## **Psychological Pricing Principles for Organizations with Market Power**

## Ronald B. Larson Western Michigan University

Variations in the pricing approaches firms employ may partially explain why observed industry prices appear inconsistent with economic theory. Some firms may use principles developed from psychology that do not fit traditional economic models to enhance their profits beyond the basic solutions from economic theory. This paper describes more than fifty of these principles, dividing them into four categories: framing, congruency, context, and signaling. By studying these principles from psychology, researchers and policy makers can better understand the prices they observe in the marketplace. By following more of these principles, firms may be able to enhance their performance.

### INTRODUCTION

Li, Sexton, and Xia (2006) took an in-depth look at what is known about grocery retailer pricing and marketing behaviors. They concluded that economic models of competition and of market power were not consistent with most observations. Hosken and Reiffen (2004) also expressed concerns with the inability of economic models to explain retail pricing behaviors. Similar conclusions about prices could probably be reached in other sectors of the economy.

One reason that observed prices may not be consistent with economics is that some firms may be following pricing principles from psychology. This paper reviews more than fifty pricing psychology principles for existing products, some of which may be inconsistent with traditional economic theories. To the author's knowledge, no other paper has collected these principles that may help firms enhance the results from their pricing decisions. To provide some structure, the principles will be grouped into four categories: framing, congruency, context, and signaling. The paper concludes with a summary of how firms (with enough market power to affect price) could use these principles to improve their pricing decisions and enhance their profitability.

#### FRAMING PRINCIPLES

When product attributes are highlighted in ways perceived to be positive, customer preferences can change (Gamliel, 2010). Incorporating "free" into an offer or simply using it as the price usually helps sellers (Shampanier, Mazar & Ariely, 2007). Offering free units (e.g., buy one get one free or BOGO) tends to generate a greater response than providing an equivalent price discount (Munger & Grewal, 2001; Davis & Millner, 2005; Stibel, 2005; Chen et al., 2012). "Free" promotions do not produce the quality concerns that price discounts may stimulate (Chandran & Morwitz, 2006). An expensive product with a free gift tends to generate more sales than a price discount (Nicolau, 2012). However, adding a free gift with a high claimed value may create doubts about the primary item's quality (Low & Lichtenstein,

1993; Kamins, Folkes & Fedorikhin, 2009). Visually emphasizing a free gift can also lower an item's perceived value (Raghubir & Celly, 2011). BOGO promotions tend to be less effective when an item has a limited life (Sinha & Smith, 2000) or is consumed more slowly (Li, Sun & Wang, 2007).

Retailers often encourage multiple unit purchases. Multiple-unit pricing (e.g., two for a dollar instead of 50-cents each) can boost sales. A comparison of thirteen products in supermarkets found that sales gains from price promotions expressed in multiple units (e.g., buy 2, 3, or 4 for a specific price) averaged 165 percent while the sales gains from equivalent single-unit promotions averaged 125 percent (Wansink, Kent & Hoch, 1998). Multiple-unit pricing may be effective because it suggests how many items to purchase. A sign saying "Buy 18 for your freezer" without a price reduction produced larger sales gains than a sign saying "Buy some for your freezer" (Wansink, Kent & Hoch, 1998). The suggested quantity, or anchor, becomes a starting point from which individuals modify their purchases. The adjustment from the anchor tends to be smaller if the anchor is more precise (i.e., not rounded) (Janiszewski & Uy, 2008).

A related principle involves limits. Restricting the number of items purchased may increase both penetration (i.e., percentage of customers who buy) and buying rates (i.e., average number of items bought) (Wansink, Kent & Hoch, 1998). Supermarkets using limits increased sales an average of 544 percent, while the same price discounts without limits increased sales by 202 percent (Inman, Peter & Raghubir, 1997).

Suggesting that quantities are limited due to market conditions (e.g., while supplies last) can influence product perceptions (Verhallen & Robben, 1994). Research in Germany found that if an item is used for conspicuous consumption, limited supply is a positive signal (e.g., limited-edition products). Otherwise, high demand generated more favorable evaluations (Gierl, Plantsch & Schweidler, 2008; Gierl & Huettl, 2010). If people are promotion-focused (either from product attributes or marketing messages), supply-based scarcity (e.g., purchase limits) can motivate more purchases (Ku, Kuo & Kuo, 2012). Customers with a prevention-focus (e.g., avoid negative outcomes) are motivated by demand-based scarcity (e.g., high popularity). Several studies concluded that scarcity works best with relatively high-priced, high-quality products (Wu & Hsing, 2006; Suri, Kohli & Monroe, 2007; Wu et al., 2012).

The next framing principles involve price awareness or salience. When payments are less transparent (e.g., prepaid accounts), people are more willing to buy (Soman, 2003). Encouraging people to look at a credit card or think about paying with a card tends to raise willingness-to-pay (McCall & Belmont, 1996; Prelec & Simester, 2001). Raghubir and Srivastava (2008) found that gift cards had similar effects, suggesting that firms could boost sales by encouraging buyers use "plastic." Monetary units can also affect preferences. The "spare change" effect, depicting a price as portions of a whole currency (e.g., four quarters), tends to make people more willing to buy compared to describing the price in whole units (e.g., one dollar) (Raghubir & Srivastava, 2002; Mishra, Mishra & Nayakankuppam, 2006; Raghubir & Srivastava, 2009).

Two similar framing options involve using other standards. "Pennies-a-day" pricing, where the price is described on a per-day basis, changes the temporal frame and can boost the demand for a good or service that is consumed over time (Gourville, 1998). Temporal reframing works best with high-priced products and with even-number price endings (Bambauer-Sachse & Grewal, 2011). The other option, explicit comparisons, uses common purchases such as a cup of coffee per day as a standard (Gourville, 1999).

The last framing principles involve two or more numbers such as a price in two currencies (e.g., dollars plus loyalty points), trade-ins, or the number of payments and payment schedule. Because some buyers may not calculate the total cost, adjusting the two numbers in opposite directions (multi-dimensional pricing) could lower the perceived cost and increase sales (Estelami, 2003; Dreze & Nunes, 2004). Although there is some controversy whether raising the trade-in value will increase offer attractiveness while keeping the net price the same, priming the customer to consider the trade-in value tends to make it more important to buyers than the net transaction price (Kim et al., 2011; Srivastava & Chakravarti, 2011). Emotional pricing, where installment payments decrease over time, is another framing option (Peine, Heitmann & Herrmann, 2009). These framing options could boost sales without lowering actual prices.

#### **CONGRUENCY PRINCIPLES**

Price congruency refers to strategically adjusting the information communicated by a price with the messages from other sources so that the combination boosts willingness-to-pay. Buyers usually believe their purchases are good values and may react negatively if they learn that others paid different prices (perceived price unfairness). A direct mail consumer durable marketer found that when customers learned prices were lowered after they made their purchases, they tended to buy less in the future (Anderson & Simester, 2010). Even among customers who receive discounts, seeing others pay higher prices may lead them to buy less (Wang & Krishna, 2012).

The typeface and sound of a price can influence buyers. If messages communicated by the typeface are inconsistent with messages from the text or the illustrations in an advertisement, message memorability tends to decrease (Childers & Jass, 2002). Changing font sizes and using terms (e.g., high versus low) that are congruent or incongruent with the price magnitude (i.e., larger fonts and "high" suggest higher prices) can affect value perceptions and purchase likelihoods (Coulter & Coulter, 2005). For the sound of a price, when people gave prices extra thought, those products with sale prices containing front vowels and fricatives (e.g., \$7.66 and \$2.33) were perceived to have deeper discounts (Coulter & Coulter, 2010).

Packages usually communicate important, and sometimes surprising, marketing messages. For example, consumers associate heavier wine bottles with higher expected prices (Piqueras-Fiszman & Spence, 2012). Small variations in package height, in package shape, in label layout, in how the package and its contents are shown, and in a photo's perspective can change the perceived volume and value (Yang & Rahubir, 2005; Krider, Raghubir & Krishna, 2001; Chandon & Ordabayeva, 2009; Garber, Hyatt & Boya, 2009; Van Rompay et al., 2012). If items have material attributes, letting customers touch the contents can change perceived valuations (McCabe & Nowlis, 2003; Peck & Childers, 2003; Peck & Shu, 2009). Therefore, achieving congruency between the packaging and other marketing messages may shift demand.

#### **CONTEXT PRINCIPLES**

The atmosphere and information that people see around an item and the sequence in which they see it can change willingness-to-pay. For example, a study in Hong Kong found that people expected products to be more expensive when they were shown on the right-hand side of a display (Cai, Shen & Hui, 2012). A red background in a store may reduce buyer interest in expensive items (Bellizzi & Hite 1992), but a red background in an online auction may produce more aggressive bidding and higher prices (Bagchi & Cheema 2013). Other ways that the context of a price may affect prospective buyer reactions are described below.

When customers are given a choice between three items that they can rank, they often choose the middle option. The compromise effect suggests that adding a third option for buyers can boost the sales of the middle-priced item (Simonson & Tversky, 1992). The compromise effect may be stronger when consumers are focused on quality (Muller, Vogt & Kroll, 2012).

Consistently using the same price and providing a market value (e.g., manufacturer's suggested retail price) can lead buyers to value a product at that retail price (Boothe, Schwartz & Chapman 2007). Providing a market value or reference price can also benefit promotions (Krishna et al., 2002; Chandrashekaran & Grewal, 2006). Listing a competitor's price can boost sales, even if the competing price is slightly lower (Krishnan, Biswas & Netemeyer, 2006; Trifts, Huang & Haubl, 2013). Consumers tend to compare regular and sale prices using absolute differences and competitor and sale prices using percentage differences (Choi & Coulter 2012).

Price thresholds exist when price changes above or below a specific level result in large changes. In a toy store experiment, when the price of one item was just below \$20, sales were high. Raising the price above \$20 or lowering it significantly below \$20 substantially reduced sales (Gaur & Fisher, 2005). Putler (1992) found that the response to an egg price increase was 2.4 times the response to a price decrease,

suggesting a demand curve kink. A study that allowed for demand curve kinks found that 76 percent of the brands studied had kinks or thresholds at historical prices, competitor prices, or both (Pauwels, Srinivasan & Franses, 2007).

When showing two attractive items, the first one seen (on the left) tends to be chosen. This primacy bias may be enhanced by encouraging buyers to reject an option. If both are unattractive, the last one seen (on the right) tends to be chosen. This recency bias may be enhanced by encouraging buyers to choose an option (Englund & Hellstrom, 2012; Krishnamurthy & Nagpal, 2010). When people are presented with a multiple unit offer and it is hard to compute the cost per unit (e.g., \$29 for 70 items), the first number becomes more salient. To reduce the focus on price, show units first (e.g., 70 Items for \$29) (Bagchi & Davis, 2012).

For an individual product, exposing customers to a high price before a low price tends to raise perceived values more than a low-high sequence (Sitzia & Zizzo, 2012). Listing prices in descending order tends boost sales of higher-priced products (Suk, Lee & Lichtenstein, 2012).

In laboratory experiments, people were exposed to low or high price information before or while they were reviewing household products. In higher-priced contexts, they believed the items were less expensive, and in lower-priced contexts, they believed the items were more expensive (Adaval & Monroe, 2002; Nunes & Boatwright, 2004; Adaval & Wyer, 2011). People did not need to consciously perceive the exposure for the effect to occur.

The variety of quality options presented to prospective buyers can influence their willingness-to-pay. Bertini, Wathieu, and Iyengar (2012) found that greater assortment increased willingness-to-pay for high-quality products and decreased it for low-quality products.

The layout and distance between the reference and sale prices can influence buyers (Coulter & Norberg, 2009). Showing the prices in a column (vertical) may lead customers to evaluate the percentage difference, whereas showing the reference and sale prices side-by-side (horizontal) may encourage customers to focus on the absolute difference (Choi & Coulter, 2012). DelVecchio, Lakshmanan, and Krishnan (2009) found that showing the magnitude of a price discount on the retail shelf rail next to the regular price instead of on the product tended to lower the perceived price. This effect was found for both cents-off and percent-off promotions.

Another context principle is product bundling. Bundles are sometimes perceived to be worth more than the individual parts because they reduce search effort, reduce ordering costs, or are featured and perceived to be a promotion (Harris & Blair, 2006; Sharpe & Staelin, 2010). Consumers are likely to spend more when initially offered a "loaded" model with the opportunity to delete some options opposed to when they are offered a base model with the opportunity to add some options (Levin et al., 2002). When using a bundle with a savings message (e.g., buy X at regular price and save \$ on Y), Yaday (1995) recommended offering the savings on the preferred item. Janiszewski and Cunha (2004) concluded that the expected or reference price affects the response. If one item in a bundle is priced above a buyer's reference price and the other is below, they recommended assigning the discount to the less-attractivelypriced item. If both items have prices above the reference price, divide the discount and assign part to each. If both items have prices below the reference price, list the discount as a separate item. Khan and Dhar (2010) looked at cross-category bundles that included both hedonic and utilitarian items and recommended listing the discount as savings on the hedonic item. Although bundling works in many situations, higher quality products may appear less attractive when bundled (Love, 2012). When offering a bundle with a large discount, sales would likely be larger if individual component prices were highlighted (Harris & Blair, 2012). Varying individual item prices to change bundle attractiveness (decoy pricing) can encourage people to buy a bundle and spend more than they would have without the bundle (Schwartz & Cohen, 1999).

If a firm provides shipping and handling or other services to customers, it may be profitable to separate the charges for these services from the list price. Offering free shipping can be a good temporary promotion, but the partitioned pricing principle suggests that sales usually will be higher when charges (e.g., port charges, mandatory gratuities, surcharges etc.) are listed separately (Morwitz, Greenleaf & Johnson, 1998). Partitioning may not appeal to all buyers (Schindler, Morrin & Bechwati, 2005). Three

exceptions may exist for the partitioning principle. First, including charges in lower-quality product prices may be beneficial (Love, 2012). Second, if perceived price-quality relationships are low, such as for very familiar brands, partitioning may be less helpful (Volckner, Ruhle & Spann, 2012). Third, partitioning may encourage customers to review secondary attributes of the offer. If the benefits from these attributes are not strong, partitioning could lower sales (Bertini & Wathieu, 2008).

One benefit of being perceived as having high quality relative to others in the category is that asymmetries may exist in the cross-price elasticities. When premium tier products are promoted, they often attract many buyers away from lower tier items. However, when lower tier products are promoted, they usually attract few buyers from the top tier (Blattberg & Wisniewski, 1989; Sivakumar & Raj, 1997). This asymmetry relies on buyer perceptions of category price and quality differences (Bronnenberg & Wathieu, 1996). This price context effect, often referred to as asymmetric competition, implies that higher-tier products should use deep, infrequent price promotions while lower-tier brands should use shallow, frequent promotions (Sivakumar, 2000).

#### SIGNALING PRINCIPLES

The last group considers the messages people receive from prices. Small price changes can influence both produce and price perceptions. Price signaling principles are described below.

Odd-ending pricing involves using odd numbers, especially nines, on the right-hand side of prices. In many cases, prices that ended in nines and, to some extent, fives produced higher sales than prices that were slightly higher or slightly lower (Schindler & Kibarian, 1996; Coulter, 2001; Anderson & Simester, 2003; Bizer & Schindler, 2005). For inexpensive products, price endings of "95" may be less effective than endings of "99" and, for expensive products (e.g., \$50), price endings of "95" may be more effective (Gendall, Fox & Wilton, 1998; Schindler, 2006). For real estate, pricing just below a whole number ("charm pricing") appears to suggest careful pricing and "firmness" and tends to raise willingness-to-pay (Allen & Dare, 2004; Allen & Dare, 2006; Thomas, Simon & Kadiyali, 2007). Therefore, demand functions may contain positively-sloped segments. Sales can be further enhanced if nine-ending prices are shown to the left of the text in an advertisement (Coulter, 2002) and if an offer uses a positive or gain frame (e.g., "Save" or "Enjoy" instead of "Don't lose out") (Choi, Lee & Ji, 2012). Benefits from "nines" may be smaller for premium brands, for established products, for high-share products, for items promoted with other "sale" cues, and for marketers who use them on many products (Anderson & Simester, 2003; Mace, 2012). Research in Europe concluded that some buyer segments (e.g., women) were more sensitive to nine-ending prices (Harris & Bray, 2007; Baumgartner & Steiner, 2007). Odd prices could signal lower product quality and may backfire in some countries (Schindler & Kibarian, 2001; Mace, 2012; Balan, 2012). This tactic is often used in the U.S. to boost sales as long as shoppers do not perceive significant negative quality signals.

The color, symmetry, preciseness, and length of a price can also influence choice. Men tend to perceive greater savings when a price is shown in red instead of black (Puccinelli et al., 2013). Houses with prices that were slightly higher and symmetric (e.g., \$810,018) tended to be chosen over houses with non-symmetric prices (Dobson, Gorman & Moore, 2010). Thomas, Simon, and Kadiyali (2010) found that people tend to perceive prices with many non-zero digits (e.g., \$395,425) as lower than prices that end with zeros (\$395,000). They also analyzed real estate transactions and found that higher prices were paid when the list prices were more precise. Coulter, Choi, and Monroe (2012) found that adding a comma between the thousand's digit and the hundred's digit and including a decimal and cents tend to raise the perceived cost of a product. When prices are shown on restaurant menus, "shortening" the price by dropping the dollar sign can boost customer spending (Yang, Kimes & Sessarego, 2009).

Price deals may be more effective if they are less consistent or predictable (Alba et al., 1999; Krishna et al., 2002). A range of relative price insensitivity exists around the expected price for each buyer that creates a nearly vertical demand segment (Kalwani & Yim, 1992; Kalyanaram & Little, 1994). Therefore, a small price increase inside most buyer's insensitivity ranges may not be detected while a price promotion must move price below the ranges to be noticed. In some categories, discounts of 20 to 30

percent may be needed to attract customer attention (Gupta & Cooper, 1992). In many circumstances, brands and stores with shallow, noticeable, frequent discounts will be perceived to have lower average prices than brands and stores with deep, infrequent discounts (Buyukkurt, 1986).

Many consumers do not remember prices after they make purchases (Dickson & Sawyer, 1990). About 40 to 50 percent of grocery purchases are made based on expected prices rather than on posted prices (Murthi & Rao, 2012). Buyer estimates of their market basket's total cost are influenced by product type and the number of syllables in the prices (Luna & Kim, 2009). Each extra syllable in a price tends to decrease the chance of it being recalled by 20 percent (Vanhuele, Laurent & Dreze, 2006).

The difficulty buyers have processing information can influence their response to prices (Thomas & Morwitz, 2009; Suri, Monroe & Koc, 2013). When a product offers superior features or a lower price than competitors, it can help if buyers do not get cognitively busy when evaluating options. If a product is not superior, making buyers cognitively busy could boost sales (Sivaramakrishnan & Manchanda, 2003). Some individuals are more likely to buy when shown a list price and a percentage discount because the complexity tends to change the salience of the price (Kim & Kramer, 2006). The cognitive cost of processing single percentage discounts can lead to less revision of price expectations and greater sales when promotions end (DelVecchio, Krishnan & Smith, 2007). Generally, lower-priced products should have discounts described in percentage terms to emphasize the savings, particularly if the discount is large (Chen, Monroe & Lou, 1998; Lowry, Charles & Lane, 2005; McKechnie et al., 2012). Because people have difficulty processing percentages, a sequence of percentage discounts (e.g., "30% Off Plus Another 20% Off") can boost sales and profits (Chen & Rao, 2007).

Weber's law and its cousin, the Weber-Fechner law, imply that buyer responses to price changes are influenced by the magnitude of the price (Grewal & Marmorstein 1994; Chang & Chiou, 2007; Sirvanci, 2011). When comparing prices for substitute products, Azar (2011) suggests that shoppers focus more on percentage differences than absolute differences.

Prestige pricing refers to quality or distinctiveness signals from high prices. In a study on the ketchup category, higher prices provided stronger quality signals than advertising (Erdem, Keane & Sun, 2008). A higher real estate listing price tended to raise appraised values (Northcraft & Neale, 1987). Plassmann et al. (2008) conducted taste tests with identical wines and told people that they varied in price. Subjects said the more expensive wines tasted better and brain scans showed more activity in an area of the brain associated with pleasantness. In categories where conspicuous consumption is important, prestige pricing can create upward-sloping demand curves (Amaldoss & Jain, 2005). Bornemann and Homburg (2011) found that when people consider purchases in the future, they are more likely to use price as a quality signal.

The final psychological principle for pricing is called the price placebo effect. Shiv, Camron, and Ariely (2005) found that consumers who purchased energy drinks (thought to increase mental acuity) at a discount solved fewer puzzles than those who purchased the same drinks at full price. Wright et al. (2012) replicated the first study and also found that the placebo effect occurred when a beverage had limited availability. Another study used two placebo pills. Those who were told that the pill was more expensive responded in ways suggesting that the pill was more effective (Waber et al., 2008). Therefore, higher prices can be linked with higher product quality and with perceived superior performance when buyers desire and expect it.

#### CONCLUSIONS AND IMPLICATIONS

When firms incorporate findings from psychology and consumer behavior research into their pricing strategy, they may boost their profitability, even beyond the "profit maximizing" results from economic theory. Some of the framing, congruency, context, and signaling principles described in this paper suggest that demand may have kinks, vertical parts, and sections with positive slopes, making it difficult to define demand as a simple equation. Many of the variables mentioned in these pricing principles appear to influence the traditional demand relationship and could be incorporated into analytical models to help researchers and policy makers better understand firm and buyer behaviors.

# TABLE 1 PSYCHOLOGICAL PRINCIPLES FOR PRICING

| Framing Principles  | Example Tactics/Recommendations   |
|---|---|
| Positive Focus  | "Save" instead of "Spend Less"  |
| Free Product  | "Buy X, Get Y Free"   |
| Multiple Unit Pricing   | "\$3 for 3 Units" instead of "\$1 Each"   |
| Anchors   | "Buy 5 and Save a Trip"   |
| Quantity Limits   | "Limit 4 per Household"   |
| Scarcity  | "While Supplies Last" or "Limited Edition" Products   |
| Price Salience  | "We Accept Credit Cards and Gift Cards"   |
| Spare Change Effect   | "Only Costs Four Quarters"  |
| Pennies-a-Day Pricing   | "Just 50-Cents per Day"   |
| Explicit Comparisons  | "Less than a Cup of Coffee per Day"   |
| Multidimensional Pricing  | "5 Payments of \$19"  |
| Trade-in Pricing  | Highlight and Raise Trade-in Value, Raise Item Price  |
| Emotional Pricing   | Use Installment Payments that Decrease Over Time  |
| <b>Congruency Principles</b>  | <b>Example Tactics/Recommendations</b>  |
|   |   |
| Perceived Fairness  | "Prices Frozen for 3 Months"  |
| Perceived Fairness  Typeface and Terms  | "Prices Frozen for 3 Months"  "Low Price" in Smaller Font   |
|   |   |
| Typeface and Terms  | "Low Price" in Smaller Font   |
| Typeface and Terms  Phonetic Symbolism  | "Low Price" in Smaller Font Use Sale Prices with Front Vowels and Fricatives  |
| Typeface and Terms  Phonetic Symbolism  Package Design  | "Low Price" in Smaller Font Use Sale Prices with Front Vowels and Fricatives Change Packaging Material, Let People Touch Item   |
| Typeface and Terms  Phonetic Symbolism  Package Design  Label Design  | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  |
| Typeface and Terms  Phonetic Symbolism  Package Design  Label Design  Package Dimensions  | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  Emphasize Longest Dimension (Usually Height)  |
| Typeface and Terms Phonetic Symbolism Package Design Label Design Package Dimensions  Context Principles  | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  Emphasize Longest Dimension (Usually Height)  Example Tactics/Recommendations   |
| Typeface and Terms  Phonetic Symbolism  Package Design  Label Design  Package Dimensions  Context Principles  Price Expectations  | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  Emphasize Longest Dimension (Usually Height)  Example Tactics/Recommendations  Identify Environmental Cues that Buyers Use  |
| Typeface and Terms  Phonetic Symbolism  Package Design  Label Design  Package Dimensions  Context Principles  Price Expectations  Compromise Effect                     | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  Emphasize Longest Dimension (Usually Height)  Example Tactics/Recommendations  Identify Environmental Cues that Buyers Use  Adjust Product Line to Sell Middle Option                                       |
| Typeface and Terms  Phonetic Symbolism  Package Design  Label Design  Package Dimensions  Context Principles  Price Expectations  Compromise Effect  Consistent Pricing | "Low Price" in Smaller Font  Use Sale Prices with Front Vowels and Fricatives  Change Packaging Material, Let People Touch Item  Adjust Terminology and Photos, Use Larger Numbers  Emphasize Longest Dimension (Usually Height)  Example Tactics/Recommendations  Identify Environmental Cues that Buyers Use  Adjust Product Line to Sell Middle Option  Maintain Price and Show Market Value |

| Primacy and Recency   | Give Buyers Intended First and Last Impression   |
|---|--|
| Price De-emphasis   | List Units in Large Transactions before Price  |
| Product Sequence  | Reveal Most Attractive Items First   |
| Price Sequence  | Show High-Priced Products First and Adjust Message   |
| Premium Surroundings  | Show with Premium Items from Other Categories  |
| Category Perceptions  | Add Product that Makes Target Item More Attractive   |
| Assortment Variety  | Show More Variety with High Quality Items  |
| Discount Location   | Move and Reformat Sale Tag to Match Strategy   |
| Full Bundle   | "Load" Model and Let Buyer Drop Options  |
| Bundle Discounts  | Adjust Discount Attribution within Bundle  |
| Decoy Pricing   | Change Individual Item Prices to Sell Bundle   |
| Partitioned Pricing   | Separate Shipping and Handling from Price  |
| Customized Products   | List Prices for Each Customization   |
| Asymmetric Competition  | Strive to be Premium Brand in Category   |
| 125, minosite competition   | and the state of t |
| Signaling Principles  | Example Tactics/Recommendations  |
|   |  |
| Signaling Principles  | Example Tactics/Recommendations  |
| Signaling Principles Odd-Ending Prices  | Example Tactics/Recommendations  Use Nines at the Right-End of Price   |
| Signaling Principles Odd-Ending Prices Price Color  | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men   |
| Signaling Principles Odd-Ending Prices Price Color Symmetric Prices   | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric   |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing   | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices   | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices  Unpredictable Pricing  | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  Reduce Buyer Forecasting of Price Change Timing   |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices  Unpredictable Pricing  Tactical Price Increases  | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  Reduce Buyer Forecasting of Price Change Timing  Increase Prices in Small Steps   |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices  Unpredictable Pricing  Tactical Price Increases  Just Noticeable Pricing   | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  Reduce Buyer Forecasting of Price Change Timing  Increase Prices in Small Steps  Reduce Price Enough, But Not Too Much  |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices  Unpredictable Pricing  Tactical Price Increases  Just Noticeable Pricing  Reduced Recall Pricing                   | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  Reduce Buyer Forecasting of Price Change Timing  Increase Prices in Small Steps  Reduce Price Enough, But Not Too Much  Choose Prices with More Syllables   |
| Signaling Principles  Odd-Ending Prices  Price Color  Symmetric Prices  Precise Pricing  Shorten Prices  Unpredictable Pricing  Tactical Price Increases  Just Noticeable Pricing  Reduced Recall Pricing  Price Complexity | Example Tactics/Recommendations  Use Nines at the Right-End of Price  Use Red Prices instead of Black when Targeting Men  Make Price Vertical Mirror Symmetric  Use Nonzeros to Suggest Price Precision  Drop Commas and Dollar Signs in Prices  Reduce Buyer Forecasting of Price Change Timing  Increase Prices in Small Steps  Reduce Price Enough, But Not Too Much  Choose Prices with More Syllables  Describe Most Discounts with Percentages   |

Table 1 lists more than fifty principles for the marketing and pricing established products discussed in this paper along with some example applications and recommendations. Most of these principles appear to enhance the willingness of buyers to pay. Although only a few exceptions have been found, specific principles may be more useful in some product or service categories than in others. While firms may not be able to incorporate all of the principles in their pricing decisions, employing several at the same time is likely to be beneficial. If firms are not currently using these principles, incorporating more of them into their marketing plans may help enhance the profitability of their existing products and services.

#### REFERENCES

- Adaval, R. & Monroe, K. B. (2002). Automatic Construction and Use of Contextual Information for Product and Price Evaluation. Journal of Consumer Research, 28, (4), 572-588.
- Adaval, R. & Wyer, R. S. Jr. (2011). Conscious and Nonconscious Comparisons with Price Anchors: Effects on Willingness to Pay for Related and Unrelated Products. Journal of Marketing Research, 48, (2), 355-365.
- Alba, J. W., Mela, C. F., Shimp, T. A. & Urbany, J. E. (1999). The Effect of Discount Frequency and Depth on Consumer Price Judgments. Journal of Consumer Research, 26, (2), 99-114.
- Allen, M. T. & Dare, W. H. (2004). The Effects of Charm Listing Prices on House Transaction Prices. Real Estate Economics, 32, (4), 695-713.
- Allen, M. T. & Dare, W. H. (2006). Charm Pricing as a Signal of Listing Price Precision. Journal of Housing Research, 15, (2), 113-127.
- Amaldoss, W. & Jain, S. (2005). Conspicuous Consumption and Sophisticated Thinking. Management Science, 51, (10), 1449-1466.
- Anderson E. T. & Simester, D. I. (2003). Effects of \$9 Price Endings on Retail Sales: Evidence from Field Experiments. Quantitative Marketing and Economics, 1, (1), 93-110.
- Anderson E. T. & Simester, D. I. (2010). Price Stickiness and Customer Antagonism. Quarterly Journal of Economics, 125, (2), 729-765.
- Azar, O. H. (2011). Do People Think about Absolute or Relative Price Differences when Choosing between Substitute Goods? Journal of Economic Psychology, 32, (3), 450-457.
- Bagchi, R. & Davis, D. F. (2012). \$29 for 70 Items or 70 Items for \$29? How Presentation Order Affects Package Perceptions. Journal of Consumer Research, 39, (1), 62-73.
- Bagchi, R. & Cheema, A. (2013). The Effect of Red Background Color on Willingness-to-Pay: The Moderating Role of Selling Mechanism. Journal of Consumer Research, 39, (5), 947-960.
- Balan, C. (2012). Research on Odd Prices: Dead End or Field of Potential Innovation? In A. Hinterhuber & S. Liozu, (Eds.), Innovation in Pricing: Contemporary Theories and Best Practices (pp. 376-392). New York, NY: Routledge.
- Bambauer-Sachse, S. & Grewal, D. (2011). Temporal Reframing of Prices: When is It Beneficial? Journal of Retailing, 87, (2), 156-165.
- Baumgartner, B. & Steiner, W. J. (2007). Are Consumers Heterogeneous in their Preferences for Odd and Even Prices? Findings from a Choice-Based Conjoint Study. International Journal of Research in Marketing, 24, (4), 312-323.
- Bellizzi, J. A. & Hite, R. E. (1992). Environmental Color, Consumer Feelings, and Purchase Likelihood. Psychology and Marketing, 9, (5), 347-363.
- Bertini, M. & Wathieu, L. (2008). Attention Arousal Through Price Partitioning. Marketing Science, 27, (2), 236-246.
- Bertini, M., Wathieu, L. & Iyengar, S. S. (2012). The Discriminating Consumer: Product Proliferation and Willingness to Pay for Quality. Journal of Marketing Research, 49, (1), 39-49.
- Bizer, G. Y. & Schindler, R. M. (2005). Direct Evidence of Ending-Digit Drop-Off in Price Information Processing. Psychology and Marketing, 22, (10), 771-783.
- Blattberg, R. C. & Wisniewski, K. J. (1989). Price-Induced Patterns of Competition. Marketing Science, 8, (4), 291-309.

- Boothe, J., Schwartz, J. A. & Chapman, G. B. (2007). Preference Reversals Resulting from a Market Value Heuristic. *Marketing Theory*, 7, (1), 27-38.
- Bornemann, T. & Homburg, C. (2011). Psychological Distance and the Dual Role of Price. *Journal of Consumer Research*, 38, (3), 490-504.
- Bronnenberg, B. J. & Wathieu, L. (1996). Asymmetric Promotion Effects and Brand Positioning. *Marketing Science*, 15, (4), 379-394.
- Buyukkurt, B. K. (1986). Integration of Serially Sampled Price Information: Modeling and Some Findings. *Journal of Consumer Research*, 13, (3), 357-373.
- Cai, F., Shen, H. & Hui, M. K. (2012). The Effect of Location on Price Estimation: Understanding Number-Location and Number-Order Associations. *Journal of Marketing Research*, 49, (5), 718-724
- Chandon, P. & Ordabayeva, N. (2009). Supersize in One Dimension, Downsize in Three Dimensions: Effects of Spatial Dimensionality on Size Perceptions and Preferences. *Journal of Marketing Research*, 46, (6), 739-753.
- Chandran, S. & Morwitz, V. G. (2006). The Price of 'Free'-dom: Consumer Sensitivity to Promotions with Negative Contextual Influences. *Journal of Consumer Research*, 33, (3), 382-392.
- Chandrashekaran, R. & Grewal, D. (2006). Anchoring Effects of Advertised Reference Price and Sale Price: The Moderating Role of Savings Presentation Format. *Journal of Business Research*, 59, (10-11), 1063-1071.
- Chang, M. & Chiou W. (2007). Psychophysical Methods in Study of Consumers' Perceived Price Change for Food Products. *Psychological Reports* 100, (2), 643-652.
- Chen, H., Marmorstein, H., Tsiros, M. & Rao, A. R. (2012). When More is Less: The Impact of Base Value Neglect on Consumer Preferences for Bonus Packs over Price Discounts. *Journal of Marketing*, 76, (4), 64-77.
- Chen, H. & Rao, A. R. (2007). When Two Plus Two is Not Equal to Four: Errors in Processing Multiple Percentage Changes. *Journal of Consumer Research*, 34, (3), 327-340.
- Chen, S. S., Monroe, K. B. & Lou, Y. (1998). The Effects of Framing Price Promotion Messages on Consumer's Perceptions and Purchase Intentions. *Journal of Retailing*, 74, (3), 353-372.
- Childers, T. L. & Jass, J. (2002). All Dressed Up with Something to Say: Effects of Typeface Semantic Associations on Brand Perceptions and Consumer Memory. *Journal of Consumer Psychology*, 12, (2), 93-106.
- Choi, P. & Coulter, K. S. (2012). It's Not All Relative: The Effects of Mental and Physical Positioning of Comparative Prices on Absolute versus Relative Discount Assessment. *Journal of Retailing*, 88, (4), 512-527.
- Choi, J., Lee, K. & Ji, Y. (2012). What Type of Framing Message is More Appropriate with Nine-Ending Pricing? *Marketing Letters*, 23, (3), 603-614.
- Coulter, K. S. (2001). Odd-Ending Price Underestimation: An Experimental Examination of Left-to-Right Processing Effects. *Journal of Product and Brand Management*, 10, (5), 276-292.
- Coulter, K. S. (2002). The Influence of Print Advertisement Organization on Odd-ending Price Image Effects. *Journal of Product and Brand Management*, 11, (5), 319-334.
- Coulter, K. S., Choi, P. & Monroe, K. B. (2012). Comma N' Cents in Pricing: The Effects of Auditory Representation Encoding on Price Magnitude Perceptions. *Journal of Consumer Psychology*, 22, (3), 395-407.
- Coulter, K. S. & Coulter, R. A. (2005). Size Does Matter: The Effects of Magnitude Representation Congruency on Price Perceptions and Purchase Likelihood. *Journal of Consumer Psychology*, 15, (1), 64-76.
- Coulter, K. S. & Coulter, R. A. (2010). Small Sounds, Big Deals: Phonetic Symbolism Effects in Pricing. *Journal of Consumer Research*, 37, (2), 315-328.
- Coulter, K. S. & Norberg, P. A. (2009). The Effects of Physical Distance between Regular and Sale Prices on Numerical Difference Perceptions. *Journal of Consumer Psychology*, 19, (2), 144-157.

- Davis, D. D. & Millner, E. L. (2005). Rebates, Matches, and Consumer Behavior. Southern Economic Journal, 72, (2), 410-421.
- DelVecchio, D., Krishnan, H. S. & Smith, D. C. (2007). Cents or Percent? The Effects of Promotion Framing on Price Expectations and Choice. Journal of Marketing, 71, (3), 158-170.
- DelVecchio, D., Lakshmanan, A. & Krishnan, H. S. (2009). The Effects of Discount Location and Frame on Consumers' Price Estimates. Journal of Retailing, 85, (3), 336-346.
- Dickson, P. R. & Sawyer, A. G. (1990). The Price Knowledge and Search of Supermarket Shoppers. Journal of Marketing, 54, (3), 42-53.
- Dobson, J., Gorman, L. & Moore, M. D. (2010). Consumer Choice Bias Due to Number Symmetry: Evidence from Real Estate Prices. Journal of Research for Consumers, 17, 1-12.
- Dreze, X. & Nunes, J. C. (2004). Using Combined-Currency Prices to Lower Consumers' Perceived Cost. Journal of Marketing Research, 41, (1), 59-72.
- Englund, M. P. & Hellstrom, A. (2012). If You have a Choice, You have Trouble: Stimulus Valence Modulates Presentation-Order Effects in Preference Judgment. Journal of Behavioral Decision Making, 25, (1), 82-94.
- Erdem, T., Keane, M. P. & Sun, B. (2008). A Dynamic Model of Brand Choice When Price and Advertising Signal Product Quality. Marketing Science, 27, (6), 1111-1125.
- Estelami, H. (2003). The Effect of Price Presentation Tactics on Consumer Evaluation Effort of Multi-Dimensional Prices. Journal of Marketing Theory and Practice, 11, (2), 1-16.
- Gamliel, E. (2010). Message Framing of Products Causes a Preference Shift in Consumers' Choices. Journal of Consumer Behaviour, 9, (4), 303-315
- Garber, L. L. Jr., Hyatt, E. M. & Boya, U. O. (2009). The Effect of Package Shape on Apparent Volume: An Exploratory Study with Implications for Package Design. Journal of Marketing Theory and Practice, 17, (3), 215-234.
- Gaur, V. & Fisher, M. L. (2005). In-Store Experiments to Determine the Impact of Price on Sales. Production and Operations Management, 14, (4), 377-387.
- Gendall, P., Fox, M. F. & Wilton, P. (1998). Estimating the Effect of Odd Pricing. Journal of Product and Brand Management, 7, (5), 421-432.
- Gierl, H., Plantsch, M. & Schweidler, J. (2008). Scarcity Effects on Sales Volume in Retail. International Review of Retail, Distribution, and Consumer Research, 18, (1), 45-61.
- Gierl, H. & Huettl, V. (2010). Are Scarce Products Always More Attractive? The Interaction of Different Types of Scarcity Signals with Products' Suitability for Conspicuous Consumption. International Journal of Research in Marketing, 27, (3), 225-235.
- Gourville, J. T. (1998). Pennies-a-Day: The Effect of Temporal Reframing on Transaction Evaluation. Journal of Consumer Research, 24, (4), 395-408.
- Gourville, J. T. (1999). The Effect of Implicit versus Explicit Comparisons on Temporal Pricing Claims. Marketing Letters, 10, (2), 113-124.
- Grewal, D. & Marmorstein, H. (1994). Market Price Variation, Perceived Price Variations, and Consumers' Price Search Decisions for Durable Goods. Journal of Consumer Research, 21, (3), 453-460.
- Gupta, S. & Cooper, L. G. (1992). The Discounting of Discounts and Promotion Thresholds. Journal of Consumer Research, 19, (3), 401-411.
- Harris, C. & Bray, J. (2007). Price Endings and Consumer Segmentation. Journal of Product and Brand Management, 16, (3), 200-205.
- Harris, J. & Blair, E. A. (2006). Consumer Preference for Product Bundles: The Role of Reduced Search Costs. *Journal of the Academy of Marketing Science*, 34, (4), 506-513.
- Harris, J. & Blair, E. A. (2012). Consumer Processing of Bundled Prices: When do Discounts Matter? Journal of Product and Brand Management, 21, (3), 205-214.
- Hosken D. & Reiffen, D. (2004). Patterns of Retail Price Variation. Rand Journal of Economics, 35, (1), 128-146.

- Inman, J. J., Peter, A. C. & Raghubir, P. (1997). Framing the Deal: The Role of Restrictions in Accentuating Deal Value. *Journal of Consumer Research*, 24, (1), 68-79.
- Janiszewski, C. & Cunha, M., Jr. (2004). The Influence of Price Discount Framing on the Evaluation of a Product Bundle. Journal of Consumer Research, 30, (4), 534-546.
- Janiszewski, C. & Uy, D. (2008). Precision of the Anchor Influences the Amount of Adjustment. Psychological Science, 19, (2), 121-127.
- Kalwani, M. U. & Yim, C. K. (1992). Consumer Price and Promotion Expectations: An Experimental Study. Journal of Marketing Research, 29, (1), 90-100.
- Kalyanaram, G. & Little, J. D. (1994). An Empirical Analysis of Latitude of Price Acceptance in Consumer Package Goods. Journal of Consumer Research, 21, (3), 408-418.
- Kamins, M. A., Folkes, V. S. & Fedorikhin, A. (2009). Promotional Bundles and Consumer's Price Judgments: When the Best Things in Life are Not Free. Journal of Consumer Research, 36, (4), 660-670.
- Khan, U. & Dhar, R. (2010). Price-Framing Effects on the Purchase of Hedonic and Utilitarian Bundles. Journal of Marketing Research, 47, (6), 1090-1099.
- Kim, H. M. & Kramer, T. (2006). The Moderating Effects of Need for Cognition and Cognitive Effort on Responses to Multi-Dimensional Prices. Marketing Letters, 17, (3), 193-203.
- Kim, J., Rao, R. S., Kim, K. & Rao, A. R. (2011). More of Less: A Model and Empirical Evidence on Preferences for Under- and Overpayment in Trade-In Transactions. Journal of Marketing Research, 48, (1): 157-171.
- Krider, R. E., Raghubir, P. & Krishna, A. (2001). Pizzas: Pi or Square? Psychological Biases in Area Comparisons. Marketing Science, 20, (4), 405-425.
- Krishna, A., Briesch, R., Lehmann, D. R. & Yuan, H. (2002). A Meta-Analysis of the Impact of Price Presentation on Perceived Savings. Journal of Retailing, 78, (2), 101-118.
- Krishnan, B. C., Biswas, A. & Netemeyer, R. G. (2006). Semantic Cues in Reference Price Advertisements: The Moderating Role of Cue Concreteness. *Journal of Retailing*, 82, (2), 95-104.
- Krishnamurthy, P. & Nagpal, A. (2010). Making Choices Under Conflict: The Impact of Decision Frames. Marketing Letters, 21, (1), 37-51.
- Ku, H., Kuo, C. & Kuo, T. (2012). The Effect of Scarcity on the Purchase Intentions of Prevention and Promotion Motivated Consumers. Psychology and Marketing, 29, (8), 541-548.
- Levin, I. P., Schreiber, J., Lauriola, M. & Gaeth, G. J. (2002). A Tale of Two Pizzas: Building Up from a Basic Product Versus Scaling Down from a Fully-Loaded Product. Marketing Letters, 13, (4), 335-344.
- Li, L., Sexton, R. J. & Xia, T. (2006). Food Retailers' Pricing and Marketing Strategies, with Implications for Producers. Agricultural and Resource Economics Review, 35, (2), 221-238.
- Li, S., Sun, Y. & Wang, Y. (2007). 50% Off or Buy One Get One Free? Frame Preference as a Function of Consumable Nature in Dairy Products. Journal of Social Psychology, 147, (4), 413-421.
- Love, E. (2012). Divide and Prosper? When Partitioned Prices make Sense. Journal of Product and Brand Management, 21, (1), 61-67.
- Low, G. S. & Lichtenstein, D. R. (1993). The Effect of Double Deals on Consumer Attitudes. Journal of Retailing, 69, (4), 453-466.
- Lowry, J. R., Charles, T. A. & Lane, J. A. (2005). A Comparison of Perceived Value Between a Percentage Markdown and a Monetary Markdown. Marketing Management Journal, 15, (1), 140-
- Luna, D. & Kim, H. (2009). How Much was Your Shopping Basket? Working Memory Processes in Total Basket Price Estimation. Journal of Consumer Psychology, 19, (3), 346-355.
- McCabe, D. B. & Nowlis, S. M. (2003). The Effect of Examining Actual Product or Product Descriptions on Consumer Preference. Journal of Consumer Psychology, 13, (4), 431-439.
- McCall, M. & Belmont, H. J. (1996). Credit Card Insignia and Restaurant Tipping: Evidence for an Associative Link. Journal of Applied Psychology, 81, (5), 609-613.

- McKechnie, S., Devlin, J., Ennew, C. & Smith, A. (2012). Effects of Discount Framing in Comparative Price Advertising. European Journal of Marketing, 46, (11-12), 1501-1522.
- Mace, S. (2012). The Impact and Determinants of Nine-Ending Pricing in Grocery Retailing. Journal of Retailing, 88, (1), 115-130.
- Mishra, H., Mishra, A & Nayakankuppam, D. (2006). Money: A Bias for the Whole. Journal of Consumer Research, 32, (4), 541-549.
- Morwitz, V. G., Greenleaf, E. A. & Johnson, E. J. (1998). Divide and Prosper: Consumers' Reactions to Partitioned Prices. Journal of Marketing Research, 35, (4), 453-463.
- Muller, H., Vogt, B. & Kroll, E. B. (2012). To Be or Not to Be Price Conscious a Segment-Based Analysis of Compromise Effects in Market-Like Framings. *Psychology and Marketing*, 29, (2), 107-116.
- Munger, J. L. & Grewal, D. (2001). The Effects of Alternative Price Promotional Methods on Consumers' Product Evaluations and Purchase Intentions. Journal of Product and Brand Management, 10, (3), 185-197.
- Murthi, B. P. S. & Rao, R. C. (2012). Price Awareness and Consumer' Use of Deals in Brand Choice. *Journal of Retailing*, 88, (1), 34-46.
- Nicolau, J. L. (2012). Battle Royal: Zero-Price Effect vs Relative vs Referent Thinking. Marketing Letters, 23, (3), 661-669.
- Northcraft, G. B. & Neale, M. A. (1987). Experts, Amateurs, and Real Estate: An Anchoring-and-Adjustment Perspective on Property Pricing Decisions. Organizational Behavior and Human *Decision Processes*, 39, (1), 84-97.
- Nunes, J. C. & Boatwright, P. (2004). Incidental Prices and Their Effect on Willingness to Pay. Journal of Marketing Research, 41, (4), 457-466.
- Pauwels, K., Srinivasan, S. & Franses, P. H. (2007). When do Price Thresholds Matter in Retail Categories? Marketing Science, 26, (1), 83-100.
- Peck, J. & Childers, T. L. (2003). To Have and To Hold: The Influence of Haptic Information on Product Judgments. Journal of Marketing, 67, (2), 35-48.
- Peck, J. & Shu, S. B. (2009). The Effect of Mere Touch on Perceived Ownership. Journal of Consumer Research, 36, (3), 434-447.
- Peine, K., Heitmann, M. & Herrmann, A. (2009). Getting a Feel for Price Affect: A Conceptual Framework and Empirical Investigation of Consumers' Emotional Responses to Price Information. Psychology and Marketing, 26, (1), 39-66.
- Piqueras-Fiszman, B. & Spence, C. (2012). The Weight of the Bottle as a Possible Extrinsic Cue with Which to Estimate the Price (and Quality) of the Wine? Observed Correlations. Food Quality and Preference, 25, (1), 41-45.
- Plassmann, H., O'Doherty, J., Shiv, B. & Rangel, A. (2008). Marketing Actions can Modulate Neural Representations of Experienced Pleasantness. Proceedings of the National Academy of Sciences of the United States of America, 105, (3), 1050-1054.
- Prelec, D. & Simester, D. (2001). Always Leave Home Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay. Marketing Letters, 12, (1), 5-12.
- Puccinelli, N. M., Chandrashekaran, R., Grewal, D. & Suri, R. (2013). Are Men Seduced by Red? The Effect of Red versus Black Prices on Price Perceptions. Journal of Retailing, 89, (2), 115-125.
- Putler, D. S. (1992). Incorporating Reference Price Effects into a Theory of Consumer Choice. Marketing Science, 11, (3), 287-309.
- Raghubir, P. & Celly, K. S. (2011). Promoting Promotions: Does Showcasing Free Gifts Backfire? Journal of Business Research, 64, (1), 55-58.
- Raghubir, R. & Srivastava, J. (2002). Effect of Face Value on Product Valuation in Foreign Currencies. Journal of Consumer Research, 29, (3), 335-347.
- Raghubir, R. & Srivastava, J. (2008). Monopoly Money: The Effect of Payment Coupling and Form on Spending Behavior. Journal of Experimental Psychology: Applied, 14, (3), 213-225.

- Raghubir, R. & Srivastava, J. (2009). The Denomination Effect. Journal of Consumer Research, 36, (4), 701-713.
- Schindler, R. M. (2006). The 99 Price Ending as a Signal of a Low-Price Appeal. *Journal of Retailing*, 82, (1), 71–77.
- Schindler, R. M. & Kibarian, T. M. (1996). Increased Consumer Sales Response through Use of 99-Ending Prices. Journal of Retailing, 72, (2), 187-199.
- Schindler, R. M. & Kibarian, T. M. (2001). Image Communicated by the Use of 99 Endings in Advertised Prices. Journal of Advertising, 30, (4), 95-99.
- Schindler, R. M., Morrin, M. & Bechwati, N. N. (2005). Shipping Charges and Shipping-Charge Skepticism: Implications for Direct Marketers' Pricing Formats. Journal of Interactive Marketing, 19, (1), 41-53.
- Schwartz, Z. & Cohen, E. (1999). The Perceived Value of Value Meals. Journal of Restaurant and Foodservice Marketing, 3, (3-4), 19-37.
- Shampanier, K., Mazar, N. & Ariely, D. (2007). Zero as a Special Price: The True Value of Free Products. Marketing Science, 26, (6), 742-757.
- Sharpe, K. M. & Staelin, R. (2010). Consumption Effects of Bundling: Consumer Perceptions, Firm Actions, and Public Policy Implications. Journal of Public Policy and Marketing, 29, (2), 170-
- Shiv, B., Camron, Z. & Ariely, D. (2005). Placebo Effects of Marketing Actions: Consumers may Get What They Pay For. Journal of Marketing Research, 42, (4), 383-393.
- Simonson, I. & Tversky, A. (1992). Choice in Context: Tradeoff Contrast and Extremeness Aversion. Journal of Marketing Research, 29, (3), 281-295.
- Sinha, I. & Smith, M. F. (2000). Consumers' Perceptions of Promotional Framing of Price. *Psychology* and Marketing, 17, (3), 257-275.
- Sirvanci, M. B. (2011). An Empirical Study of Price Thresholds and Price Sensitivity. *Journal of Applied* Business Research, 9, (2), 43-49.
- Sitzia, S. & Zizzo, D. J. (2012). Price Lower and Then Higher or Price Higher and Then Lower? Journal of Economic Psychology, 33, (6), 1084-1099.
- Sivakumar, K. (2000). Price-Tier Competition: An Integrative Review. Journal of Product and Brand Management, 9, (5), 276-290.
- Sivakumar, K. & Raj, S. P. (1997). Quality Tier Competition: How Price Change Influences Brand Choice and Category Choice. Journal of Marketing, 61, (3), 71-84.
- Sivaramakrishnan, S. & Manchanda, R. V. (2003). The Effect of Cognitive Busyness on Consumers' Perception of Product Value. Journal of Product and Brand Management, 12, (5), 335-345.
- Soman, D. (2003). The Effect of Payment Transparency on Consumption: Quasi-Experiments from the Field. Marketing Letters, 14, (3), 173-183.
- Srivastava, J. & Chakravarti, D. (2011). Price Presentation Effects in Purchases Involving Trade-Ins. Journal of Marketing Research, 48, (5): 910-919.
- Stibel, J. M. (2005). Increasing Productivity through Framing Effects for Interactive Consumer Choice. Cognition, Technology, and Work, 7, (1), 63-68.
- Suk, K., Lee, J. & Lichtenstein, D. R. (2012). The Influence of Price Presentation Order on Consumer Choice. Journal of Marketing Research, 49, (5), 708-717.
- Suri, R., Kohli, C. & Monroe, K. B. (2007). The Effects of Perceived Scarcity on Consumers' Processing of Price Information. Journal of the Academy of Marketing Science, 35, (1), 89-100.
- Suri, R., Monroe, K. B. & Koc, U. (2013). Math Anxiety and its Effects on Consumers' Preference for Price Promotion Formats. Journal of the Academy of Marketing Science, 41, (3), 271-282.
- Thomas, M. & Morwitz, V. (2009). The Ease-of-Computation Effect: The Interplay of Metacognitive Experiences and Naive Theories in Judgments of Price Differences. Journal of Marketing Research, 46, (1), 81-91.

- Thomas, M., Simon, D. H. & Kadiyali, V. (2007). Do Consumers Perceive Precise Prices to be Lower than Round Prices? Evidence from Laboratory and Market Data. Cornell University, Johnson School Research Paper Series No. 09-07.
- Thomas, M., Simon, D. H. & Kadiyali, V. (2010). The Price Precision Effect: Evidence from Laboratory and Market Data. Marketing Science, 29, (1), 175-190.
- Trifts, V., Huang, L. & Haubl, G. (2013). Price Versus Nice? How Unfavorable Price Comparisons Help Retain Customers. Journal of Marketing Theory and Practice, 21, (2), 163-178.
- Vanhuele, M., Laurent, G. & Dreze, X. (2006). Consumers' Immediate Memory for Prices. *Journal of* Consumer Research, 33, (2), 163-172.
- Van Rompay, T. J. L., De Vries, P. W., Bontekoe, F. & Tanja-Dijkstra, K. (2012). Embodied Product Perception: Effect of Verticality Cues in Advertising and Packaging Design on Consumer Impressions and Price Expectations. *Psychology and Marketing*, 29, (12), 919-928.
- Verhallen, T. M. M. & Robben, H. S. J. (1994). Scarcity and Preference: An Experiment on Unavailability and Product Evaluation. *Journal of Economic Psychology*, 15, (2), 315-331.
- Volckner, F., Ruhle, A. & Spann, M. (2012). To Divide or Not to Divide? The Impact of Partitioned Pricing on the Informational and Sacrifice Effects of Price. Marketing Letters, 23, (3), 719-730.
- Waber, R. L., Shiv, B., Carmon, Z. & Ariely, D. (2008). Commercial Features of Placebo and Therapeutic Efficacy. Journal of the American Medical Association, 299, (9), 1016-1017.
- Wang, Y. & Krishna, A. (2012). Enticing for Me But Unfair to Her. Can Targeted Pricing Evoke Socially Conscious Behavior? Journal of Consumer Psychology, 22, (3), 433-442.
- Wansink, B., Kent, R. J. & Hoch, S. J. (1998). An Anchoring and Adjustment Model of Purchase Quantity Decisions. Journal of Marketing Research, 35, (1), 71-81.
- Wright, S. A., Hernandez, J. M., Sundar, A., Dinsmore, J. & Kardes, F. R. (2012). If It Tastes Bad It Must be Good: Consumer Naive Theories and the Marketing Placebo Effect. International Journal of Research in Marketing, 30, (2), 197-198.
- Wu, C. & Hsing, S. (2006). Less is More: How Scarcity Influences Consumers' Value Perceptions and Purchase Intents through Mediating Variables. Journal of American Academy of Business, 9, (2), 125-132
- Wu, W., Lu, H., Wu, Y. & Fu, C. (2012). The Effects of Product Scarcity and Consumers' Need for Uniqueness on Purchase Intention. *International Journal of Consumer Studies*, 36, (3), 263-274.
- Yadav, M. S. (1995). Bundle Evaluation in Different Market Segments: The Effects of Discount Framing and Buyers' Preference Heterogeneity. Journal of the Academy of Marketing Science, 23, (3), 206-215.
- Yang, S. & Raghubir, P. (2005). Can Bottles Speak Volumes? The Effect of Package Shape on How Much to Buy. *Journal of Retailing*, 81, (4), 269-281.
- Yang, S. S., Kimes, S. E. & Sessarego, M. M. (2009). \$ or Dollars: Effects of Menu-Price Formats on Restaurant Checks. Cornell Hospitality Report, 9, (8), 6-11.