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Consumer Perceptions of Monetary and Non-monetary Introductory Promotions for New Products

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Abstract

Little research has examined how consumers respond to sales promotions in new product categories. This article fills this gap by integrating research on reference prices with literature on sales promotions, for new product categories. Existing research suggests that consumers respond more favourably to non-monetary promotions (e.g., extra free promotions) than monetary promotions (e.g., price discounts) because non-monetary promotions are framed as segregated gains rather than reduced losses. However, both kinds of promotions are widely used in practice, suggesting the importance of other contributory factors. With a consumer experiment on a national panel of consumers, this research demonstrates that extra free product promotions are most preferred for existing products, and introductory low price promotions are preferred for innovative products. The moderating effect of a product's innovativeness is explained via a new relationship in the marketing literature, whereby perceived risk mediates the relationship between perceived innovativeness and a consumer's tendency to stockpile.

Key Words: BOGOF, Introductory low price, transaction value, perceived innovativeness.

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Consumer Perceptions of Monetary and Non-monetary Introductory Promotions for New Products

Reference price perceptions and introductory offers

A product's initial selling price has an important influence on consumer evaluations of a new product. The decision to initially enter the market with a low price strategy (penetration pricing), or to initially skim, based on a high price is a common issue that managers face when launching new products and services (Marn, Roegner & Zawada, 2004). Some research has shown that the decision to adopt a penetration strategy or a skimming strategy depends on whether a product's initial reference price is below or above the optimal price at a steady-state value (Fibich, Gavious & Lowengart, 2003). Applied research in the pricing of new products suggests that everything else being equal, a firm should adopt a skimming strategy because consumer reference prices, perceptions of value and purchase intentions will be higher than when a penetration pricing strategy is adopted (Doob, Carlsmith, Freedman, Landauer, & Soleng, 1969; Slonim & Garbarino, 1999). As Nagle and Hogan (2006, p. 266) point out, "existing products are the primary reference point for future products...customers with a low reference price will frame the purchase as a loss, leading to greater price sensitivity and lower willingness to pay". The findings infer that consumers establish a reference price which is used to simplify their decision making process by providing an accessible point of reference to evaluate the actual price. Prices and price changes are therefore often evaluated in relation to a subjectively determined reference price (Mazumdar, Raj & Sinha, 2005; Monroe, 1973).

Despite consistent findings in several research studies, claiming that skimming strategies lead to higher reference prices, value perceptions and purchase intentions, there are often several other reasons for using a penetration pricing strategy, or some other introductory promotion (e.g., introductory low prices, buy one get one free offers etc.). For example, a common product launch objective is to penetrate a new market. In such cases, an introductory sales promotion, like an introductory low price can enhance trial and adoption. Thus, while typical prescriptions suggest a skimming strategy is optimal, for more pragmatic reasons a marketer may wish to enter with an introductory offer such as an introductory low price or a non-monetary promotion. In light of a vast array of research which has compared skimming and penetration pricing strategies, we focus our analysis on monetary (i.e., an introductory low price strategy) and non-monetary promotions (i.e., extra free product promotions) designed to penetrate new markets. The literature on monetary and non-monetary promotions for *existing* product categories is vast (Chandon, 1995; Chandon, Wansink & Laurent, 2000), yet the effects of these different introductory promotions upon consumer perceptions of value and fairness have not been researched in any depth for new product categories. How do consumers evaluate monetary versus non-monetary promotions in new product categories? Do monetary and non-monetary promotions have different impacts upon reference prices? In what way does a new product's innovativeness moderate these relationships?

The price promotions literature remains notably silent on the issue of consumer perceptions of price promotions *for new product categories*, but is more advanced in terms of consumer reactions to price promotions for *existing products*. Based on an experiment using a national panel of consumers, one of the key findings of this study is that consumers evaluate extra free product promotions more favourably for new products in existing categories and tend to evaluate introductory low prices more favourably for products in new product categories. The findings suggest this interaction effect is likely to occur due to the fact that consumers'

evaluations are moderated by the degree of perceived innovativeness. The causal mechanism is further explained because perceived risk mediates the link between perceived innovativeness and a consumer's tendency to stockpile. In turn, a stockpiling tendency affects the way in which consumers evaluate extra free product promotions in relation to introductory low price promotions.

Using Diamond and Johnson's (1990) conceptualisation of promotions as monetary promotions or non-monetary promotions, this study extends the literature by integrating research in the area of price promotions with research on reference price perceptions in new product categories to establish theory about how consumers form reference price perceptions and respond to monetary and non-monetary promotions designed to penetrate new markets. Few studies have examined reference price perceptions and price promotions for new products despite calls in the literature to do so (e.g., Biswas & Sherrell, 1993, p. 44; d'Astous & Landreville, 2003, p. 1747).

Examining the effectiveness of different introductory promotional strategies is therefore clearly important to the study of marketing given the potentially harmful impacts of sales promotion strategies (Pauwels, Silva-Risso, Srinivasan & Hanssens, 2004). In addition, greater research into the subject is needed as price promotions account for such a large proportion of marketing expenditure (Kotler & Keller, 2009). To help bridge this gap, this is one of the first studies to develop and systematically test a conceptual framework for consumer evaluations of introductory price promotions *in new product categories*. Prior research has almost exclusively focused on researching sales promotions in existing product categories, which represent an important and distinct context from new product categories. Thus the primary contribution of this study is to present a mechanism of consumer response to monetary and non-monetary sales promotions designed to penetrate new markets. Also noteworthy, is that this study addresses the call by Peterson (2001) to conduct more

experimental research with real consumers to backup the findings of more traditional experiments with student samples.

Introductory price promotions: Skimming and penetration strategies

Research in behavioural economics and psychology suggests we attribute value based on some reference point determined from past information (Helson, 1964; Kahneman & Tversky, 1979; Sherif Taub & Hovland, 1958). This has significant implications for consumers and for a firm's pricing strategy (Estelami & Maxwell, 2003). For example, if a product enters a market with an introductory low price strategy, then it is likely that consumers will undervalue the product in future time periods due to anchoring effects. The initial price charged, shapes a consumer's reference price and consequently frames consumer reference prices and value perceptions. Therefore, some regular price (P_r) will be viewed as more expensive if the introductory price is lower and less expensive (i.e., with a penetration strategy) than when the introductory price is higher (i.e., with a skimming strategy). This effect has been observed to be remarkably consistent over time in field studies (Doob et al., 1969), as well as in more highly controlled lab studies (Lowe & Alpert, 2010; Slonim & Garbarino, 1999).

For example, Doob et al. (1969), Slonim and Garbarino (1999) and Lowe and Alpert (2010) examine how alternative introductory pricing strategies (i.e., skimming or penetration) affect sales and consumer perceptions of value. For both studies, reference price effects were implied and were not explicitly tested. Doob et al. (1969) study reference price effects by examining changes in sales for different pricing strategies of incrementally new products and do not specifically examine reference prices. Slonim and Garbarino (1999) perform a similar, yet more controlled study in a lab setting, and show how respondents' perceptions of expensiveness change when respondents are exposed to different price histories (i.e., ascending, as in an introductory low price, and descending, as in a skimming strategy).

However, they do not explicitly study reference price and use a measure of perceived expensiveness to show how respondents' perceptions change. Lowe and Alpert (2010) overcome some of the limitations in Slonim and Garbarino (1999) by explicitly showing how reference price forms and evolves as a result of different pioneer and follower pricing strategies, but their study ignores other frequently used non-monetary promotions.

Other research examining optimal pricing strategies finds strong support for a uniform pricing strategy such as an Every Day Low Price, rather than varying prices with a skimming strategy or penetration strategy (e.g., Fibich, Gavious and Lowengart, 2003). Such research is in the spirit of a vast body of other reference price literature which uses historical price data and defines reference price a priori, using some average based on past prices with different time lags and different weightings (e.g., see Mazumdar, Raj & Sinha, 2005, for a review of this literature stream). However, while useful in understanding the optimality of different pricing strategies, this type of research cannot uncover what consumer reference prices actually are by directly asking consumers.

Sales promotions and consumer perceptions

The study of sales promotions has a long history in marketing and consumer research and continues to attract a large amount of research attention. One key factor that impacts the effectiveness of sales promotions is the design of the offer (Hardy, 1986). Some authors have noted, for example, that price reductions could be less effective than other forms of sales promotions (Cotton & Babb, 1978; Diamond & Campbell, 1989).

One explanation for this finding might be the "inventory effect" (e.g., Bell and Boztug, 2007), which has been identified as an important phenomenon in understanding consumers' reactions to sales promotions. The inventory effect posits that consumers with high inventory levels of a product are likely to consume more of a product and this accelerates purchase. Such a relationship could explain the absence of post promotion dips observed in empirical

research, which would otherwise be expected if there was a monotonic relationship between inventory on hand and purchase incidence probability. The presence of the inventory effect also implies potential differences between consumer reactions to different types of promotions. For example, with extra free product promotions such as BOGOFs, in order to take part in the deal, consumers must purchase at least two products (albeit at a reduced unit price). The inventory effect would predict that such behaviour would also increase consumption and this should accelerate purchase. On the other hand if a consumer was presented with the same product at a 50% discount (the same unit price), they need only purchase one of the products and this would not increase consumption, unless they purchased two products. However, while valuable in revealing consumers' actual behaviours, research using observational data cannot uncover consumers' underlying *perceptions* of different promotional types.

Perceptual research in marketing has broadly examined promotional design in terms of its framing (Darke & Freedman, 1993; DelVecchio, Krishnan & Smith, 2007; Diamond & Campbell, 1989; Diamond & Johnson, 1990; Sinha & Smith, 2000), the different kinds of promotions (Diamond, 1992; Folkes & Wheat, 1995; Neslin, Henderson & Quelch, 1985; Sinha & Smith, 2000) and the size of promotion (Diamond, 1992; Grewal, Marmorstein & Sharma, 1996). Thus, contextual and other semantic factors are important in distinguishing amongst the effectiveness of different price promotions, yet how these effects manifest in new product categories is far less clear.

Mental accounting and framing of price promotions

Several research studies have examined consumers' differential response to the framing of price promotions as either "cents off" or "% off" (see for example DelVecchio, Krishnan & Smith, 2007). Less research has examined consumers' differential response to extra free product deals (i.e., "Buy one get one free") and price discounts (i.e., "50% off") where the

unit price remains the same. Some research has shown that extra free product offers (i.e., BOGOFs) have a different impact on consumer perceptions of value than price discounts (i.e., Cotton & Babb, 1978; Diamond & Campbell, 1989; Sinha & Smith, 2000) and these differences have been attributed to prospect theory (Kahneman and Tversky 1979). Thaler (1985) shows that consumers have mental accounts and transactions are framed as segregated “gains” or integrated “losses”. Segregated gains are perceived differently to reduced losses (Kahneman, & Tversky, 1984; Thaler, 1985; Puto, 1987); specifically, the value function is concave for gains and convex for losses and is steeper for losses than for gains. In other words, losses have a greater impact on choices than equivalent gains. This has important implications for price promotions. Thaler (1985), for example, posits that promotions in commensurable units to the product’s price (i.e., a price discount) are viewed as reduced losses and other kinds of promotions in less commensurable units to the product’s price (i.e., rebates, extra product offers, other premiums) are viewed as segregated gains. Diamond and Johnson (1990) empirically classify different kinds of promotions and show that subjects do indeed perceive monetary and non-monetary promotions differently. Therefore, equivalent ways of framing a promotion may have different psychological impacts on consumers and this may affect their choices.

Diamond and Campbell (1989) extend this research by showing that the type of promotion (i.e., monetary or non-monetary) affects a consumer’s internal reference price, which has important implications for the outcome of consumer decisions. An internal reference price, is a price in consumer memory that serves as a basis for judging actual prices (Monroe, 1973); for example, a price the product *should* cost or which a consumer *expects* to pay. The internal reference price is important because 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. This gap between the price and the reference price has been termed “transaction value” (Thaler, 1985) or “sticker shock” (Winer, 1986). Other research in the area of price promotions has similarly used transaction value theory to examine the effectiveness of different kinds of promotions (i.e., Boza & Diamond, 1998; Folkes & Wheat, 1995; Lichtenstein, Netemeyer & Burton, 1990). Ultimately, higher transaction value has been shown to lead to higher purchase intentions and the link between reference price, transaction value and purchase intention has been empirically validated in several studies (Grewal, Monroe & Krishnan, 1998; Urbany, Bearden, Kaicker, & Smith-de-Borrero, 1997). Transaction value is conceptually distinct, but related to acquisition value, which is a proxy for the overall value of the transaction.

Specifically, Diamond and Campbell (1989) show that monetary promotions such as discounts lead to lower reference prices than non-monetary promotions. Although Sinha and Smith (2000) argue that one-off price promotions do not affect reference prices, the extant literature has seen heated debate surrounding the multi-faceted nature of the construct (Klein & Oglethorpe, 1987; Lowengart, 2002) and recent research has illustrated differing consumer responses depending on whether or not the internal reference price is measured as an expected price or as a fair price (Garbarino & Slonim, 2003).

This could explain Sinha and Smith’s (2000) position because in their study, they operationalise the construct as an expected price. In the context of their experiment, comparing how a 50% price reduction and a BOGOF deal affects *expected* price perceptions, it is not surprising to discover that the expected price does not change. Intuitively, and based on prior research, we may expect that introductory low prices may downwardly bias a consumer’s reference price (e.g., Chandrashekar & Grewal, 2006; Diamond & Campbell, 1989), whereas for extra free product offers, the reference price is more likely to remain

unchanged (Sinha & Smith, 2000). This leads us to formulate the following hypothesis whereby:

H₁: *Following an introductory sales promotion, the reference price will be higher for extra free product promotions than when an introductory low price is used.*

Consequently, if an introductory low price promotion leads to a lower perceived reference price than an extra free product promotion, and if the actual price remains the same, then we would 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 will reduce purchase intention. Using a different argument, which is also based on the application of prospect theory in a different context, we can arrive at the same conclusion. That is, promotions framed as segregated gains (i.e., BOGOFs) are preferred to those framed as reduced losses (i.e., price promotions) (Diamond & Campbell, 1989; Diamond & Sanyal, 1990; Sinha & Smith, 2000). The majority of the studies so far have examined products in existing product categories, but how does product innovativeness moderate this link?

Consumer evaluations of price promotions in new product categories: The moderating effect of perceived innovativeness

Consumer response to sales promotions has been shown to be moderated by a variety of other factors and contextual influences. Diamond (1992, p. 255), for example, argues "...when other aspects of the offer are controlled, consumers value promotions framed as gains more than those framed as losses." This suggests that the effects observed in the literature so far may only occur in carefully controlled circumstances. As contextual factors change we may therefore expect the effects of different promotions to change too. For example, Harinck, Van Dijk, Van Beest, and Mersmann (2007) show how the loss aversion process can be reversed in situations where the outcome is a small absolute amount. However, apart from research by

Sinha and Smith (2000), contextual factors that moderate consumer response to extra free products versus price discounts have not been examined. Their study revealed how stockpiling tendencies can affect the evaluation of the offer. For example, they argue that consumers obtain higher transaction value from extra free product offers within stock-up categories because extra products can easily be inventoried. Though one would only expect to observe such effects with products that can be stocked up (e.g., see Litvack, Calantone & Warshaw, 1985), such effects are not likely to be observed for durable products (e.g., one would be less likely to take advantage of a BOGOF for a new plasma screen TV).

There are several reasons why new products represent a distinctive new context for the study of consumer behaviour in the area of monetary and non-monetary promotions. Innovative new products are likely to be perceived as more risky than less innovative new products, such as me-too brands (Herzenstein, Posavac & Brakus, 2007) and perceived risk affects the speed of diffusion (Folkes, 1988; Rijdsdijk & Hultink, 2009). Initial research on perceived risk and adoption has defined perceived risk broadly. For example, Ostlund (1974) extends Rogers' (1962) framework on diffusion of innovations by including the term "perceived risk", but does not disclose the nature of this risk. The perceived risk literature (Herzenstein, Posavac and Brakus, 2007; Mitchell, 1999; Stone and Grønhaug, 1993) identifies several dimensions to perceived risk including financial risk, performance risk, psychological risk, social risk and physical risk. The degree to which these different dimensions are prevalent is likely to depend on the consumer, the nature of the product category and the context (Herzenstein, Posavac and Brakus, 2007). Perceived risk in this manuscript is defined as a "...subjectively-determined expectation of loss" (Mitchell, 1999, p. 168).

If a product is perceived to be more risky based upon one or more of these risk dimensions, then we might expect consumers to prefer an introductory low price to an extra free product

promotion, because the reduced price means the consumer can trial the product with a reduced monetary outlay in absolute terms. Thus for innovative new products, we would expect consumer value perceptions and purchase intentions to be higher for products promoted with an introductory low price, than for products promoted as an extra free product deal. Thus product innovativeness moderates the relationship between promotion type, value perceptions and purchase intentions. Based on this discussion, we therefore hypothesise H_{2a} and H_{2b}:

H_{2a}: *In existing (innovative) product categories, following an introductory promotion, transaction value will be higher (lower) for extra free product promotions than when introductory low prices are used.*

H_{2b}: *In existing (innovative) product categories, following an introductory promotion, purchase intention will be higher (lower) for extra free product promotions than when introductory low prices are used.*

For H_{2a} and H_{2b} to hold, this leads to a new mediational hypothesis for innovative products such that perceived risk mediates the relationship between perceived innovativeness and tendency to stockpile. This causal mechanism explains the moderating influence of product innovativeness on consumer response to different promotional types. As such we hypothesise H₃ whereby:

H₃: *Perceived risk mediates the effect of perceived innovativeness on a consumer's tendency to stockpile.*

Method

The hypotheses were examined using an experiment, simulating the introduction of a new product. An experimental study with hypothetical stimuli is considered highly suitable for

this study into reference price perceptions for *new product categories* because of the ability to control for consumer experiences and the stimuli they are exposed to. Several calls to conduct pricing research using experimental research designs have been made in the literature (e.g., Chang, Siddarth and Weinberg, 1999, p. 190; Rajendran and Tellis, 1994, p. 31).

Experimental design and procedure

Following other similar literature (e.g., DelVecchio, Krishnan & Smith, 2007) this study exposed respondents to a hypothetical product that was on promotion. The hypothetical product was simulated through the design of a product concept statement. The independent variables were manipulated within the concept statements and included product innovativeness (existing versus innovative), type of promotion (extra free product versus introductory low price) and discount size (medium versus large). This formed a 2x2x2 experimental design replicated across two product categories (painkillers and AA batteries) for generalisability. After exposure to the product category and the new product on promotion, subjects were asked a series of questions relating to the dependent variables, manipulation checks and the covariates.

The instrument

Product Concept Statements: To select the product categories to be tested, a series of pilot studies were conducted to evaluate possible alternatives. Pilot study 1 was developed to generate a list of potential product categories and have consumers evaluate this list based on measures of personal relevance from Mittal (1995). The product categories with the highest personal relevance to the pilot sample were pain killers and AA batteries.

These product categories also satisfied several other important criteria crucial to the success of the experiment and controlled for potential confounds noted in the literature such as differences in stockpiling characteristics (Sinha & Smith, 2000). For example, both were stock-up categories, defined in Litvack, Calantone and Warshaw (1985) as "...any

nonperishable good in a unit size that is consumed frequently by a purchaser's household..." (p. 10). Though sales promotions may lead to stockpiling behaviour, any such effects are likely to be evenly allocated across experimental groups and this is unlikely to change the findings from the experiment.

Within these categories, product concepts statements were designed for the existing and innovative manipulations. The existing manipulations were designed from characteristics of products which currently exist in the market (i.e., paracetamols which last 2-4 hours and standard AA batteries). Designing the innovative manipulations was more challenging. The products *within* the selected categories had to be sufficiently different in order to be perceived as *innovative*, yet not too different that they were considered to perform separate functions. Moreau, Lehmann and Markman (2001) present a similar scenario by allowing the innovative product to differ on one major attribute, which they called an "immutable attribute". The immutable attribute is the attribute in the innovative product that is responsible for differences in consumer perceptions associated with the degrees of newness. In this case one immutable attribute was how long each product lasted. Therefore, the products representing the innovative manipulations had the same attributes as the existing manipulations but they lasted far longer. This influenced the product's perceived relative advantage, and enhanced perceived innovativeness (Rogers, 2003). For the innovative painkiller, this attribute was 72-hours of pain relief versus the standard 2-4 hour pain relief provided by existing paracetamols. For the innovative battery this was the ability to last fifteen times longer than conventional AA batteries. Pilot testing revealed that the innovative manipulations (e.g., 72 – hour pain relief and AA batteries that lasted 15 times longer than conventional AA batteries) were perceived to be more innovative than the existing manipulations (e.g., 2-4 hour pain relief and conventional AA batteries that last 2-4 hours). The effect of these attributes on perceived innovativeness was further assessed with a later pilot study and a manipulation

check in the main questionnaire. Therefore, in summary the product categories selected for this research were i) highly relevant to the target population, ii) examples of products that could be stocked up by consumers, and iii) the types of products where the discount manipulation and the extra free product manipulation could be executed. These different promotional strategies are often used in supermarkets for both product categories adding to the realism of the experiment. Furthermore, the innovative manipulation exhibited a higher degree of perceived innovativeness than the existing manipulation.

Selecting Brand Names: Following Kardes, Gurumurthy, Chandrashekar, and Dornoff (1993), novel brand names were chosen to control for familiarity and prior knowledge. In pilot study 2, respondents were asked to generate brand names for the two product categories, and in pilot study 3, respondents were asked to evaluate the brand names by choosing their five most preferred brand names and ranking them in order of preference. The brand names most preferred by respondents were PainKillerz and EverLast.

Setting the Price Levels. Prices for the existing products were selected to be consistent with market prices.. The modal price was about £2.99 for a pack of thirty-two branded paracetamols and about £5.99 for a pack of twelve branded AA batteries. The prices for the existing products were not used for the innovative products because the innovative products offered consumers a greater benefit - and as such should be priced higher. This approach is more realistic and has been used in prior research (Urbany et al. 1997). Also, a seemingly low price for the innovative products may confound the experiment by biasing purchase intention.

The discount levels were set at 20% (medium discount) and 50% (large discount) and are consistent with discount levels in other pricing research (e.g., . DelVecchio, Krishnan and Smith, 2007; Gupta and Cooper, 1992). A small discount has typically been characterised as 10% in prior research (Chen, Monroe & Lou, 1998; Darke, Chaiken & Freedman, 1995), so 20% was selected here to avoid the discount being perceived as too trivial.

For the innovative products, a further pilot study was constructed to estimate price thresholds and ascertain the most acceptable price. Respondents were exposed to the product concept statements (without price information), and were asked two questions relating to their highest acceptable and lowest acceptable price perceptions. Following Monroe (2003), the prices for the innovative products were selected by calculating the most acceptable price from the data. To avoid price ending effects in the experiment, prices were rounded with consistent endings (Thomas & Morwitz, 2005). For the innovative pain killers, this led to a price of £5.99 and for the innovative AA batteries £11.99.

Dependent variables: Acknowledging the multi-faceted nature of reference price, and following prior research (e.g., Chandrashekar and Grewal, 2006; Folkes and Wheat, 1995), respondents were asked to provide an estimate of a fair price, an expected price and a reservation price.. Because of the direct questioning approach in this experiment, there was no need to assume a particular functional form about consumers' reference price formation processes as in prior research (e.g., see Mazumdar, Raj & Sinha, 2005). Rather, this research sought to show how reference price *changed* based on two distinct types of promotions. This approach is common in experimental studies (e.g., see Garbarino & Slonim, 1998; Lowe & Alpert, 2010; Sinha & Smith, 2000). Measures of transaction value and purchase intention were based on the measures used in similar research (Urbany et al., 1997).

Manipulation checks: To evaluate internal validity, manipulation checks were used for perceived innovativeness, perceived promotion substantialness and perceived realism of the promotions. Perceived innovativeness was measured using a two-item scale adapted from Olshavsky and Spreng (1996) and Moreau, Lehmann and Markman (2001). Subjects were asked "How innovative is [brand name]?" anchored from 1 (Minor variation of an existing product) to 7 (Completely new product) and "How much impact would use of [brand name] have on your daily life?" anchored by 1 (Little or no impact) and 7 (Very significant impact).

Perceived substantialness of the price promotion was measured using a one-item scale from Chen, Monroe and Lou (1998) asking respondents “For [brand name] how significant was the introductory promotion?” anchored by 1 (Trivial) and 7 (Significant). To check that the promotions were perceived to be realistic, and more importantly, the perceived realism was judged to be the same across experimental groups, following recommendations by Chen, Monroe and Lou (1998), the subjects were asked to indicate whether or not they thought the price promotions looked common or unusual - anchored by 1 (Common) and 7 (Unusual).

Covariates: Along with collecting data for the dependent variables and manipulation checks, data was collected on other individual difference variables and product specific variables in order to capture any potentially confounding influences identified in the literature. To test the mediation effect, stocking up tendency was measured using a two-item, 7-point Likert scale based on the one in Sinha and Smith (2000). Perceived risk was measured using a four item, 7-point Likert scale from Sweeney, Soutar and Johnson (1999). To examine sample heterogeneity, deal proneness and value consciousness were measured because differences in these variables have been shown to affect consumer response to price promotions (DelVecchio, 2005; Lichtenstein, Netemeyer & Burton, 1990). Based on the measures used in these articles, deal proneness was measured with a four item, 7-point Likert scale with the following items: “Buying products with pence-off deals makes me feel good”, “When I take advantage of a buy-one-get-one-free offer I feel good”, “I will sometimes switch brands when I can get something for free when purchasing another brand”, and “I like to take advantage of special deals I notice in the store”. Deal proneness is “...the psychological propensity to buy ... goods on promotion” (DelVecchio, 2005: p. 374) and is specific to promotion type (Henderson, 1994; Lichtenstein, Netemeyer & Burton, 1995; Schneider & Currim, 1991).

Another important driver of propensity to purchase on-deal is value consciousness. This is a separate and distinct construct to deal proneness (Lichtenstein, Netemeyer & Burton, 1990) and was measured using a four item, 7-point Likert scale with the following items: “I am very concerned about low prices, but I am equally concerned about product quality”, “When grocery shopping, I compare the prices of different brands to be sure I get the best value for money”, “When purchasing a product I always try to maximise the quality I get for the money” and “When I buy products, I like to be sure I am getting my money’s worth”.

Product category knowledge was also measured as a possible covariate. Using the multi-item scales of Cowley and Mitchell (2003), respondents were asked how much knowledge they had about the category and how familiar they were with it, anchored by 1 (not very knowledgeable/familiar) and 7 (very knowledgeable/familiar). Personal relevance was operationalised using five semantic differentials on a 7-point scale, taken from Mittal’s (1995) study. For both product categories all Cronbach’s alpha values were above 0.8 and most were above 0.9, indicating good internal consistency for the measures (Nunnally & Bernstein, 1994).

Data collection

A small sample of eighteen subjects was recruited for a separate pilot study, in order to test the structure of the instrument and questions posed. After making some minor modifications that reflected respondents’ qualitative comments, the instrument was pretested on a slightly larger sample of twenty-four respondents and no further issues were raised. In administering the main study, respondents were randomly allocated to experimental treatments in order to disperse potentially confounding influences across the groups of treatments. Data was collected using a national panel from a commercial market research supplier. In total 636 completed responses were obtained across the two product categories. Quotas for each experimental treatment were set to ensure equal proportions of male and female respondents,

and equal proportions of respondents belonging to the Baby Boomer category, generation X and Y.

While consumer experiments are often run using student samples, this research used a national sample of consumers to enhance the generalisability of the findings (Urbany et al., 1997; Garbarino & Slonim, 2003; Moreau, Lehmann & Markman, 2001). Furthermore, genuine consumer samples as opposed to student samples are rare in experimental research, so the findings here provide an important methodological contribution to the literature, because findings based on student data should be interpreted with caution and replicated with real consumers (Peterson, 2001). The mean age of the respondents was thirty-seven, fifty-one percent were male and the median household income was in the £30,000-40,000 range.

Results, analysis and findings

Manipulation checks and confounds. The perceived innovativeness for the paracetamols was lower for the low innovative product, and higher for the high innovative ($M_{low} = 2.90$; $M_{high} = 4.56$; $t(317) = 8.320$, $p = 0.000$), and this was consistent with the batteries ($M_{low} = 3.50$; $M_{high} = 4.44$; $t(317) = 4.930$, $p = 0.000$). Discount size for the paracetamols was perceived to be smallest for the medium promotion and largest for the large promotion ($M_{medium} = 4.05$; $M_{large} = 4.85$; $t(317) = -3.673$, $p = 0.000$), and the same pattern occurred for the batteries too ($M_{medium} = 4.35$; $M_{large} = 4.89$; $t(317) = -2.482$, $p = 0.014$). These results provide evidence that the manipulations were perceived by respondents in the way intended. The potential confounds were included as dependent variables in a MANOVA with experimental group as the independent variable. There were no significant differences in the dependent variables found between the experimental groups, suggesting no apparent confounds (*Wilks' Lambda* = 1.201, $p = 0.149$). Furthermore, there was an even distribution of gender, age group and income across the experimental groups.

Hypothesis Testing. The hypotheses involve simultaneous comparisons of the dependent variables (i.e., reference price, transaction value and purchase intention) by experimental group. To investigate the hypotheses and control for Type I error a MANCOVA was run for each product category using innovativeness, promotion type and promotion size as independent variables, and reference price, transaction value and purchase intention as the dependent variables. Perceived innovativeness, perceived risk, stocking up tendencies, category knowledge, value consciousness, deal proneness and personal relevance were included as covariates in the MANCOVA to enhance the precision of the design. The data for the paracetamols did not deviate significantly from the MANCOVA assumptions and group sizes were relatively equal, so further multivariate testing was conducted using *Wilks' Lambda* (Hair, Black, Babin, Anderson, & Tatham, 2006). The multivariate tests for innovativeness and promotion type were statistically significant (innovativeness: *Wilks' Lambda* = .762, $p = .000$; promotion type: *Wilks' Lambda* = .944, $p = .001$) but the results for discount size were not (discount size: *Wilks' Lambda* = .955, $p = .414$).

The data for the batteries did not deviate significantly from any of the MANCOVA assumptions and the group sizes were relatively equal, so further multivariate testing was conducted. The multivariate test for innovativeness was statistically significant (innovativeness: *Wilks' Lambda* = 46.501, $p = .000$) but the results for promotion type and promotion size were not statistically significant at the 5% level (promotion type: *Wilks' Lambda* = 2.085, $p = .102$; promotion size: *Wilks' Lambda* = 2.184, $p = .090$). However, it is not surprising that the multivariate test for promotion type was not statistically significant, because there is a statistically significant multivariate test for the interaction between innovativeness and promotion type, and this could be obscuring the main effect of promotion type (innovativeness x promotion type: *Wilks' Lambda* = 18.006, $p = .000$). In light of these

results for both categories, differences in the dependent variables were examined by each of the factors with univariate tests from the MANCOVA.

Hypothesis H₁ was examined by comparing the mean reference price between promotion types. For the paracetamols, mean reference price was higher when the promotion was framed as an extra free promotion and lower when framed as an introductory low price ($M_{BOGOF} = 6.59$; $M_{ILP} = 5.91$). The same results also emerged for the batteries data ($M_{BOGOF} = 11.08$; $M_{ILP} = 10.45$). In each case the difference in reference price between promotional types was statistically significant based on the univariate tests (paracetamols: $F(1, 305) = 5.894$, $p = .016$; batteries: $F(1, 304) = 4.655$, $p = .032$). These findings suggest that consumers' reference prices are somewhat fickle, at least in the introductory stages of the product's launch, and that price promotions should be used with caution because this can affect consumer reference prices and subsequent consumer response to price in later time periods. Introductory low prices could end up becoming a slippery slope whereby further price discounts are necessary in order to achieve congruency with consumer reference prices.

Figure 1 shows the mean transaction value for the paracetamols by promotion type and product innovativeness. For the existing product, mean transaction value is higher for extra free promotions than for an introductory low price ($M_{BOGOF} = 4.85$; $M_{ILP} = 4.23$). For the innovative paracetamols, this pattern is reversed as predicted by H2a. Thus, for the innovative product, transaction value is higher for the introductory low price than for the extra free product promotion ($M_{BOGOF} = 4.48$; $M_{ILP} = 4.67$).

Figure 2 shows mean transaction value for the batteries by promotion type and product innovativeness and the pattern is the same. For the existing product, the mean transaction value is higher for extra free promotions than for an introductory low price ($M_{BOGOF} = 4.61$; $M_{ILP} = 3.56$). For the innovative batteries, again the pattern is reversed. Thus, for the innovative product, transaction value is higher for the introductory low price, than for the

extra free product promotion ($M_{BOGOF} = 4.14$; $M_{ILP} = 5.12$). These findings imply an interaction effect between promotion type and product innovativeness and this is confirmed in the MANCOVA (paracetamols: $F(1, 305) = 7.610$, $p = .006$; batteries: $F(1, 304) = 44.74$, $p = .000$), providing strong support for hypothesis H_{2a}.

FIGURE 1 Transaction value by product innovativeness and promotion type (paracetamols)

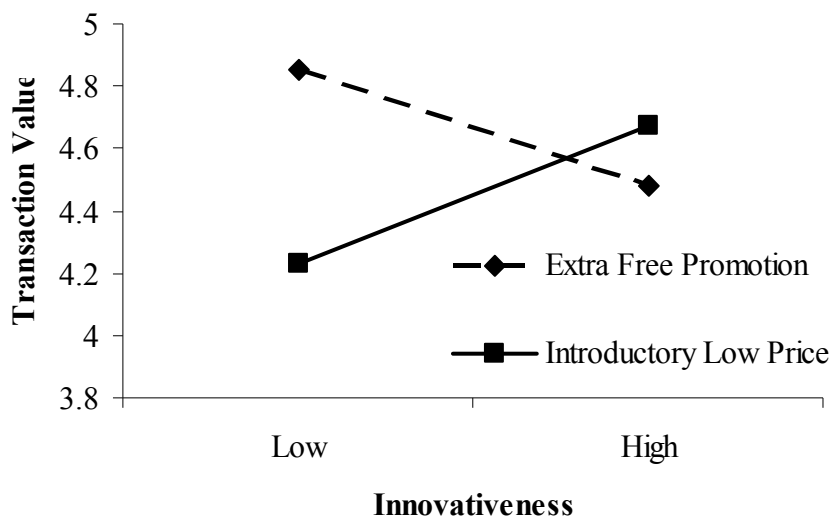
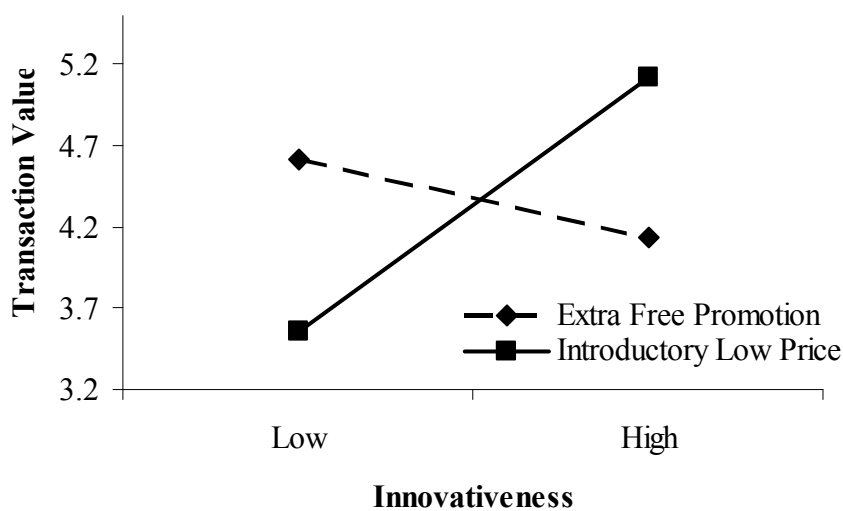


FIGURE 2 Transaction value by product innovativeness and promotion type (batteries)



Extending H_{2a} further down the hierarchy of effects, Figure 3 shows purchase intention for the paracetamols and batteries by promotion type and product innovativeness. For the existing product, purchase intention is higher for extra free promotions than for an introductory low price as predicted by H_{2b} ($M_{BOGOF} = 4.81$; $M_{ILP} = 4.29$). Mean purchase intention by promotion type for the innovative paracetamols is as predicted, and the pattern has reversed with purchase intention being lower for the extra free product than for the introductory low price ($M_{BOGOF} = 5.43$; $M_{ILP} = 5.51$), though the difference is only small.

The same pattern also exists for the batteries. For the existing product, Figure 4 shows that the mean purchase intention is higher for the extra free promotion than for the introductory low price ($M_{BOGOF} = 5.78$; $M_{ILP} = 4.85$) and for the innovative product, purchase intention is higher for the introductory low price than for the extra free promotion ($M_{BOGOF} = 5.19$; $M_{ILP} = 5.71$). The findings for both product categories show an interaction effect between product innovativeness and promotion type and this is confirmed in the MANCOVA (paracetamols: $F(1, 305) = 8.703$, $p = .003$; batteries: $F(1, 304) = 11.361$, $p = .001$). Taken together these results provide strong evidence to support hypothesis H_{2b}.

FIGURE 3 Purchase intention by product innovativeness and promotion type (paracetamols)

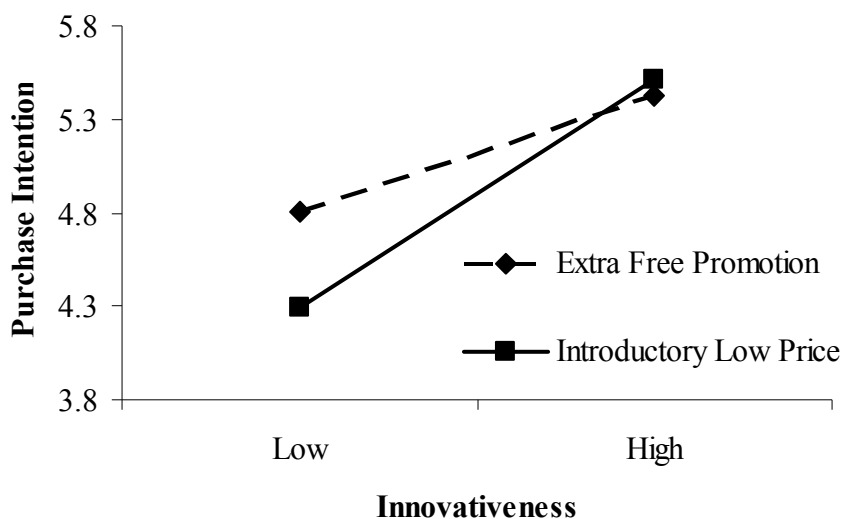
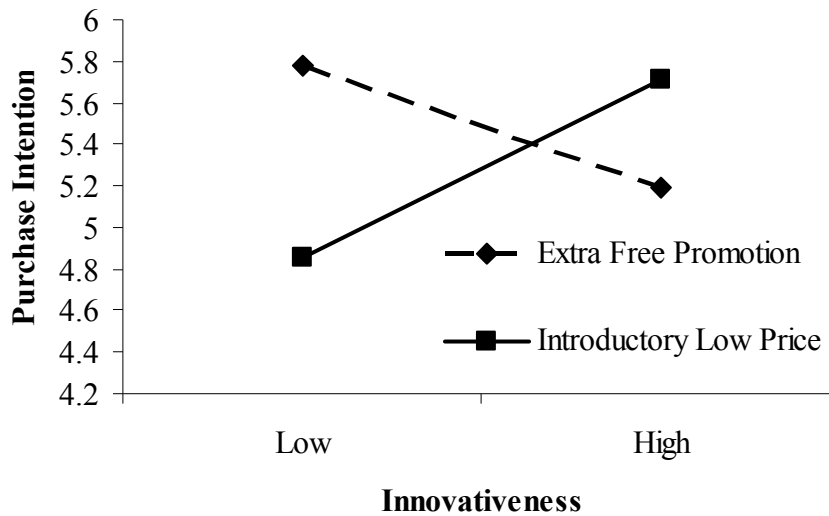


FIGURE 4 Purchase intention by product innovativeness and promotion type (batteries)



The main proposition behind this study was that attractiveness of promotional offers would differ depending on how innovative a product was perceived to be. It is argued that this mechanism can be explained by examining whether or not perceived risk mediates the link between perceived innovativeness and a consumer's stockpiling tendency. To examine this hypothesis we use the mediation test proposed by Baron and Kenny (1986). If perceived risk mediates the relationship between perceived innovativeness and stockpiling tendency, then there should be i) a statistically significant relationship between the exogenous factor (perceived innovativeness) and the endogenous factor (stockpiling tendency), ii) a statistically significant relationship between the exogenous factor (perceived innovativeness) and the mediating factor (perceived risk), and iii) a significant relationship between the mediator (perceived risk) and the endogenous factor (stockpiling tendency), *and* a non-significant relationship between the exogenous factor (perceived innovativeness) and the endogenous factor (stockpiling tendency) when the exogenous factor *and* the mediating factor are both included in the model as exogenous factors. We performed these tests using OLS regression and the results, using the standardised beta coefficients are shown in Table 1.

TABLE 1 Mediation test results

	Test 1 (ST = $\alpha + \beta_1$ PI)	Test 2 (PR = $\alpha + \beta_1$ PI)	Test 3 (ST = $\alpha + \beta_1$ PI + β_2 PR)
Paracetamols			
Perceived Innovativeness (<i>p</i> -value)	-.549 (.000)	.801 (.000)	-.014 (.838)
Perceived Risk (<i>p</i> -value)	—	—	-.668 (.000)
<i>F</i> -value (<i>p</i> -value)	136.816 (.000)	565.701 (.000)	135.596 (.000)
Batteries			
Perceived Innovativeness (<i>p</i> -value)	-.131 (.020)	0.743 (.000)	-.028 (.728)
Perceived Risk (<i>p</i> -value)	—	—	-.138 (.097)
<i>F</i> -value (<i>p</i> -value)	5.495 (.020)	390.87 (.000)	4.152 (.017)

*Where ST = Stockpiling Tendency, PI = Perceived Innovativeness and PR = Perceived Risk

Based upon the series of regressions, for the paracetamols, perceived risk appears to play a clear mediating role between perceived innovativeness and stockpiling tendency. The same pattern is repeated for the batteries. However, for the batteries, though the coefficients are of the expected sign, the coefficient for perceived risk is significant at the 10% level. This illustrates a new and untested relationship in the literature and provides further empirical evidence of the causal mechanism which explains differences in value perceptions and purchase intention for extra free product promotions and introductory low prices, depending on product innovativeness.

Discussion and Implications

This research shows how existing theory about consumers' response to monetary and non-monetary price promotions is moderated by a product's perceived innovativeness. Despite a vast literature in the area of reference price perceptions (Mazumdar, Raj & Sinha, 2005) and price promotions, both streams have largely tended to focus on existing product types. Little research has examined how consumers respond to monetary and non-monetary promotions for *new product types*. Some notable exceptions exist (e.g., Slonim & Garbarino, 1999), but these studies typically make simple comparisons between alternative monetary based introductory pricing strategies and conclude, everything else equal, that skimming strategies

are preferable to penetration strategies because skimming strategies keep reference prices higher and do not erode the product's ability to maintain higher prices in the longer term. Therefore, research on reference prices and price promotions in new product categories is somewhat limited.

So how should firms develop introductory promotions to enable new products to successfully penetrate a market? This research presents strong evidence to suggest that extra free product promotions have a smaller effect on reference price perceptions than introductory low prices, regardless of a product's perceived innovativeness. Therefore, this signals that extra free product promotions are more suitable than introductory low price offers for the purpose of establishing and managing reference prices among consumers.

Although these findings differ in some respect from those of Sinha and Smith (2000), who argue that a series of promotions, rather than a one-off promotion, are necessary to change reference price (Kalwani & Yim, 1992), there are important design differences between the studies. First, Sinha and Smith (2000) conceptualise reference price as an expected price based on precedent (Kalwani & Yim, 1992). Though expected price is an important component of reference price, several studies have noted the multifaceted nature of the reference price construct (Lowengart, 2002; Mazumdar, Raj & Sinha, 2005). Instead, and consistent with such research (i.e., Chandrashekar & Grewal, 2006; Folkes & Wheat, 1995), our study conceptualises reference price using an index to capture the nuances of the different reference price constructs; namely expected price, fair price and reservation price.

Secondly, Sinha and Smith (2000) do actually notice a change in reference price, even as an expected price, but the change is not statistically significant. This could be due to a low level of statistical power associated with a small sample size - however these statistics are not reported. Thirdly, their study was for an existing product category where reference price perceptions are likely to have been well defined, and thus are less susceptible to change. The

results here suggest that reference price perceptions are more fickle for new product categories where reference price perceptions are probably not well established.

Monetary promotions therefore make reference price more malleable and the implication is that this could lead to consumer backlash in later time periods (e.g., see Doob et al., 1969; Slonim & Garbarino, 1999). However, regardless of a consumer's reference price, value perceptions and preferences for monetary and non-monetary promotions are likely to differ depending on a product's innovativeness. For products in existing categories, current theory suggests that consumers evaluate non-monetary promotions (e.g., extra free products) as segregated gains, and monetary promotions (e.g., discounts) as reduced losses, because of the degree to which the units of the promotion are commensurate with the product's price. Through integrating the reference price literature with the literature on sales promotions, this research extends current theory by examining consumer value perceptions for monetary and non-monetary promotions in a new and distinct context; that is, for innovative products in a new category.

The findings from the experiment reveal that product innovativeness moderates consumers' perceptions of monetary and non-monetary promotions, via a distinct interaction effect between product innovativeness, value perceptions and purchase intention. Specifically this moderating factor is explained by the development of a mediational hypothesis new to the literature, whereby perceived risk mediates the relationship between perceived innovativeness and a consumer's tendency to stockpile. Thus, new products perceived to be innovative are also considered to be more risky and higher perceived risk is associated with a lower tendency to stockpile. Meanwhile, a lower tendency to stockpile affects consumer preferences towards monetary and non-monetary promotions. Recent research has begun to examine factors which moderate the process of loss aversion and has shown how absolute amounts are important in the consumer's evaluation process (Harinck et al., 2007). However,

research examining other moderating conditions is sparse. As such this study contributes by providing evidence of another moderating condition to the loss aversion process.

In summary, this research provides a variety of contributions to further our understanding of consumer response to price promotions and is the first study to integrate the reference pricing and the price promotions literature for new product categories. While the majority of experimental research examining consumer behaviour processes has been undertaken with student samples, the findings from this study were generated based on a cross-sectional experiment with a national panel of over 600 consumers. This method allows us to present more generalisable findings, compared with student experiments.

This research also contributes by providing fresh insights of how consumers respond to price promotions in new product categories. It is one of the first studies to examine reference price perceptions in new product categories and is the first study to examine consumer value perceptions of monetary versus non-monetary promotions in new product categories. In doing so, consumer perceptions of monetary and non-monetary promotions are shown to be affected by product innovativeness which directly corresponds to a lower tendency to stockpile, as mediated by perceived risk.

It is not expected that the exact effects will occur in all product categories. This is highly unlikely due to various other potential moderating conditions (e.g., products where you only need one item, products that are more complex, price promotions involving a larger monetary saving etc.). In particular, we would expect to see these effects in categories with a low average price level, because absolute amounts may further moderate how extra free promotions and introductory low prices are evaluated by consumers (DelVecchio, 2005). Future research and a greater attention to moderating conditions in this area would therefore benefit our understanding of consumer response to prices and promotions further.

This study has found that reference price does change with a one-off introductory promotion, contrary to Sinha and Smith's (2000) findings. It could be that the inconsistent findings in the literature with regards to how one-off price promotions affect reference price could be explained by the operationalisation of the construct. This research suggests that given the multi faceted nature of reference price (Lowengart, 2002; Mazumdar, Raj & Sinha, 2005), one-off price promotions may affect reference price, depending on how the construct is measured. A conceptual overview of the topic in the Journal of Marketing (Mazumdar, Raj & Sinha, 2005) presents a similar issue and discusses the concept of "overlapping constructs" (p. 98).

Broadly the findings here illustrate the importance of initially setting the price correctly, as consumers' future purchases will be framed by their reference price, which is a function of prices that have been previously experienced. Previous low prices are likely to lead to low reference prices which could provide the firm with less opportunity to raise prices in the future. However, other moderating effects should be considered in more depth to more comprehensively understand consumer reactions to price promotions.

Limitations and Further Research

The findings presented here are useful for providing further insights into consumer perceptions of introductory promotional strategies. There are however some obvious limitations associated with this research that should be considered. Because of the experimental nature of this study, external validity is limited. Though the experiment was run on a national panel of consumers and should be considered to be more externally generalisable than typical student samples (Peterson, 2001), further research should begin to reinforce these findings by replication and extension to other product categories and contexts.

This study was also limited by focusing on two particular types of promotion (introductory low prices and extra free products). Although, based on Diamond and Johnson's (1990)

research, these represent typical classifications and are indicative of consumers' response to monetary and non-monetary promotions, more research is needed on other forms of promotion such as rebates, sweepstakes and competitions etc.

In this study we did not seek to manipulate perceived risk, and instead manipulated perceived innovativeness, the focal construct of this research. As expected, manipulating perceived innovativeness affected perceived risk based on the results of the mediation analysis, but the specific mechanism through which this happens could differ depending on the dimensions of perceived risk and their interaction with product type. In this research, AA batteries and paracetamols were used to test the mechanism, but the way in which perceived innovativeness affects a particular dimension of perceived risk is likely to depend upon unique product category and contextual influences. Therefore, further research could also look to establish a more general theory relating to the role of the different dimensions of perceived risk on stockpiling tendencies, as this will assist retailers to better understand the kinds of promotions most suitable for a particular product or consumer.

Conclusion

This study extends a growing body of research by trying to understand how consumers perceive pricing and promotion strategies in a new product context. Given the consistent anchoring effects found in prior research whereby penetration strategies lower a consumer's reference price (Doob et al., 1999; Slonim & Garbarino, 1999), it is important to understand how retailers can use introductory promotions to maximum effect while still maintaining reference price perceptions. Specifically this research has found that extra free product promotions have the smallest effect on reference price perceptions, whereas introductory low prices have a larger impact. This is important to understand from the perspective of pricing management, as keeping reference price perceptions higher is preferable because lower reference prices are likely to lead to retailers having less pricing power over the long term.

Extra free product promotions are thus more preferable if the retailer intends to maintain a high reference price. However, innovative new products are perceived to be risky by consumers, this implies that consumers are less likely to stockpile them. Due to this, consumers have lower perceptions of transaction value and purchase intention for innovative new products. For less innovative products however, an extra free promotion strategy would be optimal.

In brief, this study has contributed further to our understanding of the subject by providing a model for consumer response to price promotions in new product categories. Our findings articulate that extra free product promotions are preferable for less innovative new products. This is because they keep the reference price high and are simultaneously more acceptable to consumers who perceive there to be less risk associated with the product. On the other hand, introductory low price promotions are likely to be more effective for innovative products where the consumer would see more value in trialling the product first, rather than being forced to buy two products at the same time, even if this reduces reference price.

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