Effects of Discount Framing in Comparative Price Advertising

Structured Abstract

Purpose

Our objective is to examine the framing effects of discount presentation format in comparative price advertising in a low-price and a high-price product context. In particular, we study whether identical discounts presented in percentage and absolute terms result in different consumer perceptions of transaction value and purchase intention. Although price promotions have been the subject of previous research, a closer examination of the potential moderating influence of discount size in both contexts is warranted.

Design/methodology/approach

Two separate experiments were designed to isolate the effects of the manner in which discounts are numerically expressed and the size of the discount on consumers‟ perceptions of a retail price promotion in a low-price and a high-price product context.

Findings

The effects of discount framing in comparative price promotions are found to be influenced by discount size in the case of the low-price product context but not the high-price one.

Research Implications/limitations

It is recommended that the study is replicated for other types of low-price and high-price products to confirm the generalisability of the results for each product context.

Practical Implications

Retail managers‟ choice of discount presentation format for both low- and high-price product contexts, and in the case of the former the additional manipulation of discount size, have an impact on the ability of comparative price promotions to accelerate purchases. Meanwhile policy makers should continue to assign significant time and resources to investigating concerns about misleading price comparison based promotions.

Originality/value

The paper provides original insights into the importance of considering the joint effects of discount presentation format and discount size on consumers‟ perceptual and behavioural responses to retail price promotions, unlike previous research which has examined these framing effects separately.

Keywords

Pricing, Promotion, Discounts, Consumer Behaviour, Experimentation

Paper Type

Research Paper

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1. Introduction

Comparative price advertising is widely used by retailers at or close to the point of sale to encourage customers to purchase a specific product (Chandrashekaran and Grewal, 2003). This promotional technique involves comparing a sale price with some (higher) reference price and, in principle, enables the retailer to demonstrate, and the customer to identify, that the specific purchase offers superior value as a consequence of the reduced price. Although such an approach is generally viewed as a means of enhancing consumer perceptions of value and increasing the likelihood of purchase (Grewal, Monroe and Krishnan, 1998), it has also prompted a large amount of interest from both managerial and public policy perspectives (Aditya, 2001; Compeau and Grewal, 1998; Grewal and Compeau, 1992; Urbany *et al.*, 1988). While retailers want to know how to use comparative price promotions to attract consumers' attention in order to induce price processing and purchase acceleration, regulators on the other hand have been concerned about its potential to deceive consumers due to the provision of inaccurate or misleading pricing information (Grewal and Compeau, 1992).

One way in which consumers may be misled is through price framing, in other words the manner in which the price promotional message is framed in an offer. There is evidence to suggest that alternative wording, which may represent the same saving, could be viewed and acted upon differently (Varadarajan, 1984). For example, consumers may be informed of a "50% discount" or "1/2 price offer", and while a rational consumer should treat these two offers equally, it may be that one has a greater impact than the other on consumer assessments of value and subsequent behavioural intentions. As far as monetary discounts are concerned, Heath *et al.* (1995) suggested that price discounts would be more effective if they were presented in dollars and cents for high-price products and in percentage terms for low-price products. Subsequently there have only been a few empirical studies which have specifically addressed the effects of how discounts are numerically expressed on consumer behaviour (Gendall *et al.*, 2006; Chandrashekaran, 2004; Hardesty and Bearden, 2003; Sinha and Smith, 2000; Chen *et al.*, 1998; Das, 1992). Support for Heath *et al*.'s (1995) recommendations on price presentation format was found by Chen *et al.* (1998), however the effects of message framing were inconclusive in a later study by Gendall *et al.* (2006). One possible explanation may be that

discount size moderates these effects; a conclusion reached by Chen *et al*. (1998). Given concerns about the potential of comparative price advertising generally to deceive rather than inform consumers (Grewal and Compeau, 1992) and the unprecedented degree and depth of price discounting by retailers following the economic downturn (The Independent, 2009), further work on the effects of framing monetary discounts on consumer behaviour with discount size as a potential moderator is warranted. Therefore the primary objective of the current study is to examine whether alternative presentations of factually equivalent discounts (i.e. in absolute or percentage terms) interact with the size of the discount offered to influence consumers' perceptions of value associated with the offer and their purchase intentions.

The paper proceeds with a review of framing effects and the potential impact of discount presentation format and discount size on consumers' perceptions of price promotions, before we develop hypotheses. Next, we explain the methodology employed. Then we analyse results, discuss them and finally draw conclusions.

2. Literature Review

Framing Effects and Pricing Research

The concept of framing is integral to prospect theory (Tversky and Kahneman, 1986; Kahneman & Tversky, 1979) and concerns the manner in which the choice problem is presented, usually in a positive or a negative light. Its relevance to pricing has been noted for some time since the ways in which prices are presented can attract attention to price-related information and induce price processing (Heath *et al.*, 1995; Monroe, 1990). The term "framing effects" refers to the finding that changes in how a situation is described can affect people's choices (Frisch, 1993). According to Levin *et al.*'s (1998) typology, framing effects fall into three distinct categories: risky choice framing, attribute framing and goal framing. In the case of risky choice framing the manner in which information is presented affects people's risk preferences (Hasseldine and Hite, 1993) such as with investments or new products generally, however this is not the case with the other two variants, which are more relevant to price promotions. Attribute framing, which is the focus of the present study, would occur when a single attribute is framed in a factually equivalent manner, using different semantic cues (or phrases) in the information about the offer, yet one of them is more effective in stimulating a purchase than the other(s). By comparison, goal framing would occur where the consequences of performing a behaviour (or not) stress positive or negative outcomes, such as would be the case with time-limited price promotions (Devlin *et al.*, 2007).

Several studies have supported the contention that price comparison cues and semantic cues influence consumer responses to price reductions (Chandrashekaran, 2004; Grewal *et al.*, 1998; Compeau and Grewal, 1998; Rajendran and Tellis, 1994; Lichtenstein *et al.*, 1991; Urbany *et al.*, 1988; Liefeld and Heslop, 1985; Della Bitta *et al.*, 1981; Blair and Landon, 1981; Berkowitz and Walton, 1980). Although it would appear that a body of work is now developing in the area of framing effects on consumer perceptions of price promotions, Krishna *et al.* (2002) note that studies of this nature are 'in short supply‟ (p. 116). In their recent meta-analysis of the relative effects of price frames and situational factors on perceived savings, they found consumer perceptions of a deal are significantly influenced by lots of characteristics of price presentation. In terms of the magnitude of effects, the largest ones were determined by factors over which managers can exercise the most control, notably 'deal characteristics‟ (in particular the presence of additional savings on a bundle or the deal percentage) and 'price presentation‟ factors (mainly concerning sale announcement, free gift deal frame and plausibility), as opposed to 'situational effects‟ (mostly in relation to brand or store type) over which they have the least control. In addition, interactions were identified within these broadly defined categories of factors, such as the plausibility of a deal interacting with the presence or absence of a regular price in the promotion. It is clear that there is so much flexibility in terms of the variety of ways of presenting price-related information and claims (Carlson, Bearden and Hardesty, 2007). Nevertheless our understanding of the effects of framing techniques used by advertisers and retailers in promotional campaigns of this nature remains rather partial.

Monetary Discount Framing

This paper is concerned with price comparison cues which are employed to communicate monetary discounts (as opposed to non-monetary ones such as gifts and product bundles), and sets out to examine consumers‟ perceptual and behavioural responses to deals when factually equivalent discounts are framed numerically in absolute monetary amounts and in relative percentage amounts. According to Grewal and Marmorstein (1994) prices tend to be evaluated by consumers relatively rather than absolutely. However when a distinction was drawn between relatively high-price products and relatively low-price products, Heath *et al.* (1995) recommended that price discounts should be presented in dollar (i.e. absolute) terms for the former and in percentage terms for the latter. So far very limited attention has been paid to the issue of whether it matters if retailers express discounts numerically in relative percentage or absolute monetary units (Gendall *et al.*, 2006; Chandrashekaran, 2004; Krishna

et al., 2002; Sinha and Smith, 2000; Chen *et al.*, 1998; Das, 1992). The first study to find empirical support for Heath *et al.*'s (1995) recommendation was conducted by Chen *et al.* (1998) using an experimental design involving one product in each price category (i.e. personal computers for high-price products and floppy disks for low-price products). Although they found significant differences in respondents' perceptual responses to deals when factually equivalent discounts were framed numerically in dollar and percentage amounts, no significant differences were found in their behavioural responses, which they attributed to the attitude-to-intention gap (Fishbein and Ajzen, 1975) and product-specific factors such as falling market prices and shorter product life cycles for technology products such as personal computers. Gendall *et al.* (2006) found in a later study extending Chen *et al.*'s (1998) work that price discounts should be framed in absolute terms for high-price products (in this case stereos and computers), but framing had little or no effect in the case of low-price products (in this case potato chips and colas). In fact discount framing had no effect for colas but proved to be marginally more effective for potato chips when expressed in percentage terms, although no significant differences were found in consumer responses. It is unclear why two studies focusing on the same issue found different results with regard to low-price products. It may be the case that the size (i.e. depth) of the discount featured in the deal moderated the message framing effects, as this was a possibility acknowledged but untested by Chen *et al.* (1998) for this particular type of price presentation.

Nevertheless attention has been paid by researchers to the moderating influence of discount size on consumers' perceptions of other forms of comparative price advertising for some time. Lichtenstein *et al.* (1991) examined the effect of semantic cues that connote high distinctiveness (i.e. between-store comparisons) and those that connoted low consistency (i.e. within-store comparisons), and found that the former had a greater effect when the discount size was implausibly high as opposed to being plausibly high or low. Drawing on insights into how consumers process price information gained by Gotlieb and Swan (1990) and also by Ozanne *et al.* (1992), Grewal *et al.* (1996) examined potential moderating effects of situation and discount size on consumers' responses to semantic cues used to communicate price information. Upon manipulating discount size at three levels (i.e. low, moderate and high), evidence was found of a semantic price cue by situation interaction effect on consumer perceptions at the moderate discount level. Although Chen *et al.* (1998) did not manipulate discount size in their study, they acknowledge that the amount of discount (10 per cent) manipulated for high-price and low-price products in their study was conservative in nature

and that the effects of message framing may be strengthened or weakened if the depth of a price reduction were manipulated. Depending on the relative price level of the product featured in a comparative price promotion and the depth of the discount offered, they recommend that discounts for relatively high-priced products should be framed in absolute terms when the discount size is small, and in both absolute and percentage terms when it is large. Alternatively for relatively low-price products, discounts should be framed in percentage terms when the discount size is large, but in absolute terms or in percentage terms or in both absolute and percentage terms when the discount size is small. Given Grewal and Marmorstein's (1994) proposition that expected price reductions tend to be evaluated by consumers in relative terms rather than in absolute terms, it makes sense to recommend that large discounts should be presented in percentage terms in the case of relatively low-price products and in both absolute and percentage terms for relatively high-price products. Furthermore, as far as convenience goods are concerned, Inman *et al.*'s (1997) study of promotion signal sensitivity found that when discount size was manipulated at two levels (i.e. low and high) for a variety of grocery items, discounts of a high level discount had a positive effect on purchase intentions while those of a low level had a negative effect[2]. Finally, Hardesty and Bearden (2003) used three experiments to study the impact of promotion type (i.e. price discounts and bonus pack), price presentation (i.e. dollars and percentages) and promotion benefit levels (i.e. low, moderate and high discount size) on consumer evaluations of the value associated with promotional offers. Their study used relatively low-price packaged goods, including toothpaste and detergent. They found that consumers valued price discounts over bonus packs for a high level of discount, but were indifferent between these alternatives for other levels of discount. Of most interest to our study, they also found that when they examined the effect of discount presentation format on consumers' value perceptions of low-price goods at a moderate discount level, discounts framed in dollar amount and percentage amount had a similar impact on consumers' choice behaviour. Yet for a high discount level, they found that consumers valued promotions framed in percentage amount terms more than those framed in dollar amount terms.

[2] Although it is clear that there has also been much interest in establishing how discount size may influence how consumers process price information, it should also be noted that any discounts have to be plausible, for if they are too large, they can induce scepticism (Gupta and Cooper, 1992; Liefeld and Heslop, 1985).

Hypotheses

In view of the inconclusive effects of monetary discount framing found specifically for low-price as opposed to high-price products (see Table A1 in the Appendix for summary of findings) and the interest in discount size as a moderator of framing effects in comparative price advertising generally, it is difficult to make recommendations to retailers and policy makers on how monetary discounts should be presented in price promotions. More evidence-based research is required to obtain a clearer understanding of both of these effects on consumers' perceptions of value associated with the offer and their purchase intentions.

The value of the offer has been operationalized in the pricing literature as a multi-dimensional construct, comprising of acquisition value (which is dependent on the benefits which the consumer derives from the product and the selling price) and transaction value (which is the value of the deal being offered as perceived by consumers (Thaler, 1985; Monroe and Chapman, 1987; Urbany and Bearden, 1989) as well as a function of the selling price and the consumer's internal reference price (Monroe and Chapman, 1987; Grewal *et al.*, 1998)). As our study is concerned with consumer perceptions of the value of a deal, we therefore concentrate on the framing effects of discount presentation format on transaction value.

Some studies (Chen *et al*., 1998; Heath *et al*., 1995) have offered empirical support for the contention that for low-price products, framing a price reduction in relative percentage terms will be perceived by consumers as more significant than framing this price reduction in dollar (i.e. absolute monetary) terms. Chen *et al.* (1998) also speculate that the framing effects they identify may be influenced by the depth of the price reduction offered. Hardesty and Bearden (2003) offer empirical support for this contention for perceptions of value, although they did not investigate the impact of discount type and discount size on intention to purchase. We concur that there is the potential for an interaction effect between discount size and discount framing. We base this contention on the following logic: when the discount is large, then a discount expressed in percentage terms may well appear more significant than one expressed in absolute terms (for instance 40% versus €1.60 for a €4 product). In the case of a small discount, the percentage amount will appear far smaller (for instance 5% versus 20 cents for a €1 product), and although the absolute amount is also relatively small at 20 cents, it is a higher absolute value than the percentage amount and may therefore assume greater significance when observed as part of a price offer. Therefore we hypothesise the following interaction effect:

H1a: In the case of low-price products, how a discount offer is framed will interact with discount size such that a large (small) discount expressed in percentage terms will result in a higher (lower) perception of transaction value compared to the same discount expressed in absolute terms.

H1b: In the case of low-price products, how a discount offer is framed will interact with discount size such that a large (small) discount expressed in percentage terms will result in a greater (lesser) intention to purchase compared to the same discount expressed in absolute terms.

For high-price products, Chen *et al.* (1998) argued that *ceteris paribus* price promotions appear more attractive when dollar amount savings are large. This effect is likely to be stronger in the case of larger discounts, as the difference between the percentage amount and absolute amount is more pronounced than in the case of a smaller discount (for instance, for a product costing €1,000, a 50%/€500 discount compared to a 20%/€200 discount). Therefore, we hypothesise that:

H2a: In the case of high-price products, how a discount offer is framed will interact with discount size such that a large (small) discount expressed in percentage terms will result in a lower (higher) perception of transaction value compared to the same discount expressed in absolute terms.

H2b: In the case of high-price products, how a discount offer is framed will interact with discount size such that a large (small) discount expressed in percentage terms will result in a lesser (greater) intention to purchase compared to the same discount expressed in absolute terms.

Although not our primary contribution, given contradictory previous findings, we also wish to offer a further perspective on the impact of discount framing in percentage and absolute terms in the case of low- and high- price products, by hypothesising that:

H3a: In the case of low-price (high-price) products, a discount expressed in percentage terms will result in higher (lower) perceptions of transaction value than the same discount expressed in absolute terms.

H3b: In the case of low-price (high-price) products, a discount expressed in percentage terms will result in a greater (lesser) intention to purchase than the same discount expressed in absolute terms.

Finally, according to the dominant position in the literature, consumers assess price offers using an internal reference price (IRP) (Compeau and Grewal, 1998; Thaler, 1985), which is normally conceptualized as stored mentally by consumers, to be recalled and used as a comparator when price promotions are encountered (Monroe, 1971; Thaler, 1985; Urbany and Dickson, 1991). This would mean that the IRP is a covariate in the relationships hypothesised above. The Elaboration Likelihood Model (ELM) predicts that consumers follow one of two routes when processing messages: a "central route" if their ability and motivation to process information in an advertisement is high and a "peripheral route" if they are not motivated to think deeply about message arguments and attend to simple cues associated with the message context instead (Petty *et al.*, 1983). As far as comparative price advertising is concerned, if consumers are motivated to evaluate and act upon offers in relation to their IRP, then central processing (high involvement) occurs; however, if they are not motivated to think deeply about the offers and rely on a simple comparison between the advertised reference price and the selling price in order to evaluate the suitability of the message, then peripheral (low involvement) processing occurs (Compeau and Grewal, 1998). For completeness, our analysis will consider whether central or peripheral processing occurs when consumers consider the offers incorporated into our study. Therefore, we hypothesise the following:

H4: Price discounts will be centrally processed for both forms of discount used in the study.

3. Methodology

The study reported in this paper was part of a wider investigation of comparative price advertising and message framing effects, and its primary objective was to test whether the influence of discount framing on consumers' perceptions of value and their subsequent behavioural intentions is moderated by the size of the discount featured in the price promotion. An experimental methodology was adopted similar to much of the previous

research in this area (see Grewal *et al*., 1998; Urbany *et al.,* 1988; Blair and Landon, 1981). Two 2 X 2 between-subjects experiments with numerical discounts operationalised at two levels (i.e. percentage saving and absolute saving) and discount size at two levels (i.e. large and small) were conducted to gain a better understanding of the potential for discount size to moderate consumers‟ perceptions of a price promotion. The first experiment was conducted in the context of a low-price product (chocolates) and the second one in the context of a high-price product (package holiday): two product contexts where comparative price advertising is common. Details of the experimental design are provided in Table 1 below.

Take in Table 1 here.

Pre-study

The design of the experiments was informed by a qualitative pre-study which comprised three discrete components. First of all an audit and content analysis was conducted of price promotion advertisements featured in mass circulation national newspapers as well as in-store advertising at retail outlets in a city centre and an out of town retail park. The audit demonstrated the variety and frequency of various framing techniques and price presentation formats for high- and low-price products, which informed our choice of stimuli for the current study. Next a series of short semi-structured interviews with a sample of 97 consumers was carried out using a mall intercept survey to provide exploratory insights into how consumers interpret comparative price advertisements, followed by 2 focus group discussions to gather further information on price familiarity, shopping behaviour and internal reference prices. Finally, in order to establish the size of discount and appropriate levels for reference and selling prices to be used for the current study, large and small discounts were identified for each of the products based on observed market prices and discounts, together with pilot testing on a sample of 22 adult consumers using a paper-based version of the experiment. The discount sizes of 10% (small) and 35% (large) for the low-price product and 10% (small) and 45% (large) for the high-price product were assessed via t-tests to be significantly different.

Experiment 1

Procedure

Experiments on comparative price advertising have usually been paper-based, and have relied on student samples, however this experiment was administered via the web. This online medium provides the opportunity to access a more diverse set of respondents from a broader

population and it also has the advantage of enabling them to complete the experiment at their leisure. Respondents were recruited through an email and a flyer circulated within the researchers‟ social and employment networks. Participation was incentivized by providing respondents with the opportunity to make a small donation to one of 50 charitable organisations. ISP addresses were checked for any individual respondents completing multiple questionnaires. Since standard demographic and other profile information were requested, the emerging sample could be monitored to ensure it was reasonably balanced. This amounts to a system of „reflexive sampling‟.

When the respondents logged on to the website, they were randomly assigned to one of four (pre-tested) scenarios representing each of the conditions of the experiment. They were then asked to complete a series of pre-experiment questions about the range of prices they would expect to pay for the selected product type. Subsequently they were presented with an in-store shopping task and exposed to a professionally designed advertisement depicting the specific promotional offer and were asked to answer a series of questions about their evaluation of the offer relative to their assigned shopping task. With four cells, the experiment targeted a sample of 60 (15 respondents per cell). The resulting sample composition is shown in Table 2 below. It was gender biased (69% female), with an income distribution which was broadly comparable to that observed nationally, but somewhat biased towards higher socio-economic groupings. Since the average age of respondents was 40 years (with a range from 23 to 62), the level of respondent experience with pricing promotions was higher than would be the case with a student sample. We acknowledge that our cell sizes are towards the lower end of those required to isolate effects in a MANOVA/MANCOVA. Hair *et al.* (2006) note that for a two dependent variable MANOVA with 3 groups, a cell size of 13 is appropriate to isolate very large effects (pg 416). More generally, Iacobucci (1994) notes that although cell sizes of around 30 per cell are desirable for the analysis of experimental data, practical constraints usually result in “much smaller” (p.242) samples. Our data are well balanced and in a 2x2 design, thus the cell sizes detailed in Table 2 will detect large to very large effects with reasonable power.

Take in Table 2

In order to test hypotheses 1a and 1b, advertisements were realistically created for a fictitious brand of chocolates. Apart from variations in the framing of the price promotion message to

reflect the two selected message types incorporating different discount presentation formats (i.e. percentage saving and absolute saving) and two levels of discount size (i.e. large and small), the layout, fonts and artwork for each scenario depicted in the advertisements were identical. Discounted selling prices were held constant throughout. Thus information was presented in an equally visible manner and monetary discounts in a factually equivalent manner for each level of discount size. (Some examples of the advertisements can be found in the Appendix).

Measures

The measurement of key constructs in the experiment drew on a range of existing measurement scales with all responses collected using a seven-point Likert scale. Once respondents had been introduced to the basic shopping task, they were asked questions about price expectations (lowest, average, maximum) with the average of these values used as the consumer's internal reference price (IRP). This measure was based upon the approach of Grewal *et al.* (1998) and Chandrashekaran and Grewal (2003), whereby the IRP was included as a covariate in common with previous studies of comparative price advertising. Then, once exposed to the shopping scenario, transaction value (Thaler, 1985; Monroe and Chapman, 1987) and purchase intentions were measured using scales based on those employed by Grewal *et al.* (1998). Since these scales had been well used, no factor analysis was performed. The measurement reliabilities were confirmed as ranging from 0.90 to 0.97, which is comfortably above the 0.7 level for Cronbach's alpha that is generally deemed acceptable (Robinson *et al.*, 1991).

Given the potential for multicollinearity among the dependent variables (i.e. transaction value and intention to purchase) and the inclusion of IRP as a covariate in the study, multivariate analysis of covariance (MANCOVA) was employed to analyze the experimental results.

Experiment 2

Procedure

The identical procedure to Experiment 1 was followed. The resulting sample composition is shown in Table 2. It was gender biased (56% female), with an income distribution which was broadly comparable to that observed nationally. The average age of respondents was 35 years (with a range from 20 to 63), making the level of respondent experience with pricing promotions similarly higher than would be the case with a student sample.

In order to test hypotheses 2a and 2b, advertisements were realistically created for a fictitious brand of package holiday, and as for Experiment 1 apart from variations in framing of the price promotion message to reflect the two selected message types incorporating different discount presentation formats and two levels of discount size, the layout, fonts and artwork for each scenario depicted in the advertisements were identical. Once again discounted selling prices were held constant throughout, with the result that information was presented in an equally visible manner and monetary discounts in a factually equivalent manner for each level of discount size. (See Appendix for examples of discounted offers with prices indicated on a per person (pp) basis).

Measures

The key constructs and their measurement were identical to those employed in Experiment 1, and multivariate analysis of covariance (MANCOVA) was used to analyze the experimental results.

4. Results

The results of the MANCOVA analysis for both experiments are reported in Tables 3 and 4 below. The multivariate significance of the independent variables is tested using Wilks‟ lambda. Univariate effects are highlighted where the level of significance is 5% or less and where the corresponding multivariate effect is also significant. In each experiment the interaction effects of discount presentation format and discount size were examined as well as the main effects of discount presentation format and the additional manipulation of discount size.

Take in Tables 3 and 4.

Experiment 1: Testing of H1a, H1b and H3a, H3b

H1a and H1b propose that there will be an interaction effect between discount presentation format and discount size, such that a large discount expressed in percentage terms will result in a higher perception of transaction value and a greater intention to purchase compared to the same discount expressed in absolute terms. Table 4 shows that there is a significant interaction between discount presentation format and discount size (Wilks‟ lambda=0.810, $F(2,43)= 5.028$, $p<.05$), which impacts significantly on both transaction value and purchase

intention. The means associated with the two discount presentation formats (one in absolute terms and one in percentage terms) and two levels of discount size (one small and one large) attributable to transaction value and purchase intention are shown in Figures 1 and 2 below.

Insert Figure 1 here.

From Figure 1, it is clear that when the discount size is small, there is little difference in perceptions of transaction value for offers framed in percentage and absolute terms. The mean values are shown in table 3. In the former case the mean is 4.08 and in the latter case it is 4.33. However, when the discount size is large, the discount framed in percentage terms results in significantly higher perceptions of transaction value than the equivalent discount framed in absolute terms, the means being 5.21 and 3.40 respectively. Univariate tests indicate that the impact of the interaction on transaction value is highly significant ($F=7.75$, $p<.05$).

Insert Figure 2 here.

Figure 2 shows the data for intention to purchase. When discount size is small, intention to purchase is greater for absolute rather than percentage mean discounts, with means of 4.64 and 3.46 respectively. For a large discount level, the opposite is true, with intention to purchase being significantly higher when the discount is framed in percentage terms rather than in absolute terms. The relevant mean scores are 4.81 for percentage discount and 3.86 for absolute discount. Univariate tests show a significant difference in the mean scores reported ($F=7.33$, $p<.05$). Overall, our data support the contention that framing a discount in percentage terms in the presence of a high level of discount can increase perceptions of value and propensity to buy, thus providing support for H1a and H1b.

H3a and H3b concern the main effect of discount format on perceptions of transaction value and intention to purchase for low-price products. Experiment 1 provides the results relevant to low-price products. We hypothesised that for low-price products a discount expressed in percentage terms will result in higher perceptions of transaction value and a greater intention to purchase compared to the same discount expressed in absolute terms. The results show that presentation format proves to be significant (Wilks‟ lambda $=0.866$, $F(2,43)= 3.313$, $p<.05$)

and impacts on transaction value (F=4.89, p<.05) according to the univariate tests. However, it does not impact significantly on purchase intention (F=0.03, p>.05). Thus, we conclude that there is support for H3a in the case of low-price products but no support for H3b. Meanwhile, for completeness we note that the discount size proves to have no significant influence on either transaction value or intention to purchase (Wilks‟ lambda =0.990, F(2,43)= 0.223, p=0.801).

Experiment 2: Testing of H2a, H2b and H3a, H3b

Experiment 2 concerns a high-price product. H2a and H2b propose that there will be a two-way interaction effect between discount presentation format and discount size, such that a large discount expressed in percentage terms will result in a lower perception of transaction value and a lesser intention to purchase compared to the same discount expressed in absolute terms. Table 4 shows that there is no evidence of a significant interaction effect between discount presentation format and discount size (Wilks‟ lambda =0.953, F(2,36)= 4.277, p=0.419)[3] and therefore there is no support for H2a and H2b.

The main effects for Experiment 2 provide further evidence for H3a and H3b. Results show that there is a main effect for discount presentation format (Wilks‟ lambda =0.808, F(2,36)= 4.277, p<.05), which impacts on transaction value (F=8.686, p<.05), but not purchase intention (F=0.42, p>.05). For the high priced product, for a given level of IRP, a discount presented in percentage form results in a mean transaction value of 3.36, compared to a mean of 4.59 for a discount in absolute form. For completeness it should be noted that the analysis shows that there is no main effect for discount size. Thus we conclude that there is support for H3a in the case of high-price products but no support for H3b. This pattern of results is similar to those for Experiment 1, in as much as the format of the discount influences assessments of transaction value but not purchase intentions, and discount size has no effect. Taking both product contexts into account overall there is support for H3a but no support is offered for H3b.

Experiments 1 and 2: Testing of H4

Finally, the results for both experiments show that the covariate (IRP) was not found to be significant in the multivariate test (Experiment 1: Wilks‟ lambda=0.972, F(2,43)= 0.620,

[3] As the interaction between discount presentation format and discount size is not significant for the high-priced product, we do not report the results of univariate tests or the relevant plots.

p>.05); Experiment 2: Wilks' lambda=0.938, F (2,36)=1.184, p>.05). Thus, H4 is rejected. The IRP was entered as a covariate to provide a check on the extent to which there was evidence of central versus peripheral processing of price information for the low-price and high-price products. These results suggest that, for the dependent variables examined in both the low-price and high-price product contexts, price information is being processed peripherally without recourse to an individual's internal reference price (IRP).

5. Discussion, Managerial Implications & Conclusion

Although there has been some steer from the limited pricing literature on message framing effects for promotional discounting, the limited empirical evidence of consumers' perceptual and behavioural responses to the effects of framing discounts in relative percentage or absolute monetary terms has been inconclusive with regard to low-price products. While message framing was found to have little or no effect for this product context when examined by Gendall *et al.* (2006), monetary discounts generally were considered to be more effective than non-monetary ones for products not amenable to stockpiling (i.e. perishables). Furthermore Chen *et al.* (1998) posited that the effects of message framing may be moderated by discount size. Hardesty and Bearden (2003) provide some empirical evidence that discount size may moderate the influence of discount type on perceptions of value in the case of low-price goods, however they did not study the impact on purchase intention and they did not provide a contrast with a high-price offering. The results of the current study are therefore timely for they help to fill a gap in knowledge about discount framing effects and possible interactions with discount size.

The primary contribution of this study is that the effects of discount framing in comparative price promotions are found to be influenced by the size of the discount featured in the promotion of low-price products. The results of H1a support Chen *et al.*'s (1998) contention about a discount presentation format and discount size interaction effect on consumers' perceptions of value, while those of H1b show that these perceptions in turn influence purchase intentions. The results also extend the understanding provided by Hardesty and Bearden (2003) by confirming that the impact they isolated on value is also apparent in a UK context and that it is extended to consumers' intention to purchase. The latter point is particularly important, as it confirms that the increase in perceptions of value is accompanied by an increased likelihood of purchase on the part of the consumer. By comparison neither

H2a nor H2b were supported as no such interaction was found in the case of high-price products. To our knowledge, no other researchers have incorporated a research design which tests empirically the difference between low- and high-price products, and therefore we provide a further important insight in this respect. Our result that the discount type does not interact with discount size for the high-price product is unexpected and warrants consideration. The findings could be due to the totality of information contained in the promotions incorporated in the study, which also included the original selling price and the final offer price for both the absolute and percentage discount offers. Further research would be required to establish whether providing only the percentage saving may have a greater effect. However, it should be noted that not including an original or sale price in a promotion is not a common approach in actual price promotions, as shown by earlier qualitative work carried out during the course of our study. Alternatively, the lack of interaction effect may be due to the fact that the difference between the small and large discounts was not sufficiently great for such an effect to manifest itself. However, as explained earlier, our qualitative fieldwork and pilot study also informed our decision as to what constituted a small and large level of discount. Hence, we are confident that the discounts we incorporated into our study were of the order required to be considered low and high by respondents. Finally, given prevalence of this type of promotion for package holidays, there may have been concerns as to the genuineness of the offers presented for package holidays. Further research focussing on other high-price products would help establish definitively whether our finding is typical of high-price offerings in general.

Next, in keeping with previous studies (Heath *et al.*, 1995; Chen *et al.*, 1998) the results of the current study demonstrate that assessments of transaction value are higher when a percentage figure is used to communicate a discount saving than an absolute monetary saving in the case of low-price products, whereas the opposite would apply in the case of high-price products.

It is also notable that IRP, which was included as the covariate in this study, did not have an impact on assessments of transaction value or purchase intentions. This suggests that price information is being processed peripherally (i.e. low involvement or low knowledge), which is indicative of consumers taking the advertised offers at face value by making a simple comparison between the advertised reference price and selling price. For some time, there have been concerns amongst regulators about the potential for comparative price advertising to mislead consumers due to the provision of inaccurate or deceptive price information

(Grewal and Compeau, 1992). By following the "peripheral" low involvement route, consumers depending on their level of susceptibility could be duped by exaggerated or inflated reference price claims (Compeau and Grewal, 1998).

Clearly these results have significant implications for those responsible for formulating price promotion campaigns based on comparative price advertising. On the one hand managers should note that the manner in which discounts are numerically expressed in these campaigns does have an impact on consumers" assessments of the offer. Discount format is a significant influence on assessments of value in the case of both low and high-price goods. In terms of increasing value assessments, percentage discounts work for low-price products and absolute discounts work for high price products. However, managers responsible for marketing low-price products should be mindful that the size of the discount moderates the influence of discount format. A percentage discount works particularly effectively for low-price products when a high level of discount is offered. Those who choose to use this combination should see a marked impact on assessments of value and intention to purchase. This fact, taken together with the main effect should normally steer managers towards using percentage discounts for low-price products. The one exception is where managers of low-price products are offering very small discounts, where an absolute discount may prove more effective than one presented as a percentage. If retail managers take heed of such lessons, then they should be able to formulate more effective price promotion campaigns. There are also important implications for policymakers from our findings. We add to the evidence that suggests that consumers in a number of contexts can be behaviourally influenced by the presence of a reference price, and we confirm that consumers in a European context appear to react similarly to those in the US when exposed to such offers. Therefore, policymakers should continue to be concerned about the possible inflation/exaggeration of reference prices in comparative price promotions and should continue to regulate and police such activities. This is particularly important for two reasons. First of all there have been unparalleled and sustained efforts by retailers to rely on price discounting to shore up sales and weather recessionary market conditions, and secondly we found that price information for the dependent variables examined appears to be processed peripherally in both product contexts (i.e. without evaluating and acting upon offers in relation to an IRP).

Care must be taken in terms of the generalisability of the results since they relate only to two experiments with relatively small sample sizes, and therefore further research is needed to

confirm them. Also the use of a convenience sample of consumers with a range of ages, incomes and occupations inevitably creates another limitation in terms of the heterogeneity of respondents compared to student-based samples traditionally used in pricing research, however it does have the advantage of being more representative of the shopping public. Also, we must acknowledge that the question of what constitutes a low-price and high-price product is, to an extent, contingent on consumers‟ spending power.

To conclude, this study is innovative because it examines the effects of message framing on consumers‟ perceptions of value and purchase intentions when discounts offering factually equivalent savings are numerically expressed in absolute and percentage terms, but unlike previous research in this area offers insights into the impact of these effects when the size of the discount is manipulated. Thus it makes a contribution to theory development in the area of consumers‟ perceptual and behavioural responses to retail price promotions.

Table 1: Experimental Design

Discount size	Experiment 1 Low-Price Product (Chocolates) Discount Format	Experiment 2 High-Price Product: (Holidays) Discount Format
Low (save...was. .now)	Save 10%! Was £3.99 now £3.59	Save 10%! Was £435 now £390
	Save 40p! Was £3.99 now £3.59	Save £45! Was £435 now £390
High (save...was. .now)	Save 35%! Was £5.49 now £3.59	Save 45%! Was £710 now £390
	Save £1.90! Was £5.49 now £3.59	Save £320! Was £710 now £390

Table 2: Sample Composition

Discount Size by Discount Format		% Discount	Absolute Discount
Experiment 1	Small Discount	13	11
	Large Discount	11	14
Experiment 2	Small Discount	12	10
	Large Discount	10	10

Table 3: Summary Of Mean Values For Both Experiment Conditions

Experiment 1: Low-Price Product (Chocolates)		
Dependent Variable: Transaction Value		
Discount size	Discount Format	Mean
Low (save...was. .now)	%	4.077
	Absolute	4.333
High (save...was. .now)	%	5.212
	Absolute	3.405
Dependent Variable: Purchase Intention		
Discount size	Discount Format	Mean
Low (save...was. .now)	%	3.461
	Absolute	4.636
High (save...was. .now)	%	4.818
	Absolute	3.857
Experiment 2: High-Price Product (Holidays)		
Dependent Variable: Transaction Value		
Discount size	Discount Format	Mean
Low (save...was. .now)	%	3.306
	Absolute	4.733
High (save...was. .now)	%	3.267
	Absolute	4.633
Dependent Variable: Purchase Intention		
Discount size	Discount Format	Mean
Low (save...was. .now)	%	2.625
	Absolute	2.550
High (save...was. .now)	%	1.900
	Absolute	3.000

Notes: Transaction Value measured on 7 point scale where 1 = strongly disagree and 7 = strongly agree; Purchase Intention measured on 7 point scale where 1 = very low and 7 = very high.

Table 4: MANCOVA Analysis for Each Experiment

	Experiment 1 Low-Price Product (Chocolates)			Experiment 2 High-Price Product (Holidays)		
		Univariate Tests			Univariate Tests	
	Wilkes Lambda X (sig)	Transaction Value F (sig)	Purchase Intention F (sig)	Wilkes Lambda X (sig)	Transaction Value F (sig)	Purchase Intentio
Covariate						
IRP	0.972 (0.543)	1.261 (0.268)	0.363 (0.550)	0.938 (0.318)	1.785 (0.190)	1.431 (0.239)
Main effects						
Discount format	0.866 (0.046)*	4.890 (0.032)*	0.035 (0.852)	0.808 (0.022)*	8.686 (0.006)*	0.424 (0.519)
Discount size	0.990 (0.801)	0.019 (0.892)	0.422 (0.519)	0.982 (0.720)	0.419 (0.521)	0.484 (0.491)
Interactions						
Discount format * Discount size	0.810 (0.011)*	7.746 (0.008)*	7.326 (0.010)*	0.953 (0.419)	0.002 (0.968)	1.672 (0.204)
R-squared		0.234	0.157		0.274	0.096

Notes: * indicates significance at the 5 per cent level

Figure 1: Low-Price Product:
Estimated Marginal Means of Transaction Value

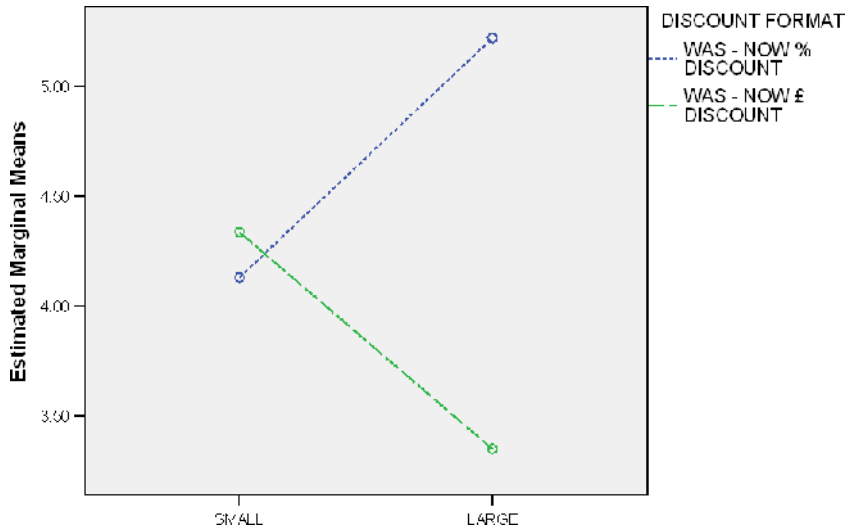
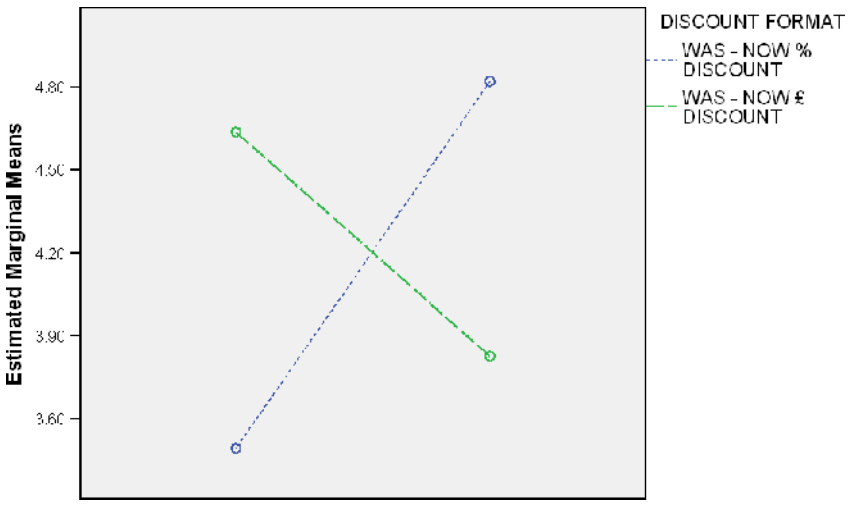


Figure 2: Low-Price Product:
Estimated Marginal Means of Purchase Intention



Appendix:

Table A1: Findings on Significant Effects of Discount Framing for High-price and Low-price Products and Recommendations

Authors	Dependent Variable	High-price products	Low-price products
Chen *et al.* (1998)	Perceived value	Yes *Prices should be presented in dollar (i.e. absolute) terms.*	Yes *Prices should be presented in percentage (i.e. relative) terms.*
	Purchase intentions	None	None
Hardesty & Bearden (2003)	Perceived value	Not applicable	Yes – moderated by discount size *Prices should be presented in percentage (i.e. relative) terms when discount size is high.*
Gendall *et al*. (2006)	Stated-preference Choice	Yes *Prices should be presented in dollar (i.e. absolute) terms.*	None

Source: Compiled by authors

Figure A1: Low-Price Product: Small Discount Framed In Percentage Terms

Figure A2: Low-Price Product: Small Discount Framed In Absolute Terms

Figure A3: High-Price Product: Small Discount Framed In Percentage Terms

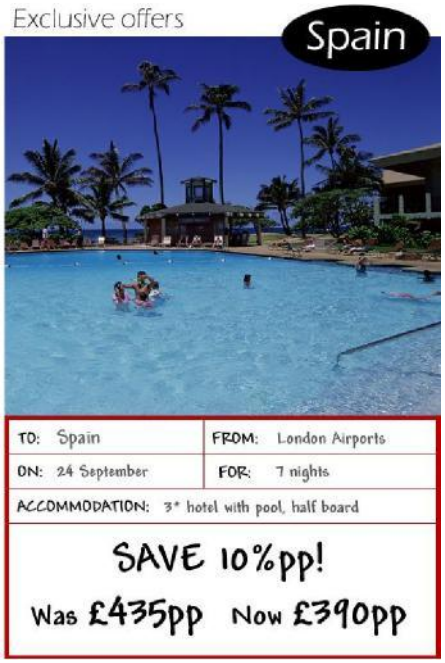
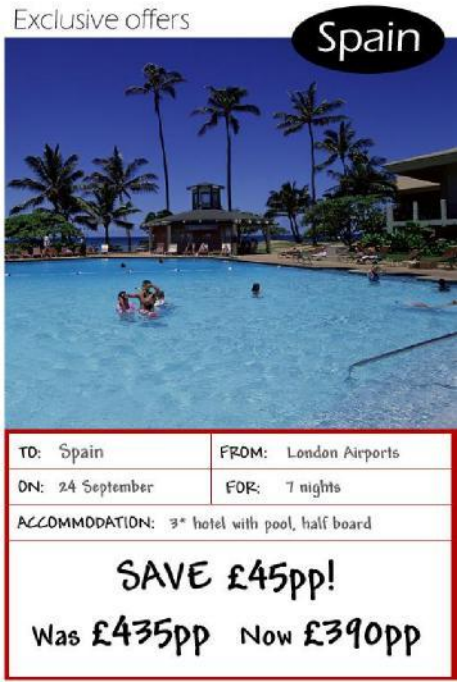


Figure A4: High-Price Product: Small Discount Framed In Absolute Terms



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