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Effects of Expiration Date-Based Pricing on Brand Image Perceptions

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Abstract

Expiration date-based pricing (EDBP) occurs when a grocery retailer reduces the price of a perishable product according to its remaining shelf life. While, conventional wisdom suggests that this practice leads to negative consumer evaluations of brand quality, a series of field experiments reveal negative effects on brand quality perceptions only among loyal consumers and those who perceive low risk associated with perishables. The effect is also mediated by consumer distrust (Study 1). In addition, EDBP has no effect on brand quality image if consumers are already familiar with this pricing practice (Study 2), and it may even generate positive consumer evaluations when framed as a cause-related marketing activity to reduce waste (Study 3). Additional evidence indicates that psychological contract violation perceptions provide the underlying mechanism for explaining consumer responses to EDBP (Study 4). This article ends with an agenda for further research and implications for retail practice.

Keywords: Pricing; Grocery retailing; Perishables; Expiration date; Psychological contract violation

Many grocery retailers discount perishable products as they approach their expiration date, in an attempt to reduce waste (Donselaar et al. 2006). The advent of new technologies that can automatically identify and transmit product-related information gives retailers broader opportunities for applying this practice (Eckfeldt 2005; Pramatari and Theotokis 2009). Marketing researchers also note the importance of expiration dates for retailing and consumer research, in that consumers take this product characteristic into account when making purchase and consumption decisions about perishables (Harcar and Karakaya 2005; Sen and Block 2009; Tsiros and Heilman 2005).

We investigate expiration date-based pricing (EDBP), which we define explicitly as a pricing tactic in which a retailer charges different prices for the same perishable products, according to their respective expiration dates. Retailers often consider EDBP an effective revenue management tool that increases demand and reduces waste. Yet despite its potential benefits, limited research to date examines how consumers perceive the practice or its likely effect on brand quality image.

In general though, pricing and promotion literature suggests that price discounts may lead to negative consumer evaluations in terms of perceived brand quality (Grewal et al. 1998) and future purchase intentions (DelVecchio, Henard, and Freling 2006). Existing research on dynamic pricing and price discrimination also suggests that price differences for the same product or service seem unfair to consumers (Haws and Bearden 2006; Kimes and Wirtz 2003; Xia, Monroe, and Cox 2004) and can have negative effects on consumer trust (Garbarino and Lee 2003), even if the prices decrease due to demand (Xia, Kukar-Kinney, and Monroe 2010). Thus discounting perishables could lead to negative product quality inferences, with harmful resultant effects on store or brand image as well. Thus, Tsiros and Heilman (2005, p. 128) conclude their study by noting that "managers should weigh the trade-offs between the potential benefits of discounting perishables to sell inventory and its potential negative effects on store image" and calling for further research to investigate the question. Yet their initial empirical evidence indicates that discounting perishables does not have a negative effect on store or brand image and that consumers' willingness to pay for a perishable decreases with its shelf life. Further empirical evidence shows that the short- and long-run effectiveness of

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price promotions is greater for perishable goods than for other categories (Nijs et al. 2001).

These conflicting results, and the importance of brand quality image for perishables, make it difficult for managers to implement EDBP. They require a better understanding of the short- and long-term effects of this practice on consumer perceptions; accordingly, we aim to advance knowledge about whether, how, and in which conditions EDBP affects consumer perceptions in terms of perceived brand quality.

Specifically, building on existing research on expiration dates and social exchange theory (Blau 1964), we propose that consumers perceive product quality conformance before the expiration date as a psychological contract (Rousseau 1995; Rousseau and Tijoriwala 1998). A psychological contract exists when one party believes that another is obligated to perform certain behaviors (Rousseau 1995); it differs from the broader concept of an expectation because contracts have a promissory character (Rousseau and Tijoriwala 1998). Thus, from a buyer's standpoint, psychological contracts reflect perceptual beliefs about the seller's contractual obligations (Pavlou and Gefen 2005), and psychological contract violation (PCV) arises when people believe they are not getting what they expected according to the contractual agreement (Morrison and Robinson 1997; Robinson 1996; Robinson and Morrison 2000).

In addition, we recognize that a price discount before the product's expiration date may function as a signal of decreasing quality (Baker et al. 2002; Grewal, Gotlieb, and Marmorstein 1994). Therefore, we propose that PCV between the consumer and the brand provides the underlying mechanism that explains consumer reactions to EDBP. For perishables, unlike other product categories, consumers may perceive product quality conformance as a contractual agreement that is expressed by the expiration date. Thus their exposure to discounting for perishables may prompt a perception of PCV that leads the consumer to distrust the brand and negatively influences brand quality image.

Motivated by this theoretical approach, we suggest that the effect of EDBP is contingent on several conditions that moderate the existence of a PCV. For example, the expiration date risk, or the perceived risk associated with consuming or purchasing a perishable product approaching its expiration date (Sen and Block 2009; Tsiros and Heilman 2005), together with brand loyalty, likely define the existence and nature of a psychological contract. In addition, as consumers become more familiar with this practice, the signal that EDBP sends may be attenuated, which decreases PCV. Moreover and in line with corporate social responsibility (CSR) literature (Fornell et al. 1996; Yoon, Gürhan-Canli, and Schwarz 2006), we suggest that framing EDBP as a "green marketing" practice may reverse its effect on brand quality image by creating positive CSR (i.e., reduced waste) associations.

We conduct four empirical studies to test these propositions. Study 1 consists of a field experiment in which we implement, in collaboration with a western European dairy company, EDBP for milk products in two stores of a supermarket chain. We show that EDBP, compared with regular pricing, has a negative effect on brand quality image, though only among loyal consumers or those who perceive low levels of risk associated with perishables. This effect is also mediated by consumer distrust. Study 2 is a field study in a supermarket chain that already applies EDBP for its meat category; we thus investigate how consumer familiarity with the practice affects responses. In Study 3, we conduct another field study to investigate the effect of EDBP framing on consumer reactions. Tsiros and Heilman (2005) suggest retailers should frame EDBP as a cause-related marketing activity by presenting it as an alternative to throwing away products and therefore a means to reduce environmental waste. We consider whether this framing may mitigate or reverse the negative effects of EDBP. Finally, in Study 4, we replicate our findings and provide more direct support of the theoretical explanation of psychological contract violation. That is, in a laboratory experiment, we manipulate the pricing tactic and capture consumer thoughts about the brand. The results show that in the hypothesized conditions, EDBP invokes a significant number of PCV thoughts among consumers.

In the next section, we define the EDBP concept and our theoretical background. We then present the four studies in detail. Finally, we conclude with a discussion of the research findings and their implications for managers and researchers.

Research background

Expiration date-based pricing

Variable pricing or price discrimination is a tactic in which a "retailer charges different prices for identical products and/or services sold to different customers" (Levy and Weitz 2006, p. 418). Price discrimination tactics are usually classified according to the rate fence used, that is, the rules that the company uses to determine who gets which price and what determinants can be used to help differentiate one transaction from another (Kimes and Wirtz 2003). Rate fences can be physical (e.g., seat location in a theater, size and furnishings of a hotel room) or nonphysical (e.g., senior citizen, quantity or frequency of purchase; time of booking) characteristics.

Expiration date-based pricing is a particular form of second-degree price discrimination, in which the expiration date represents a physical rate fence that discriminates prices (Desiraju and Shugan 1999; Elmaghraby and Keskinocak 2003; Gallego and van Ryzin 1994; Kimes and Wirtz 2003); it also constitutes a sales promotion that provides a temporary incentive to encourage the purchase of a perishable. However, EDBP has some particular characteristics that distinguish it from other price discrimination or promotion practices. First, it is a self-selected price discrimination technique (Levy and Weitz 2006), which means that it clearly provides consumers with options. Unlike revenue management practices in the services industry (e.g., airlines), consumers can select whether they will buy a discounted, older item or a regularly priced, fresher version of the product. Second, in contrast with in-store promotion practices, the discounted product in EDBP appears right next to fresher, nondiscounted items. Consequently, this form of promotion presents the price–quality trade-off directly to consumers. Third, the rate fence that EDBP uses is a distinguishing product characteristic, the expiration date, that may function as a signal