

# Kent Academic Repository

## Full text document (pdf)

### Citation for published version

Lowe, Ben and Lowe, Julian and Lynch, David (2012) Behavioral Aspects of Pricing. In: Hinterhuber, Andreas and Liozu, Stephan, eds. Innovation in Pricing: Contemporary Theories and Best Practices. Routledge. ISBN 978-0-415-52164-2.

### DOI

### Link to record in KAR

<https://kar.kent.ac.uk/46700/>

### Document Version

UNSPECIFIED

#### Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

#### Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

#### Enquiries

For any further enquiries regarding the licence status of this document, please contact:

[researchsupport@kent.ac.uk](mailto:researchsupport@kent.ac.uk)

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

## **BEHAVIORAL ASPECTS OF PRICING**

Ben Lowe, Kent Business School, University of Kent, UK, b.lowe@kent.ac.uk

Julian Lowe, Newcastle Business School, University of Newcastle, Australia,  
julian.lowe@newcastle.edu.au

David Lynch, Centre for Regional Innovation and Competitiveness, University of Ballarat,  
Australia, d.lynch@ballarat.edu.au

This is an Accepted Manuscript of an chapter published in *Innovations in Pricing: Contemporary Theories and Practice*, available from: <http://www.routledge.com/books/details/9780415521642/>

Please cite:

Lowe, Ben, Julian Lowe and David Lynch (2012), "Behavioral Aspects of Pricing", in *Innovations in Pricing: Contemporary Theories and Practice*, Andreas Hinterhuber and Stephen Liozu (eds.), Routledge. ISBN: 978-0415521642.

# BEHAVIORAL ASPECTS OF PRICING

## ABSTRACT

Buyers sometimes exhibit seemingly “irrational” behavior with respect to prices and use socially embedded heuristics to simplify their purchase decisions. In some cases small changes in prices can lead to much larger than anticipated changes in sales and profitability. Sellers need to understand the heuristics consumers use, the situations in which they emerge, and recognize how they can respond in markets where information and knowledge of product attributes and competitive prices is increasingly available via the Internet. This chapter explores consumers’ behavioral reactions to price through a review of contemporary literature in the field of pricing. The chapter delineates the nature and scope of these effects based upon a critical review of the most up-to-date empirical research in the field, and concludes by providing implications for innovation in pricing, and guidance for managers to reduce the disconnect between themselves and consumers.

**Key Words:** Heuristics, willingness-to pay (WTP), value, reference price, price knowledge, perceived value

## INTRODUCTION

Getting the right price can build company value more than almost any other business action, yet buyer behavior with respect to different prices is still not well understood and the use of “rules of thumb” continues to dominate business practice (Cepedes, Shapiro & Ross, 2011). A study by McKinsey & Company suggests that around 90% of products are underpriced (Marn, Roegner & Zawada, 2003), and this has significant implications for business performance.

In a rational world where everyone has good information one might expect that consumers will buy when total perceived value is greater than price charged. The greater the difference the greater is their “willingness to pay” (WTP). In determining WTP, many other behavioral factors can disturb the rational analytic perspective of buyers. For instance, the notion of fairness might be important. This is illustrated by the launch of Radiohead’s new album “In Rainbows”. Fans were asked to name their own price for the album. Interestingly many consumers paid for the album and the average price paid was around £4 (BBC, 2007).

Marketers try an increasingly broad range of approaches to “hide” prices. They partition prices, they trade-off price for quality or volume, they set prices that price discriminate across segments, psychological needs, geography and urgency of need. According to a recent report of the UK’s Office for Fair Trading (2010) over 20% of advertisements including prices were deemed to be deceptive in some way or another. Price is also an important signal; when Phillips, the electronics manufacturer released the Philips Intimate Massager and set the price at £89.99 – it was set at that level “to be seen as respectable” (Mortishead, 2008), reflecting the role of price to signal product legitimacy.

Hyper-competitive markets, globalization, on-line auctions, new purchasing and retail formats, provide an increasingly complex array of contexts in which price has to be managed.

The sellers need to understand the “value” the customer is searching for, when price might itself be one of the most important attributes for consumers (e.g., Severin, Louviere & Finn, 2001). Recent research suggests mood and environment can deliver major benefits in encouraging consumers to increase their WTP. Thus, price is multi-faceted. Whilst it is about "what price do I charge", it is also “how”, “where” and “when”.

This chapter will explore key behavioral aspects of pricing. Specifically, the chapter will begin by contrasting traditional perspectives on price with more contemporary perspectives on price, it will then examine the notion of perceived value and its multi-faceted nature. The chapter will then outline the key behavioral aspects of price including internal and external reference prices, pricing and consumer perceptions of fairness, price endings, decreasing and increasing price, price-quality perceptions, and consumer price knowledge.

### **PERSPECTIVES ON CONSUMER RESPONSE TO PRICE**

The essence of effective marketing is to create value for customers and capture that value for the firm through current profits and longer-term reputation and image. Value is created through a product that meets customer requirements, is available for them to access and is communicated effectively. These three Ps of marketing are complemented by the fourth P that involves the effective use of price as it is set to capture the value the rest of the mix has created. A pricing strategy involves setting a price that creates an incentive for consumers to buy a product or service and generate sufficient revenues to encourage the firm to sell that product. In short, consumers buy when perceived value from a product exceeds price. Perceived value represents their WTP; any price less than that, subject to a budget constraint, should lead to a purchase. Sellers need to understand WTP and competitor offerings when setting prices.

Some economic models assume that customers are perfectly aware of product features and competitive offerings and that all that is needed is to understand the demand – price relationship. Monroe and Lee (1999) list other restrictive assumptions of an economic model. This (rather narrow) economic perspective is sometimes contrasted with a marketing perspective, which explicitly sees price as an integral part of the marketing mix that signals as well as captures value. The manipulation of all four Ps together may create a difference between marketing and economic approaches to pricing, although such a perceived difference might involve a misinterpretation of text book models of business behavior that merely seek to explain, in parsimonious fashion, the relationship between price, revenue, output and profit. Some empirical research on price–quality relationships confirms that more often than not, long-term prices reflect differences in products and attributes (Murray & Sarantis, 1999), and maybe there is less difference in economic and marketing approaches than is sometimes thought.

Fundamentally, consumers are expected to purchase an item whenever the perceived value of that item exceeds its actual price. The greater this gap, the greater the incentive to buy. Much marketing strategy is aimed at influencing behavioral factors that increase perceived value and thus the size of the gap. Gourville (1999) suggests the behavioral factors that disturb the simple relationship between price paid, WTP and cost of goods and services, including the perceived fairness of price, the relative incentive to buy (e.g., value of consumer surplus relative to the price of the product), the difference between actual price and a consumer’s reference price, and price compared to perceptions of costs.

The economic notion of incentive to buy is when perceived economic value  $>$  price. This gap is sometimes referred to as acquisition value or consumer surplus. The behavioral notion is that economic value + psychological value needs to be  $>$  price. The marketing notion combines

these approaches but recognizes that consumers often have less than perfect information and that price itself is a signal of quality and that savvy consumers might also consider the ease of purchase and use of a product as important creators of customer value and therefore WTP.

Economic, marketing and behavioral factors influence WTP and therefore value to buyers. In addition, buyer knowledge of prices is affected by their past experience, search behavior and their ability to disentangle complex deals. Increasingly the view is that complex offers that surround products are sometimes interpreted poorly by buyers who deliberately bound or restrict their search for information or who are unable to disentangle competitive claims. Unit pricing, ethics, regulation and competition affect the consumer's response to the different factors affecting WTP and the pricing strategies of sellers. Most importantly, the nature of perceived value to buyers is complex and influenced by a myriad of subjective factors.

## **PERCEIVED VALUE**

The preceding section identified the delivery of value to customers as a fundamental element of the marketing concept that builds and sustains competitive advantage. By delivering value, companies try to satisfy customers, resulting in improved customer loyalty, sales and profits. To this end, managers need to understand the nature of customer value and where they should focus their efforts to enhance the value they create for customers.

The concept of perceived value is defined above as the psychological and economic value gained from consuming a product or service. The difference between perceived value and price is the incentive to buy and is referred to as consumer surplus or acquisition value in the economics and marketing literatures respectively. Perceived value may be confused with other similar marketing and economic terms, such as utility, price and quality (Sánchez-Fernández &

Iniesta-Bonill, 2007). The economic view of value as instrumental, task-related, rational, functional and cognitive (Sweeney, Soutar and Johnson, 1999), is criticized by some authors with the view that perceived value is a multidimensional construct that consists of several inter-related attributes (e.g. perceived price, monetary and non-monetary costs, quality, utilitarian and hedonic benefits). Such studies posit that perceived value incorporates a hedonic component, which reflects the entertainment, experiential and emotional (affective) worth of consumption. This has led to greater interest in the cognitive-affective components of perceived value.

The notion of perceived value suggests that subjective judgments of value, whether they be cognitive or affective, are what influences consumer decision-making. These evaluations are based on more than experience or knowledge relating to the benefits of the physical product but also a customer's individual perception relating to the purchase. Previous research has highlighted how such judgments of value are influenced by the context in which consumer decision-making takes place. Perceptions of value have been found to differ between product types, individuals and circumstance (over time and in different environments). Consumers can also differ in the value they associate between both different and the same products. Even a consumer's value of the same product may vary over time and the types of values that are most salient are likely to vary with circumstance. In some research four different types of value have been identified (e.g., Grewal, Monroe and Krishnan, 1998; Woodruff, 1997):

1. acquisition value: perceived benefits relative to perceived costs
2. transaction value: the pleasure associated with a perceived fair price
3. in-use value: benefits derived from using the product
4. redemption value: the residual benefit after a product has been consumed



The dynamic nature of perceived value means that the importance placed on each different value is likely to change over time and in different contexts. For durable products, acquisition and transaction value are likely to have a stronger influence on purchase decisions, with in-use and redemption value becoming more important during latter stages of usage. In such cases, the decision to trial a product is more likely to be influenced by perceived acquisition and transaction value, whereas re-purchase behavior and customer loyalty may be more strongly related to in-use and redemption value (Parasuraman, 1997; Slater & Narver, 1994).

Whether a simple or complex view of perceived value is used, recent developments in the field have shifted the emphasis away from a utilitarian and economic conception to a behavioral conception based on psychological theories that attribute consumer choices, in part, to simpler heuristics. An important heuristic identified in research studies into how buyers perceive the fairness or appropriateness of a price is that of the reference price which can be defined as the price against which buyers compare the offered price of a product or service. This concept is considered in the next section.

### **INTERNAL AND EXTERNAL REFERENCE PRICES**

The notion of transaction value can be closely linked to a product's reference price (Urbany et al., 1997). The Nobel Prize winning work of Prospect Theory, whereby individuals evaluate their decisions based on losses and gains, rather than absolute magnitudes (Kahneman & Tversky, 1979), has had important implications for our understanding of consumer response to price, and specifically perceptions of their transaction value. In applied consumer behavior studies empirical research for FMCGs generally suggests that consumers make decisions about price by referring to some of kind of reference price, whereby the gap between what one thinks a

product's price *should* be (e.g., a normal price, a fair price – its reference price) and the actual price of the product is a better predictor of behavior than the price alone (Mazumdar, Raj & Sinha, 2005). In other words, if a consumer's reference price is higher than the actual price, then the consumer is more likely to frame the purchase as a “gain” and view the product as a good deal. However, if the reference price is lower than the actual price, then the consumer is more likely to frame the product as a “loss” and think the product is not such a good deal. Therefore, an important part of the behavioral perspective on pricing focuses on this gap between the actual price and the reference price. This has been coined transaction value (Thaler, 1985) or “sticker shock” (Winer, 1986). Thus, in studies concerning consumer response to price, researchers typically study acquisition value, and also transaction value (Grewal et al., 1998; Lowe & Alpert, 2010; Thaler, 1985; Urbany et al., 1997). The implication is that longer term price management and its impact upon these value perceptions is a more important objective than short term price management because past prices signal a product's worth to consumers — it is the price history as well as the current price which consumers use to make purchase decisions (Winer, 1986). These past prices provide consumers with a reference price and the reference price is used to judge the expensiveness of a product.

For new products, the implication is that setting the right price for a product early on in its lifecycle is especially important, because it will set the standard against which the expensiveness of that product is judged in later periods. Therefore, reference price management is important to products in existing categories, but especially important to products in new product categories where consumer price perceptions have yet to be framed (Lowe & Alpert, 2010; Marn et al., 2003). Thus not only is price management important but, relatedly, so is *reference price management* (Nagle & Hogan, 2006).

Marketers try to influence our reference price, and therefore transaction value, through external reference price claims (e.g., “Was \$109.99, now \$59.99”). Such promotions are often accompanied by time limited cues (e.g., “Hurry, before sale ends”). The most recent research in the area provides evidence, based on a series of field experiments, that reference price advertisements are generally more effective when consumers are shopping for a product, and that such advertisements are more effective when accompanied by a time limited promotion (Howard & Kerin, 2006). This contrasts to some degree with prior work on reference price advertising which seems to suggest that reference pricing alone is effective in influencing shopping intentions (e.g., Biswas & Blair, 1991).

### **PRICING AND FAIRNESS**

The concept of a reference price has been shown to be multifaceted and context specific. For example, Lowe and Alpert (2007) show that different reference prices are used for new products as opposed to existing products. However, one commonly used reference price is a fair price (Mazumdar et al., 2005). Gourville (1999) identifies a variety of factors that influence the buyer’s perception of the fairness of a price. Earlier Scitovszky (1944-5), observed “the normal or fair price is contrasted to the actual price whenever they are different, and it is only when they are different that judgments of cheap or expensive occur”. This relates again to the notion of transaction value. A large perceived margin is unfair and dissuades buyers from purchasing. Thus a price hike in the context of current shortages might similarly be seen as unfair, as would a small sale reduction on a high price compared to that same (absolute) reduction on a low price.

In these cases it might be argued that individuals are effectively deciding their response to a price change judged on its fairness. Perceptions of fairness impact WTP by consumers being

less willing to pay a price they feel is “unfair”. This might be extended to a long-term depreciation of a seller’s reputation and marketability of its products because of its perceived lack of “fairness”. Fairness is also an ethical issue that society in general might have a view on and this might influence the control or pressure to control its prices by regulators. The pricing of medicines in developing countries is a case in point (Dolan & Gourville, 2009).

The main managerial issue is how to deal with customer perceptions of unfairness? That is, how does the seller encourage them to disregard “unfairness” in their decision-making? Gourville (1999) recommends actively managing price expectations and actively managing perceptions of cost of goods sold. The counterpoint to ensuring customer perceptions of fairness is that many firms pursue pricing policies that are considered “fair” as in equitable between product lines, but that such pricing mismanages potential profits. Cost plus pricing is an example, as is averaging prices across groups of very different consumers. Cespedes, Shapiro and Ross (2011) note that, “Many executives celebrate a sort of pseudo-democracy in their pricing policies. For years, UPS charged one price to all customers..., When it entered the market, FedEx became the fastest U.S. company to reach \$1 billion in sales in part because its pricing recognized inherent value differences between customers”. The notions of fairness come from customers, not pricing formulas. Fairness is important and can be managed, but it is not about equity *per se*. A key issue in fairness is the extent to which prices move away from some reference point. The behavioral effect of increasing and decreasing price is now considered.

### **INCREASING AND DECREASING PRICES**

If managing consumer price perceptions is important, then understanding how price increases and price reductions affect consumer perceptions of value can be critical. It is quite

common for marketers to reduce prices, usually through some kind of sales promotion, to stimulate demand for a product. To this end marketers have a range of tools at their disposal, including price discounts, coupons, bonus packs, contests, free gifts, introductory prices etc. One issue that is important when assessing consumer reaction to sales promotions involves the depth and frequency of sales promotions. For instance, for FMCG products discounts of greater than 5%-10% are generally necessary before consumers notice that there is even a discount (Gupta & Cooper, 1992). This is known as the Just Noticeable Difference (JND – Monroe & Lee, 1999) and suggests that marketers should reduce prices by an amount that is noticeable to consumers. It is likely that the JND level changes as a function of the product category under consideration, consumer involvement with the purchase decision, knowledge about the product category and the magnitude of the product's cost to the consumer. Conversely, consumer response to discounts of different levels is not necessarily linear, such that larger and larger discounts have smaller and smaller marginal effects. For example, some research shows that discounts higher than 30% do not evoke a large marginal change in preference, as consumers tend to “discount the discounts” (Gupta & Cooper, 1992). Therefore, those managers responsible for setting discounts should carefully consider the level of the discount that is being set so it achieves its objectives in an optimal way. Managers need to also consider the frequency of discounting too. Discounts which are too frequent may lead consumers to perceive that a sale is not a real sale. For example, Alba, Mela, Shimp and Urbany (1999) show that a small but frequent discounting strategy may be most suitable for stores wishing to present a low-price image, rather than infrequent but heavier discounting.

Another issue that is important to consider when selecting a sales promotion is the kind of sales promotion to use (e.g., monetary versus non-monetary) and its differing effect upon

consumer value perceptions. Consumers react differently to different types of sales promotions. For example, Chandon, Wansink and Laurent (2000) broadly distinguish between monetary promotions (e.g., a discount) and non-monetary promotions (e.g., a free gift), and show that sales promotions techniques have benefits other than a monetary saving. These benefits include utilitarian benefits such as monetary savings, enhanced value for money through increased quality, and increased convenience, and other hedonic benefits such as increased entertainment and enhanced exploration ability.

Taking a somewhat different approach other research contrasts the differences between monetary and non-monetary sales promotions based on their impact upon consumer reference prices. For example, Diamond and Campbell (1989) show that monetary promotions such as discounts lead to lower reference prices than non-monetary promotions, and this has consequences for transaction value. However, Sinha and Smith (2000) show *one-off* price promotions may not affect reference price. Intuitively, and based on prior research, it might be expected that introductory low prices or monetary discounts may downwardly bias a consumer's reference price (e.g. Diamond & Campbell, 1989), whereas for extra free product offers, the reference price is more likely to remain unchanged (Sinha & Smith, 2000). This is important because, if an introductory low-price promotion leads to a lower reference price than an extra free product promotion, then one might expect the gap between the product's reference price and its actual price to increase. As the gap increases, this reduces transaction value, which in turn reduces purchase likelihood. Based on a similar premise Lowe and Barnes (2011), using a national sample of UK consumers, show that introductory low price promotions are more (less) effective than extra free product promotions when the product is perceived as newer (less new).

This seems to be because newer products are seen to be more risky and monetary promotions can reduce perceived risk relative to non-monetary promotions.

On the other hand marketers sometimes wish to increase prices. Again, drawing on Prospect Theory (Kahneman & Tversky, 1979) this is most likely to be viewed as a loss by consumers, and in some cases consumers will perceive this to be unfair. Price increases are sometimes unavoidable due to increased input costs. None the less these increases must be framed in a way that consumers feel is fair. For example, Campbell (1999) shows there are two key causal influences on our judgments of price fairness. These are the inferred motive of the firm (e.g., whether the motive is judged to be negative or positive – as in whether or not the profits will be allocated to the firm or a good cause) and the inferred relative profit of the firm (e.g., a normal profit or a *more than* normal profit). This relationship is moderated by a firm's reputation (e.g., socially responsible or not socially responsible with other stakeholders – staff, the community etc.). Bolton, Warlop and Alba (2003) extend this research and show that consumers' knowledge (measured subjectively – e.g., their perceptions) of prices, profits and costs lead to changes in their perceptions of price unfairness. Therefore, based on this data it appears that consumers are skeptical towards a firm's motives and tend to assume price changes and price differences are unfair based on some kind of perceived motive for firms to take profit, even when they are actually beyond the firm's control. They conclude that price increases deemed to be most fair are deemed to be fair as a result of quality differences – so perceived differences in quality are an important cause of price fairness perceptions and should be an integral part of marketing communications. Thus, when increasing prices marketers should “nibble” not “bite” (Kalyanaram & Little, 1994, p. 416), the opposite of when decreasing prices.

## PRICE ENDINGS

Consumer response to prices also exhibits some peculiarities in relation to an offerings price ending. The study of price endings and odd-even pricing tactics (e.g., \$19.99 or \$20.00) is not new to the field of marketing. However, relatively little empirical research has provided conclusive evidence of the nature of the effect, and its moderating conditions. This is despite the fact that the practice remains widespread. For example, Schindler and Kirby (1997) show that the digits 0, 5 and 9 are over represented in a large sample of newspaper advertisements, consistent with many similar studies. The practice has also been shown to transcend different cultures (Simmons & Schindler, 2003; Suri, Anderson & Kotlov, 2004). Because of its prevalence, and ability to influence consumer choice, the topic is important for marketers and consumers alike.

The main proposition that has been tested in price ending research is that small one-penny price changes can have large effects upon sales, if prices are changed from an even number such as \$20.00 to an odd number (and in particular a number ending in 9) such as \$19.99. Thus, in some cases consumers could be highly price sensitive to price changes which are extremely small, and otherwise unnoticeable, leading to spiked demand curves at prices ending in 9 (Anderson & Simester, 2003). There are three main theoretical arguments for such effects. One argument is that price ending effects are most likely to be seen when associated with cheaper products. However, Schindler (2001), based on a survey of market prices, shows that 9-endings were not commonly associated with the cheapest products. Relatedly, there is evidence to suggest that 9-endings are typically associated with the presence of low-price appeals (e.g., a reference price or some kind of claimed saving, rather than cheaper products *per se*). Thus, a second explanation is based around retailing folklore, whereby managers who want sale prices to appear cheaper use 9-ending prices because they believe consumers will see these as being



cheaper (Schindler, 2006). A third argument advanced in the literature is based on the premise that consumers read prices from left to right and that right hand digits are less important than left hand digits. Either left hand digits are recalled better by consumers (e.g., see Guéguen & Legohérel, 2004), or, if the left hand digit changes, then this change is most salient to consumers, leading to a left-digit effect (Thomas & Morwitz, 2005).

In general, there is no widespread consensus about how price endings influence consumer choice, and because of limited systematic empirical research in the area, generalizations about price ending effects are not empirically verifiable. For example, some studies find that odd prices ending in 9 increase consumption relative to even prices (e.g., Anderson & Simester, 2003). Other studies find inconsistent effects or that odd prices *reduce* consumption relative to even prices (e.g., Bray & Harris, 2006; Dalrymple & Haines, 1972). These findings point to a variety of conditions that moderate the effect of 9-ending prices.

Some research shows that the price magnitude of the product (e.g., low priced versus high priced products) is important in research on price ending effects. Anderson and Simester (2003) show that \$9 price endings (as opposed to 9-cent) can increase sales by as much as 40% relative to other price endings. This effect was stronger for newer products than for existing products, providing some rationale for the inconsistent effects found by Bray and Harris (2006). More recent research points to the importance of the left-digit effect (Thomas and Morwitz 2005) as an important moderating condition. The left digit effect suggests that 9-ending prices are only effective if the left digit changes as well (for example, from \$20.00 to \$19.99, rather than \$21.00 to \$20.00). This effect is shown by Thomas and Morwitz (2005) to be greater (smaller) when the difference between the two prices is smaller (larger). Therefore, the left digit effect will be

greater for a promotion such as “Was \$20.00, now \$18.99” (versus \$19.00) rather than a promotion such as “Was \$20.00, now \$11.99” (versus \$12.00).

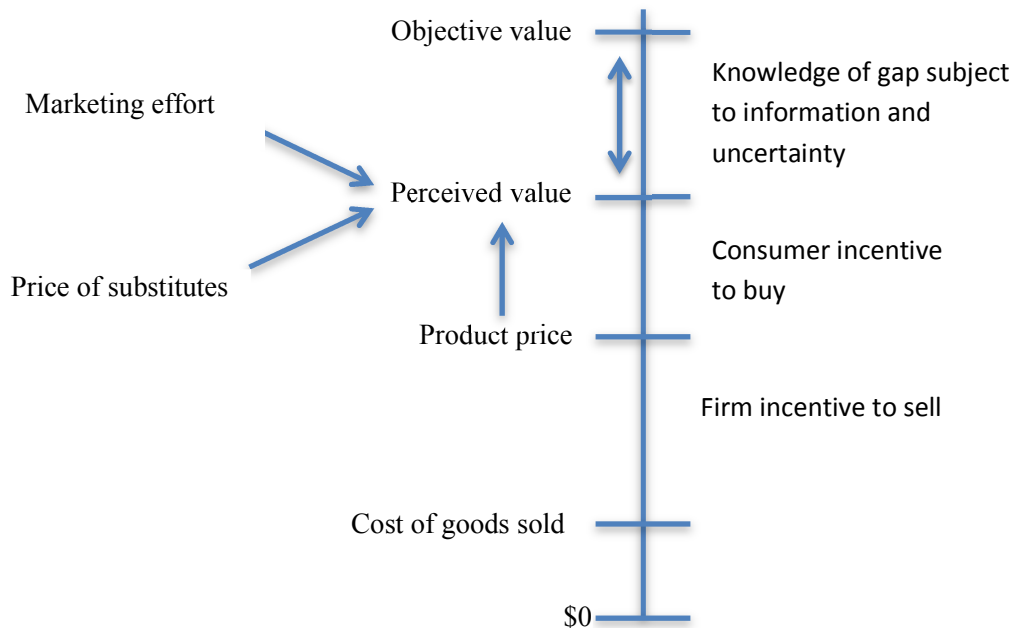
Therefore, in summary, the evidence suggests that price endings are important and that small price changes can have a dramatic influence on sales. However, this is not a universal truth, and based on the majority of research the effectiveness of price endings seems to depend upon a variety of different factors including association with other low price cues, price magnitude, product newness to customers, changes to the left digit, and managerial interpretation of consumer response to price endings. Whilst price movements and price endings need to be managed effectively, often the greatest challenge to sellers is how to price the quality or attributes of a product that influence whether something is considered a good or poor buy. These price–quality perceptions are considered in the next section.

### **PRICE-QUALITY PERCEPTIONS**

Price is usually assumed to be inversely related to demand. This is illustrated in Dolan and Gourville’s (2009) “Value-pricing thermometer” in Figure 1. Conventionally, a seller tries to increase the difference between price and cost of goods sold (profit) whilst consumers are more incentivized to buy, the greater is the gap between perceived value to them and product price. The expected price-quality relationship is for higher prices to be linked to more attributes and better quality, because these lead to higher *perceived* and *objective* value. Research referred to earlier suggests that over time there is often a correlation between prices charged and the quality or attributes of a product or service. However, some research as well as extensive anecdotal evidence, suggests that there might be a positive relationship between price and perceived value in some circumstances – even though objective value and product attributes remains unchanged.

Some pricing research shows consumers may infer quality from price when they lack the ability or motivation to process product-related information (Suri & Monroe, 2003). Thus price *can* serve as a heuristic which provides information to consumers.

Figure 1: The Value Pricing Thermometer (adapted from Dolan and Gourville 2009)



There are a number of circumstances when this price-quality relationship is likely. Higher prices may signal better quality to the consumer without adequate information; when product attributes are difficult to measure except through experience; or where there is high uncertainty on the part of the consumer about what to buy. Price might also be used as a quality signal where information search is difficult or there are few sources of available data (e.g., cars and electronic equipment versus perfume, clothes or wine). The assumption underlying these perceived positive price-quality relationships is that as well as uncertainty and lack of information, price is also determined with reference to another or expected price point. The buyers receptiveness to price is about what s(he) expects. Buyers also have some notion of perceived quality that can be different to objective quality. According to Zeithaml (1988), perceived quality involves a higher

level of abstraction than specific attributes, and resembles attitude. Judgments about quality are made within a buyer's evoked set; comparisons with reference prices are critical. Such judgments about the superiority or excellence of a product or service is essentially user-based, rather than product or manufacturing-based (Garvin, 1983). This abstract view of quality is coupled with a view that buyers do not always know or remember prices paid, but encode prices in ways meaningful to them. This is parallel to the emotional and intuitive decision-making processes that Kahneman (2011) contrasts with more deliberate and cognitive approaches.

Recent research by Borneman and Homburg (2011) suggests that with increasing psychological and temporal distance, price-quality relationships are more likely. People are more likely to construe price as indicating quality and less likely to focus on price as a cost, the more distant they are from the purchase. Thus when a product is less part of a consumer's regular experience or when its purchase and consumption is for some time in the future, price-quality relationships are likely to be more pronounced. There is evidence that price-quality effects have decreased over the last three decades but still remain potent. Völckner and Hofmann (2007, p. 194) in a meta-analysis of price quality relationship research conclude that over the period 1989-2006 the incidence of inverse price-quality relationships identified in the research literature declined. However they comment that: "...consumers still use price as an important indicator of quality"... (and) "...Managers must be aware that price-quality inferences remain important aspects of consumers' behavior and (should) consider them when setting prices"... "setting a low selling price or lowering a price with a discount not only lowers consumer costs but also threatens to lower their perceptions of product quality through negative signaling effects."

Thus, price-quality relationships are pervasive in many markets. However, there are limits to the extent that perceived value can be positively influenced by price. With the growth of

social media, the buyer's ability to call-up data on price and quality comparisons has increased. Quality signaling using price may in the future require other strategies such as bundling and product augmentation to achieve increases in demand.

### **CONSUMER PRICE KNOWLEDGE**

The extent to which consumers use different heuristics might depend upon the accuracy of their price knowledge. Consumer price knowledge has long been a subject of interest for practitioners and academics alike. Conventional neo-classical microeconomic models assume that consumers *know* the prices of the products they are purchasing. However, a wealth of research suggests that this might not be the case (Dickson & Sawyer, 1990; Gabor & Granger, 1961). If so, this has important implications for what is known about price, and about how consumers use price in their purchasing decisions. For example, reference pricing studies that use scanner data to model consumer reference prices based on past prices consumers have been exposed to may not be accurate, if this is the case. Likewise, how reference prices are formed must be subject to some kind of systematic bias that is not yet well understood. More recently Monroe and Lee (1999), in reviewing contemporary and emerging perspectives on pricing, argue that initial research in this regard is limited because it relies on the ability of consumers to *recall* prices. Instead, they argue, consumers may have knowledge about prices in a relative sense (e.g., being able to rank from cheapest to most expensive), even if they cannot recall exact prices. Using a sample of French supermarket shoppers, Vanhuele and Drèze (2002) provide an explicit test of this and tap into recallable price knowledge (e.g., whether or not the consumer can recall the price), price recognition (e.g., whether or not they can recognize if they paid a particular price), and the ability to spot deals (e.g., whether or not they can tell if something is a good deal).

Like Monroe and Lee (1999) they conclude that consumer price knowledge is more pervasive than the ability to recall a particular price. This may account for the findings of reference price research using scanner data. Therefore, while shoppers cannot recall past prices accurately, they have the ability to spot good deals and bad deals. Estelami and De Maeyer (2004) expand existing research by examining consumer price knowledge for durable good. They find that price knowledge varies considerably across a range of durable goods (e.g., higher for essential goods and lower for recreational goods). They also find that purchase frequency and amount spent on advertising are important variables that can explain consumer price knowledge, whereby more frequently purchased products and heavily advertised goods are associated with higher price knowledge. More recent research shows how the number of low priced items in a store can affect the degree to which the store has a low price image, and how different customers rely on different heuristics to make judgments in arriving at their perceptions. Specifically, they show that stores with greater numbers of low priced products are more likely to have a low-price image. However, this seems only to be the case for high knowledge consumers; low knowledge consumers associate a low-price image with the ease to which low prices can be recalled (e.g., the salience of promotions and other low price cues). Therefore, consumer price knowledge is an important variable for marketers to understand. Its link with other psychological concepts within the domain of pricing is important for theoretical and practical reasons. Not least because marketers' actions can influence this rather malleable and subjective variable.

### **BEHAVIORAL PRICING CONCEPTS IN NON-MARKET SETTINGS**

So far the discussion has centered around market goods, but how are goods and services valued (and implicitly priced) when there is no market? In a free market economy, goods and

services are sold for prices that reflect equilibrium between supply and demand, that is the costs of production and what people are willing to pay. Non-market goods or services (non-market goods) are not bought or sold directly and do not have a directly observable monetary value. Examples of this include nature based recreation activities such as visiting public parks and gardens, wildlife viewing, or rock climbing. A basic purpose of government is to provide citizens with non-market goods and to place values on such goods so that investment can be prioritized. Such decisions require governments to have an accurate understanding of the values attributed to such goods by society. To estimate the value of non-market goods, several economic tools have been developed, including: contingent valuation surveys; attribute-based methods and travel cost methods (Brown, 2003). However, recently an alternative tool for valuing non-market goods - happiness economics - has been proposed.

In neoclassical economics, utility is not a psychological experience that occurs during or after consumption. Instead, utility is defined by revealed preference: preferences (i.e., utility) are revealed from behavior (i.e. choices) (Stigler, 1950). Proponents of revealed preference argue that information about utility is captured by choice, assuming that consumers act as rational agents (Kahneman & Thaler, 2006). The reliance on measuring value through economic measures of utility (e.g., revealed preference and stated preference methods) has recently been criticized (e.g., Kahneman & Thaler, 2006). The field of behavioral economics refers to the attempt to develop economic theory by providing it with more psychologically plausible foundations (Johnson, 2006). Much emphasis in behavioral economics concerning valuation of both market and non-market goods focuses on subjective well-being (happiness) as an experience-based measure of utility (Diener, 2009; Kahneman & Krueger, 2006).

The term subjective well-being refers to “a broad category of phenomena that includes people’s emotional responses, domain satisfactions, and global judgments of life satisfaction” (Diener, Suh, Lucas and Smith, 1999, p. 277). There are two distinctive components of subjective well-being: an affective part and a cognitive part (Diener et al., 1999; Kahneman, 1999). The affective component refers to the presence of positive affect (i.e., emotions) and the absence of negative affect. The cognitive component of subjective well-being relates to an information-based appraisal of a person’s life as a whole (Schwarz & Strack, 1999).

Behavioral economists argue that experienced utility can be measured and is distinct from decision utility (Kahneman & Thaler, 2006). In response to criticisms concerning the measurability of experience utility, Kahneman, Wakker and Sarin (1997) nominates how the concept can be operationalized through instant (hedonic and affective experience during consumption), predicted (beliefs about the experienced utility of future outcomes) and remembered (past hedonic and affective experience) utility. Following these major advances in the field of subjective well-being, much work is underway that evaluates the contribution it can make to informing policy decisions (Loomes, 2007). In particular, experienced based utility, by providing measures of subjective well-being, can provide an alternative to estimating prices.

### **IMPLICATIONS FOR INNOVATION IN PRICING**

The first and most important thing managers need to recognize is that getting the “right” price is critical for both revenue and profitability. Gourville and Soman (2002) note that an average price increase of 1% could boost the net income of the typical large US corporation by about 12%. Clearly, what “right” is depends as much on customers’ differential response to different prices as it does on organizational objectives. But how can a manager gauge the “right



price”? One way is through field experiments testing different price/promotion levels (Almquist & Wyner, 2001), an area in which the direct mail industry leads the way. Yet another part of the solution is the acknowledgement that the value of a product or service sets the upper limit for how high a price can be raised, and that value is made up of psychological and objective or utilitarian value. Managers must understand what this psychological value is and the attributes of their products and services which relate to it. The psychological value of a product is not only determined by its brand, rarity and social norms but is also affected by perceived fairness or “rightness” of a price. These issues of fairness may be influenced by how, when and where prices are charged and involve both affective as well as cognitive decision processes.

Gourville and Soman (2002) assert that consumers typically tend to look at price differences in terms of the saving as a proportion of actual price as an indicator of the size of the incentive to enter the transaction. Similarly they may resent prices that are not a reflection of the costs of a good and sellers may need to add features that justify the perception of higher costs. For some goods, a reference price might be used to identify what is “fair”, whilst what is a fair price might be the subject of more intensive introspection for utilitarian goods compared to luxuries. These insights suggest buyers make various judgments about perceived value and a fair price that, in common with decision-making generally, suffer from extensive biases.

The manager needs to understand these processes and the reference points most salient to their customers in order to be able to tweak price most effectively. Once these reference points are understood, managers must manage price expectations through establishing clear reference prices, avoiding major and discontinuous price hikes, invest in establishing some product uniqueness to avoid price comparisons and establish benchmarks for good value by outlining favorable price comparisons with *different* products known for being good value. Finally,

managers can avoid cost of goods sold comparisons by bundling, adding abstract features and focus cost comparisons using absorption costing.

In the end WTP is driven not only by the “economic utility” of the transaction, but also by the “psychological utility” of the transaction. There are many levers that managers can use to increase psychological utility or reduce dissonance. For example, adjusting price-endings is one way where small price changes have been shown to lead to large changes in demand in some circumstances. However, these findings are based upon a variety of different factors including the product’s price magnitude, its relative newness, changes in the left digit and accompanying promotional material with other low price cues. Managers must consider these moderating influences when setting price endings. When managing price, adjustments and sales promotions should ultimately be based on a longer term pricing strategy, not just a knee jerk reaction to competitors’ promotional offerings. Maintaining pricing discipline through active management of reference prices and other salient consumer reference points will lead to more favorable price comparisons. However, reference price is multifaceted and managers must understand their individual customers and the reference prices those customers use in different circumstances, and their attributions of fairness. For example, non-monetary sales promotions have been shown take the focus off price and assist in maintaining reference price perceptions.

Ultimately consumers make apparently irrational decisions and bound their search behavior; sellers should be able to improve profitability by understanding these decision processes. In summary sellers must understand how WTP is influenced by objective value and psychological factors. They need to be able to estimate price sensitivity by customer, outlet, context and use, and through establishing clear reference prices they need to integrate price decisions with the rest of the marketing mix.

## CONCLUSIONS

This chapter has described how research into pricing, using behavioral concepts represents a significant source of marketing innovation for alert sellers. Buyers without adequate information might make a number of seemingly conflicting purchasing decisions. Sometimes these are the result of time-saving heuristics or sometimes they are the result of apparently irrational behavior. Consumers often behave in somewhat counter-intuitive ways (e.g., using price as an indicator of quality, purchasing more with trivial price changes) and do not always have accurate information (e.g., low price knowledge) on which to base their decisions. These decisions might be thought of as irrational but stem from the key driver of behavior – perceived value. Price, a seemingly objective variable may be interpreted by consumers in a *seemingly* subjective way. In order to understand how consumers might respond to price, managers must understand the reference points and heuristics that consumers use.

The research into consumers' behavioral response to price presented here tends to be based on consumer settings, and is usually based around conventional channels, rather than online channels. Therefore, future research and innovation within the field should seek to understand and establish the nature of these cognitive biases in business-to-business settings and in online markets, where some of the assumptions underlying consumers' boundedness and access to information are relaxed. Future research should also consider better measurement of WTP, given it is a key construct in the field – current research is often limited by directly questioning customers about price and this increases its salience to the respondent and perhaps overstates its effect. Other indirect approaches have their limitations too. Further research could also take advantage of the lack of research in online settings and couple this with advances in experimental techniques and dynamic pricing capabilities of the online environment.

## REFERENCES

- 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(September), 99-114.
- Almquist, E., & Wyner, G. (2001). Boost your marketing ROI with experimental design. *Harvard Business Review*, 79(October) 135-155.
- 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.
- Ariely, D., & Loewenstein, G. (2000). When does duration matter in judgment and decision making? *Journal of Experimental Psychology: General*, 129(4), 508-523.
- BBC (2007). Yorke paid nothing for own album. Retrieved from <http://news.bbc.co.uk/1/hi/entertainment/7103071.stm>
- Biswas, A., & Blair, E.A. (1991). Contextual effects of reference prices in retail advertisements. *Journal of Marketing*, 55(July), 1-12.
- Bolton, L.E., Warlop, L., Alba, J.W. (2003), "Consumer Perceptions of Price (Un)Fairness," *Journal of Consumer Research*, 29(March), 474-491.
- Bornemann, T., & Homburg, C. (2011). Psychological distance and the dual role of price. *Journal of Consumer Research*, 38 (October), Pre-published March 18 2011.
- Bray, J.P., & Harris, C. (2006). The effect of 9-ending prices on retail sales: A quantitative UK based field study. *Journal of Marketing Management*, 22(5-6), 601-617.
- Brown, T. (2003). Introduction to stated preference methods. In P. Champ, K. Boyle & T. Brown (Eds.), *A primer on nonmarket valuation (the economics of non-market goods and resources)* (pp. 99-110). New York: Springer.
- Campbell, M.C. (1999). Perceptions of price unfairness: Antecedents and consequences. *Journal of Marketing Research*, 36(2), 187-199.
- Cespedes, F.V., Shapiro, B.P., & Ross, E.B. (2011). *Pricing, profits and customer value* (Note 9-811-016). Boston: Harvard Business School.
- Chandon, P., Wansink, B., & Laurent, G. (2000). A benefit congruency framework of sales promotion effectiveness. *Journal of Marketing*, 64(4), 65-81.
- Diamond, W.D., & Campbell, L. (1989). The framing of sales promotions: Effects on reference price change. In T.S. Srull (Ed.). *Advances in Consumer Research*, Vol. 16 (pp. 241-247). Provo (UT): Association for Consumer Research.
- Dickson, P.R., & Sawyer, A.G. (1990). The price knowledge and search of supermarket shoppers. *Journal of Marketing*, 54(July), 42-53.
- Diener, E. (2009). *Well-being for Public Policy*. Oxford University Press: New York.
- Diener, E., Suh, E., Lucas, R., & Smith, H. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276-302.
- Dolan, R.J., & Gourville, J.T. (2009). *Principles of pricing* (Note 9-506-021). Boston: Harvard Business School.
- Estelami, H. & De Maeyer, P. (2004). Product category determinants of price knowledge for durable consumer goods. *Journal of Retailing*, 80(2), 129-137.
- Gabor, A., & Granger, C.W.J. (1961). On the price consciousness of consumers. *Applied Statistics*, 10(November), 170-188.
- Garvin, D.A. (1983). Quality in the Line. *Harvard Business Review*, 61, 65-73.
- Gourville, J.T. (1999). Note on behavioral pricing (Note 9-599-114), Boston: Harvard Business School.
- Grewal, D., Monroe, K.B., & Krishnan, R. (1998). The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioral intentions. *Journal of Marketing*, 62(2), 46-59.
- Guéguen, N., & Legohérel, P. (2004). Numerical encoding and odd-ending prices: The effect of a contrast in discount perception. *European Journal of Marketing*, 38(1/2), 194-208.

- Gupta, S., & Cooper, L.G. (1992). The discounting of discounts and promotion thresholds. *Journal of Consumer Research*, 19(December), 401-411.
- Howard, D.J., & Kerin, R.A. (2006). Broadening the scope of reference price advertising research: A field study of consumer shopping involvement. *Journal of Marketing*, 70(October), 185-204.
- Johnson, E.J. (2006). Things that go bump in the mind: How behavioral economics could invigorate marketing. *Journal of Marketing Research*, 43(3), 337-340.
- Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Kahneman, D. (2011). *Thinking Fast and Thinking Slow*. Farrar, Straus and Giroux: New York.
- Kahneman, D., & Krueger, A.B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, 20(1), 3-24.
- Kahneman, D., & Thaler, R.H. (2006). Utility maximization and experienced utility. *Journal of Economic Perspectives*, 20(1), 221-234.
- Kahneman, D. and Tversky, A. (1979). Prospect Theory: An analysis of decision under risk. *Econometrica*, 47(March), 263-291.
- Kahneman, D., Wakker, P., & Sarin, R. (1997). Back to bentham? exploration of experienced utility. *The Quarterly Journal of Economics*, 112(2), 375-405.
- Loomes, G. (2007). (How) can we value health, safety and the environment? *Journal of Economic Psychology*, 27, 713-736.
- Lowe, B., & Alpert, F. (2007). Measuring reference price perceptions for new product categories: Which measure is best? *Journal of Product & Brand Management*. 16(2), 132-141.
- Lowe, B., & Alpert, F. (2010). The formation and evolution of reference price perceptions in new product categories. *Psychology & Marketing*, 27(9), 846-873.
- Lowe, B., & Barnes, B. (2011). Consumer perceptions of monetary and nonmonetary promotions for new product. *Journal of Marketing Management*, Prepublished April 21, 2011.
- Loewenstein, G., & Ubel, P.A. (2006). Hedonic adaptation and the role of decision and experience utility in public policy. *Journal of Public Economics*, 92(8-9), 1795-1810.
- Marn, M.V., Roegner, E.V., & Zawada, C.C. (2003). Pricing new products. *McKinsey Quarterly*, 3(July), 40-49.
- Mazumdar T., Raj S.P, & Sinha I. (2005). Reference price research: Review and propositions. *Journal of Marketing*, 69(4), 84-102.
- Monroe, K.B., & Lee, A.Y. (1999). Remembering versus knowing: Issues in buyers' processing of price information. *Journal of the Academy of Marketing Science*, 27, 207-225.
- Mortishead, C. (2008, September 6). Philips changes the mood with warm intimate massager. *The Times*. Retrieved from <http://www.timesplus.co.uk/tto/news/?login=false&url=http%3A%2F%2Fwww.thetimes.co.uk%2Fto%2Fbusiness%2Findustries%2Ftechnology%2F>
- Murray, J., & Sarantis, N. (1999). Price-quality relations and hedonic price indexes for cars in the United Kingdom. *International Journal of the Economics of Business*, 6(1).
- Nagle, T.T., & Hogan, J.E. (2006). *The Strategy and Tactics of Pricing: A Guide to Growing More Profitably*. 4<sup>th</sup> Edition, Prentice Hall: Upper Saddle River, NJ.
- Parasuraman, A. (1997). Reflections on gaining competitive advantage through customer value. *Journal of the Academy of Marketing Science*, 25(2), 154.
- Sánchez-Fernández, R., & Iniesta-Bonillo, M.A. (2007). The concept of perceived value: a systematic review of the research. *Marketing Theory*, 7(4), 427-451.
- Schindler, R.M., Kibarian, T.M. (2001). Image communicated by the use of 99 endings in advertised prices. *Journal of Advertising*, 30(Winter), 95-99.
- 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., & Kirby, P.N. (1997). Patterns of right-most digits used in advertised prices: Implications for nine-ending effects. *Journal of Consumer Research*, 24(September), 192-201.
- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, N. Diener & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. (pp. 61-84). New York: Russell Sage Foundation.
- Scitovszky, T. (1944-1945). Some consequences of the habit of judging quality by price. *Review of Economic Studies*, 12(2), 100-105.
- Severin, V., Louviere, J.J., & Finn, A. (2001). The stability of retail shopping choices over time and across countries. *Journal of Retailing*, 77(2), 185-202.
- Simmons, L.C., & Schindler, R.M. (2003). Cultural superstitions and the price endings used in Chinese advertising. *Journal of International Marketing*, 11(2), 101-111.
- Sinha I., & Smith, M.F. (2000). Consumers' perceptions of promotional framing of price. *Psychology & Marketing*, 17(3), 257-275.
- Slater, S.F., & Narver, J.C. (1994). Market orientation, customer value, and superior performance. *Business Horizons*, 37(2), 22.
- Stigler, G.J. (1950). The development of utility theory. II. *Journal of Political Economy*, 58(5), 373-396.
- Suri, R., & Anderson, R.E. (2004). The use of 9-ending prices: Contrasting the USA with Poland. *European Journal of Marketing*, 38(1/2), 56-72.
- Suri, R., & Monroe, K.B. (2003). The effects of time constraints on consumers' judgments of prices and products. *Journal of Consumer Research*, 30(June), 92-104.
- Sweeney, J.C., Soutar, G.N., & Johnson, L.W. (1999). The role of perceived risk in the quality-value relationship: a study in a retail environment. *Journal of Retailing*, 75(1), 77-105.
- Thaler, Richard (1985). Mental accounting and consumer choice. *Marketing Science*, 4(Summer), 199-214.
- Thomas, M., & Morwitz, V. (2005). Penny wise and pound foolish: The left digit effect in price cognition. *Journal of Consumer Research*, 32(June), 54-64.
- Urbany, J.E., Bearden, W.O., Kaicker, A., & Smith-de-Borrero, M. (1997). Transaction utility effects when quality is uncertain. *Journal of the Academy of Marketing Science*, 25(December), 45-55.
- Vanhuele, M., & Drèze, X. (2002). Measuring the price knowledge shoppers bring to the store. *Journal of Marketing*, 66(4), 72-85.
- Völckner, F., & Hofmann, J. (2007). The price-perceived quality relationship: A meta-analytic review and assessment of its determinants. *Marketing Letters*, 18, 181-196.
- Winer, R.S. (1986). A reference price model of brand choice for frequently purchased products. *Journal of Consumer Research*, 13(September), 250-256.
- Woodruff, R.B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science*, 25(2), 139-53.
- Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: a Means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.