and minimum prices provided an indication of the range of acceptable prices. To support comparisons of evaluability across attributes, we expressed each price range as a proportion of the expected price for that attribute.
in one condition we provided no additional information while in the other three we included a narrow reference price range for Christmas trees ($38 to $42), netting ($6 to $7), or both. Note that marketing studies often use external price information to reduce price expectations (e.g., Heath et al. 1995; Schindler et al. 2005). On this occasion, participants were told that they had learnt this information on their own. For instance, to increase the evaluability of the focal attribute, the stimulus included the following sentence: “From the research you conducted you found that the price of Christmas trees generally varies from $38 to $42.”

Similar to experiment 3, after reading the scenario participants were asked to rate the transaction (1 = very bad deal to 9 = very good deal), the probability of purchase (1 = very low to 9 = very high), and to indicate whether they believed the offer represented a “good buy” (1 = strongly disagree to 9 = strongly agree). As a manipulation check, they were also asked to rate, for each attribute, how confident they would be making a purchase decision given the price shown in the stimulus (1 = not at all confident to 9 = very confident).

Results

To test whether attribute evaluability was manipulated as intended we ran a two-way ANOVA on the confidence level reported for each feature. As expected, for both Christmas tree and netting the only significant effect was for Increased Evaluability (Christmas tree: \( F(3, 527) = 6.60, p < .001 \); netting: \( F(3, 527) = 8.59, p < .001 \)). Independent contrasts confirmed that including a reference price range for either attribute increased participants’ confidence in their purchase decisions (Christmas tree: \( M_{\text{present}} = 5.85 \) vs. \( M_{\text{not present}} = 4.98 \); \( t(527) = 4.28, p < .001 \); netting: \( M_{\text{present}} = 5.58 \) vs. \( M_{\text{not present}} = 4.57 \); \( t(527) = 5.08, p < .001 \)).

Following from hypothesis 3, holding the total expense constant, as the price of the secondary attribute gradually increases we would expect overall evaluations to:

1. *decrease*, if a reference price range is provided only for the secondary attribute (as the evaluability effect would draw attention to the increasing price of this feature),

2. *increase*, if a reference price range is provided only for the focal attribute (as the evaluability effect would draw attention to the decreasing price of this feature),
(3) remain constant, if no reference price range information is provided (as component prices would be equally difficult to evaluate across attributes), and

(4) peak at expected prices when a reference price range is provided for both attributes. This inverted-U relationship follows if we assume that (a) any deviation from the expected prices causes a loss on one attribute and an equal gain on the other and (b) losses generally looms larger than the gains (Kahneman and Tversky 1979).

The key results of the experiment are displayed in figure 3. We collapsed the three preference measures into a single preference score by averaging the responses (Cronbach’s \( \alpha = .90 \)). We then conducted trend analyses for each of the four Increased Evaluability conditions. Consistent with the first prediction, participants who received a reference price range only for netting evaluated the offer less favorably as the price of that attribute increased (\( M_{+$5/-$5} = 5.93, M_{+$5/-$5} = 5.65, \) and \( M_{+$5/-$5} = 3.51; F(1, 136) = 30.35, p < .001 \)). Conversely, participants given a reference price range only for the Christmas tree gradually evaluated the offer more favorably (\( M_{+$5/-$5} = 4.72, M_{+$5/-$5} = 5.49, \) and \( M_{+$5/-$5} = 6.31; F(1, 123) = 17.46, p < .001 \)). Also as expected, no linear trend was observed in the absence of price information (\( M_{+$5/-$5} = 5.12, M_{+$5/-$5} = 5.47, \) and \( M_{+$5/-$5} = 5.56; F(1, 140) = 1.20, \) ns), but a specific reference price range for both attributes produced an inverted-U relationship (\( M_{+$5/-$5} = 5.53, M_{+$5/-$5} = 6.00, \) and \( M_{+$5/-$5} = 5.19; F(1, 128) = 2.99, p = .086 \)). These four distinct patterns of results are consistent with the notion that increasing the evaluability of an attribute through the manipulation of price expectations coincides with an increase in the perceptual weight of that attribute under price partitioning (hypothesis 3).

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Insert figure 3 about here
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**General Discussion**

This paper has introduced a new set of behavioral effects that result from price partitioning. We have shown that price format influences the amount of attention consumers invest in various
product attributes: an all-inclusive price discourages a thorough evaluation of an offer while a partitioned price sensitizes consumers to secondary attributes they might otherwise overlook.

Our experiments support the hypothesis that alternative price formats exert a systematic effect on how consumers process secondary attributes such as shipping and handling, in-flight entertainment, telephone booking services, and so on. This effect generalizes to situations in which individuals are conscious of the logical equivalence of alternative price formats. We were also able to demonstrate that the impact of price partitioning diminishes when the distinction between focal and secondary attributes is weakened by contextual factors that make these features equally important. An additional moderating factor is the relative evaluability of attributes: secondary features that are relatively easy (difficult) to evaluate receive exaggerated (minimal) consideration under price partitioning.

Although stimulating a deeper product assessment before purchase might seem desirable a priori, our last experiment showed that individuals sometimes place excessive emphasis on secondary features to which a price is assigned. In fact, spelling out what consumers “get” for their money through price partitioning might or might not be good business. If a product offering is mediocre in terms of secondary attributes, for example, firms might benefit by using all-inclusive prices to direct attention to the focal attribute. Conversely, firms that offer commoditized products might use price partitioning to capitalize on the attractiveness of secondary features and distract attention from any weakness in the main value proposition.

An important distinction between this research and earlier work is that an emphasis on perceived benefits (rather than expenses) can accommodate situations in which price partitioning benefits demand as well as situations in which price partitioning harms demand. This paper offers a new and distinct set of predictions that could not be formulated by approaches that view price partitioning effect in terms of changes in the processing of price information.

We believe that in many commercial settings secondary attributes are more frequently encountered and priced with less variance than focal attributes. For instance, shipping and handling is a requisite in most online or catalog transactions and the cost associated with this service typically varies little across vendors. When such is the case, one can observe the paradoxical effect that a secondary attribute is neglected if price is all-inclusive but over-emphasized if price is partitioned.
More broadly, our approach provides one example of how information processing theories and behavioral decision research can be brought together to study marketing problems. Together with other researchers (Johar et al. 2006), we believe this to be a fruitful and interesting avenue for developing our understanding of consumer decision-making. In the pricing domain, our studies suggest that price is not simply an independent cause of disutility, but also a determinant of the degree to which consumers assess product benefits. Our results are thus consistent with other recent efforts to show how price stimulates a change in product liking (Shiv et al. 2005; Wathieu and Bertini, 2007). Finally, this paper complements research on how consumers make inferences from firm behavior (e.g., Kahneman et al. 1986) by suggesting that price format might be an effective means of channeling a consumer’s attention from one type of attribute to another.
References


Figure 1

Experiment 1: The Effects of Price Format and Appeal of Secondary Attributes on the Evaluation of Air Travel Alternatives.
Figure 2

Experiment 3: The Effects of Price Format, Appeal of Secondary Attribute, and Importance of Secondary Attribute on the Evaluation of a Movie Ticket and Booking Service Transaction.
Figure 3
Experiment 4: The Effects of Price Split and Increased Evaluability on the Evaluation of a Christmas Tree and Netting Transaction.