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It's Not All Relative: The Effects of Mental and Physical Positioning of Comparative Prices on Absolute versus Relative Discount Assessment

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Abstract

In the context of three experiments, the authors examine the manner in which consumers compare a sale price to an explicit reference value. They find that a comparison of sale price to regular price may be more likely to involve an absolute (dollar amount) assessment, whereas a comparison of sale price to a competitor's price may be more likely to involve a relative (percent) assessment. The authors also find that vertical (i.e., columnar) placement of prices may result in a greater tendency to estimate discounts in relative terms. Conversely, horizontal (i.e., side-by-side) placement may result in a greater tendency to compute absolute numerical difference. The results provide important implications for retail managers in terms of framing and communicating price discounts.

Keywords: Behavioral pricing; Mental accounting; Numerical cognition; Price discounts; Reference prices; Comparative price promotion

Introduction

The practice of comparative price advertising, which involves contrasting a higher "regular" or "competitor" price with a lower "sale" price, has received a great deal of research attention (Chandrashekaran 2004; Compeau and Grewal 1998; Della Bitta, Monroe, and McGinnis 1981; Compeau, Grewal, and Chandrashekaran 2002). Marketers have embraced this strategy as a means to affect consumers' purchase decisions. In essence, the higher regular price serves as a frame of reference, which leads consumers to perceive less benefit from continued search (Urbany, Bearden, and Weilbaker 1988), and to associate less sacrifice with the lower sale price (Compeau, Grewal, and Chandrashekaran 2002). Consequently, comparative price promotions tend to engender more favorable consumer value perceptions and stimulate sales.

The three types of price promotions most often studied in the literature include dollar-off, percentage-off, and revised (also known as "comparative") price (Krishna et al. 2002; DelVecchio, Lakshmanan, and Krishnan 2009). Both of the former two types of promotions involve explicit presentation of discount amounts; therefore the consumer must calculate the actual sale price. Conversely, comparative price framing involves presentation of regular as well as sale prices, such that the consumer must "calculate" (or otherwise perceive) the discount magnitude. Because consumers can evaluate the price discount in *either* absolute (i.e., dollar) or relative (i.e., percentage or ratio) terms, and because the deal may appear more or less favorable depending on manner of assessment, it is important to understand the conditions that determine evaluation method.

For example, consider the electronics retailer who currently sells a Blu-ray title at a sale price of $25, which represents $15 (or 38 percent) off the stated regular price of $40. In order to stimulate sales, the dealer decides to increase the perceived value of his promotion which can be accomplished by either (a) raising the reference price, (b) lowering the sale price, or (c) both. Of course, the dealer may be limited in terms of what he can claim as a "regular" price, but after considering a range of options, he is left to consider two sets of prices listed in Table 1 (i.e., A and B). If consumers evaluate the price discounts in absolute terms, Option B might be perceived as the better choice, even though the sale price is higher than that in Option A. However, if consumers evaluate the price discounts in relative terms, then Option A might be more effective than Option B in stimulating sales. Thus, the effectiveness of comparative price promotions can depend on which assessment method consumers use to evaluate the price discounts.

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Table 1
Illustration of effects of absolute and relative price assessment.

	Current prices	Option A	Option B
Regular price	$40	$38	$43
Sale price	$25	$18	$21.5
Absolute difference	$15	$20	$21.5
Relative difference	38%	53%	50%

Understanding the manner in which consumers evaluate comparative prices is also important because research indicates that a price reduction associated with a high-priced product will appear more significant when framed in dollar terms, whereas a price reduction associated with a low-priced product will seem more significant when framed in percentage (relative) terms (Chen, Monroe, and Lou 1998). Similarly, findings indicate that a cents-off discount results in lower price estimates than a percentage-off discount for "large" discounts (DelVecchio, Krishnan, and Smith 2007). Thus, marketers can attempt to manipulate the circumstances that correspond to price level in order to obtain a more favorable consumer evaluation of the discount.[2]

In this paper, the "circumstances" we examine involve how the prices are "*positioned*" – both "mentally" and "physically." We define "mental positioning" as manipulating frame of reference, which can involve either a competitor's price, or the retailer's own regular price (i.e., for any given brand).[3] According to mental accounting theory, use of a "minimal" mental account [i.e., which involves comparing only the differences between two options, excluding the features that they share (Kahneman and Tversky 1984)] should cause consumers to compare regular and sale prices in absolute terms. Conversely, use of a topical mental account [i.e., which "preserves strong associations suggested by the decision context" (Joyce and Shapiro 1995, p. 177)] should cause consumers to compare a competitor's price to the retailer's sale price in relative terms. In this latter case, relative assessment is argued to be more effective than absolute assessment in comparing different types of attributes collectively (Bonini and Rumiati 2002; Kahneman and Tversky 1984). We define "physical positioning" as manipulating actual display location. We demonstrate that displaying high and low prices side-by-side (i.e., horizontally) can induce absolute discount assessment, whereas displaying prices above and below one another (i.e., vertically) can induce relative discount assessment.

Despite the apparent need for a better understanding of how mental and physical positioning affect discount assessment, no prior studies offer clear guidance to retail managers regarding this issue. Although most studies on comparative price promotions include some elements of reference price frame and/or physical placement (see Table 2), only a few studies have examined either of these variables as a focal issue [i.e., Grewal, Marmorstein, and Sharma (1996) and Krishnan, Biswas, and Netemeyer (2006) address reference price frame; Coulter and Norberg (2009) and DelVecchio, Lakshmanan, and Krishnan (2009) address physical placement]. No previous studies have examined both reference price frame and discount location as focal issues in the context of comparative price promotions, nor have they addressed how decisions on these issues lead consumers to evaluate price discounts in absolute or relative terms. Therefore, the purpose of the present research is to fill this gap in the literature. We accomplish our goal through the use of three experiments.

Theoretical development and hypotheses

Relative versus absolute comparison

Studies have demonstrated that numerical magnitude comparisons (such as those involving a high and low price) typically follow the Weber–Fechner Law. That is, the numerical comparisons follow a log-linear function such that the perceived difference between two numbers is decreased as the size of those numbers increases (Algom, Dekel, and Pansky 1996; Grewal and Marmorstein 1994; Dehaene, Dupoux, and Mehler 1990). Consequently, when making quantitative comparisons, one's ability to distinguish between two numbers (i.e., determine which is larger or smaller) is directly related to the *relative* difference between them (Dehaene 1992).

A preponderance of studies in the pricing literature confirms that consumers tend to evaluate the difference between comparative prices in relative terms (e.g., Monroe 1973; Mazumdar and Jun 1993; Monroe and Lee 1999; Coulter and Coulter 2005; Coulter and Norberg 2009; Thomas and Morwitz 2005; Adaval and Monroe 2002; Chen and Rao 2007). Thus, when presented with a $75 regular price and a $37 sale price, consumers may be more likely to evaluate the discount as ("about 50 percent") than as $37 or $38 dollars. Similarly, a $20–$10 discount might be perceived more favorably than a $100–$90 discount, due the greater relative difference in the former case [i.e., even though the absolute difference ($10) is identical].

Other studies have demonstrated that consumers may evaluate the difference between two prices in absolute terms, depending upon the manner in which the information is presented (Bonini and Rumiati 2002; Bartels 2006; Thomas and Morwitz 2009; Peters et al. 2006) or how the specific task is framed [e.g., "evaluate the *difference*" vs. "evaluate the *discount*" (Thomas and Morwitz 2009)]. Importantly, however, the majority of these studies have involved dollar-off and percentage-off presentation formats, rather than comparative price promotions. We next turn to a discussion of how mental and physical positioning can impact the manner in which prices are assessed.

[2] Buying situations in this paper include both single-product purchases, as well as multi-product purchases with independent decision-making among the products.

[3] By definition, both regular and sale price must refer to the *same* brand. Of course, the retailer could promote a competitive price involving a *different* brand, but such a scenario would confound pricing frame of reference with possible differentiation between the products. We expect that consumers might also compare prices involving different brands in relative terms but defer investigation of that form of comparison to future research.