The Effects of Price Primacy on Decision-Making and Perceptions of Product Value

Uma Karmarkar, Stanford University, USA
Baba Shiv, Stanford University, USA
Brian Knutson, Stanford University, USA

Price is a key factor in any marketplace decision, but exposure to price information can occur at different stages of a transaction. We use an fMRI shopping task combined with behavioral measures to investigate how early attention to price influences the process of evaluating products as well as purchasing behavior.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1009568/volumes/v39/NA-39

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
Price Psychology: Advances On Context Effects In Pricing Research

Chair: Nina Mazar, University of Toronto, Canada

Paper #1: The Effects of Price Primacy on Decision-Making and Perceptions of Product Value
Uma Karmarkar, Stanford University, USA
Baba Shiv, Stanford University, USA
Brian Knutson, Stanford University, USA

Paper #2: Starting Prices and Consumer Response to Customization
Marco Bertini, London Business School, UK
Luc Wathieu, Georgetown University, USA

Paper #3: Stable Context-Dependent Preferences? The Origin of Market Price-Dependent Valuations
Nina Mazar, University of Toronto, Canada
Botond Koszegi, UC Berkeley, USA
Dan Ariely, Duke University, USA

Paper #4: The Moderating Effect of Construal Level on Price Judgments
Marcus Cunha Jr., University of Washington, USA
Julian Saint Clair, University of Washington, USA
Jeffrey Shulman, University of Washington, USA

SESSION OVERVIEW
Recent findings in consumer behavior, psychology, and economics have questioned one of the key tenets of neoclassical utility theory: That preferences are stable and independent of the external environment that consumers face. Today, the general, well-accepted assumption instead is that preferences are influenced by contextual factors. One of the most important domains for the study of such influences in marketing and consumer behavior has been pricing. In fact, a vast amount of research has provided evidence for contextual price influences on people’s internal notion of value as manifested in price judgments, willingness-to-pay, and product-choices (e.g., Adaval & Monroe, 2002; Alba, Mela, Shimp, Urbany, 1999; Aradhna, Wagner, Yoon, & Adaval, 2006; Janiszewski & Lichtenstein, 1999; Monroe, 2003; Niedrich, Weathers, Hill, & Bell, 2009; Simonson & Drolet, 2004). This symposium builds upon the existing body of research on reference pricing and takes an in-depth look at the underlying mechanisms via which exposure to prices influences consumers’ judgments and behaviors. As such, this session offers important new insights into the power of prices and their affects on the consumer mind.

The first paper by Karmarkar, Shiv, and Knutson presents functional magnetic resonance imaging (fMRI) as well as behavioral data showing that early attention to price leads consumers to think about value, focusing the evaluation process on whether a product is worth the given price. That is, rather than categorizing items as liked or disliked, consumers tend to shift to a process that is more consistent with a threshold mechanism, in which a product qualifies for purchase if its value is judged to be high enough. The second paper by Bertini and Wathieu focuses on the presence or absence of a starting price for products that require a certain degree of customization (e.g., a laptop computer). Across three experiments they find that a starting price acts to split a total expense into a component related to the benefits desired by most consumers and a component related to idiosyncratic preferences. This perceptual split helps consumers to more actively realize that the product has an element of personalization, which increases their engagement in the customization-process, leading to decreased price sensitivity, higher quality perception, and improved likelihood of purchases. The third paper by Mazar, Koszegi, and Ariely presents evidence that a target products’ distribution of selling prices in the market affects individuals’ expressed reservation prices for that product, and focuses on investigating the source of such context-dependency. The results from this paper rule out a rational reaction to information and favor the possibility of an error in the expression of preferences rather than the existence of true differing preferences across markets or contexts. These findings have important implications not only for consumer welfare and policy but also marketing strategy. The final paper by Cunha Jr., Saint Clair, and Shulman examines the extent to which consumer price perception and judgments of a target product are affected by the distribution of prices of non-target products when considering a product set. It identifies construal level as an important factor that influences context-dependent price judgments. Whereas consumers using low-level, concrete construal attend to specific features of the price distribution of the non-target products (e.g. the range or frequency) and their judgments contrast away from these features, consumers using high-level, abstract construal attend to global features of that price distribution (e.g. the mean) and their judgments assimilate toward these features.

In keeping with the conference theme “Building Connections,” the four papers in this session bring together a variety of theoretical (reference dependence, expectation disconfirmation, range-frequency theory, construal level-theory) and methodological approaches (neuroscientific methods and experimental design) to investigate the power of prices. We believe this session will inspire interest and foster discussion on important questions such as: What are the underlying psychological mechanisms by which prices affect consumers’ judgment and decision making? How can prices affect the type of information processing? What are possible mediators of those effects? and To what extent are consumer welfare and marketer demand impacted in a positive or negative way?

This symposium is likely to appeal to researchers interested in price perception, preference and choice, judgment and decision making, situation/context effects, and inference making. The findings have important implications for marketers as well as individual consumers and policy. Note: The findings of all four papers have been written up, i.e. in manuscripts that are either prepared or under review, or near publication.

The Effects of Price Primacy on Decision Making and Perceptions of Product Value

EXTENDED ABSTRACT
When consumers first attend to a product, they are engaged affectively, causing them to categorize the item as positive or negative. Research by Knutson et al. (2007) provides evidence that individuals’ evaluations and subsequent purchase decisions are predicted most strongly by this initial liking (or disliking) reaction. In contrast, price is a difficult piece of information for consumers to evaluate independently (Hsee et al. 2003, 2005). It would be reasonable then, to assume that price plays a fixed role in the computation of value and should be factored into a decision the same way at any time. However, it is also possible that encountering price early on sets a context for processing subsequent information, thus shaping product perceptions and choice behavior. Price can signal an item’s value or worth, to the point that price knowledge can bias perceptions of...
product quality at both the behavioral and neural level (e.g. Rao and Monroe 1989; Shiv et al. 2005, Plassmann et al. 2008). Thus we posit that price primacy leads consumers to think about value, focusing the evaluation process on whether a product is worth the given price. Rather than categorizing items as liked or disliked, this process would be more consistent with a threshold mechanism, in which a product qualifies for purchase if its value is judged to be high enough.

To investigate this hypothesis, seventeen individuals (9 females) made shopping decisions in an incentive compatible fMRI task adapted from Knutson et al. (2007). Across trials, a price was presented either before or after a photo of a product and participants then indicated whether they wanted to buy it (yes/no). Two of these choices were randomly selected to have real world consequences at the end of the experiment. Following the scanner task, participants listed their reservation price for each product. A value score, conceptually similar to consumer surplus, was calculated by subtracting the offered price from the individual’s reservation price to determine how (in)expensive participants found each item to be. Participants also rated how much they liked each product - regardless of purchase - on a scale from 1 (Do Not Like) to 7 (Like Very Much).

Neural data were analyzed from the time during the decision process before participants indicated their choice, when both price and product information was available to them. We focused these analyses on how price primacy influenced the neural coding of value (i.e. the integration of price and product information) and reward (i.e. liking for the product). Across trials, perceptions of value significantly correlated with brain activity in the medial prefrontal cortex (MPFC). This is consistent with previous research showing that activity in MPFC and nearby brain areas appears to be involved in integrating information such as product attributes or choice set composition, thus responding to the current worth or value of a decision target (e.g. Knutson et al. 2003, 2007; Hare et al. 2008).

Comparing product versus price primacy trials revealed qualitative differences in MPFC activity during the evaluation process. In product-first trials, MPFC activation increased for items that were subsequently purchased and decreased for items that were subsequently rejected. In price-first trials, MPFC activation also showed some increase for items that were chosen for purchase. However, for items that were not purchased, activity in these areas did not decrease, but remained at baseline. These results suggest that in product-first contexts, wanted items have a positive value but unwanted items seem to be actively rejected with an explicit assignment of a negative value. The process is quite different in price-first contexts; here, unwanted items seem to be passively excluded from consideration, or ignored, consistent with our hypothesis of a threshold-type mechanism.

Liking of the product was correlated with activity in the Nucleus Accumbens (NAcc), a brain region associated with anticipated reward (e.g. Knutson et al. 2001, 2007; Erk et al 2002, but see Hare et al. 2008). NAcc activity patterns were similar across price and product primacy trials. Similarly, no differences were found in the behavioral liking ratings for purchased products between trial types ($p = .35$). Such findings allow us to rule out the possibility that price primacy simply reduces engagement or liking by diminishing the reward value of the subsequently viewed product.

Together these results are consistent with our proposed framework in which price primacy specifically influences the determination of a product’s value, shifting the process from a question of “do I like it?” to one of “is it worth it?” In the latter case, products deemed “not worth it” are merely insufficiently positive, as opposed to actively negative in value.

Such an account also makes the interesting behavioral prediction that price primacy could specifically enhance consideration of utilitarian or practical items, because their worth is easily accessible in terms of need or functionality. Furthermore, our data suggest that price primacy should not have an impact on hedonic or frivolous purchasing. These are products whose worth can be described in terms of how strongly rewarding they are found to be, and the results from the shopping task showed that early exposure to price did not diminish liking or the reward response for desired products.

These predictions were tested in second study; a between-subjects behavioral experiment comparing purchasing rates across category (hedonic/utilitarian) and primacy (product/price; N = 122). Participants were asked to indicate their intent to purchase either four hedonic or four utilitarian products, under price or product primacy conditions. As in the fMRI task, participant decisions were incentive compatible. There was a significant interaction of category by primacy ($F(1,118) = 4.04; p < .05$) such that price primacy significantly increased purchase rates for utilitarian products ($F(1,118) = 8.21; p<.01$) but did not change rates for hedonic products ($F<1$). The results of this experiment confirm the behavioral predictions made by the neural data.

**Starting Prices and Consumer Response to Customization**

**EXTENDED ABSTRACT**

Consumers often make decisions about products that require a certain degree of customization. From the perspective of a firm, providing customization is costly but it can lead to greater value creation and surplus extraction if a sufficient number of consumers are responsive to, and prepared to pay for, this benefit.

The way customizable products are priced in a market tends to follow a certain pattern. Instead of posting only the price a consumer is asked to pay for the good she ultimately chooses, sellers often advertise a low starting price for the base or entry model and make adjustments to this figure as additional features are chosen based on individual preferences. An airline, for example, may offer flights on a particular route at prices “starting from” a certain figure. As the traveler then makes decisions on departure day and time, departure and arrival airports, number of stops, and class of service, the actual—typically higher—fare is revealed. Similarly, manufacturers of laptop computers promote base models at starting prices and then take potential buyers through an intricate customization process that leads to the final purchase price.

Debates and regulations on “bait-and-switch” (the practice that lures consumers into a shop on the basis of a low price without actually offering any viable alternative at that price) assume that starting prices are deceptive tensile claims. The argument is that consumers are initially attracted by a low price point and, for reasons such as insufficient adjustment, switching costs, and escalation of commitment, become insensitive to or willing to accept the added expense. There is support for this view in practice, as evidenced by the acts of several customer protection agencies questioning the fairness of starting prices and trying to limit or abolish their use.

Beyond the interpretation of starting prices as pure marketing gimmick, the existing literature suggests that they might be detrimental to firms. Based on theories of reference dependence and expectation disconfirmation, one could indeed argue that consumers lured by a starting price experience will experience the incremental expense leading to the final price as a source of strong disutility that could jeopardize the transaction or damage the consumption experience.