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Intuitive pricing by independent store managers: Challenging beliefs and practices



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ABSTRACT

Independent store managers—who constitute a substantial portion of the retailing sector—often have limited resources with which to practice the formalized, data-driven pricing processes prescribed in the literature. On that basis, this article addresses how independent convenience store managers arrive at prices and whether their practices are effective. To begin with, 33 interviews with independent convenience store managers identified six common beliefs and ten practices underlying managers' intuitive decision making. Based on point-of-sale survey data from 1,504 customers of two convenience store chains at petrol stations, a second study compared market-oriented managerial beliefs with actual customer price perceptions and buying behaviors. The combined insights from these studies reveal that managers base their pricing decisions on beliefs that are only partially accurate and suggests how managers might benefit by altering their price-setting practices.

1. Introduction

While many modern retailers rely on analytics to enhance sales and optimize margins (Heinrich, Mussa, & Zerbi, 2016), managers also continue to rely substantially on their own intuition (e.g., Bogomolova, Szabo, & Kennedy, 2017; Estelami & Nejad, 2017; Rusetski, 2014), based on beliefs developed over time and on subjective experiences rather than objective knowledge and facts. For example, beliefs about customers may prompt distinct managerial practices that influence pricing decisions. Understanding managerial intuition and its effects on pricing is therefore critical because “the way in which a firm prices its products or services holds the key to its success or failure” (Cunningham & Hornby, 1993, p. 46), and even small price adjustments can have substantial effects on retailer performance (Watson, Wood, & Fernie, 2015).

Setting the right price is especially relevant for smaller independent retail outlets such as convenience stores (c-stores), which mainly sell everyday items such as drinks, snack food, toiletries, and tobacco (Hervert-Escobar, Esquivel-Flores, & Ramirez-Velarde, 2017). First, while the managers of these stores have discretion to set prices, they must compete with chain stores, whose prices are set and monitored at corporate level and are commonly based on sophisticated analytics. Second, buying conditions are less favorable for independent stores,

with smaller economies of scale (Hervert-Escobar et al., 2017; Wenzel, 2011). As such many independent stores charge higher prices than competitors belonging to larger retail chains (Clarke & Banga, 2010; Pisani & Yoskowitz, 2012; Hervert-Escobar et al., 2017; Zairis & Evangelos, 2014). At the same time small independent stores usually have narrow, relatively standard assortments (Zairis & Evangelos, 2014) leading to previous research showing that assortment quality is not a differentiator for small compared to large stores (Heider & Moeller, 2012). Hence, it is difficult for independent stores to justify their price premiums making the choice of the “right” price even more important. In general, c-store success tends to depend on consumer considerations such as time cost (Crafton, 1979), prompting consumers to choose c-stores for their accessibility in terms of time and location (Bianchi, 2009). For that reason, c-store managers must ensure that their price premium does not exceed time costs, again making it important to examine their price-setting practices.

While research in this area has tended to focus on large retailers (e.g., Benoit, Evanschitzky, & Teller, 2019; Richards, Hamilton, & Yonezawa, 2018), smaller outlets like c-stores constitute a substantial portion of the economy. In the United States, more than 153,000 such stores accounted for approximately \$654 billion in total sales in 2018 (NACS, 2019). In China, c-stores have experienced average annual growth of more than 9% in recent years (Deloitte, 2017), with an

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estimated market value of more than RMB 190 billion (Chisult *Insight*, 2018). Most independent c-stores are managed by single-store managers (Chisult *Insight*, 2018; NACS, 2019), whose limited resources may preclude the formalized, data-driven pricing processes prescribed in the literature (e.g., Nagle & Holden, 2002). It follows that the focus on the rational pricing practices of large companies leaves a substantial research gap regarding the pricing practices of smaller companies (Carson, Gilmore, Cummins, O'Donnell, & Grant, 1998; Curran, Jarvis, Kitching, & Lightfoot, 1997). Additionally, the few studies addressing this issue have focused on manufacturing or service settings (e.g., Carson et al., 1998; Cunningham & Hornby, 1993; Curran et al., 1997), where prices tend to be negotiated for each individual order rather than for a large-scale assortment as in retailing, and many of the findings on intuitive entrepreneurial price setting (Curran et al., 1997) may not be applicable to retail settings. Finally, as previous studies have tended to adopt either a business or a consumer perspective but rarely combine both (Kienzler & Kowalkowski, 2017), it is both relevant and timely to investigate independent c-store managers' pricing practices and associated consumer perceptions.

To address the existing research gaps, we conducted two studies. In Study 1, we conducted 33 interviews with independent c-store managers to identify common beliefs and practices regarding the three pillars of pricing for enhanced sales—costs, competitors, and customers (Homburg, Jensen, & Hahn, 2012; Nagle & Holden, 2002)—as the foundation for their pricing decisions. The study's novel insights into c-store managers' pricing decisions and their appropriateness can be transferred to other retail or service situation where an independent store manager sets prices for a range of products or services (e.g., coffee shops, restaurants, repair shops). In Study 2, we captured the consumer perspective by asking 1,504 c-store customers about their price perceptions and buying behaviors at the point of sale.

This multi-method approach contributes to research on pricing, intuition, and retailing in a number of ways. First, we identified six common managerial beliefs and ten common practices (Study 1) that inform intuitive decision making. Second, by comparing market-oriented managerial beliefs with actual consumer price perceptions and buying behaviors in a field study (Study 2), we responded to calls for further research on supply-side respondents (such as managers) to illuminate pricing issues in consumer markets (Kienzler & Kowalkowski, 2017). Third, we assessed the accuracy of managers' beliefs and the appropriateness of their ensuing practices, focusing on high external validity to advance existing research on pricing and intuition that questions the accuracy of managerial beliefs.

2. Literature review

2.1. Managerial pricing decisions

The pricing literature frequently highlights the benefits of data-driven pricing processes and advocates formalized approaches that follow deliberate, systematic, and explicit rules (Nagle & Holden, 2002); in short, pricing decisions should be rational. However, there is evidence that managers (especially in small companies) rely less on such processes (Carson et al., 1998) than on simple heuristics when making pricing decisions (Hinterhuber, 2015). Heuristics that allow decision makers to disregard some information in order to simplify the decision-making process (Gigerenzer & Gaissmaier, 2011) include the anchor-and-adjustment and availability heuristics (Tversky & Kahneman, 1974), which seem especially prevalent among smaller firms. Curran et al. (1997) found that managers they interviewed used simple pricing heuristics—for example, “If there's something that isn't a particularly brilliant piece ... we'll take some money off of it” (Respondent 19, p. 23), or “I will charge more to a more wealthy customer” (Respondent 4, p. 25). These instances of heuristic processing indicate that managers tend to rely on their intuition.

Intuition can be understood as “analyses frozen into habit,”

facilitating “rapid response through recognition” (Simon, 1987, p. 63). This aligns with Fiske and Taylor's (2013, p. 105) argument that “people simplify reality” by storing prior knowledge in abstract form. In the same way, managers' beliefs are likely to be based on subjective experience rather than on objective knowledge and facts. Beliefs offer subjective filters for decision makers, and as Bogomolova et al. (2017) show, managerial beliefs provide a basis for pricing decisions. Similarly, Monroe and Della Bitta (1978, p. 415) noted that “by the intuitive approach, the decision maker subjectively assesses available information and, more by instinct than design, sets the price. As crude as it may seem, this approach is probably the most commonly used.” Although managerial intuition has frequently been linked to flawed decision making (e.g., Monroe & Della Bitta, 1978; Oxenfeldt, 1973), practitioners persist in using such tactics to simplify their decisions (Carson et al., 1998; Curran et al., 1997).

In pricing contexts, intuition seems to relate in particular to assessing competitors (Estelami & Nejad, 2017; Rusetski, 2014), as for example when deciding to apply a price premium, which is the difference between a product's sales price and its average market price (Rao & Monroe, 1996). For example, if the average price of a 50 ml bottle of Evian mineral water is €1.95, a particular store may charge €2.95, creating a price premium of €1 (51%). There are both supply- and market-side justifications for price premiums. On the supply side, managers may try to compensate for higher costs—for example, retailers who pay higher rents in attractive locations such as main streets or airports may try to offset those costs in this way. Similarly, c-stores may charge a price premium to compensate for the higher wholesale prices incurred by their weaker bargaining power as compared to larger retailers (Geylani, Dukes, & Srinivasan, 2007). Price premiums may also be used to counteract lower sales volumes (Steenkamp, Van Heerde, & Geyskens, 2010). This market-side rationale reflects managers' efforts to increase profit margins, especially in situations where consumers are more willing to pay (e.g., airports, gas stations). These stores can charge more (Bianchi, 2009) because consumers have limited alternatives or are under time pressure (Benoit, Klose, & Ettinger, 2017). However, such tactics may cause consumers to feel vulnerable or to perceive pricing as unfair (Herrmann, Xia, Monroe, & Huber, 2007).

In choosing to adopt a price-premium strategy, managers may rely on subjective beliefs about consumers' willingness to pay. However, as those beliefs may be at odds with consumer behavior generally or the behavior of their particular customers (e.g., Bogomolova et al., 2017; Urbany, Dickson, & Sawyer, 2000), it is important to understand how those beliefs develop, and whether the ensuing managerial practices are effective for sales and conversion, especially in the case of price premiums.

2.2. Consumer price decisions

Price knowledge refers to consumer awareness of a specific product's price (Vanhuele & Drèze, 2002), capturing price perceptions at product level. Price knowledge comprises different facets, including short- and long-term and explicit or implicit memory elements (Monroe & Lee, 1999). Vanhuele and Drèze (2002) described how different forms of price knowledge can be measured; the most common task is price recall, which assesses explicit short-term price knowledge (Jensen & Grunert, 2014) by asking consumers to recall the prices of products in their shopping cart (Dickson & Sawyer, 1990) or purchased (Lichtenstein, Ridgway, & Netemeyer, 1993). In contrast, price estimation tasks investigate knowledge kept in long-term memory by asking consumers to estimate the price of commonly purchased products (e.g., Evanschitzky, Kenning, & Vogel, 2004). Price knowledge may also relate to product brand or category (Jensen & Grunert, 2014); for example, Evanschitzky et al. (2004) showed that price knowledge is higher for well-known brands. In short, different factors influence consumers' price knowledge, and it is not universal.

Price image, which Hamilton and Chernev (2013, p. 2) defined as “a

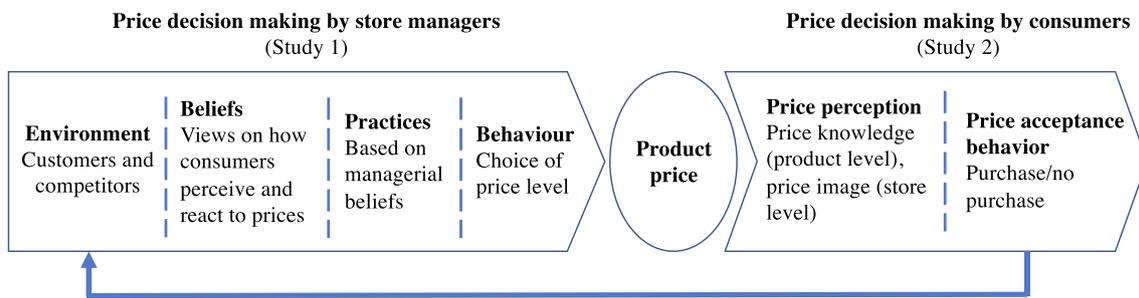


Fig. 1. Conceptual framework.

consumer's overall impression of the aggregate price level of a retailer", captures consumers' price perceptions at store level. Koschmann and Isaac (2018) confirmed that this overall impression differs across store formats—for instance, price image is perceived as higher for c-stores than for grocery stores. In other words, consumers expect to pay higher prices for identical products in c-stores. Unsurprisingly, price image is also linked to shopping intention; as Zielke (2010) showed, lower overall perceived price image is positively related to shopping intention across store formats. Similarly, Hamilton and Chernev (2013) argue that price image can influence the consumer's choice of store. Taken together, this evidence suggests that retail store format is likely to influence perceived price image and, in turn, consumers' shopping intention.

Fig. 1 conceptualizes this cyclic interplay of the managerial and consumer factors associated with pricing decisions. First, individual beliefs about how consumers perceive and respond to prices influence a manager's pricing practices, which then determine their behavior in setting a price. Second, product-level price knowledge and store-level price image influence consumer acceptance and behavior, including purchasing decisions (Fig. 1). In any given instance, a manager chooses a price that consumers or the market then accept or reject by buying or not buying (Kalyanaram & Little, 1994). Over time, the manager learns from customer purchase behaviors and may adjust their pricing beliefs and practices accordingly. The two studies reported here investigated independent c-store managers' decision making when setting prices and the associated customer responses.

3. Study 1: Beliefs and practices of independent c-store managers

To enhance existing understanding of independent retailers' pricing practices as a basis for scrutinizing their effectiveness, Study 1 investigated the beliefs and practices of c-store managers in relation to price setting.

3.1. Data collection

As a first step, as recommended by Krueger and Casey (2015), we conducted a qualitative study of the complex issues surrounding how managers approach the pricing process. We developed a semi-structured interview guide (Appendix A) based on a review of the extant pricing literature and inputs from two experts who are familiar with the c-store market. Two iterations ensured the guide's clarity and appropriateness. During the interviews, to set the scene and to gain some sense of the participating managers' knowledge level, they were first asked about their store prices. A second block of questions specifically explored the pricing process, including who makes pricing decisions and how, and how often prices change. A third block of questions investigated the managers' market perceptions in terms of consumer price sensitivity and reactions to price changes. To provide some context for the managers' responses, the fourth part gathered background information such as store size and location. Finally, to gain access to suitable respondents, we collaborated with the organizers of one of Europe's largest trade fairs for independent c-store managers, which is

held in Germany and commonly attracts more than 15,000 participants. The first author and a trained interviewer who is familiar with the topic then approached attendees and invited them to participate. Interested participants were invited to rooms provided by the fair organizer, and over the course of two days, we conducted 33 usable interviews of independent c-store managers (22 by the first author and 11 by the second interviewer), each of 15–20 min duration.

3.2. Data analysis

The interviews were recorded and transcribed (Kitzinger, 1995), yielding a total of 50,522 words. Using a deductive conceptual cycle (Hennink, Hutter, & Bailey, 2011), which applies both deductive (i.e., literature-based) and inductive (i.e., data-based) coding and thematic analyses (Braun & Clarke, 2006), we gained an initial (deductive) sense of potential codes from the literature on managerial intuition and price setting. As recommended, we then added inductive codes when analyzing the data (Hennink et al., 2011). The units of analysis were *themes*, which can be defined as repeated patterns capturing "something important about the data in relation to the research question" (Braun & Clarke, 2006, p. 82).

3.3. Results

3.3.1. Managerial beliefs

Based on these data, the relevant beliefs of independent c-store managers were found to relate to the three pillars of pricing: costs, customers, and competitors (Homburg et al., 2012). Interestingly, as discussed later, these pillars served only as a point of departure for setting an initial anchor price, which was subsequently adjusted on the basis of intuition. First, in relation to *costs*, interviewees referred repeatedly to their disadvantageous purchasing conditions and higher operating costs, particularly when compared to their larger competitors; as one participant noted, "The difference is that, at a convenience store, we do not buy large volumes as in a supermarket ... for those volumes, buying conditions are of course totally different... Sometimes, the supermarkets' sales prices are our purchasing prices without the VAT" (I17). Other managers linked their operating costs to opening hours: "It all has to be paid for—I'm open 24 h" (I5); "We have a different cost structure than the large retailers ... we have 24-hour shifts" (I22). These findings indicate that independent store managers perceive c-stores' higher prices as a necessary element to cover their costs and sustain their business rather than as a means of optimizing sales and profits. As one manager put it, "I have to make them [products] that expensive so that it becomes economically viable" (I1). Two other managers referred in particular to high prices and high costs: "As store managers, we have to calculate the costs—otherwise, we cannot pay the bills" (I2); "We are a c-store, and I have to somehow ... pay my staff and cover my costs" (I11). With reference to price adjustments to reflect increased purchasing price, one participant said "Some colleagues don't do anything, which means you are of course bankrupt after a while. Unfortunately, many colleagues think they can maintain the same price level for ten years, but in the meantime, you have had 15 purchasing price increases ... at a certain point, nothing is left"

(I17). On the basis of these data, we inferred the following belief.

- **Managerial Belief 1.** Higher sales prices are necessary to cover higher costs of operating a c-store.

Turning to *customers*, the next belief related to impulse buying, defined as unintended, unreflective, and immediate purchases (Jones, Reynolds, Weun, & Beatty, 2003). According to one participant, “the most important reason for my customers to buy at my store is impulse” (I2); another said “I believe most of them do not look at the price ... they come in, see the chewing gum, they want it, and then they just buy it” (I28). Another interviewee insisted that driving impulse purchases depended on presenting the merchandise in an attractive way: “In my store, most purchases are impulse purchases—it depends on how the merchandise is presented [to make the customer think] ‘Oh, I want to have a Snickers; it is right here in front of me and appeals to me.’” (I11). The same manager also argued that impulse takes precedence over price in consumer purchasing processes. Store managers’ understanding of impulse purchases aligns with existing evidence that such purchases are hedonically driven, spontaneous, and often hasty, involving little effort or limited evaluation, which means that the time interval between seeing an item and making the purchase decision is very short (Amos, Holmes, & Keneson, 2014; Jones et al., 2003). Managers also seem to believe that price is not an important element in impulse purchases. As many c-stores are in inner city or high-traffic locations (Wood & Browne, 2007), interviewees noted the opportunity to trigger food or beverage purchases as consumers pass by or stop at the gas station to buy fuel: “Consumers are more like impulse shoppers: I go to refuel to a gas station, and I then just grab some more products along the way” (I22). On the basis of these data, we inferred the following belief.

- **Managerial Belief 2.** Impulse buying drives c-store sales.

In addition to the above, the independent store managers widely believe that their customers exhibit a high level of purchase urgency, which implies intentional purchases, in contrast to impulse purchases, for which no intention exists before they enter the store (Beatty & Ferrel, 1998): “The customer says I’m thirsty now, I’ll go into the store and just get it” (I14); “Customers who come into my store want something to drink [right] now” (I16); “Friday night, 10:00 pm [my customers say] I still want a beer ... oh well, we forgot to buy it in the supermarket, but we want it now, so we’ll get it here” (I10). Purchase urgency influences behavior, as need fulfillment makes consumers more flexible (Emmelhainz, Stock, & Emmelhainz, 1991). However, limited alternatives or price premiums can also make consumers feel more vulnerable to exploitation (Herrmann, Xia, Monroe, & H uber, F., 2007). The accessibility of c-stores also relates to urgency; one manager envisaged a customer’s thought process as follows: “I’m in the neighborhood, so I go into the gas station store; I’m travelling by car, so no parking issues here. It’s often like this—I can just quickly drop by, walk in, grab something, and go” (I33). Managers also linked urgency to consumers’ lower price sensitivity; for instance, “They want to buy something at the gas station; they want to buy it now, whether the bar costs 90 cents or 70 cents (I23); “People who shop at the gas station want it here and now, and I don’t think price plays a huge role” (I29); “I don’t think customers think about whether they will buy that bottle of Coke here [in the store] or at a supermarket just because it might be 20 cents cheaper. The customer buys it at our store because he or she wants it in that moment” (I27). This leads us to the next formulated belief:

- **Managerial Belief 3.** Purchase urgency drives c-store sales.

In line with high impulse and urgency, many independent store managers assert that consumers have minimal price knowledge. For example, “it is known that gas station prices are higher, but most of the people do not look at the price (I32); I believe most of them do not look at the price, well not so intensively” (I28); or, “well, I’d say 80% of customers who

shop in our store do not even look onto the shelf [for the price]; in the supermarket, yes they do, but in our store they do not look onto the shelf, they don’t even know how much it costs” (I17). The respondents also linked this perception to pricing choices: “If I lowered my prices to [normal] retail level as a convenience store, they wouldn’t even realize it” (I16). On the basis of these data, we inferred the following belief.

- **Managerial Belief 4.** C-store customers have little price knowledge.

As consumer price knowledge also affects their perception of the retailer’s price image (e.g., Anderson & Simester, 2004), participants also believed that store-level price perceptions were not important to consumers who entered their stores. One manager went so far as to suggest that “prices, I’d say, are more or less irrelevant ... whether you take a euro or 1.20 or 1.30, it pretty much doesn’t matter” (I1); another one voiced similar thoughts (I27). When asked about price changes and sales activities, one participant responded, “I have tested it. I was really cheeky with some of the prices and just tripled my wholesale price, and there was only a minimal decrease in sales ... the customer that comes into my store ... knows it is more expensive” (I16). In similar vein, another one explained that “customers come from the village ... but they know that, when you come to a gas station store, you have to pay more” (I1). On the basis of these data, we inferred the following belief.

- **Managerial Belief 5.** C-store customers are indifferent to the store price level.

A final belief relates to the *competitor* pillar of pricing: that is, the impact of competition on consumers’ perceived store price level. While a majority of interviewees believed that consumers are indifferent to store price levels, a substantial number also noted that this factor became more important if there was a large grocery retailer in close proximity: “As we have a [discounter] right on the other side of the street, it doesn’t pay me to charge €8.99 for a six-pack of beer—that would just mean we’d fill the shelves and no one would buy” (I10). According to another, “because we have a big supermarket right next door, it’s hard for us to charge the retail prices recommended by our suppliers. We charge much less—otherwise, we wouldn’t sell anything” (I12). To illustrate this dilemma, the same manager referred to the example of a Snickers candy bar: “Ten cents more is accepted, no chance of selling many if it’s much more than that” (I12). Another noted that “within 200 m, one of the biggest supermarkets ... has been built, which means of course that now I can’t sell a six-pack of beer for €7.50 because you can get it there for €4.49 or so” (I17). In short, participants believed that consumers care more about prices when they have an alternative. As a boundary condition, we formulated the final managerial belief as follows.

- **Managerial Belief 6.** The store price level is more important when there is a large grocery competitor in close proximity.

3.3.2. Managerial practices

All of the interviewees reported that they were in charge of price setting, either themselves or with family members. They also exhibited strong price knowledge; for example, when shown seven products that are commonly offered in c-stores (e.g., energy drinks, soda or chewing gum), they were able to recall the prices from memory, with little or no hesitation. This reflects the high relevance of prices and price stability as confirmed by other data. On that basis, we find support for the key proposition that pricing has high priority, and we characterize the first managerial practice as follows.

- **Managerial Practice 1.** Independent store managers make their own pricing decisions, and their price knowledge is high.

Belief 1 (regarding the cost situation of the independent store manager) in combination with Belief 5 (that consumers are indifferent

to store price levels) explains the participants' strong focus on cost when setting prices. When asked how they determine prices, one manager offered the following explanation: *"We have the wholesale price, then we know which products need to make which contribution margin"* (I15). In many cases, price premiums reflect simple heuristics rather than product-specific considerations; for example, *"the buy-in price times two, that's how I do it"* (I11); *"I just double the net buy-in price"* (I24). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 2.** Sales prices are often internally driven, using cost-plus pricing.

However, for many independent store managers, once the internally driven price—often cost-plus—is retrieved, they adjust this by intuitive means: *"I take the wholesale price, and then I think what I want to earn from this product and then I calculate, and at the end, I ask myself 'If I were thirsty and at a gas station, would I spend this amount of money for that?'"* (I14). When asked about price setting, another said *"I have this calculation table from my tax advisor; this is my first instrument, and then I do price comparisons ... a third criterion is to not go overboard, and I ask myself 'Can I still do this, or is it too expensive?'"* (I2). Another manager reported a similar procedure: *"We [set ourselves] a minimum threshold of at least 35% markup on the purchasing price, and then you just have to look at what the market accepts, and the rest is a bit freestyle—how hip the product is at present, or new products"* (I10). This was echoed by another manager: *"Well, you have to have the [necessary] sensitivity: Where is the [customer] threshold? What is my purchase price, and how can I balance these?"* (I17). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 3.** Independent store managers use their intuition to adjust internally derived sales prices.

A similar pattern emerged in relation to recommended retail prices (RRPs): *"We stick to the recommended sales prices ...—well ... essentially"* (I8); *"We usually comply with them"* (I3). However, interviewees emphasized that they adjusted RRP on the basis of intuition: *"We can either stick to the suggested price or we can say, 'Well, I really can't do it; I don't have the heart to sell so cheaply; or it seems too expensive to me'"* (I15). Accordingly, managers adjust prices both upward and downward. They also indicated that the recommended price is only one consideration when setting sales prices: *"The supplier makes ... recommendations regarding sales prices ... [but] for us, competition in the immediate surroundings is critical ... I can orient myself a little bit there"* (I13). Similarly, *"We get price recommendations from the brands, and then I look at the margin, and I either take it as it is or I change it accordingly"* (I27).

While acknowledging its importance in the pricing process, some managers insisted that they disregarded RRP if they believed them to be unrealistically high: *"These recommendations that a Coke should cost €2.50—the market situation tells me that [if I follow that RRP] I'll sell nothing"* (I12). Referring to the high RRP for a chocolate bar, another interviewee complained that *"if you get them at the discounter ... for 99 cents or so, you can't suddenly sell the package for €2 at the gas station"* (I9). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 4.** Independent store managers use their intuition to adjust the recommended retail price.

The use of intuition to adjust initial prices, whether internally derived or externally recommended, can be validated theoretically as what [Tversky and Kahneman \(1974\)](#) have termed the anchor-and-adjustment heuristic. It is also confirmed by quantitative evidence of substantial spreads in sales prices (see Question 1, Appendix A). While many managers referred to the same suppliers, the highest price was

typically about twice the lowest price, as in the case of a can of Red Bull (€0.99–€2.49), a 0.5-liter bottle of Coca-Cola (€1.00–€1.99), or a packet of Wrigley's chewing gum (€0.85–€1.59). This evidence suggests that either buying conditions or pricing procedures differ, reflecting distinct intuitions.

In relation to Belief 3 (that urgency drives many consumer purchases), Belief 4 (that consumers have little price knowledge), and Belief 5 (that they are indifferent to store price levels), we found that when prices are being changed, these changes are mostly internally driven with little regard to consumers. For example, when asked about price change triggers, one participant said *"I look at the wholesale price, and when it changes, of course, I immediately adjust"* (I14). In similar vein, another said *"I change prices when the wholesale prices changes"* (I10). Some also referred to internal reasons: *"We get our deliveries from XY [wholesaler], and they have these recommended prices"* (I14). A tax advisor was also cited as a price-setting trigger (I2; see also Practice 3), indicating that price-setting practices were internal and margin-focused rather than consumer- or market-focused. On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 5.** Price changes are internally driven.

With regard to sales activities, independent store managers explained that they rarely undertake promotional activities because of their perceived ineffectiveness: *"Why should I? I'd say, why should I sell the Coke for half price—they'll [customers] buy it anyway"* (I17); *"We have realized that this is not of interest to consumers. We have tried it many times—two for one or similar, but sales volume was not much higher, and customers were not interested"* (I24); *"Nobody buys more just because it's on sale"* (I4). As a result, managers did not engage in promotional activities: *"I keep out of such things.... I won't participate"* (I27). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 6.** Independent store managers rarely engage in promotional activities.

In the rare cases where independent store managers engage in sales promotions, this is not to stimulate external demand but as a response to internal considerations, as for instance when *"We have too much or we are offered [something] by the supplier because he says 'I have a full inventory, would you like to take some?'"* (I10). Supplier prices or incentives can also trigger sales promotions: *"If, let's say, I get Red Bull for a good price, then I can pass this on to the consumer by offering a rebate"* (I15). In contrast, sales activities are inhibited by the effort required. Regarding the frequency of such activities, one manager said *"The effort is too high. We have so many things to do other than sales activities"* (I6); *"When you engage in sales activities, you have to point customers towards it; we don't have the time for that"* (I7). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 7.** Decisions about promotional sales activities are internally driven.

Some independent store managers differentiated prices according to their profit potential: *"For example, I can charge a bit more for fast-moving products that I know will be bought soon, such as Red Bull or Coke"* (I11). This practice was widely applied: *"The fast sellers are somewhat higher [in price] because, in the gas station business, these are the profit generators"* (I22); *"Normally, I can earn a bit more from whatever moves fast"* (I33). Some store managers sought to optimize profits by means of price premiums differentiating fast- and slow-moving products: *"I try to price my fast-moving products a bit above what I need, and slow-moving products a bit below, so that overall I get the margin I need"* (I25). Pricing high-demand items at a higher price is a common practice, especially in independent retailing—for example, flowers are priced higher on occasions such as Mother's Day or Valentine's Day ([Dunne, Lusch, &](#)

Carver, 2014). On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 8.** Independent store managers use price premiums to differentiate slow- versus fast-moving consumer goods, pricing fast-moving goods higher.

As mentioned earlier, many c-stores are connected to gas stations, which attract three customer segments: fuel-only, fuel and store, and store-only. Because fuel largely drives traffic to these stores, managers should aim to convert fuel-only customers to fuel and store, as in the following predicted consumer attitude: “I go to refuel to a gas station, and I then just grab some more products along the way” (I22). Independent store managers who talked about customers focused overwhelmingly on the fuel and store category, who already make in-store purchases. In relation to sales promotions, one manager acknowledged that “we have very loyal customers; I don’t think they care about sales activities like ‘product of the month’” (I33). The large segment of fuel-only customers was rarely mentioned during the interviews, indicating that managers tend to overlook the potential to convert them to fuel-and-store customers. On that basis, the next managerial practice can be characterized as follows.

- **Managerial Practice 9.** Independent store managers focus on existing rather than potential customers.

It seems that the decision not to match competitors’ prices is based on independent store managers’ belief that their cost side is far inferior to that of larger retailers, and that c-stores depend on higher prices to cover the higher costs of operating a c-store (Belief 1): “No, I cannot see them as competitors; no-one can match their prices because [the larger retailers’ purchase prices] are lower than ours” (I13); “I cannot compete with Kaufland” [a German supermarket brand] (I21); “then there are the supermarkets that I cannot compete with anyway” (I1); “REWE [a supermarket brand], Aldi [a discount brand] and the like—we simply can’t keep up with them” (I3). It is important to note that while managers emphasized that they could not match larger retailers’ prices or compete strongly on price, they did acknowledge that consumers may compare c-store and larger retailer prices (Belief 6). On that basis, the final managerial practice can be characterized as follows.

- **Managerial Practice 10.** Independent store managers do not treat larger retailers as competitors whose prices can be matched.

3.4. Discussion of Study 1

As summarized in Table 1, Study 1 identified six managerial beliefs related to the three pillars of pricing (costs, competitors, and customers) (Homburg et al., 2012) and ten managerial practices. This aligns with existing evidence that managerial practices are grounded in managers’ beliefs (e.g., Bogomolova et al., 2017). Many of the identified practices confirm that managers base their decisions on heuristics and intuition rather than systematic analysis (see also Rusetski, 2014). For example, pricing and sales decisions are often simple and intuitive (e.g., using a cost-plus heuristic, with few promotional activities) and are likely to be driven by internal considerations. The use of cost-plus pricing or recommended retail prices in combination with intuition to determine prices implies the combined use of default (Gigerenzer & Gaissmaier, 2011) and anchor-and-adjustment (Tversky & Kahneman, 1974) heuristics. The focus on existing customers aligns with the availability heuristic (Tversky & Kahneman, 1974), as information is more readily available about these customers than about potential customers. The use of price premiums to differentiate between slow- and fast-moving consumer goods is further confirmation of the use of a simple heuristic (e.g., Hinterhuber, 2015).

These insights shed new light on the nature of managerial pricing

practices, but it remains unclear whether these are effective—that is, do managers’ beliefs accurately represent empirical reality? Most previous research on pricing strategy has focused on either supply or demand (Kienzler & Kowalkowski, 2017); our aim here was to integrate both sides by testing the accuracy of the five market-oriented (i.e., customer- and competitor-oriented) managerial beliefs (Beliefs 2 to 6) against point-of-sale data (Study 2). It seems useful to test the market side of pricing as this is more relevant for independent store managers, given their low flexibility in relation to labor costs in developed markets and their lack of influence on the cost side as a result of their limited negotiating power with suppliers (Wenzel, 2011).

4. Study 2: Consumer price perceptions and acceptance

4.1. Data collection

To test the accuracy of the deduced market-oriented managerial beliefs, we conducted a field study ($N = 1,504$; female = 462 [30.72%]), in collaboration with two international mineral oil companies (i.e., brands) that operate convenience/gas station stores in Germany. The data were collected in 2017 from consumers at 11 different gas station stores across Germany. Trained interviewers approached customers as they entered or exited the store to solicit their participation in a brief point-of-sale survey (see Appendix B). The interviewers collected data at each gas station on one weekday and one weekend day, at different times of day.

In light of respondents’ time constraints and the demand effects of face-to-face intercept interviews, Study 2 was designed in two parts, using two slightly different questionnaires (see Appendix B) and two subsamples. Customers who were approached before entering the store ($n = 780$) were asked to indicate their purchase intention and rationale, along with their perception of the store price level. Customers who were approached when exiting the store ($n = 724$) were asked about their purchase behavior, price knowledge (based on a price estimation task), and perception of the store price level. If customers made a purchase, we also assessed their price knowledge about one of the purchased items (based on a price recall task) and whether the purchase was planned, planned impulse, or “pure” impulse. Planned and pure impulse purchases are differentiated by purchase intention; according to Stern (1962), planned impulse purchases relate to customers who enter a store with a general buying intention, but their actual choice of product depends on contextual factors (e.g., variety, price, quality). Customers who made no purchase were asked why not. Interviewers were instructed not to approach customers more than once. Table 2 details the component samples.

4.2. Data analysis

The field data included Likert scales, count data, and free-text answers, which were coded for quantitative analysis using several analytical strategies. As the data were non-normally distributed, we employed non-parametric statistics, which tend to be more conservative. As the large sample size meant that significance testing was insufficient, we report 95% confidence intervals (CI) for the main parameter estimates and effect sizes for each test.

4.3. Results

4.3.1. Managerial Belief 2: Impulse buying drives c-store sales.

Two complementary strategies were employed to test Belief 2. First, following Stern (1962), we asked exiting customers who had bought something whether their purchase was planned, planned impulse, or pure impulse (see Fig. 2, Panel A). The incidence of purchase types differed significantly ($\chi^2 = 139.81$, $df = 2$, $p < .0001$, $\phi_c = 0.56$) from chance, and *post hoc* tests with Bonferroni corrected *p*-values indicated significant differences for planned versus planned impulse

Table 1
Managerial beliefs and practices.

	Managerial beliefs (Study 1)	Consumer behavior (Study 2)	Managerial practices (Study 1)
Cost pillar of pricing	1: Higher sales prices are necessary to cover higher costs of operating a c-store.	Not tested	1: Independent store managers make their own pricing decisions, and their price knowledge is high.
	2: Impulse buying drives c-store sales.	Not supported	2: Sales prices are often internally driven, using cost-plus pricing.
Customer pillar of pricing	3: Purchase urgency drives c-store sales.	Supported	3: Independent store managers use their intuition to adjust internally derived sales prices.
	4: C-store customers have little price knowledge.	Mixed support	4: Independent store managers use their intuition to adjust the recommended retail price.
	5: C-store customers are indifferent to the store price level.	Not supported	5: Price changes are internally driven.
Competitor pillar of pricing	6: The store price level is more important when there is a large grocery competitor in close proximity.	Supported	6: Independent store managers rarely engage in promotional activities.
			7: Decisions about promotional sales activities are internally driven.
			8: Independent store managers use price premiums to differentiate slow- versus fast-moving consumer goods, pricing fast-moving goods higher.
			9: Independent store managers focus on existing rather than potential customers.
			10: Independent store managers do not treat larger retailers as competitors whose prices can be matched.

Managerial practices are based on all three pillars

Table 2
Sample overview.

	Brand A		Brand B		Total	
	n	%	n	%	n	%
Entering						
No purchase intention	96	32%	459	38%	555	37%
Purchase intention	53	18%	172	14%	225	15%
Exiting						
No purchase	87	29%	418	35%	505	34%
Purchase	63	21%	156	13%	219	15%
Total	299	100%	1,205	100%	1,504	100%

($\chi^2 = 105.35, df = 1, p < .0001, \phi_C = 0.78$); planned impulse versus pure impulse ($\chi^2 = 11.22, df = 1, p < .01, \phi_C = 0.42$); and planned purchase versus pure impulse ($\chi^2 = 58.32, df = 1, p < .0001, \phi_C = 0.54$) purchases. Planned purchase customers (154 or 70%) accounted for the majority of purchases. The results show that the

proportions of customers with the three purchase types differ and that sales are driven mainly by planned purchases.

Second, as explained in the Method section, the two samples (entering and exiting customers) facilitated comparison of actual purchase behavior with intention (Fig. 2, Panel B). Customers were asked whether they planned to buy something in the store (see Appendix B); if impulse buying drives sales, the proportion of entering buyers with purchase intentions should be significantly lower than the proportion of exiting actual buyers. However, there was no significant difference ($\chi^2 = 0.35, df = 1, p = .55, \phi = 0.02$) between intending (entering = 29%) and actual (exiting = 30%) buyers, providing further evidence that impulse purchases are not substantial. Overall, the findings challenge Managerial Belief 2.

4.3.2. Managerial Belief 3: Purchase urgency drives c-store sales.

Before entering the store, customers were asked about their purchase intentions. Those who planned to make a purchase named up to three products they intended to buy and indicated how urgently they

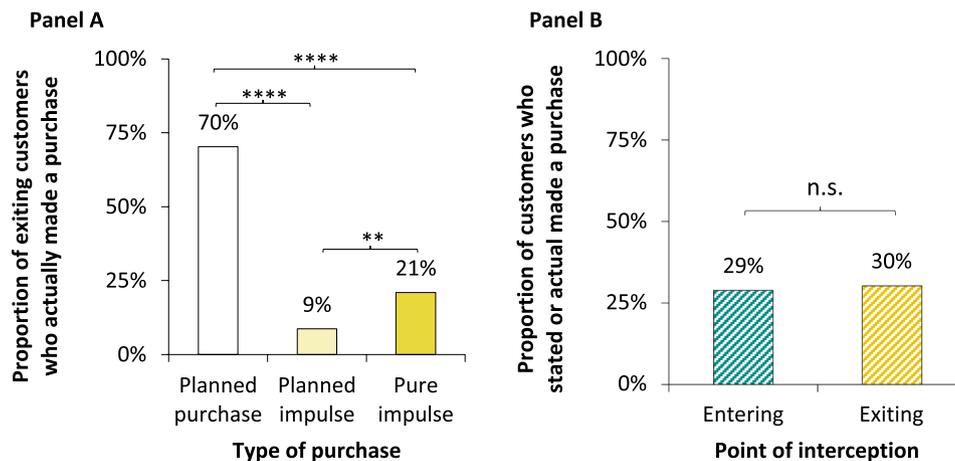


Fig. 2. Effects of impulse buying on sales. Note: The asterisks indicate significant differences in type of purchase (Panel A) and percentage of customers who stated an intention to purchase or who made a purchase (Panel B): * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$.

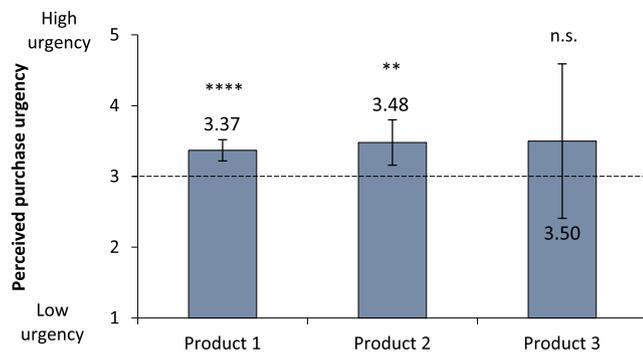


Fig. 3. Customers' perceived purchase urgency for up to three products. Note: The dashed line indicates the expected urgency level at chance or the mid-point on a 5-point Likert scale. The asterisks indicate significant differences from the mid-point at the following levels: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$. The error bar is the 95% confidence interval.

needed each one of them on a 5-point Likert scale (from 1 = “not very urgent” to 5 = “very urgent”). As detailed in Fig. 3, three separate one-sample Wilcoxon signed-rank tests established that customers' perceived urgency was significantly higher than the scale midpoint for the first and second products mentioned but not for the third. $M_{\text{first_product}} = 3.37$, 95% CI [3.22, 3.51], $W(2\ 2\ 5) = 6,143$, $p < .0001$, $r = 0.30$;

$M_{\text{second_product}} = 3.48$, 95% CI [3.16, 3.79], $W(40) = 224.50$, $p < .01$, $r = 0.43$; and

$M_{\text{third_product}} = 3.50$, 95% CI [2.41, 4.59], $W(8) = 11.00$, $p = .33$, $r = 0.34$.

However, as only 8 customers intended to buy at least three products, this non-significance probably indicates that the test was underpowered. The results suggest medium to high perceived purchase urgency, providing empirical support for Managerial Belief 3.

4.3.3. Managerial Belief 4: C-store customers have little price knowledge.

Most previous studies used a single method to assess price knowledge (Jensen & Grunert, 2014). Given the complexity of this construct (e.g., Monroe & Lee, 1999; Vanhuele & Drèze, 2002), we used two complementary tasks assessing price estimation and price recall. First, consumers were asked to estimate the prices of two products generally available in c-stores (bottled water and a snack bag of peanuts). As they were unlikely to have noticed (let alone memorized) the exact prices of these among the 2,500–3,500 items usually available in c-stores (Bishop, 2010), this method provided a useful indication of price knowledge in long-term memory. Second, customers who bought something were asked to recall the price of the purchased item, which is a common means of assessing explicit price knowledge in short-term memory (Jensen & Grunert, 2014).

In line with earlier research (e.g., Dickson & Sawyer, 1990), price estimates with a $\pm 5\%$ error margin were considered correct; beyond this margin, estimates were deemed incorrect whether over- or underestimated. The percentage error was calculated subdividing the delta of the estimated and the actual store price by the actual store price. Hence, overestimations yield positive percentage errors, and underestimations are negative.

As preliminary analysis of the proportion of customers who over- or underestimated prices revealed that store brand affects price knowledge, the results are organized by brand. As shown in Fig. 4, only a small fraction of customers in our sample correctly estimated the prices of the two products from Brand A (bottled water = 13%; snack = 9%) and Brand B (bottled water = 11%; snack = 16%). More consumers under- or overestimated the prices of both bottled water (Brand A_{under} = 32%, Brand A_{over} = 56%; Brand B_{under} = 12%, Brand B_{over} = 77%) and snacks (Brand A_{under} = 65%, Brand A_{over} = 26%;

Brand B_{under} = 31%, Brand B_{over} = 53%).¹

As we were primarily interested in overall price estimation error, this was investigated further. On average, consumers overestimated the price of bottled water by 16% (Brand A) and 42% (Brand B) (see Fig. 5). However, Brand A customers underestimated snack prices by 15%, and Brand B customers overestimated these by 11% (see Fig. 5). Four separate one-sample Wilcoxon signed-rank tests established that overestimations are significantly different from 0 for all four brand and product combinations.

$M_{\text{Brand A_water}} = 0.16$, 95% CI [0.10, 0.22], $W(1\ 4\ 9) = 7,816.50$, $p < .0001$, $r = 0.36$; $M_{\text{Brand B_water}} = 0.42$, 95% CI [0.37, 0.46], $W(5\ 6\ 4) = 119,612$, $p < .0001$, $r = 0.68$; $M_{\text{Brand A_snack}} = -0.15$, 95% CI [-0.19, -0.10], $W(1\ 5\ 0) = 2,144$, $p < .0001$, $r = -0.47$; and $M_{\text{Brand B_snack}} = 0.11$, 95% CI [0.09, 0.14], $W(5\ 7\ 3) = 81,509$, $p < .0001$, $r = 0.28$.

These results support independent store managers' belief that consumers cannot correctly estimate prices and have little price knowledge.

For the price recall task, consumers had to rely on their explicit and short-term memory. After exiting the store, customers who made a purchase were asked to recall the retail price of one of the purchased products. Using the same $\pm 5\%$ error margin to assess accuracy, we found no substantial effect of store brand. The aggregated results indicate that 72% of customers accurately recalled prices (Inaccurate_{lower}: 12%; Inaccurate_{higher}: 16%) (Fig. 6, Panel A).² On average, customers exhibited high price recall accuracy, with an error margin of only 1% (Fig. 6, Panel B). As a one-sample Wilcoxon signed-rank test indicated no significant difference from zero ($M = 0.01$, 95% CI [-0.01, 0.03]; $W(1\ 0\ 9) = 426.50$, $p = .42$, $r = 0.08$; Fig. 6, Panel B), customers can be said to exhibit high price recall accuracy for recently purchased products. They failed to accurately estimate the prices of two products available in the store but showed high price recall accuracy for a recently purchased product, providing mixed support for Managerial Belief 4.

4.3.4. Managerial Belief 5: C-store customers are indifferent to the store price level.

Two complementary strategies were used to assess whether c-store customers are indifferent to high in-store price levels. As a baseline test, we asked all consumers to indicate how they perceived the store price level on a 5-point Likert scale (1 = “the prices are very low” to 5 = “the prices are very high”). A one-sample Wilcoxon signed-rank test indicated that customers' overall price perceptions are significantly higher than the scale midpoint ($M = 3.47$, 95% CI [3.43, 3.51]; $W(1,504) = 301,459.50$, $p < .0001$, $r = 0.48$).

To determine whether perceived store price level relates to consumer buying behavior (existing versus potential customers; see also Practice 9), we analyzed the relationship between perceived store price level and willingness to purchase (measured as “never,” “emergency only,” “generally yes but not today,” or “yes, today” [i.e. planned to or actually purchased]). Submitting these variables to a non-parametric Kruskal-Wallis test ($\chi^2 = 64.61$, $df = 3$, $p < .0001$, $r = 0.20$), we found that perceived store price level differs significantly with willingness to purchase. *Post hoc* tests with Bonferroni corrected *p*-values further showed that perceived store price level differs significantly across groups (at least at the $p < .05$ level) other than between the “never” and “emergency only” groups ($p > .10$). Following up on the

¹ We excluded eleven outliers that were at least three standard deviations from the mean (Water_{Brand A} = one outlier, Water_{Brand B} = nine outliers, Snack_{Brand B} = one outlier) and one missing value for Water_{Brand B}. Percentages may not add to 100 due to rounding.

² We excluded six outliers that were at least three standard deviations from the mean, and there were 104 missing values as a result of missing or ambiguous information about actual in-store sales prices.

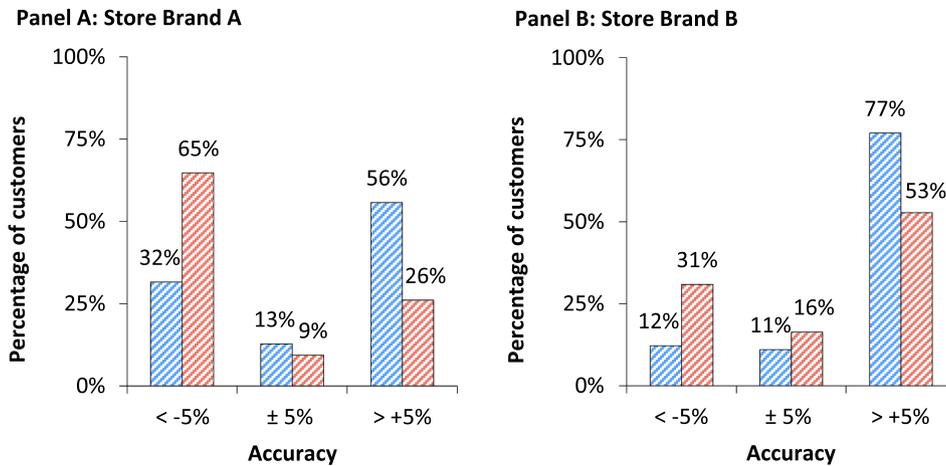


Fig. 4. Accurate estimations (%) for bottled water (blue bar) and snack (red bar).

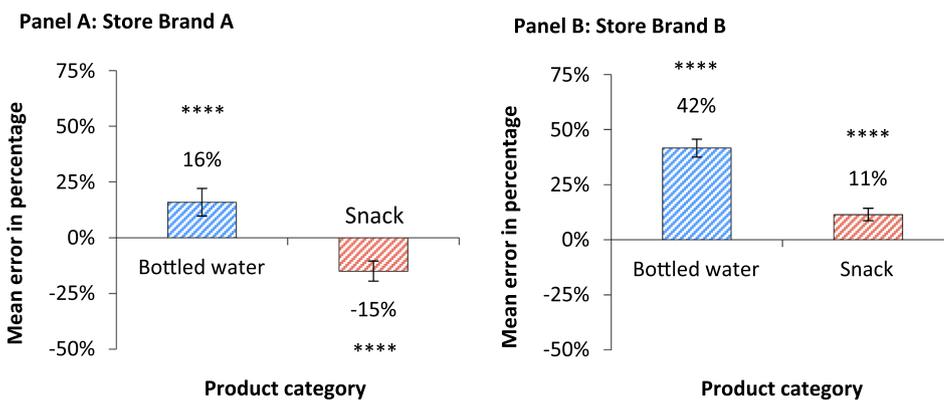


Fig. 5. Mean error of price estimation for bottled water and snack. Note: Percentages on the y-axis indicate amount of over- or under-estimation. The asterisks indicate that the over- or underestimation differs significantly from 0% at the following levels: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$. The error bar is the 95% confidence interval.

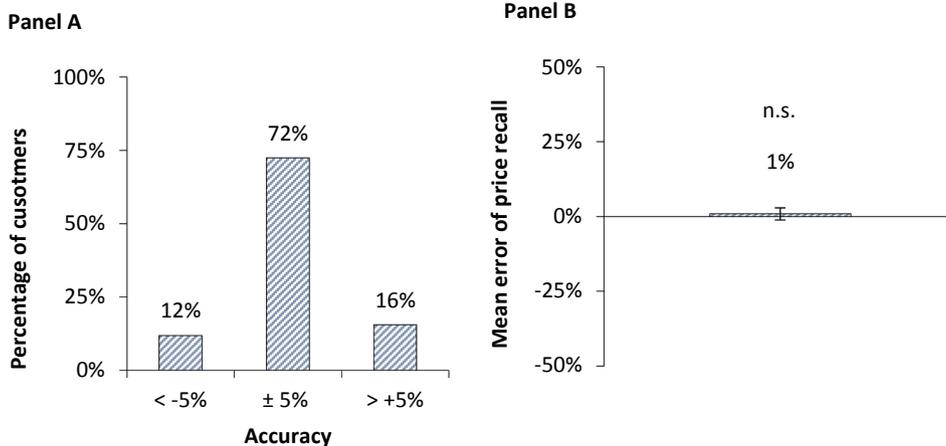


Fig. 6. Accuracy of recall (Panel A) and mean error of price recall (Panel B) for recently purchased products. Note: Percentages on the y-axis in Panel B indicate amount of over- or underestimation. The error bar is the 95% confidence interval.

one-sample Wilcoxon signed-rank test referred to above, four separate one-sample Wilcoxon signed-rank tests with Bonferroni corrected p -values indicated that customers' overall price perceptions were significantly higher than the scale midpoint for “never” ($M = 3.67$, 95% CI [3.55, 3.79]; $W(2\ 2\ 5) = 8,006.50$, $p < .0001$, $r = 0.59$); “emergency only” ($M = 3.61$, 95% CI [3.54, 3.68]; $W(5\ 2\ 0) = 44,542$, $p < .0001$, $r = 0.61$); “yes, but not today” ($M = 3.44$, 95% CI [3.34, 3.53]; $W(3\ 1\ 5) = 12,417.50$, $p < .0001$, $r = 0.46$); and “yes, today” ($M = 3.23$, 95% CI [3.15, 3.30]; $W(4\ 4\ 4) = 18,345$, $p < .0001$, $r = 0.27$) (Fig. 7). Finally, the 225 consumers (15%) who stated they never buy from gas station stores were asked the open-ended question

why not. Of these, 120 (53%) mentioned high prices; 56 (25%) cited lack of purchasing need, and the remaining 49 (22%) offered various other reasons. Together, these results indicate that consumers perceive the store price level as a barrier to purchasing from a gas station store, so contradicting Managerial Belief 5.

4.3.5. Managerial Belief 6: The store price level is more important when there is a large grocery competitor in close proximity.

Finally, we sought to determine whether consumers perceive the store price level as higher when there is a larger grocery retailer in close proximity to the c-store, where close proximity is defined as less than

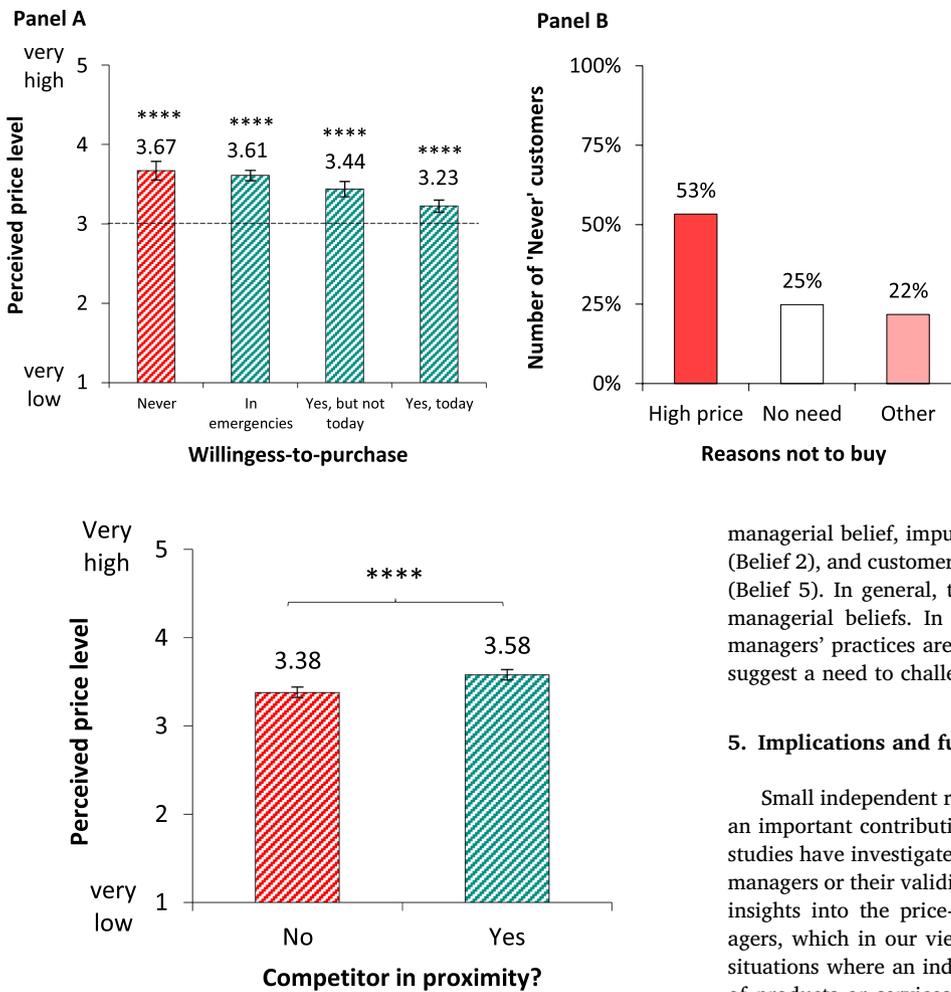


Fig. 7. Customers' perceived store price level (Panel A) and "Never" customers' reasons for not buying (Panel B). Note: The dashed line in Panel A indicates perceived store price level indifference or the mid-point on a 5-point Likert scale. The asterisks indicate a significant difference from the mid-point at the following levels: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$. The error bar is the 95% confidence interval.

Fig. 8. Perceived store price level by competitive situation. Note: The asterisks indicate significant between-group differences in perceived store price level at the following levels: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$. The error bars are 95% confidence intervals.

500 m away. This distance was chosen because it means the competitor is likely to be in direct visual range. Two independent coders assessed the type of stores and the location (intercoder reliability = 0.82; any disagreements resolved through discussion). Perceived store price levels as measured by price image were then compared according to competitive situation (Fig. 8). A Mann-Whitney U test confirmed that consumers perceive the store price level as significantly higher ($U = 242.587.50, p < .0001, r = 0.12$) when there is a larger grocery retailer in close proximity ($M_{Competitor_yes} = 3.58, 95\% \text{ CI } [3.53, 3.64]$) than when there is no nearby competitor ($M_{Competitor_no} = 3.38, 95\% \text{ CI } [3.32, 3.44]$), providing empirical support for Managerial Belief 6.

4.4. Discussion of Study 2

Study 2 builds on the insights gained from the interviews in Study 1 with independent store managers to test the accuracy of market-oriented managerial beliefs (Beliefs 2–6). Of the five beliefs tested, two (3, 6) were fully supported; one (4) was partly supported; and two were not supported (2, 5). In short, managers are correct to assume that purchase urgency drives c-store sales (Belief 3), and that the store price level is more important when there is a large grocery retailer in close proximity (Belief 6). The perception that customers have little price knowledge was found to be partly true (Belief 4), in that customers can recall the price of their recent purchases but cannot accurately estimate the prices of other products available in the store. Contrary to common

managerial belief, impulse buying is not a major driver of c-store sales (Belief 2), and customers are far from indifferent to the store price level (Belief 5). In general, these results highlight the need to reality-test managerial beliefs. In particular, given the extensive evidence that managers' practices are grounded in their beliefs, the present findings suggest a need to challenge certain managerial practices.

5. Implications and further research

Small independent retail stores, including convenience stores, make an important contribution to economies worldwide, but few empirical studies have investigated the beliefs and practices of independent store managers or their validity. The two studies reported here provide novel insights into the price-setting practices of independent c-store managers, which in our view can be transferred to other retail or service situations where an independent store manager sets prices for a range of products or services, such as coffee shops, restaurants, and repair shops. As such, the studies contribute in a number of ways to the academic literature and to managerial practice.

5.1. Implications for theory and further research

In line with existing theory (e.g., Bogomolova et al., 2017), we link the pricing practices of independent store managers to their underlying beliefs. As independent store managers typically have limited resources for collecting and analyzing sophisticated pricing data as recommended in the literature (Nagle & Holden, 2002; Watson et al., 2015), it is especially important to understand and support their price setting practices.

There is also a potential inverse link between beliefs and practices, as practices may reinforce beliefs. For example, store managers' tendency to focus on existing rather than potential customers influences their perception that consumers are indifferent to higher price levels. Similar effects are seen in other contexts, as self-perception theory (e.g., Fazio, 1987) suggests that behavior can influence attitudes in the same way that attitudes influence behavior. This reciprocity suggests an interesting area for further research, especially in management contexts.

In testing managerial beliefs, the present study also responds to calls to explore both the supply and demand sides of pricing (Kienzler & Kowalkowski, 2017). By adopting this approach, we were able to assess the accuracy of managerial beliefs as a foundation for pricing practices, based on relevant consumer data. The results indicate that some practices should be reviewed, as intuitive pricing practices may be effective in some situations but not in others. These mixed results do not entirely rule out intuition (Monroe & Della Bitta, 1978; Oxenfeldt, 1973), which was not the main focus of this research, but the issue warrants further research. Another area of interest for further research concerns how the

strength of such beliefs impacts on store financial performance.

To investigate price knowledge, we employed two strategies: a recall task and an estimation task. The findings support the view that price knowledge is a complex construct with multiple facets (Monroe & Lee, 1999; Vanhuele & Drèze, 2002). The present findings confirm the need to differentiate these facets, as respondents exhibited strong explicit short-term price knowledge (recall) but poor long-term price knowledge (estimation). To ensure meaningful results when investigating price knowledge, researchers should take account of these different facets.

We also argue here for a more differentiated view of impulse buying and unplanned purchases as opposed to the common dichotomous approach based solely on lack of self-control. While planned impulse purchases (Stern, 1962) may be relatively rare at 9% (see Fig. 2), the empirical evidence presented here at least confirms their existence. While a dichotomous view of impulse buying confines attention to whether or not a purchase decision is made and associated negative triggers (e.g., lack of self-control), a more nuanced view would take account of purchase value and type. We would encourage further research to adopt this approach in order to explicate the full complexity of impulse purchases.

Finally, we recommend a more granular view of different shopping tasks or occasions (Van Kenhove, de Wulf, & van Waterschoot, 1999). While there is extensive research on large shopping basket trips, shopping behaviors during top-up or smaller trips are different and should be evaluated separately (Hunneman, Verhoef, & Sloot, 2017). For example, according to Inman, Winer, and Ferraro (2009), there is a baseline probability of 0.46 that each large-basket shopping trip item is unplanned as against a probability of 0.11 that it is planned. Preliminary comparison of these findings with our results highlights the need to differentiate shopping trips by task, basket size, or channel. As an important component of the retail sector, smaller outlets such as c-stores warrant greater research attention.

5.2. Implications for managers

Our findings indicate that independent store managers should

modify several of their practices as listed in Table 3. First, in line with earlier studies (e.g., Bogomolova et al., 2017; Urbany et al., 2000), we found that managerial beliefs may conflict with the empirical evidence, and that many independent store managers base their intuitive price-setting decisions on beliefs that are at least partly inaccurate. Certainly, practices based on beliefs that receive little or no support should be altered. More broadly, independent store managers should regularly review and challenge their own beliefs by consulting external sources for verification and seeking pricing advice from franchisors, suppliers, or consultants.

Second, independent store managers should take fuller account of the consumer’s perspective—for example, by recognizing that impulse buying is nuanced and may include planned impulses (Fig. 2). With increasing use of in-store advertising to trigger impulse purchases, consumers may learn to ignore such tactics in relation to “pure” impulse purchases. However, by shifting their mindset, managers can encourage planned impulse purchases by redirecting their efforts to upselling or cross-selling activities. For example, if a consumer enters a store intending to buy a snack, an appealing “meal deal” might induce them to purchase a snack and a drink. For independent store managers, especially those operating within a gas station, cross- and upselling present important opportunities. In general, independent store managers need to overcome the erroneous perception that pure impulses drive their business, as our results clearly demonstrate that planned purchases are more salient.

Third, the substantial share of consumers who overestimate prices (26%–53% for the snack and 56%–77% for bottled water, see Fig. 4) present opportunities for independent store managers. Because they may perceive actual store prices as lower than expected, this pleasant surprise may trigger a pure or top-up impulse purchase (Stern, 1962). We would also advise store managers to communicate their prices more clearly, as these customers may make further purchases if better informed. On the other hand, we also found some evidence of underestimation, indicating that consumers may perceive in-store prices as higher than expected and so reject these as too expensive. These results can be linked to prior pricing research, which has found evidence that price knowledge is category dependent, such that for key products or

Table 3
Suggested amendments to managerial practices.

Initial managerial practices	Amended managerial practices
1: Independent store managers make their own pricing decisions, and their price knowledge is high.	→ Independent store managers should <ul style="list-style-type: none"> • challenge their beliefs; • be cautious about relying on intuition;
2: Sales prices are often internally driven, using cost-plus pricing.	→
3: Independent store managers use their intuition to adjust internally derived sales prices.	→
4: Independent store managers use their intuition to adjust the recommended retail price.	→
5: Price changes are internally driven.	→
6: Independent store managers rarely engage in promotional activities.	→
7: Decisions about promotional sales activities are internally driven.	→
8: Independent store managers use price premiums to differentiate slow- versus fast-moving consumer goods, pricing fast-moving goods higher.	→
9: Independent store managers focus on existing rather than potential customers.	→
10: Independent store managers do not treat larger retailers as competitors whose prices can be matched.	→

categories consumer price knowledge is higher (Heinrich, Mussa, & Zerbi, 2016). Hence, identifying for which c-store products the price knowledge is higher will allow for a more nuanced price management. Overall, our findings challenge managers' reliance on internal considerations in defining any such activities (Practice 7), their tendency to avoid promotional sales activities (Practice 6) and their focus on existing customers (Practice 9).

Fourth, the competitive environment—especially competition from larger grocery retailers—should inform independent store managers' decisions; as elaborated below, this issue should not be ignored simply because of differences in cost structure. A competitive orientation is common practice among larger retailers that have access to the necessary competitor intelligence (Watson et al., 2015). Our interviews also revealed that the competitive environment influences managers' beliefs about consumer perceptions of the store price level. Specifically, our findings confirm their view that a large nearby competitor makes price level more important because it makes their store seem more expensive.

Fifth, independent store managers should pursue long-term relationships by ensuring that consumers are offered a good balance between price and rewards (Homans, 1966). Consumers are driven to a store by their urgent need for certain products (Belief 3), and there is evidence that urgent needs may drive customers to depart from existing preferences by switching brands or paying higher prices (Crafton, 1979; Emmelhainz et al., 1991; Herrmann et al., 2007). The convenient location of many c-stores means that they are often accessible when such needs arise, but consumers with urgent purchase needs may also feel vulnerable to exploitation (Herrmann et al., 2007). As our results also suggest that the store price level may act as a purchase barrier (Fig. 7), we recommend that independent store managers should resist exploiting this urgency, which might provoke a sense of unfairness (Herrmann et al., 2007). Even if managers are correct in believing that consumers enter their store with an urgent need to purchase certain products, this transactional view is not an effective means of ensuring long-term profits (Morgan & Rego, 2006).

Sixth, “customer-less pricing” methods (Watson et al., 2015) should be reduced; instead, independent store managers should expand their perspective to embrace occasional and potential customers. Given that the three typical locations for c-stores are residential areas, inner city locations, and high traffic locations (Wood & Browne, 2007), these potential customers are especially important. Price perceptions are significantly lower among customers who bought on the day or who generally buy than among consumers who never buy or do so only in emergencies (Fig. 7). To that extent, price level influences purchase probability, and independent store managers' overt focus on existing rather than potential customers (Practice 10) is therefore problematic. For example, a more attractive price level might persuade current fuel-only customers to make other purchases, with any margin losses compensated for by higher sales volumes in line with the logic of price

response functions (Simon & Fassnacht, 2019).

Seventh, we recommend that price differentiation efforts should be maintained or even extended. In differentiating prices for slow- and fast-moving goods (Practice 8), managers should also segment their range according to other criteria such as probability of impulse or urgent purchase and the price knowledge. Product categories with high urgency and low price knowledge should offer attractive margins. Managers could also set lower prices for items with high price knowledge and to upsell non-urgent items as planned impulses or to trigger pure impulses, enhancing profitability in this highly competitive sector.

Finally, independent store managers should acknowledge that a competitor is any firm that meets similar needs (Bergen & Peteraf, 2002). Accordingly, independent store managers must recognize that their competition extends beyond other similar small stores to the various market actors that can fulfil consumers' needs—in this case, for on-the-go food and beverages. Although they may not consider larger retailers as competitors, independent store managers must do so if consumers do. We acknowledge that price-based competition with larger retailers is unrealistic; instead, smaller retailers should emphasize their higher service levels and leverage their accessibility. This proposal aligns with prior evidence that the shopping situation (e.g., small-basket purchases) makes the transaction costs of reaching a store very important, sometimes outweighing even higher prices (Benoit et al., 2019).

6. Limitations of the Study

Our chosen mixed-method research design has some limitations. In light of our research objective, we confined our attention to a relevant and neglected segment of decision makers, and we would encourage continued investigation of this economically relevant and interesting sector. In addition, although we collected field data, our empirical setting was confined to one country and to the specific context of c-stores at gas stations. At the same time, this limited context accounts for a substantial proportion of many national economies. In the US, for example, c-stores account for more than one third of the brick-and-mortar retailers, and about 80% of all c-stores (approx. 122,000) sell motor fuels (NACS, 2019). By comparing managerial beliefs and consumer perceptions, the findings invite future research investigating such beliefs on the basis of store data. The study also sought to close a research gap in relation to the pricing practices of smaller companies, which tend to be less formalized and more intuitive (Carson et al., 1998). It seems likely that our results will be of relevance to other small stores that operate with low-margin traffic drivers similar to fuel, including post offices, transport ticket machines, and recycling drop-off points, and further research should seek to confirm this generalized application.

Appendix A: Interview guide for Study 1

Thematic section 1: Current prices

- Question 1: First of all, I'd like to know whether you know the prices for selected articles in your store off the top of your head. Please have a look at this list here:
 1. a 0.5-liter bottle of Coca Cola
 2. a 1-liter bottle of Vittel water
 3. a pack of Wrigley's chewing gums
 4. a Snickers bar
 5. a tin of Red Bull
 6. a filter coffee and
 7. a sandwich

Thematic section 2: Price setting

This leads us to the second thematic section. Now I'd like to understand how the above stated prices in your store are developed.

- Question 2: Leaving sales activities aside for a moment: Who decides upon the regular product prices at your convenience/gas station store?
- Question 3: What is your go ahead with this; that is, what is the procedure or the criteria you decide upon the regular prices in your store?

We have just now talked about the regular prices in your store; I'd now like to talk about sales or special offers.

- Question 4: Do you often change the prices in your store? If so, how do you decide, when you do sales activities and which price you chose for a sales activity?

Thematic section 3: Industry perception

Many thanks for answering up to now. This leads us to the third thematic section and how you perceive the entire convenience retail industry.

- Question 5: There are various studies showing that prices at convenience/gas station stores are above the level consumers accept. What do you think of these studies?
- Question 6: What do you think would happen, if you would lower the prices in the store?
- Question 7: What would need to happen, so that you lower the store prices so that it would be closer to a level that is accepted by a wide range of consumers?

Thematic section 4: Structural data of the convenience/gas station store

- Question 8: Does your convenience/gas station store belong to a franchise?
- Question 9: How big is your store in square meters?
- Question 10: Where is your convenience/gas station store located? (e.g., inner city location, industrial estate, radial highway) and are there any particularities with regards to the location (e.g., next to a school, a fast food restaurant).

Many thanks for participating in this research project.

Appendix B.: Interview guide for Study 2

Sample: Ingoing customers		Sample: Outgoing customers	
QIC_1: Do you plan to buy something in the store?		QOC_1: Did you buy something in the store?	
QIC_A1a: Yes	QIC_A1b: No	AOC_1a: Yes	AOC_1b: No
<p>QIC_2.1: May I ask what you intend to buy? Scale: open answer of up to three products</p> <p>QIC_3.1: May I ask how urgent you need this/these product/s now? 5-point Likert Scale, not very urgent = 1 up to very urgent = 5</p>	<p>QIC_2.2: What describes you best: Scale: 1 = I generally don't shop in gas station stores. 2 = I only shop in gas station stores in emergency cases. 3 = Generally, I do shop in gas station stores, but today I don't have any demand. QIC_2.2.1: In case the answer is 1 (generally not): May I ask why? Scale: open answer</p>	<p>QOC_2: Did you plan before entering the store to buy this product or was this a rather spontaneous idea? Scale: a) I did not plan before entering the store to buy this/these product/s. b) I knew that I wanted to buy something, but I did not yet know what exactly c) I knew exactly what I wanted to buy and it was this/these product/s.</p> <p>QOC_3: Could you please tell me what you paid for this/these products? Scale: open answer</p> <p>QOC_4: I have two products (a bottle of water and a bag of peanuts) and would like to ask you to estimate the price. Scale: open answer</p>	<p>Same as QIC_2.2</p> <p>Same as QIC_2.2.1</p>
QAll_4: In comparison to other stores: How do you perceive the price level for food and drinks in this store? 5-point Likert scale: 1 = the prices are very low – 5 = the prices are very high			
QAll_5: Demographic data , partly to be filled in by the interviewer: <ul style="list-style-type: none"> • First number of age • Gender 			
Notes: QI_1 = Question 1, Ingoing Sample, QO_2 = Question 2, Outgoing sample, AOC_1a = Answer category a for question number one for outgoing sample.			

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