Judgments About Judgments: The Dissociation of Consideration Price and Transaction Commitment Judgments

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There are many contexts in which people make judgments about prior judgments. For example, Internet shopping bots (e.g., NexTag.com) allow consumers to search for products and, if the price is too high, list a price at which they would consider making the purchase (i.e., base judgment). If the price drops to this level, the vendor generates an e-mail inviting the consumer to execute the transaction at the reduced price (i.e., contingent judgment). The authors show that the consideration price depends on the content of retrieved information, whereas the willingness to execute the transaction at the consideration price depends on the ease-of-retrieving the information. The authors use different offer prices to encourage the consumer to retrieve information consistent with different product quality levels. The authors also select offer prices so that information retrieval is more difficult at moderate offer prices than at high or low offer prices. Accordingly, the authors show that the consideration price increases as the offer price increases, but the willingness to execute the transaction at the consideration price is greater when there are high and low, as opposed to moderate, offer prices.

Keywords: judgments about judgments, fluency, price, negotiation, shopping

People are often asked to make judgments about judgments. Examples of judgments about judgments include reports of attribute importance (Neslin, 1981), measures of attitude strength and conviction (Abelson, 1988; Koehler, 1991), assessments of memory accuracy (Dunlosky & Nelson, 1994; Whittlesea & Leboe, 2000), and expressed confidence in one’s ability (Alba & Hutchinson, 2000; Lichtenstein, Fischhoff, & Phillips, 1982). In each of these cases, the information that supports the first judgment (henceforth base judgment) may, or may not, be the information that supports the subsequent judgment (henceforth contingent judgment). When different information supports a base judgment and a contingent judgment, these two judgments can dissociate in interesting and unexpected ways (Koriat & Levy-Sadot, 1999).

Investigations into judgments about judgments generally assume that a base judgment is analytic, but allow the contingent judgment to be analytic or nonanalytic. For example, attitude valence has been shown to depend on pro and counter attitudinal information, whereas the reported strength of an attitude has been shown to depend on attitude pertinent beliefs (Haddock, Rothman, & Reber, 1999) or on the ease with which the attitude was retrieved (Holland, Verplanken, & van Knippenberg, 2003). Similarly, people rely on retrieved information to respond to a question, but their confidence in their response can be a function of their expertise (Kruger & Dunning, 1999; Tversky & Koehler, 1994) or of the ease of retrieving the response (Koriat, 1995; Mehle, 1981). Schwarz et al. (1991) argued that nonanalytic heuristics (e.g., ease of retrieval) will be used when information content is nondiagnostic, when a person lacks the resources to assess the diagnosticity of the content, or when there is little incentive to be accurate (see, Schwarz, 2004, for a recent review).

In this paper, we investigate a price judgment (i.e., a consumers’ estimate of the price at which a transaction will be considered) and the subsequent willingness to engage in a transaction at that price. We show that a consideration price judgment depends on the content of retrieved information, whereas transaction commitment depends on the ease-of-retrieving the information. As a consequence, we are able to observe situations in which consumers are more willing to complete transactions at higher consideration prices. Experiment 1 provides evidence of the dissociation between the consideration price judgment and transaction commitment. Experiments 2 and 3 provide insight into the type of information that influences the initial consideration price judgment and how the ease of information retrieval influences the subsequent willingness to complete the transaction at that price. Experiment 4 replicates the Experiment 1 results using the online shopping bot NexTag.com.

Judgments About Judgments

People make judgment about judgments in a wide variety of situations. A base judgment can be a belief (e.g., “There is a
God.”), an attitude (e.g., “I like chocolate.”), a decision (e.g., “I’ll bet on team X.”), an estimate (e.g., “It’s worth about $40.”), a prediction (e.g., “I’ll get an “A” on the exam.”), an assessment (e.g., “I am in good shape.”), a plan (e.g., “I’ll start my diet tomorrow.”), and so forth. The contingent judgment can concern accuracy (e.g., “How much do I know?”), confidence (e.g., “How certain am I?”), intent (e.g., “How likely am I to act?”), or insight (e.g., “I did this because . . .”). Combinations of different types of base and contingent judgments can lead to wide array of interesting topics for investigation. Examples include the study of life satisfaction and regret (Dien, 1984; Gilovich & Medvec, 1995), overconfidence (e.g., Alba & Hutchinson, 2000; Lichtenstein et al., 1982), judgments of learning (e.g., Dunlosky & Nelson, 1994), belief and attitude strength (e.g., Haddock et al., 1999; Holland et al., 2003), attitude consistency (e.g., Tormala & Petty, 2004), hindsight bias (Schwarz & Stahlberg, 2003), estimation via anchoring and adjustment (e.g., Einhorn & Hogarth, 1985; Tversky & Kahneman, 1973), cause and effect learning (e.g., Koriati, Ma’ayan, & Nussinson, 2006), the influence of self-report on subsequent memory and choice (i.e., verbal overshadowing) (e.g., Schooler & Engstler-Schooler, 1990), and schizophrenia (Moritz & Woodward, 2006).

Investigations into judgments about judgments are highly domain specific. Yet, across these domains, researchers exhibit a common desire to understand how the base judgment and the contingent judgment are made. In general, most researchers assume that the base judgment depends on information content. People recruit, gather, and synthesize information to form a base judgment. The contingent judgment is assumed to be more complex. For example, Koriati and Levy-Sadot (1999) argued that a contingent judgment can be analytic or nonanalytic. An analytic judgment relies on a conscious, deliberate utilization of facts and beliefs (see also Epstein & Pacini, 1999). A nonanalytic judgment relies on a nonconscious, general purpose heuristic. Examples of these nonanalytic heuristics include mere accessibility (Morris, 1990), the ease-of-retrieval (Kelley & Lindsay, 1993; Schwarz et al., 1991), availability (Tversky & Kahneman, 1973), processing fluency (Whitmore & Jacoby, & Girard, 1990), and the familiarity of the retrieval cue (Reder, 1987).

One of the more interesting nonanalytic heuristics depends on the ease of retrieving information in the base judgment (Koriati & Levy-Sadot, 1999; Morris, 1990). The ease of retrieving information in the base judgment is more likely to influence a contingent judgment when people cannot, need not, or simply do not monitor the accuracy of information that comes to mind when making the contingent judgment (Schwarz et al., 1991). For example, Koriati (1993) had participants memorize letter strings and then report as many letters as they could remember. Judgments about the future recognition of these targets (i.e., memory confidence) increased as the number of letters recalled increased, regardless of the accuracy of the “recall.” Similarly, Koriati (1995) showed that easily accessible, nondiagnostic information can increase memory confidence. Koriati used deceptive questions to encourage the retrieval of easily accessible, but incorrect answers. Memory confidence increased as incorrect retrieval increased, while subsequent recognition performance decreased. In each case, the ease of retrieving information for the base cognitive task (i.e., a remember task) influenced the subsequent contingent judgment (i.e., a memory confidence judgment).

Transaction Commitment

We are interested in a contingent judgment as exemplified by a consumer’s willingness to complete a purchase at a previously stated price (henceforth called transaction commitment). For example, consider a situation in which a consumer names a price at which the transaction would be considered (base judgment). If the price is met at a later time, either because the merchant drops the price in response to the consumer’s offer or because the price drops as a natural part of price competition, the consumer can then decide whether or not to complete the transaction (contingent judgment). The consumer’s willingness to complete the transaction is a function of the consideration price and the information available at the time the price is met.

Transaction commitment is a peculiar judgment because the outcome of an initial judgment (e.g., the consideration price) is available at the time the commitment to the transaction is assessed. This initial judgment can act as a prime for information, the retrieval of which can provide information content or a subjective experience that influences the contingent judgment. For example, consider Internet shopping agents. Shopping bots like NexTag.com, Pricecomparison.com, Pricegrabber.com, and Pricescan.com allow a consumer to compare the prices of many vendors of a specific product and, if the price across vendors is too high, submit a consideration price (base judgment). If any of the vendors subsequently drops the price to or below the consideration price, the consumer then has the option to purchase at the revised price (contingent judgment). We contend that the generation of a consideration price (i.e., a base judgment) will be sensitive to a number of information factors, including the features of the product, the price history of the product, and the current offer price. Subsequently, the willingness to complete the transaction at the consideration price (i.e., a contingent judgment) will be sensitive to the mere accessibility of the information used to make the base judgment, among other factors.

Base Judgment: The Consideration Price

Prior investigations into judgments about judgments assume that a base judgment is sensitive to the content of available information. In the context of a price judgment, an offer price is one piece of available information. Offer prices influence price perceptions, purchase attitudes, and purchase intentions (Lichtenstein, Burton, & Karson, 1991). Offer prices also increase the accessibility of information that is consistent with the price (Mussweiler & Strack, 2001). For example, Mussweiler and Strack (2000) asked participants to assess the average price of a German automobile after seeing a high anchor (40,000 German marks) or a low anchor (20,000 German marks). Participants who saw the higher anchor estimated the average price of a German car to be higher. More importantly, when participants were subsequently exposed to a series of words, some of which were target words associated with expensive cars (e.g., Mercedes and BMW) and some of which were target words associated with inexpensive cars (e.g., VW), response latencies were dependent upon the anchoring condition. Participants were significantly faster at recognizing words associated with expensive (inexpensive) cars after a consideration of the high (low) anchor than after consideration of the low (high) anchor.
Contingent Judgment: Transaction Commitment

One might expect that any contingent judgment about a base judgment will be analytic. After all, the base judgment is available to prime information content. However, there are three pieces of evidence that suggest people often rely on nonanalytic processes to make contingent judgments. First, contingent judgments are not always sensitive to the information that is available in the environment. For example, people rarely consider available base rate information when they express the likelihood they will be successful at a task (Burson, Larrick, & Klaman, 2006). Second, people often ignore information that has been used to make a prior judgment about a particular topic. For example, Monin and Miller (2001) found that people who had used gender information to avoid appearing prejudiced ignored this criterion in a subsequent hiring decision. Third, there are many contingent judgments that have been shown to be nonanalytic. For example, Wänke et al. (1997) asked people to generate one (10) reason to purchase (not purchase) a BMW. One reason is easy to generate, thus people in the reasons to purchase condition were more likely to purchase than people in the reasons not to purchase condition. Ten reasons are difficult to generate, thus people in the reasons to purchase condition were less likely to purchase than people in the reasons not to purchase condition. Clearly, the contingent judgment was more nonanalytic (heuristic) than analytic (information-based).

Research Strategy

We sought to demonstrate that a consideration price judgment depended on the content of retrieved information, whereas the willingness to complete the transaction at this price depended on the ease of retrieving information. To provide a convincing demonstration, the information that influenced the consideration price judgment had to be manipulated independently of the ease of retrieving this information. Our strategy depended on a simple observation. Consumers often organize product category information by price tiers and/or performance levels (Alba & Hutchinson, 1987; Sivakumar & Raj, 1997). Product differentiation and product category maturity often guide the number of tiers within any market (i.e., new markets have a single tier whereas mature markets have multiple tiers). Consumer experience with a product category allows the consumers to learn about performance tiers. Thus, to the extent an offer price corresponds to a performance tier, information about products at that tier should be accessible. To the extent an offer price does not correspond to a performance tier (i.e., the offer price suggests a product between performance tiers), information should be less accessible.

Our research strategy was to take product categories with a minimum of two performance tiers and to provide offer price information that corresponded to two adjacent tiers or to somewhere in between. We anticipated that the consideration price judgment (base judgment) would increase as the offer price increased (Lichtenstein, Burton, & Karson, 1991; Nunes & Boatright, 2004), provided the product description was sufficiently ambiguous (i.e., information recruited in response to the offer price was perceived as diagnostic). We also anticipated that information would be more accessible when the offer price corresponded to the one of the tiers, as opposed to neither of the tiers. If this is so, and transaction commitment (contingent judgment) is sensitive to the ease of retrieving information, then commitment should be high at the consideration price that was generated in response to the lower or higher offer price and low at the consideration price that was generated in response to the intermediate offer price. Consumers should only rely on the ease-of-retrieval heuristic when information retrieved in response to the product description was ambiguous (i.e., the ease of retrieving information was perceived as diagnostic). These relationships are summarized in Figure 1.

Experiment 1

Experiment 1 investigated the influence of offer prices on consumers’ consideration prices and consumers’ willingness to complete the transaction at their consideration prices. Participants were presented with a product and asked whether they were willing to purchase the product at one of three offer prices; a standard price, an intermediate price, or a premium price. Anticipating negative responses to this question (based on pretests), participants were next asked to indicate the amount at which they would be willing to consider the purchase of the product (i.e., their consideration price). Then participants were asked about their willingness to complete the transaction if the product were to be offered at their consideration price.

Method

Participants. There were 172 undergraduate students who participated in the main experiment. An additional 242 students participated in a pretest (n = 20), a manipulation check study (n = 134), and an ancillary study (n = 88). All participants were drawn from a subject pool comprised of introductory marketing and...
introductory statistics students at the University of Florida. Students received extra credit for their participation. Students participated in only one of the studies. The median and average age of the students in the subject pool was 20 years. The pool composition was approximately half male and half female.

Stimuli. Stimulus development consisted of (a) selecting three product category replicates, (b) writing product descriptions for each replicate, and (c) identifying standard, intermediate, and premium offer prices for each replicate. Three product category replicates were selected using the following criteria. First, the product categories had to be familiar to students, but not so familiar as to allow for students to have expertise. Second, the product categories had to have a minimum of two performance tiers. Third, there had to be a large price distance between two adjacent performance tiers (e.g., standard, premium) because this would make it easier to offer a product priced between these tiers. A road bike, a 1 week vacation in Cancun, and a Bose home entertainment system were selected as the three product replicates.

Product descriptions were written to include ambiguous features that could be interpreted to be features of a standard or a premium product. For example, the road bike description listed features that suggested a modestly priced bike as well as terminology that could be interpreted to be consistent with a more premium product (see the top half of the Appendix for the bike replicate description). The description included terminology such as “. . . crisp-shifting Shimano drivetrain, and lightweight 700c wheels shod with our own aramid-bead tires.” In the name of Comfort, we’ve built in tech goodies like intermediate-modulus carbon forks, adjustable stems, suspension seatposts, and medically proven Body Geometry saddles and grips.” Although experts might know that these features are not indicators of a premium product, novices could interpret these features to be indicators of a standard or premium product.

Offer prices were determined using a paper and pencil pretest questionnaire. Twenty participants from the same subject pool as the main experiment were asked to read each product description and report the “highest amount they would be willing to accept as a list price.” Participants were also asked to indicate the expected range of prices at the next highest performance tier within the product category (i.e., the premium performance tier). Given these price profiles, and the desire to have a consistent price manipulation across replicates, the standard price was set at the mean highest acceptable list price, the intermediate price was set at double the standard price, and the premium price was set at six times the standard price. This pricing manipulation resulted in offer prices of $699, $1,399, and $4,199 for the bike replicate, $999, $1,999, and $5,999 for the vacation replicate, and $1,499, $2,999, and $8,999 for the stereo replicate. The intermediate offer price was set closer to the standard price, as opposed to between standard and premium price, because the premium product tier had a large range of acceptable offer prices (i.e., the range included the midpoint between the standard and premium offer price).

Procedure. The experiment used a one-factor, between-subjects design with three offer price levels (standard, intermediate, premium) and three between-subjects product replicates (road bike, Cancun vacation, Bose home entertainment sound system). The procedure was administered using an Authorware 7.02 program (Authorware, 2003). Participants were invited into a 24-carrel behavioral lab and randomly assigned to a condition. After being seated at the computer, participants viewed a series of two or three screens detailing information about a product. Next, the product information was removed and participants were asked if they would be willing to purchase the product at the offer price. For example, in the bike condition, participants were told, “The Specialized Sirrus road bike typically sells for $699 [ $1,399, $4,199]. Assuming that you had graduated college, had a good paying job, and did own not a road bike, would you be willing to pay $699 [ $1,399, $4,199] for this road bike?” It was expected that all participants would decline (they did). Then participants were asked to list the price at which they would be willing to consider the purchase of the product (base judgment). For example, bike replicate participants were asked, “How much would you be willing to pay for this road bike from the local Specialized bike dealer (we need an honest answer)?” The next screen reported that the retailer was willing to lower the price to the consideration price (i.e., the consideration price was listed) and asked the participant how willing she/he would be to complete the transaction at that price using a 0 to 100 scale with endpoints labeled “non at all” and “absolutely” (contingent judgment).

Manipulation check. A separate experiment was used to confirm that the standard and premium offer prices allowed a participant to recruit more information than the intermediate offer price. There were 134 participants from the same subject pool as the main experiment who followed the main experiment procedure with one exception. The final transaction commitment judgment was replaced with a thought solicitation task. Participants were told:

“We are interested in all of the thoughts you are having about this product. Please let us know everything that you are thinking. You can tell us about characteristics of the product, usage situations, usage partners, and so forth. There are no right or wrong answers, so just write down what comes to mind. You have three minutes.”

The total number of product-related thoughts (e.g., thoughts mentioning the product, usage situations, usage partners) for each participant were counted by two coders (reliability = .95) and used as an indicator of the ease of information retrieval. There was no replicate by offer price interaction, $F(4, 125) = .89$, $MSE = 2.58$, $p = .47$, so we collapsed across the three replicates. There was a main effect of the offer price on the number of product-related thoughts, $F(2, 125) = 4.93$, $MSE = 2.58$, $p < .01$, $\eta^2_p = .07$. The intermediate offer price condition ($M = 1.13$, $SD = 1.13$) generated less product-related thoughts than the standard ($M = 1.79$, $SD = 1.77$), $F(1, 129) = 3.73$, $MSE = 2.57$, $p = .06$, $\eta^2_p = .03$, or the premium ($M = 2.20$, $SD = 2.02$), $F(1, 129) = 9.32$, $MSE = 2.57$, $p < .01$, $\eta^2_p = .07$, offer price conditions.

Additional coding of the thought protocols (reliability = .75) confirmed that there were more standard thoughts (e.g., “good,” “nice,” “decent price”) in the standard price condition ($M = .43$, $SD = .50$) than in the intermediate ($M = .20$, $SD = .40$), $F(1, 129) = 7.82$, $MSE = .15$, $p < .01$, $\eta^2_p = .06$, or the premium ($M = .09$, $SD = .28$), $F(1, 129) = 17.96$, $MSE = .15$, $p < .01$, $\eta^2_p = .12$, price conditions. Likewise, there were more premium thoughts (e.g., “professional,” “high tech,” “exclusive”) in the premium price condition ($M = .56$, $SD = .62$) than in the intermediate ($M = .17$, $SD = .38$), $F(1, 129) = 14$, $MSE = .23$, $p < .01$, $\eta^2_p = .10$, or the standard ($M = .24$, $SD = .43$), $F(1, 129) = 9.42$, $MSE = .23$, $p < .01$, $\eta^2_p = .07$, price conditions. An analysis of the valence of the thoughts (reliability = .79) showed that the
number of negative, $F(2, 125) = 1.86$, $MSE = 1.50$, $p = .16$,
neutral, $F(2, 125) = .70$, $MSE = 2.95$, $p = .50$, and positive
thoughts, $F(2, 125) = 1.01$, $MSE = 2.53$, $p = .37$, did not differ
by offer price condition.

**Results of Main Experiment**

Raw means for each replicate are shown in Figure 2. The key
hypothesis was that there would be a dissociation between the
consideration price judgments and the transaction commitment
decisions. The two dependent measures were transformed into
z-scores by replicate. The predicted interaction was significant,
$F(2, 163) = 6.02$, $MSE = .72$, $p < .01$, $\eta^2_p = .07$, suggesting that
the offer price manipulation exerted a different pattern of influence
on the consideration price judgments and the transaction commit-
mment judgments.

**Consideration price.** The data were transformed to z-scores
owing to the unequal variances across the three replicates. There
was no price by replicate interaction on the consideration price,
$F(4, 163) = .32$, $MSE = .67$, $p = .87$, so the replicate factor was
collapsed. There was a significant influence of the offer price on
the consideration price, $F(2, 163) = 43.07$, $MSE = .67$, $p < .01$,
$\eta^2_p = .35$. Simple main effect tests showed the consumer’s con-
sideration price was higher in the intermediate price condition
($M = -.21$, $SD = .47$) than in the standard price condition ($M =
-.58$, $SD = .22$), $F(1, 167) = 5.72$, $MSE = .66$, $p = .02$, $\eta^2_p =
.03$. The consumer’s consideration price was also higher in the
premium price condition ($M = .80$, $SD = 1.31$) than in the
intermediate price condition ($M = -.21$, $SD = .47$), $F(1, 167) =
43.99$, $MSE = .66$, $p < .01$, $\eta^2_p = .21$.

**Transaction commitment.** There was no price by replicate
interaction on a participant’s willingness to complete the transac-
tion at a consideration price, $F(4, 163) = .40$, $MSE = 376$, $p = .81$,
so the replicate factor was collapsed. There was a significant
influence of the offer price on a person’s transaction commitment,
$F(2, 163) = 5.35$, $MSE = 376$, $p < .01$, $\eta^2_p = .06$. As predicted,
the price manipulation created a quadratic influence on the partic-
IPANT’S willingness to complete the transaction at the consider-
ation price, $F(1, 169) = 8.75$, $MSE = 376$, $p < .01$, $\eta^2_p = .06$. Simple
main effect tests showed that consumers were less willing to
complete the transaction at their reported consideration price in the
intermediate price condition ($M = 69.9$, $SD = 25.3$) than in the
standard price ($M = 80$, $SD = 17.9$), $F(1, 167) = 8.36$, $MSE =
371$, $p < .01$, $\eta^2_p = .05$, or premium price ($M = 79.3$, $SD = 17$),
$F(1, 167) = 7.22$, $MSE = 371$, $p < .01$, $\eta^2_p = .04$, conditions.

**Results of Ancillary Experiment**

It has been claimed that the willingness to complete the trans-
action at a consideration price depends on the ease of retrieving
the information used to make the consideration price judgment (see
Figure 2). One way to test this assumption is to remove the
consideration price judgment from the procedure. Eighty-eight
participants from the same subject pool as the main experiment
were assigned to one of the three price levels of the bike replicate.
Participants engaged in a procedure identical to Experiment 1 up to
the point at which they were asked if they would like to purchase
the bike at the offer price. After the participant declined, the bike
was offered at the median consideration price from Experiment 1
(i.e., participants were not allowed to self-generate a considera-
tion price), with slight adjustments for price plausibility. These median
prices were $299 for the standard condition, $499 for the interme-
deate condition, and $999 for the premium condition. The partic-
IPANT’S willingness to complete the transaction in the standard
($M = 70.7$, $SD = 26.9$), intermediate ($M = 63.2$, $SD = 27.6$), and
premium ($M = 54.7$, $SD = 33.4$) price conditions were not
statistically different, $F(2, 86) = 2.18$, $MSE = 850$, $p = .12$.

**Discussion**

The results of Experiment 1 showed that standard, intermediate,
and premium offer prices evoked consideration prices that were
monotonically increasing, while also leading to a U-shaped pattern
of willingness to complete the transaction at the respective con-
sideration prices. We claim that consideration price judgments
depended on the content of retrieved information, but that the
willingness to complete the transaction at the consideration price
depended on the ease of retrieving the information used to generate
the consideration price. Cognitive thought measures were consist-
tent with these claims. Similar to the consideration price judg-
ments, the number of premium (standard) thoughts increased (de-
creased) as the offer price increased. Similar to the transaction
commitment judgments, the number of accessible product-related
thoughts was higher in the standard and premium offer price

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**Figure 2.** The influence of a standard, intermediate, or premium initial offer price on a participant’s stated
consideration price (price at which the transaction would be considered) and the participant’s willingness to
commit to the transaction should the retailer lower the price to this level (Experiment 1). Bike, vacation, and
stereo are three replicates. Error bars represent standard errors.
conditions than in the intermediate offer price condition. An additional experiment showed that the willingness to complete the transaction at the consideration price did not vary by price condition when the consideration price was provided by a third-party. These results are consistent with prior evidence that the differential accessibility of information supporting a base judgment can influence a contingent judgment (Koriat, 1993, 1995).

There is a potential alternative explanation for the results of Experiment 1. It is possible that participants in the experiment were aware of the extent to which their consideration price was below the offer price and that greater differences signaled a better deal. Participants may have used this information as input into their judgment about their willingness to complete the transaction. Two pieces of evidence argue against this alternative hypothesis. First, the consideration price as a proportion of the offer price fell as the price increased from a standard (.56) to an intermediate (.45) to a premium (.32) level. If low consideration price bids relative to the offer prices created an opportunity for a deal, then the participant’s willingness to complete the transaction should have monotonically increased as the offer price increased. This did not happen. Second, if people had an increased tendency to complete the transaction when they had listed a lower consideration price, then the correlation between the consideration price and transaction commitment should be negative. To make conditions comparable, the consideration price was expressed as a proportion of the offer price in each of the price conditions and correlated with transaction commitment. The correlation was positive, \( r(172) = .20, p < .01 \), the implication being that proportionally higher consideration prices led to a greater willingness to complete the transaction.

Experiment 2 investigated a boundary condition for the influence of nonanalytic processes on transaction commitment. Most pertinent to this research, the accessibility of information during the generation of the consideration price should influence the consumer’s willingness to complete the transaction only when the content of the retrieved information is not diagnostic (Schwarz, 2004). We expected that the content of the retrieved information would not be diagnostic when there was ambiguity about the generated consideration price. Alternatively, if a person had reason to believe that a consideration price was well-reasoned, owing to prior expectations about a reasonable offer price or the use of unambiguous information to generate the consideration price, then the content of the retrieved information should be most diagnostic of the value represented by the consideration price.

Experiment 2

In Experiment 1, it was argued that people were able to retrieve differential amounts of information in response to the offer price because the product descriptions were ambiguous. In Experiment 2, we varied the ambiguity of the product description using the bike replicate. In one condition, we used an abbreviated version of the product description used in Experiment 1. In a second condition, we removed the ambiguity from the abbreviated description so that participants understood the product was unambiguously from a standard performance tier. We anticipated that the participant’s willingness to complete the transaction would depend on the ease of information retrieval when the product description was ambiguous, but would not vary by price condition when the product description was unambiguous.

Experiment 2 also provided an opportunity to explore the process supporting the differences in transaction commitment. Thus far, we have argued that the ease of retrieving information influences a person’s transaction commitment, provided the content of the retrieved information is not diagnostic. Experiment 2 collected three additional pieces of information to help address this issue. Specifically, subsequent to the transaction commitment judgment, participants were asked to provide product-related thoughts. We anticipated that the ease of thought retrieval would influence the likelihood of purchase in the intermediate and premium price conditions with the ambiguous product description. We anticipated that the participant’s default assumption would be that ambiguously described product was of standard quality (see offer price pretest in Experiment 1), hence thought availability would not influence transaction commitment in the standard offer price condition.

Method

Participants. There were 174 undergraduate students who participated in the main experiment. All participants were drawn from the same subject pool as Experiment 1, but in a later semester. Students received extra credit for their participation.

Stimuli. The ambiguous bike description used in Experiment 1 was modified for Experiment 2 (see appendix). The ambiguous bike description retained many of the key ambiguous terms of the original product description, but was shortened and made more appropriate for the participant population. The unambiguous product description was the ambiguous bike description with the key ambiguous terms replaced by unambiguous terms (see appendix). For example, terms such as “intermediate-modulus carbon forks,” “adjustable stems,” and “suspension seatposts” were replaced with “front suspension forks,” “adjustable handlebars,” and “a spring-loaded seat.”

Procedure. The experiment used a two-factor, between-subjects design with three levels of offer price (standard, intermediate, and premium) and two levels of information ambiguity (ambiguous, unambiguous). The procedure was identical to Experiment 1 with the following exceptions. First, a single replicate was used. Second, product-related thoughts were solicited after the transaction commitment judgment. Participants were given the same instruction as in the manipulation check study of Experiment 1. Third, the procedure included two additional dependent measures that could be used to rule out alternative explanations for the results of Experiment 1. First, participants were asked to assess the believability of the offer price. Second, participants were asked to report the believability of the vendor’s counteroffer to reduce the offer price to the participant’s consideration price. Finally, the procedure included two screening measures. Participants were asked if they currently rode a bike (“no,” “yes”) and if they would consider purchasing a bike (“no,” “yes”). These measures allowed us to remove who were not interested in the product.

Results

One hundred forty-four participants who owned a bike or were interested in purchasing a bike were retained in the analysis. The raw means for the consideration price and the willingness to complete the transaction at the consideration price are shown in Figure 3.
The two dependent measures were transformed into z-scores. The three-way interaction between offer price, the ambiguity of the product description, and the type of dependent measure was significant, $F(2, 138) = 4.03$, $MSE = .74$, $p = .02$, $\eta^2_p = .06$. The two-way interaction between offer price and the type of dependent measure was significant in the ambiguous product description condition, $F(2, 138) = 12.84$, $MSE = .74$, $p < .01$, $\eta^2_p = .16$, but not in the unambiguous product description condition, $F(2, 138) = 1.10$, $MSE = .74$, $p = .34$.

**Consideration price.** There was an interaction between the offer price and the product ambiguity manipulations, $F(2, 138) = 5.99$, $MSE = 314,153$, $p < .01$, $\eta^2_p = .08$. The offer price factor exhibited a significant main effect in the ambiguous condition, $F(2, 138) = 15.27$, $MSE = 314,153$, $p < .01$, $\eta^2_p = .18$, but not in the unambiguous condition, $F(2, 138) = 1.80$, $MSE = 314,153$, $p = .17$. Simple main effect tests in the ambiguous condition showed the participant’s consideration price was higher in the premium (M = $1,234$, SD = $1,315$) than in the standard (M = $1,000$, SD = $1,308$), but did not differ between the intermediate (M = $1,103$, SD = $1,269$, $p = .07$, or the premium price (M = $1,230$, SD = $1,241$), $F(1, 141) = 2.20$, $p = .07$. Simple main effect tests showed that participants in the ambiguous condition were less willing to complete the transaction at their reported consideration price in the intermediate price condition (M = 63.1, SD = 20.9) but not in the standard price (M = 82.1, SD = 14.3), $F(1, 141) = 11.03$, $MSE = 375$, $p < .01$, $\eta^2_p = .07$, or the premium price (M = 74.6, SD = 14.2), $F(1, 141) = 3.98$, $MSE = 375$, $p = .05$, $\eta^2_p = .03$, conditions.

**Transaction commitment.** There was an offer price by-product ambiguity interaction on the transaction commitment judgments, $F(2, 138) = 2.80$, $MSE = 373$, $p = .06$, $\eta^2_p = .04$. The price factor exhibited a significant main effect in the ambiguous condition, $F(2, 138) = 4.97$, $MSE = 373$, $p = .01$, $\eta^2_p = .07$, but not in the unambiguous condition, $F(2, 138) = .03$, $MSE = 373$, $p = .97$. Similar to Experiment 1, the price manipulation created a quadratic influence (i.e., U-shaped curve) on the willingness to complete the transaction in the ambiguous product description condition, $F(1, 141) = 9.02$, $MSE = 375$, $p < .01$, $\eta^2_p = .07$. Simple main effect tests showed that participants in the ambiguous condition were less willing to complete the transaction at their reported consideration price in the intermediate price condition (M = 63.1, SD = 20.9) than in the standard price (M = 82.1, SD = 14.3), $F(1, 141) = 11.03$, $MSE = 375$, $p < .01$, $\eta^2_p = .07$, or the premium price (M = 74.6, SD = 14.2), $F(1, 141) = 3.98$, $MSE = 375$, $p = .05$, $\eta^2_p = .03$, conditions.

**Product-related thoughts** (reliability = .87). We anticipated that the quantity of product related thoughts (e.g., thoughts mentioning the product, usage situations, usage partners) could be used as an indicator of the ease of retrieving information and that this ease of retrieval would mediate the participant’s transaction commitment in the ambiguous description conditions. Unfortunately, the average number of thoughts did not vary by condition, $F(2, 138) = .27$, $MSE = 2.20$, $p = .77$, a result that could be attributed to the low number of product-related thoughts (M = 1.31, SD = 1.51) relative to the total number of thoughts (M = 4.77, SD = 1.93). Alternatively, the correlation between the number of product-related thoughts and the consumer’s willingness to complete the transaction was computed in each of the six conditions (see row one of Table 1). In the ambiguous condition, the correlation was significant in the intermediate offer price condition, $r = .59$, $p = .01$.

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Ambiguous product description</th>
<th>Unambiguous product description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plausible</td>
<td>High</td>
</tr>
<tr>
<td>Product relevant thoughts</td>
<td>-0.03</td>
<td>0.59*</td>
</tr>
<tr>
<td>ARP believability</td>
<td>0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>Vendor counteroffer believability</td>
<td>-0.30</td>
<td>0.25</td>
</tr>
</tbody>
</table>

*Note.* Correlation of purchase likelihood with listed variable. *p < .05.*
.01, and the premium offer price condition, \( r = .45, p = .03 \), but not in the standard offer price condition, \( r = -.03, p = .88 \). The correlation was not significant in the unambiguous conditions (\( r_{\text{standard}} = -.01, p = .96; r_{\text{intermediate}} = -.17, p = .47; r_{\text{premium}} = .24, p = .22 \)).

Alternative explanations. Offer price believability and vendor counteroffer believability did not exhibit the same pattern of results as transaction commitment. There was no offer price by ambiguity interaction on the believability of the offer price, \( F(2, 138) = .24, MSE = 915, p = .79 \), or the believability of the vendor’s counteroffer, \( F(2, 138) = .27, MSE = 813, p = .77 \). In addition, these measures did not correlate with transaction commitment in any of the six experimental conditions (all \( p > .10 \), see Table 1). Aggregating selected experimental conditions (i.e., intermediate and premium conditions in the ambiguous condition) or all experimental conditions to increase the power of the test also resulted in no significant correlations (all \( p > .10 \)).

Discussion

The results of Experiment 2 provide further evidence that consideration price judgments depend on the content of retrieved information, whereas the willingness to complete a transaction at a consideration price depends on the ease of retrieving the information, provided information content is not diagnostic. Participants in the ambiguous product description condition generated monotonically increasing consideration prices in response to the increasing offer prices, but exhibited a U-shaped pattern of transaction commitment at the three consideration prices. We contend that the ambiguous product description allowed participants to retrieve different types of information at different offer prices and that this information influenced consideration prices. Transaction commitment to these consideration prices was influenced by the ease of retrieving the information. We also argue that the unambiguous product description encouraged participants to retrieve information with more confidence, so their willingness to complete the transaction at the consideration price was not sensitive to the ease of retrieving information. When the product description was unambiguous, the consideration price judgments and willingness to complete the transaction at these consideration prices depended on the content of the retrieved information.

Although the data from Experiment 2 are informative, one remaining issue merits further attention. The relationship between the transaction commitment judgment and the ease of retrieving of information has been documented using correlational data. It would be better to manipulate the ease of retrieving information to influence the consumer’s transaction commitment. Experiment 3 provided this test.

Experiment 3

We contend that the low (high) transaction commitment in the intermediate (premium) offer price conditions of the first two experiments was a consequence of difficult (easy) information retrieval. This hypothesis is supported by Whittlesea and Williams (2000) evidence that ease-of-retrieval effects are sensitive to expectations. When people experience harder than expected retrieval, there is a lower likelihood of an affirming judgment. When people experience easier-than-expected retrieval, there is a higher likelihood of an affirming judgment. Applying this logic to our context, retrieving a single piece of information should not be harder or easier relative to expectations, hence retrieving one piece of information should not impact the consumer’s transaction commitment. In contrast, retrieving three pieces of information does have the potential to vary in difficulty across offer price conditions. It should be harder to retrieve information in the intermediate offer price condition and easier to retrieve information in the standard and premium offer price conditions. The difficult information retrieval in the intermediate price condition should lead to a lower willingness to complete the transaction at a consideration price generated in response to an offer price.

Method

Participants. There were 249 undergraduate students who participated in the main experiment. All participants were drawn from the same subject pool as prior experiments, but did not participate in prior experiments. Students received extra credit for their participation.

Procedure. The experiment used a two-factor, between-subjects design with three levels of offer price (standard, intermediate, and premium) and two levels of generated thoughts (one and three). The procedure was similar to the procedure used in Experiment 2 with the following modifications. First, the ambiguous product description from Experiment 1 was used. Second, after the participant provided a consideration price, the participant was told

“We are interested in the thoughts you are having about this bike. Tell us about the features of the bike or places a person could use the bike. Please list one (three) bike feature(s) or place(s) to use the bike.”

Note that the participant was not asked to list reasons for the purchase. Next, the participant indicated his or her willingness to complete the transaction at the consideration price, the believability of the initial offer price, and the believability of the counteroffer to sell at the consideration price. Participants then responded to a seven-point scale measuring the difficulty of generating the thought(s) endpoints of “not difficult” and “difficult”) and measures of bike usage. Finally, participants indicated whether they currently rode a bike (“no,” “yes”) and if they would consider purchasing a bike (“no,” “yes”).

Results

One hundred seventy-four participants who owned a bike or were interested in purchasing a bike were retained in the analysis. The results are shown in Figure 4.

The two dependent measures were transformed into z-scores. The two-way interaction between the offer price and the type of dependent measure was significant in the three thought condition, \( F(2, 168) = 6.87, MSE = .47, p < .01, \eta^2_p = .06 \), but not in the one thought condition, \( F(2, 168) = 2.59, MSE = .47, p = .08 \). The three-way interaction between the offer price, the number of generated thoughts, and the type of dependent measure was not significant, \( F(2, 168) = 1.47, MSE = .47, p = .23 \).

Consideration price. The offer price had a significant main effect on the consideration price. \( F(2, 168) = 23.85, MSE = 243,446, p < .01, \eta^2_p = .22 \), whereas the number of thoughts generated, \( F(1, 168) = .90, MSE = 243,446, p = .34 \), and the
interaction of the factors, $F(2, 168) = .36, MSE = 243.446, p = .70$, had no influence on the consideration price. Simple main effect tests showed the consumer’s consideration price was higher in the intermediate price condition ($M = 523, SD = 244$) than in the standard price condition ($M = 313, SD = 105$), $F(1, 170) = 5.17, MSE = 243.446, p = .02, \eta^2_p = .03$ and was higher in the premium price condition ($M = 935, SD = 777$) than in the intermediate price condition ($M = 523, SD = 244$), $F(1, 170) = 19.79, MSE = 243.446, p < .01, \eta^2_p = .10$.

**Transaction commitment.** There was an offer price by number of thoughts interaction on the transaction commitment judgments, $F(2, 168) = 2.76, MSE = 619, p = .07, \eta^2_p = .03$. There was a significant quadratic effect of the offer price manipulation in the three thought condition, $F(2, 168) = 3.44, MSE = 619, p = .03, \eta^2_p = .03$. Simple main effect tests showed that consumers were less willing to complete the transaction at their consideration price, provided the offer price coefficient became nonsignificant, ($F(1, 170) = 6.74, MSE = 619, p = .01, \eta^2_p = .04$. There was no effect of the offer price manipulation on the willingness to complete the transaction in the one thought condition ($M_{standard} = 70.0, M_{intermediate} = 64.6, M_{premium} = 61.2$; $F(2, 168) = .99, MSE = 619, p = .37$. The analyses of the believability measures replicated the null results of Experiment 2.

**Difficulty of generating product-related thoughts.** The procedure included a measure to assess the difficulty of generating product-related thoughts. It was expected that participants would perceive it as relatively difficult to generate three thoughts in the intermediate price condition, as compared to the standard and premium price conditions. The offer price influenced the perceived difficulty of generating thoughts in the three thought condition, $F(2, 168) = 4.59, MSE = 3.52, p = .01, \eta^2_p = .06$. People perceived it as more difficult to generate the three thoughts in the intermediate price condition ($M = 4.50, SD = 1.37$) relative to the standard price condition ($M = 3.39, SD = 1.92$), $F(1, 170) = 3.92, MSE = 3.52, p = .05, \eta^2_p = .02$, or the premium price condition ($M = 2.94, SD = 1.85$), $F(1, 168) = 9.03, MSE = 3.52, p < .01, \eta^2_p = .05$. There was no difference in the perceived difficulty of generating thoughts in the one thought condition ($M_{standard} = 2.79, M_{intermediate} = 2.68, M_{premium} = 3.29$), $F(2, 168) = .97, MSE = 3.52, p = .38$.

**Mediation analysis.** The Baron and Kenny (1986) three-part procedure was used to assess whether the difficulty of generating product-related thoughts mediated the participant’s transaction commitment in the three thought conditions. First, the offer price was a significant predictor of the willingness to complete the transaction ($\beta = -7.51, SE = 3.58, t(76) = -2.10, p = .04$). Second, the offer price was a significant predictor of the difficulty of generating thoughts ($\beta = .66, SE = .28, t(76) = 2.40, p = .02$). When transaction commitment was regressed on the offer price and the difficulty of generating product-related thoughts, the offer price coefficient became nonsignificant, ($\beta = -4.71, SE = 3.54, t(76) = -1.33, p = .19$, and the difficulty of generating thought coefficient remained significant ($\beta = -4.22, SE = 1.43, t(76) = -2.96, p < .01$. A Sobel test for the mediating influence of the difficulty of generating product-related thoughts was marginally significant, $z = 1.88, p = .06$.

**Discussion**

The results of Experiment 3 showed that the ease of retrieving product-related information influenced the consumer’s willingness to complete the transaction at the consideration price, provided the ease of retrieval is diagnostic. The perceived ease of retrieval varied in the three thought conditions, as did the participant’s transaction commitment. Participants found it difficult to retrieve three product-related thoughts in the intermediate offer price condition, but found it easy to retrieve three product-related thoughts in the standard and premium offer price conditions. This ease (difficulty) of retrieval was accompanied by an increased (decreased) transaction commitment. The perceived ease of retrieval did not vary in the one thought conditions, nor did the participant’s transaction commitment. The results are consistent with the claim that consumers can use the ease of retrieving information to inform a subsequent judgment about the willingness to complete the
transaction at that consideration price, provided that more diagnostic information is not available.

Experiment 4

Experiments 1 through 3 provided evidence that base judgments, and subsequent contingent judgments, depend on different types of information. Experiment 4 replicated Experiment 1 in a shopping context. The experimental context was an Internet shopping trip. Participants were asked to shop for five products using the NexTag shopping bot. During the course of this shopping experience, participants had the opportunity to set a consideration price, called a price alert, for any of the five products they shopped. Subsequently, participants were asked if they had set a price alert for any of the products and the likelihood they would buy the product if the price was met (i.e., transaction commitment).

Method

Participants. There were 404 undergraduate students who participated in the main experiment. An additional 76 students participated in pretests. Pretest participants did not participate in the main experiment. All participants were drawn from the same subject pool as prior experiments, but did not participate in prior experiments. Students received extra credit for their participation.

Design and stimuli. The experiment used a one-factor, between-subjects design with three levels of an offer price (standard, intermediate, and premium) and five product category replicates (toaster oven, 256 megabyte MP3 player, rice steamer, coffee maker, and microwave oven). The entire experiment was conducted on the NexTag Web site using real products. Thus, the manipulation of offer prices could not be independent of product descriptions. Instead, products had to be chosen that naturally varied in offer prices, but that had similar expected prices in the absence of price information.

A pretest was used to select product categories that had standard, intermediate, and premium priced alternatives, but where the alternatives had similar expected retail prices in the absence of offer price information. In Stage 1, six products (i.e., two low-priced, two moderately priced, and two premium-priced) were identified in each of five product categories. Pictures and product description information, but no price information, was copied from the NexTag Web site and put into a booklet. Twenty participants then indicated how much they expected to pay for each product. These price expectations were used to select three products, in each of five product categories, that did not vary in their expected retail price but that did vary in their actual offer price. Subsequently, 56 participants participated in a between-subjects design in which they saw product descriptions for one offer price level, sans price information, and indicated expected retail prices. There were no differences in the expected retail price of the three products in any of the five product categories (all p > .10) or when the analysis was collapsed across the five product categories, $F(2, 51) = .54, MSE = 1.68, p > .10$. Thus, the final stimulus set consisted of products that varied in their offer price, but did not vary in their expected price in the absence of an offer price (see Table 2).

Table 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Actual list price</th>
<th>Expected price (pretest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toaster oven</td>
<td>Hamilton Beach 311154-Slice Toaster Oven</td>
<td>$24.99</td>
<td>$45.50</td>
</tr>
<tr>
<td>Standard</td>
<td>Russell Hobbs Digital Convection Oven</td>
<td>$71.25</td>
<td>$59.65</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Delonghi A5670 Airstream Convection Toaster Oven</td>
<td>$149.95</td>
<td>$54.87</td>
</tr>
<tr>
<td>Premium</td>
<td>Buslink MP 256MB Player W/built-in Spkr</td>
<td>$31.99</td>
<td>$98.85</td>
</tr>
<tr>
<td>MP3 player</td>
<td>Oregon Scientific MP 120 256 MB</td>
<td>$75.15</td>
<td>$99.83</td>
</tr>
<tr>
<td>Standard</td>
<td>Creative Labs Creative Rhomba NX MP3 256 MB</td>
<td>$160.99</td>
<td>$111.27</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Hamilton Beach Proctor Silex 10 Cup - 37533</td>
<td>$16.88</td>
<td>$37.14</td>
</tr>
<tr>
<td>Rice steamer</td>
<td>Sunpentown Rice Cooker SC-1631</td>
<td>$47.99</td>
<td>$37.70</td>
</tr>
<tr>
<td>Standard</td>
<td>Zojirushi NH-VBC18 Induction Rice Cooker</td>
<td>$229.95</td>
<td>$55.88</td>
</tr>
<tr>
<td>Premium</td>
<td>Hamilton Beach Proctor Silex 46801 Simply Coffee</td>
<td>$14.62</td>
<td>$32.34</td>
</tr>
<tr>
<td>Coffee maker</td>
<td>Black And Decker Coffee Maker DCM2700B</td>
<td>$30.54</td>
<td>$39.72</td>
</tr>
<tr>
<td>Standard</td>
<td>Krups 12-Cup White Programmable</td>
<td>$69.95</td>
<td>$45.00</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Avanti MO768TW Countertop</td>
<td>$49.00</td>
<td>$59.30</td>
</tr>
<tr>
<td>Microwave oven</td>
<td>Home Depot GE. 7 Cu. Ft. Capacity Countertop</td>
<td>$69.00</td>
<td>$74.47</td>
</tr>
<tr>
<td>Premium</td>
<td>Home Depot GE JEM31WF Microwave Oven</td>
<td>$159.99</td>
<td>$69.84</td>
</tr>
</tbody>
</table>

Note. Pretest participants viewed products and provided expected prices in the absence of a list price. Experimental participants saw the product with actual list prices.

1Three products were discontinued while our study was in progress. Replacement products are listed in notes 2 through 4. One person set a price alert on the replacement toaster oven. Nine people set a price alert on the original MP3 player ($M = 7.80; F < 1.0$). Two people set a price alert on the replacement microwave oven.

2Delonghi 17.5 × 12 Airstream Convection Digital Toaster Oven for n = 74 (Price = $179.99, Pretest M = $76.71).

3River IFp = 990 256 MB MP3 Player for n = 94 (Price = $169.99, Pretest M = $121.89).

4GE JX81B Microwave Oven for n = 56 (Price = $29.00, Pretest M = $69.84).
Procedure. After being seated at the computer, participants were told they would be learning about shopping bots. First, they read a four page shopping bot usage manual. The manual discussed the NexTag Web site, the types of products that were sold there, and the advantages of shopping with a shopping bot. Next, a search was illustrated. The format of the search results, along with the product’s price history, a list of available vendors, and the purchase procedure were discussed. Then the price alert feature was discussed. Participants were told that if the offer price was too expensive, they could use the price alert feature to set a price at which they would consider the purchase. If any of the merchants subsequently offered the item at the named price or lower, a “Price Alert” email would be sent to the email address listed when entering the price alert. If a consumer received a price alert e-mail, the consumer could revisit the NexTag Web site and decide whether or not to purchase the product.

Next, participants were asked to search for five products. Participants were given a set of five products that had standard, intermediate, or premium prices (between-subjects). Participants were encouraged to set a price alert if they would be willing to consider the purchase of the product at a lower price, but were also told that they should not set a price alert if they were not interested in the product. Participants then went to the NexTag Web site and did a search for each product. After each search, participants were asked if they would consider buying the product (yes/no), to list the current lowest price for the product, to indicate whether they set a price alert (yes/no), and to list the price alert price if they did use the option. After searching for all five products, participants considered each item a second time. If the participant had set a price alert, the participant indicated the likelihood of purchasing at the consideration price using a 10-point scale labeled “not at all likely” and “very likely.” Then general questions about Internet shopping frequency, past shopping bot usage, and intended shopping bot usage were asked.

The procedure also included an e-mail solicitation that was sent four days after the experimental procedure. The e-mail alerted the participant to a price drop and contained a link that ostensibly allowed participants to visit the NexTag Web site and make the purchase. Response rates were too low (n = 29) for this dependent variable to be meaningful (i.e., a floor effect). It will not be discussed further.

Results

Participants could request price alerts on as many products as they wished. Two hundred sixteen participants (53%) requested a price alert on at least one product and were included in the analysis. When the participant requested multiple price alerts, the analysis was limited to the responses for the most appealing product. This approach was consistent with the assumption that an individual’s responses across multiple products are not independent.

The two dependent measures were transformed into z-scores. The interaction between the offer price and the type of dependent measure was significant, F(2, 213) = 68.87, MSE = .58, p < .01, η²p = .39, suggesting that the offer price manipulation exerted a different pattern of influence on the consideration price judgments and the purchase likelihood judgments.

Consideration price. The data were transformed into z-scores (see Figure 5) owing to the unequal variances across the five replicates (see Table 3 for raw means). There was a significant influence of the offer price on the consideration price, F(2, 213) = 390.91, MSE = .21, p < .01, η²p = .79. Simple main effect tests showed the participant’s consideration price was higher in the intermediate price condition (M = −.31, SD = .31) than in the standard price condition (M = −.94, SD = .18), F(1, 213) = 66.57, MSE = .21, p < .05, η²p = .24. The participant’s consideration price was also higher in the premium price condition (M = 1.17, SD = .70) than in the intermediate price condition (M = −.31, SD = .31), F(1, 213) = 392.07, MSE = .21, p < .01, η²p = .65.

Transaction commitment. There was a significant influence of the offer price on a participant’s purchase likelihood, F(2, 213) = 2.99, MSE = 3.89, p = .05, η²p = .03 (see Figure 5). As predicted, the offer price manipulation created a quadratic influence on the participant’s purchase likelihood, F(1, 213) = 5.96, MSE = 3.89, p = .02, η²p = .03. Simple main effect tests showed that participants were less likely to purchase at their consideration price in the intermediate price condition (M = 6.77, SD = 2.11) than in the standard price (M = 7.49, SD = 2.15), F(1, 213) = 4.77, MSE =

![Figure 5](image-url)


Table 3

<table>
<thead>
<tr>
<th>Product list price</th>
<th>Product</th>
<th>n</th>
<th>Plausible</th>
<th>High</th>
<th>Extreme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Toaster oven</td>
<td>18</td>
<td>$19.18</td>
<td>$52.20</td>
<td>$65.00</td>
</tr>
<tr>
<td></td>
<td>MP3 player</td>
<td>87</td>
<td>$24.21</td>
<td>$51.87</td>
<td>$110.14</td>
</tr>
<tr>
<td></td>
<td>Rice cooker</td>
<td>24</td>
<td>$12.00</td>
<td>$36.67</td>
<td>$120.71</td>
</tr>
<tr>
<td></td>
<td>Coffee maker</td>
<td>49</td>
<td>$11.00</td>
<td>$21.71</td>
<td>$47.70</td>
</tr>
<tr>
<td></td>
<td>Microwave oven</td>
<td>38</td>
<td>$30.80</td>
<td>$44.28</td>
<td>$125.50</td>
</tr>
<tr>
<td>Aggregate (z-score)</td>
<td>216</td>
<td>-0.94</td>
<td>-0.31</td>
<td>1.17</td>
<td></td>
</tr>
</tbody>
</table>

Note. Consumers used the NexTag shopping agent to shop for one item in each product category (see Table 2). If the consumer was interested in purchasing the item at a lower price, the consumer could set a price alert (a consideration price). If the price dropped to the alert level at some time in the future, the shopping agent sent the consumer an e-mail about the price drop.

3.89, \( p = .03, \eta^2_p = .02 \), or premium price \( (M = 7.41, SD = 1.61) \), \( F(1, 213) = 4.00, MSE = 3.89, p = .05, \eta^2_p = .02 \), conditions.

Discussion

The results of Experiment 4 showed that standard, intermediate, and premium offer prices evoked consideration prices that were monotonically increasing, whereas also leading to a U-shaped pattern of willingness to complete the transaction at the respective consideration prices. Similar to the prior studies, we claim that the consideration price judgments depended on the content of retrieved information, but that the willingness to complete the transaction at this consideration price depended on the ease of retrieving the information used to generate the consideration price. More specifically, the low transaction commitment in the intermediate price condition was associated with difficult information retrieval, whereas the higher transaction commitment in the standard and premium price conditions was associated with easy information retrieval.

General Discussion

Four experiments investigated judgments about judgments. The results suggest that the generation of a consideration price, and the willingness to complete the transaction at that consideration price, can depend on two different processes. The generation of a consideration price depends on the information content primed by an offer price. The consumer’s willingness to complete the transaction at the consideration price depends on the content of the information retrieved to generate the consideration price (unambiguous context) or on the ease of retrieving the information used to generate the consideration price (ambiguous context). People are most likely to rely on the ease-of-retrieval heuristic when the content of the retrieved information is perceived to be suspect. The content of retrieved information will be perceived as suspect when (a) the product description is ambiguous and (b) the offer price is higher than expected.

Judgments About Judgments

Perhaps the most interesting aspect of our investigation is the use of the ease-of-retrieval heuristic for the contingent judgments. Past demonstrations of the use of an ease-of-retrieval heuristic have relied on a procedure that makes the ease of information retrieval quite salient. In addition, a person’s naive theories about the meaning of the ease of information retrieval can encourage or discourage the use of this type of information (Schwarz, 2004). Our procedures differ from these past demonstrations in that the ease of retrieving information is not made salient (i.e., people are not listing reasons to purchase a product). As such, there should be no naive theory that says the ease of retrieving information (as opposed to reasons) should increase commitment to a purchase. It appears that the ease of retrieving information is exerting an influence in a much more subtle way, similar to the fleeting subjective experiences that influence judgments of recognition (e.g., Whittlesea & Leboe, 2000).

A second issue concerns the use of the ease-of-retrieval heuristic in Experiment 3. Schwarz et al. (1991) argue that the ease-of-retrieval heuristic will be used when information content is non-diagnostic, when a person lacks the resources to assess the diagnosticity of the content, or when there is little incentive to be accurate. Our experiments provide support for the first boundary condition. Regarding the third boundary condition, our participants had no extrinsic incentive to make a good purchase decision. However, we anticipate extrinsic incentives should encourage people to consider information content, thereby moderating differences in transaction commitment in the intermediate and premium price conditions. The incentive to make a good purchase decision could be initiated by a scarcity of monetary resources, suggesting that wealthy individuals may be most prone to show the differential willingness to complete the transaction at consideration prices generated in response to differing offer prices.

Third, the research addresses the important issue of how people decide whether or not to execute a purchase. Purchase deferral has been attributed to trade-off difficulty (e.g., Tversky & Shafir, 1992), decision conflict created by similarity in the attractiveness of the alternatives (e.g., Dhar, 1997), ill-defined preferences (Anderson, 2003), and anticipated regret (e.g., Tykocinski, Pittman, & Tuttle, 1995). We show that transaction commitment depends on the ease-of-retrieving information. The implication is that decision environments can be structured to encourage information retrieval, enhance transaction commitment, and increase the likelihood of completing the transaction. The inclusion of retrieval cues in a decision environment should enhance transaction commitment, especially when there is ambiguity about the value of the good.

Finally, it is useful to consider consumption situations in which contingent judgments are likely to occur. Clearly, shopping agents provide an opportunity for a person to engage in a contingent judgment. We expect that barter environments also provide an opportunity for contingent judgments. When a consumer enters an art gallery, a furniture store, or a high end clothing store, the opportunity for contingent judgments are likely to occur. Clearly, shopping agents provide an opportunity for a person to engage in a contingent judgment. We expect that barter environments also provide an opportunity for contingent judgments. When a consumer enters an art gallery, a furniture store, or a high end clothing store, the consumer understands that the price should be negotiated. The consumer also realizes that the retailer will not accept any price (i.e., the consumer should not bid 10% of the list price). Thus, to the extent the consumer encounters more than one acceptable product, the consumer must generate a consideration price, anticipate a settlement price, and then assess whether he or she would be willing to execute the purchase at this price. We contend that consumers do engage in these mental simulations and that the contingent judgments that comprise these simulations can encourage or discourage the initiation and/or completion of a negotiation.
If this is so, our results suggest that consumers may be more likely to initiate a price negotiation on premium-priced, as opposed to intermediate-priced, merchandise.

Future Research

One obvious question raised by our research relates to the contextual moderators of our findings. Specifically, given an ambiguous purchase context, it is provocative that a retailer may be able to use a premium price to positively affect consumer consideration prices and the willingness to complete the transaction at those consideration prices. Clearly, we can hypothesize about contexts where the effect would be more or less pronounced. First, we would expect the effect to be more pronounced when naïve consumers engage in decision making that is not supported by external search. There is much evidence that, despite the reported importance of price in purchase decisions, consumers engage in surprisingly low levels of prepurchase search, even for expensive durable goods (Grewal & Marmostein, 1994; Moorthy, Ratchford, & Talukdar, 1997). Second, even if consumers engage in search, it is possible that they will increase their “confidence knowledge,” (i.e., learning product attributes), but not their “predictive knowledge,” (i.e., their ability to use their confidence knowledge to predict product quality) (Cox, 1962). In this case, confidence knowledge will increase transaction commitment, with no increase in the resistance to the premium price.

References

The Sirrus RTB Experience

Experiment 1 and 3: Ambiguous Bike Replicate Description

The Sirrus was designed with the college student’s needs in mind. Wherever you need to go, the Sirrus will get you there as quickly—and comfortably—as possible.

To make your goals a reality, we drew on everything we knew to combine speed and efficiency with comfort and safety. We sampled the best from each, and out came the Sirrus.

In the name of Speed, every Sirrus has a svelte A1 Premium Aluminum frame, crisp-shifting Shimano drivetrain, and lightweight 700c wheels shod with our own aramid-bead tires. In the name of Comfort, we’ve built in tech goodies like intermediate-modulus carbon forks, adjustable stems, suspension seatposts, and medically proven Body Geometry saddles and grips.

Your challenge, our mission, one incredible bike. Sirrus: Some dare to love speed and comfort in equal measure.

Key Features

Ergonomic frame design is comfortable, thanks to an upright riding position achieved through short top tubes and tall head tubes.

A1 Premium aluminum frame is light weight through butted tubing.

Efficient power transfer resulting from compact geometry.

Body geometry saddle technology—scientifically developed and medically proven to increase comfort, reduce numbness and the chance of impotence.

Body geometry grips protect the ulnar nerve to prevent numbness in the 4th and 5th fingers and reduce the chance of ulnar neuropathy. Armadillo tires deliver virtually flat-proof tire technology. Suspension seat post absorbs shock that your body otherwise would.

Experiment 2: Ambiguous and Unambiguous Bike Descriptions

The Sirrus Commuter Bike: Ambiguous Description

The Sirrus was designed with the college student’s needs in mind. Wherever you need to go, the Sirrus will get you there as quickly—and comfortably—as possible. Sirrus has a svelte A1 Premium Aluminum frame, crisp-shifting Shimano drivetrain, and lightweight 700c wheels shod with our own aramid-bead tires. In the name of comfort, we’ve built in tech goodies like intermediate-modulus carbon forks, adjustable stems, suspension seatposts, and medically proven Body Geometry saddles and grips. Perfect for those short trips to and from campus.

The Sirrus Commuter Bike: Unambiguous Description

The Sirrus was designed with the college student’s needs in mind. Wherever you need to go, the Sirrus will get you there as quickly—and comfortably—as possible. Sirrus has an aluminum frame, 27 gears, and lightweight, flatproof 26-inch tires. In the name of comfort, we’ve built in front suspension forks, adjustable handlebars, a spring-loaded seat, and an ergonomic seat and handlebar grips. Perfect for those short trips to and from campus.

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